



**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF LABOR AND INDUSTRY**

**Gary G. Pan**  
COMMISSIONER

Main Street Centre  
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**DRAFT AGENDA: February 9, 2022**

**IN PERSON AND VIRTUAL  
SAFETY AND HEALTH CODES BOARD MEETING**

**In person location:**

**Patrick Henry Building  
East Reading Room  
1111 E Broad Street  
Richmond, Virginia 23219**

**Virtual Access:**

**\*\*\*\*Refer to the Third and Fourth Pages of Agenda for Instructions on Registering to Make Public Comment and Meeting Access Information if you plan to attend virtually\*\*\*\***

**For February 16 , 2022  
10:00 AM**

1. Call to Order
2. Approval of Agenda
3. Approval of Minutes for Board Meeting held on December 3, 2021
4. Opportunity for the Public to Address the Board on issues pending before the Board today, as well as any other topics that may be of concern to the Board and within its scope of authority.

*This will be the only opportunity for public comment at this meeting. Please limit remarks to 5 minutes in consideration of others wishing to address the Board.*

5. Old Business
- None.

6. New Business

a) **Virginia Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, 16VAC25-220.**

Pursuant to Governor's Executive Order 6,<sup>1</sup> issued January 15, 2022:

The Safety and Health Codes Board is to convene an emergency meeting of their membership to discuss whether there is a continued need for the "Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19." The board is directed to consider federal action in regard to the Occupational Safety and Health Administration Emergency Temporary Standard. The Board should report its findings to the Governor within 30 days.

*Presenter – Jay Withrow*

***(If requested by the Board)* Closed Meeting for the Purpose of Consultation with Legal Counsel Regarding Specific Legal Matters Pursuant to § 2.2-3711.A.8 of the Code of Virginia**

7. Items of Interest from the Department of Labor and Industry
8. Items of Interest from Members of the Board
9. Meeting Adjournment

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<sup>1</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/eo/EO-6-Keep-Virginia-Open-COVID-Workplace-Standards.pdf>

## PUBLIC PARTICIPATION

This meeting will be held both *in person and virtually*.

Members of the public may attend in person or listen to the meeting via the Cisco WebEx platform by using the weblink, access code, and password below, or audio conference only by using the telephone numbers and access code below. Electronic participation capacity is limited and is on a first come, first serve basis due to the capacity of CISCO WebEx technology.

**The Patrick Henry Building is currently following the CDC recommendations for handling health protocols. The Agency will be requiring face coverings inside the meeting room.** In addition, the room will be subject to an occupancy limit of 25 people. Entrance will be on a first come, first serve basis.

**If you wish to make an Oral Public Comment during the “Opportunity for the Public to Address the Board” period of this meeting, you must follow the instructions below:**

- Oral public comments will be received from those persons who have submitted an email to **Princy.Doss@doli.virginia.gov** no later than **12:00 PM (NOON)** on **February 15, 2022**, indicating that they wish to offer either in person or electronic oral comments. Comments may be offered by these individuals when their name is announced by Ms. Doss. Oral comments will be **restricted to 5 minutes** each.
- **For oral comments received electronically:**
  - When logging onto WebEx each person **must provide their full name** during the registration process upon entering the meeting. Do not use the default username as it is imperative that the meeting organizer be able to determine who is in attendance based on their registration name. Failure to follow these specific registration instructions will restrict your ability to participate with oral remarks.
  - If you wish to make an oral comment and will be utilizing the “audio conference only” option to witness the hearing, **you must provide the phone number you will be calling in from in your email to Ms. Doss** so that the administrator will know whom to unmute at the appropriate time.
  - Other important information:
    - All parties will be muted until Ms. Doss announces the name of the person who is next to provide an oral comment.
    - All public participation connections will be muted following the public comment periods.
    - Please login from a location without background noise.

Individuals who offer both in-person and virtual comments during the Safety and Health Codes Board Meeting on February 16, 2022 are encouraged to submit a written version of any comments by email to **Princy.Doss@doli.virginia.gov** no later than **5:00 PM** on **February 17, 2022**.

**INSTRUCTIONS FOR ATTENDING THE SHCB MEETING VIRTUALLY:**

**Event address for attendee:**

<https://covaconf.webex.com/covaconf/onstage/g.php?MTID=e33700859fbe443ae33dee123fa600282>

**Event number (access code):** 2437 115 5450

**Event password:** DOLI2022

**To join the audio conference only:**

**Call this number:** 1-517-466-2023 **or US Toll Free** 1-866-692-4530

**Enter this Access Code:** 2437 115 5450

Should any interruption of the electronic broadcast of this meeting occur, please call 804-371-2318 or email **Brian.Jaffe@doli.virginia.gov** to notify the agency. Any interruption in the broadcast of the meeting shall result in the suspension of action at the meeting until repairs are made and public access is restored.

FOIA Council Electronic Meetings Public Comment form for submitting feedback on this electronic meeting may be accessed at:

<http://foiacouncil.dls.virginia.gov/sample%20letters/welcome.htm>

**DRAFT**

SAFETY AND HEALTH CODES BOARD  
PUBLIC MEETING MINUTES  
Friday, December 3, 2021

On December 3, 2021, the Safety and Health Codes Board (“Board”) held a public meeting at the Fairfield Public Library in Henrico, Virginia. The Board held an in person meeting with the option for the public to attend virtually utilizing **WebEx**.

Notice of the public meeting was provided to the public as required by VA Code §2.2-3708.2 and Executive Order 14 (2018). The notice invited the public to witness the meeting remotely via **WebEx**. Notice was provided on the Virginia Regulatory Town Hall’s website here: <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=33426>

The Board members and Department staff listed below as “participating” were all participating in person. There was a quorum of Board members *physically* assembled at one location.

A recording of the meeting in its entirety is available here: <https://www.doli.virginia.gov/wp-content/uploads/2021/12/SHBC-Meeting-Heat-Illness-12-3-21-1.mp4>

**BOARD MEMBERS**

**PRESENT:**

Mr. Jay Abbott  
Mr. Robert Buchler  
Ms. Kelly Bundy  
Mr. John Fulton  
Ms. Julie Henderson  
Ms. Elizabeth (Beth) Lohman  
Mr. Travis Parsons  
Ms. Milagro Rodriguez, Chair  
Ms. Lutheria Smith  
Mr. Charles Stiff  
Mr. Thomas Thurston

**BOARD MEMBERS ABSENT:** Mr. Louis (Lou) Cernak  
Mr. Fernando Franco  
Mr. Michael Luce

**STAFF PRESENT:**

Mr. C. Ray Davenport, Commissioner of Dept. of Labor & Industry  
Mr. Jay Withrow, Director, Legal Support, BLS, VPP, ORA, & OWB  
Ms. Princy R. Doss, Director, Policy, Planning, & Public Information  
Mr. Richard White, IT Project Manager  
Ms. Cristin Bernhardt, Staff Attorney

**OTHERS PARTICIPATING:**

Mr. Joshua Laws, Assistant Attorney General (virtual)  
Ms. Lisa Wright, Court Reporter, Chandler & Halasz, Stenographic  
Court Reporters

**CALL TO ORDER**

Chair Rodriguez called the meeting to order at 10:03AM. A quorum was present. Chair Rodriguez made opening remarks informing the public that this meeting was being held in person with virtual attendance available to the public.

**APPROVAL OF AGENDA**

Chair Rodriguez asked the Board if there was any discussion on the agenda. There was none. Chair Rodriguez asked if there was a motion to approve the agenda. The motion was made, properly seconded and the roll call vote was conducted. **The motion carried.**

<b>Motion #1: Approval of Agenda</b>	<b>Yea</b>	<b>Nay</b>	<b>Abstain</b>	<b>Absent</b>	<b>Other</b>
Mr. Jay Abbott	1				
Mr. Robert Buchler	1				
Ms. Kelly Bundy	1				
Mr. Louis (Lou) Cernak				1	
Mr. Fernando Franco				1	
Mr. John Fulton	1				
Ms. Julie Henderson	1				
Ms. Elizabeth (Beth) Lohman	1				
Mr. Michael. A. Luce				1	
Mr. Travis M. Parsons	1				
Ms. Milagro (“Milly”) Rodriguez	1				
Ms. Lutheria Smith	1				
Mr. Charles L. (“Chuck”) Stiff	1				
Mr. Thomas A. Thurston	1				
<b>TOTALS</b>	<b>11</b>			<b>3</b>	

**APPROVAL OF MEETING MINUTES**

Chair Rodriguez then called for discussion and motion for approval of the following minutes, which she listed the dates for the Board:

- November 12, 2020 Board Meeting
- January 5, 2021 Public Hearing
- January 12, 2021 Emergency Board Meeting
- January 13, 2021 Emergency Board Meeting
- June 29, 2021 Emergency Board Meeting
- August 5, 2021 Public Hearing
- August 26, 2021 Board Meeting

Chair Rodriguez asked the Board if there was any discussion on the November 2020-August 2021 meeting minutes presented. She announced that they will go through each meeting minutes for discussion but will have one vote on all the meeting minute approval. A board member noted that the Agenda listed November 11, 2020 as the meeting date, but the actual meeting date was November 12, 2020. Chair Rodriguez received clarification from the Agency that the date listed on the Agenda was a clerical error and the meeting of the minutes for November 12, 2020 was the correct date. Chair Rodriguez then went through all the meeting dates separately asking if there was any more discussion on the minutes. There was none. There was a request for a motion to approve the minutes. The motion was made, properly seconded and the roll call vote was conducted. **The motion carried.**

<b>Motion #2: Approval of Meeting or Public Hearing minutes from November 2020-August 2021</b>	<b>Yea</b>	<b>Nay</b>	<b>Abstain</b>	<b>Absent</b>	<b>Other</b>
Mr. Jay Abbott	1				
Mr. Robert Buchler	1				
Ms. Kelly Bundy	1				
Mr. Louis (Lou) Cernak				1	
Mr. Fernando Franco				1	
Mr. John Fulton	1				
Ms. Julie Henderson	1				
Ms. Elizabeth (Beth) Lohman	1				
Mr. Michael. A. Luce				1	
Mr. Travis M. Parsons	1				
Ms. Milagro (“Milly”) Rodriguez	1				
Ms. Lutheria Smith	1				
Mr. Charles L. (“Chuck”) Stiff	1				
Mr. Thomas A. Thurston	1				
<b>TOTALS</b>	<b>11</b>			<b>3</b>	

## **OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD**

Chair Rodriguez called the next item on the agenda, which was the opportunity for the public to address the Board. Several members of the public registered to speak virtually using WebEx to address the Board on the Heat Illness Prevention Standard that will be presented to the Board under New Business.

Juley Fulcher (Public Citizen/Congress Watch)  
Hobey Bauhan (Virginia Poultry Federation)  
Michael Oesterling (Shellfish Growers of Virginia)  
Ron Jenkins (Virginia Loggers Association)  
Kyle Shreve (Virginia Agribusiness Council)  
Brandon Robinson (Associated General Contractors of Virginia)  
Vanessa Patterson (Richmond Area Municipal Contractors Association)  
Ronda Moreta (DOLI)  
George Hodson (Veritas Vineyard and Winery)  
Ben Rowe (Virginia Farm Bureau)  
Rachel McFarland (Virginia Justice Project for Farm and Immigrant Workers)  
Conner Miller (Virginia Forest Products Association)  
Nicole Riley (NFIB)  
Phil Abraham (The Vectre Corporation)  
Dale Bennett (Virginia Trucking Association)  
Father Mario Melendez (Diocese of Virginia/Latino Ministry)

**Chair Rodriguez called for a RECESS from 11:00 to 11:28 AM.**

## **OLD BUSINESS**

There was no old business. Chair Rodriguez moved to the next item on the agenda.

## **NEW BUSINESS**

The first item on the agenda for new business was the TH-02 for 16VAC25-210 Proposed Regulation for Heat Illness Prevention Standard. Chair Rodriguez recognized Jay Withrow, Director of Legal Services from the Department to present the briefing package.

Mr. Withrow presented the briefing package and documents that were provided to the Board in advance. Mr. Withrow explained the Virginia regulatory process for proceeding with the adoption of this new heat illness prevention standard. The matter before the Board is stage 2 (Proposed Regulation) of the rulemaking process where the Agency/Department considers public comment and submits the proposed regulation. There was an explanation of the work done with the proposed regulation since stage 1 (NOIRA) was approved by the Board. A Regulatory Advisory Panel (Panel) was established to develop a proposed regulation to present to the Board for approval to move onto stage 2. The Panel broke off into four smaller groups to



work on language for the proposed regulation and then larger group met to come up with a proposed regulation to recommend to the Board as a proposed standard.

Mr. Withrow discussed the public comments received during the NOIRA stage of the regulatory process. He then went through the background of the hazard issues relating to heat illness and the statistics that would explain the need for a standard to protect workers in Virginia.

**Chair Rodriguez called for a LUNCH RECESS from 12:25 PM to 1:00 PM.**

Mr. Withrow continued with briefing the Board on the scope of the heat illness hazards and the Heat Illness Prevention Standard and results of the activities of the Regulatory Advisory Panel. Mr. Withrow also addressed the concerns of commenters regarding heat illness issues activities at the federal OSHA level, where he provided statistic that it takes an average of 7 years for a proposed regulation to be adopted by OSHA. There was also a presentation of the current legislative activities at the Virginia General Assembly.

Mr. Withrow presented the proposed regulation draft language to the Board for review and comment. A few Board members asked clarifying questions regarding the proposed language. After the presentation, Mr. Withrow announced the recommendation of the Department that the Safety & Health Codes Board consider for adoption the proposed Heat Illness Prevention Standard 16VAC25-210.

Chair Rodriguez asked if there was discussion on the matter. Member Stiff asked procedural question about the actions and process should the Board approve the recommendation. Member Bundy asked if the Board would have access and consider the federal OSHA proposed regulation public comments. It was determined that those federal OSHA comments are publicly accessible.

Chair Rodriguez asked if there was a motion to accept the recommendation of the Department. The motion was made, properly seconded and the roll call vote was conducted.

**The motion did not carried.**

<b>Motion #3: Department recommendation to adopt the Heat Illness Prevention Standard as a proposed regulation 16VAC25-210.</b>	<b>Yea</b>	<b>Nay</b>	<b>Abstain</b>	<b>Absent</b>	<b>Other</b>
Mr. Jay Abbott		1			
Mr. Robert Buchler		1			
Ms. Kelly Bundy		1			
Mr. Louis (Lou) Cernak				1	
Mr. Fernando Franco				1	
Mr. John Fulton		1			
Ms. Julie Henderson	1				

Ms. Elizabeth (Beth) Lohman	1				
Mr. Michael. A. Luce				1	
Mr. Travis M. Parsons	1				
Ms. Milagro (“Milly”) Rodriguez	1				
Ms. Lutheria Smith		1			
Mr. Charles L. (“Chuck”) Stiff		1			
Mr. Thomas A. Thurston	1				
<b>TOTALS</b>	<b>5</b>	<b>6</b>		<b>3</b>	

Chair Rodriguez asked for the next item on the agenda, Notice of Periodic Review for 2021. Chair Rodriguez recognized Princy Doss from the Department.

The following six regulations are up for review this year.

1. **16 VAC 25-20** Regulation Concerning Licensed Asbestos Contractor Notification, Asbestos Project Permits, and Permit Fees
2. **16 VAC 25-30** Regulations for Asbestos Emissions Standards for Demolition and Renovation Construction Activities and the Disposal of Asbestos-Containing Construction Wastes – Incorporation by Reference 40 CFR 61.140 through 61.156
3. **16 VAC 25-40** Standard for Boiler and Pressure Vessel Operator Certification
4. **16 VAC 25-70** Virginia Confined Space Standard for the Telecommunications Industry
5. **16 VAC 25-97** Reverse Signal Procedures – General Industry – Vehicles/Equipment Not Covered by Existing Standards
6. **16 VAC 25-160** Construction Industry Standard for Sanitation

The Department of Labor and Industry recommends that the Safety and Health Codes Board approve the publication of a Notice of Periodic Review in the Virginia Register for 16VAC25-20, Regulation Concerning Licensed Asbestos Contractor Notification, Asbestos Project Permits, and Permit Fees; 16VAC25-30, Regulations for Asbestos Emissions Standards for Demolition and Renovation Construction Activities and the Disposal of Asbestos-Containing Construction Wastes – Incorporated by Reference 40 CFR 61.140 through 61.56; 16VAC25-40, Standard for Boiler Pressure Vessel Operator Certification; 16VAC25-70, Virginia Confined Space Standard for the Telecommunications Industry; 16VAC25-97, Reverse Signal Procedures- General Industry- Vehicles/Equipment Not Covered by Existing Standards; and 16VAC25-160, Construction Industry Standard for Sanitation.

The Department also recommends that the Board state in any motion it may make regarding the periodic review of these regulations that it will receive, consider and respond to petitions by any interested person at any time with respect to the periodic review which will be conducted in accordance with the above-cited § 2.2-4017 of the Administrative Process Act and Executive Order 14 (2018), “Development and Review of State Agency Regulations”.

Chair Rodriguez asked if there was discussion on the matter. There was none. Chair Rodriguez asked if there was a motion to accept the recommendation of the Department. The motion was made, properly seconded and the roll call vote was conducted. **The motion carried.**

<b>Motion #4: Recommendation for Periodic Review of the 6 listed regulations.</b>	<b>Yea</b>	<b>Nay</b>	<b>Abstain</b>	<b>Absent</b>	<b>Other</b>
Mr. Jay Abbott	1				
Mr. Robert Buchler	1				
Ms. Kelly Bundy	1				
Mr. Louis (Lou) Cernak				1	
Mr. Fernando Franco				1	
Mr. John Fulton	1				
Ms. Julie Henderson	1				
Ms. Elizabeth (Beth) Lohman	1				
Mr. Michael. A. Luce				1	
Mr. Travis M. Parsons	1				
Ms. Milagro ("Milly") Rodriguez	1				
Ms. Lutheria Smith	1				
Mr. Charles L. ("Chuck") Stiff	1				
Mr. Thomas A. Thurston	1				
<b>TOTALS</b>	<b>11</b>			<b>3</b>	

### **Items of Interest from the Department of Labor and Industry**

Chair Rodriguez asked for items of interest from the Department of Labor and Industry. There was none.

### **Items of Interest from Members of the Board**

Chair Rodriguez then asked for items of interest from the Members of the Board. Chair Rodriguez recognized board member Parsons who commended the Department and the Regulatory Advisory Panel for all the hard work on the Heat Illness Prevention Standard.

Jay Withrow then requested to repeat the final vote for Motion #3: Department recommendation to adopt the Heat Illness Prevention Standard as a proposed regulation 16VAC25-210 based on feedback that those attending virtually could not hear the results. He then announced that Motion #3 did not carry with a vote of 5 Yea, 6 Nah and 3 absent.

### **Meeting Adjournment**

Chair Rodriguez expressed his thanks to everyone who worked on the Heat Illness Prevention Standard. She also welcomed the new Board members that were recently appointed. Chair Rodriguez asked for a motion to adjourn and a second. Chair Rodriguez adjourned the meeting at 2:30 PM.



# **COMMONWEALTH of VIRGINIA**

## **DEPARTMENT OF LABOR AND INDUSTRY**

**Gary G. Pan**  
COMMISSIONER

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600 East Main Street, Suite 207  
Richmond, Virginia 23219  
PHONE (804) 371-2327  
FAX (804) 371-6524

**DRAFT:  
FEBRUARY 15, 2022**

**RECENT INFORMATION HIGHLIGHTED IN YELLOW**

**INFORMATION ADDED SINCE FEBRUARY 11, 2022 DRAFT HIGHLIGHTED IN GRAY**

### **VIRGINIA SAFETY AND HEALTH CODES BOARD**

#### **BRIEFING PACKAGE FOR**

**for February 16, 2022**

#### **Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 That Causes COVID-19, §16 VAC 25-220**

#### **I. Action Requested.**

- A. In accordance with Executive Order 6 and 16VAC25-220-10.B.3, the VOSH Program requests the Safety and Health Codes Board discuss and make a finding on whether there is a continued need for the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, 16VAC25-220 (Virginia Standard).

The Board has at least three options to consider when discussing whether there is a continued need for the Virginia Standard:

1. There is a continued need for the Virginia Standard and no revisions should be made at this time.
2. There is a continued need for the Virginia Standard, but revisions should be made to reflect current CDC guidance and/or other considerations impacting Virginia's employees and employers.
3. There is no longer a continued need for the Virginia Standard.

B. Executive Order 6.

On January 15, 2022, Governor Glenn Youngkin issued Executive Order 6 (EO 6), Reinventing Job Growth by Removing Burdensome Regulations From Virginia’s Business Community<sup>1</sup> (see ATTACHMENT O).

EO 6 provides in part:

1. The Safety and Health Codes Board is to convene an emergency meeting of their membership to discuss whether there is a continued need for the “Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19.” The board is directed to consider federal action in regard to the Occupational Safety and Health Administration Emergency Temporary Standard. The Board should report its findings to the Governor within 30 days [by February 14, 2022].

2. The Board and the Department of Labor of Industry is directed to seek guidance from the Office of the Attorney General regarding whether the proper legal and administrative procedures were followed during adoption and promulgation of the Permanent Standards.

C. 16VAC25-220-10.B.3.

16VAC25-220-10.B.3 provides:

3. Should the federal COVID-19 Emergency Temporary Standard, 29 CFR 1910.502 et seq., applicable to all settings where any employee provides health care services or health care support services, be adopted by the Virginia Safety and Health Codes Board but later be stayed by federal OSHA, or otherwise revoked, repealed, declared unenforceable, or permitted to expire, the provisions of this chapter, including 16VAC25-220-50, shall immediately apply to such employers and employees in its place with no further action of the board required. **In addition, the Virginia Safety and Health Codes Board shall within 30 days, notice a regular, special, or emergency meeting/conduct a regular, special, or emergency meeting to determine whether there is a continued need for this chapter or whether it should be maintained, modified, or revoked.** (Emphasis added).

Federal OSHA issued the following statement on December 27, 2021 regarding the OSHA Healthcare ETS<sup>2</sup>:

On June 21, 2021, OSHA adopted a Healthcare Emergency Temporary Standard (Healthcare ETS) protecting workers from COVID-19 in settings where they provide healthcare or healthcare support services. 86 FR 32376. Under the OSH Act, an ETS is effective until superseded by a permanent standard – a process

<sup>1</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/eo/EO-6-Keep-Virginia-Open-COVID-Workplace-Standards.pdf>

<sup>2</sup> <https://www.osha.gov/coronavirus/ets/>

contemplated by the OSH Act to occur within 6 months of the ETS's promulgation. 29 U.S.C. 655(c).

OSHA announces today that it intends to continue to work expeditiously to issue a final standard that will protect healthcare workers from COVID-19 hazards, and will do so as it also considers its broader infectious disease rulemaking. However, given that OSHA anticipates a final rule cannot be completed in a timeframe approaching the one contemplated by the OSH Act, OSHA also announces today that it is withdrawing the non-recordkeeping portions of the healthcare ETS. **The COVID-19 log and reporting provisions, 29 CFR 1910.502(q)(2)(ii), (q)(3)(ii)-(iv), and (r), remain in effect. These provisions were adopted under a separate provision of the OSH Act, section 8, and OSHA found good cause to forgo notice and comment in light of the grave danger presented by the pandemic. See 86 FR 32559.... (Emphasis added).**

The Department has been informed by federal OSHA that its withdrawal of the OSHA Healthcare ETS does not take effect until published in the Federal Register, which as of February 11, 2022 has not yet occurred, although the legal basis for this decision is not clear. However, federal OSHA informed State Plans on February 9, 2022 that it is using its enforcement discretion to no longer enforce the OSHA Healthcare ETS.

The OSHA Healthcare ETS is the subject of a lawsuit by National Nurses United and other organizations filed on January 5, 2022<sup>3</sup> in the D. C. Circuit Court of Appeals which requests that the Court issue a writ of mandamus to OSHA compelling it within 30 days of the Court's grant of a writ to issue a Permanent Standard for Healthcare Occupational Exposure to COVID-19 (Permanent Standard); and compels OSHA to retain and enforce the OSHA Healthcare ETS until it is properly superseded by the Permanent Standard.

- D. On November 5, 2021, federal OSHA issued an Emergency Temporary Standard for Occupational Exposure to COVID-19 (Vaccination or Testing ETS) with a vaccination or testing mandate applicable to employers with 100 or more employees.<sup>4</sup> The ETS was challenged in federal court and ultimately stayed by the U. S. Supreme Court on January 13, 2022 in National Federation of Independent Businesses, et al., Applicants v. Department of Labor, Occupational Safety and Health Administration, et al.<sup>5</sup>

While the Court did not define the term "grave danger," which is the legal basis for adoption of an OSHA emergency temporary standard, it discussed more broadly OSHA's authority to impose a vaccine mandate:

"Contrary to the dissent's contention, imposing a vaccine mandate on 84 million Americans in response to a worldwide pandemic is simply not "part of what the agency was built for." Post, at 10. That is not to say OSHA lacks authority to

<sup>3</sup> [https://www.nationalnursesunited.org/sites/default/files/nnu/documents/Unions\\_Petition\\_for\\_Writ\\_of\\_Mandamus\\_22-1002\\_010522\\_Date\\_Stamped\\_ECF.pdf](https://www.nationalnursesunited.org/sites/default/files/nnu/documents/Unions_Petition_for_Writ_of_Mandamus_22-1002_010522_Date_Stamped_ECF.pdf)

<sup>4</sup> <https://www.osha.gov/news/newsreleases/national/11042021>

<sup>5</sup> [https://www.supremecourt.gov/opinions/21pdf/21a244\\_hgci.pdf](https://www.supremecourt.gov/opinions/21pdf/21a244_hgci.pdf)

regulate occupation-specific risks related to COVID-19. Where the virus poses a special danger because of the particular features of an employee's job or workplace, targeted regulations are plainly permissible. We do not doubt, for example, that OSHA could regulate researchers who work with the COVID-19 virus. So too could OSHA regulate risks associated with working in particularly crowded or cramped environments. But the danger present in such workplaces differs in both degree and kind from the everyday risk of contracting COVID-19 that all face. OSHA's indiscriminate approach fails to account for this crucial distinction— between occupational risk and risk more generally—and accordingly the mandate takes on the character of a general public health measure, rather than an “*occupational* safety or health standard.” 29 U. S. C. §655(b) (emphasis added).<sup>6</sup>

On January 25, 2022, federal OSHA withdrew the Vaccination or Testing ETS "as an enforceable emergency temporary standard, [but the] the agency is not withdrawing the ETS as a proposed rule. The agency is prioritizing its resources to focus on finalizing a permanent COVID-19 Healthcare Standard."<sup>7</sup> OSHA also stated in regard to the court challenges that it "will do everything in its existing authority to hold businesses accountable for protecting workers, including under the COVID-19 National Emphasis Program<sup>8</sup> and General Duty Clause."<sup>9</sup>

#### E. Report to the Governor.

Executive Order 6 (EO 6) provides that the Board should report its findings on whether there is a continued need for the Virginia Standard to the Governor within 30 days of the issuance of EO 6 on January 15, 2022.

Following the Board meeting, the Department will prepare correspondence for the review and signature of the Commissioner which will report to the Governor the results of the Board's meeting.

The Department will publish the report on the Virginia Regulatory Townhall and notify DOLI stakeholders.

#### F. Guidance from the Office of the Attorney General in Accordance With Executive Order 6.

Executive Order 6 provides in part:

The Board and the Department of Labor of Industry is directed to seek guidance from the Office of the Attorney General regarding whether the proper legal and administrative procedures were followed during adoption and promulgation of the Permanent Standards.

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<sup>6</sup> *Id.* at page 7.

<sup>7</sup> <https://www.osha.gov/coronavirus/ets2>

<sup>8</sup> [https://www.osha.gov/sites/default/files/enforcement/directives/DIR\\_2021-03\\_CPL\\_03.pdf](https://www.osha.gov/sites/default/files/enforcement/directives/DIR_2021-03_CPL_03.pdf)

<sup>9</sup> <https://www.osha.gov/laws-regs/oshact/section5-duties>

After reviewing DOLI's request for legal advice, the Office of the Attorney General (OAG) can report, "EO6 orders the Board and DOLI to seek guidance from the OAG regarding whether the proper legal and administrative procedures were followed during adoption and promulgation of the Permanent Standard. The answer is yes: the proper legal and administrative procedures were followed during adoption and promulgation of the Permanent Standard, as affirmed by the Richmond Circuit Court and the Virginia Court of Appeals."

**G. Proposed Changes to or Proposed Revocation of the Virginia Standard.**

Any proposed changes to or proposed revocation of the Virginia Standard will go through a similar notice and comment process to that used for adoption of the current standard. This includes a written comment period for the public and stakeholders to provide written feedback to the Board about the proposed changes or proposed revocation, at least one public hearing, and the development of an Economic Impact Analysis (EIA) as necessary (an EIA would not be necessary in the event of proposed revocation). The Board will then hold a second meeting and vote to accept or reject the proposed changes or proposed revocation as final, which would become effective upon publication in a newspaper of general circulation published in the City of Richmond, Virginia.

**H. Attachments.**

**ATTACHMENT A:**

INDUSTRY SPECIFIC INFORMATION ASSOCIATED WITH ADOPTION OF THE EMERGENCY TEMPORARY STANDARD AND ORIGINAL VIRGINIA STANDARD

**ATTACHMENT B:**

CURRENT LAWS AND REGULATIONS  
RECOGNIZED MITIGATION STRATEGIES FOR COVID-19 NOT COVERED BY VOSH REGULATIONS OR STANDARDS  
VA. CODE §40.1-51(A), THE "GENERAL DUTY CLAUSE"

**ATTACHMENT C:**

OTHER STATE COVID-19 LAWS, STANDARDS AND REGULATIONS

**ATTACHMENT D:**

FINDING OF "GRAVE DANGER" TO SUPPORT THE ADOPTION OF THE EMERGENCY TEMPORARY STANDARD (ETS) AND VIRGINIA STANDARD FOR INFECTIOUS DISEASE PREVENTION OF THE SARS-COV-2 VIRUS THAT CAUSES COVID-19, 16VAC25-220, EFFECTIVE JULY 27, 2020 AND JANUARY 27, 2021, RESPECTIVELY

**ATTACHMENT E:**

OSHA RECORDKEEPING GUIDELINES FOR RECORDING COVID-19 OCCUPATIONALLY RELATED CASES.

**ATTACHMENT F:**



VOSH INVESTIGATION AND INSPECTION PROCEDURES

**ATTACHMENT G:**  
DETERMINING CAUSE OF DEATH (CDC)

**ATTACHMENT H:**  
VOSH Violations Issued in COVID-19 Cases Opened From January 1, 2020 to January 21, 2022

**ATTACHMENT I:**  
JANUARY 11, 2021, ECONOMIC IMPACT, PROPOSED STANDARD FOR INFECTIOUS DISEASE PREVENTION OF THE SARS-COV-2 VIRUS THAT CAUSES COVID-19, PREPARED BY CHMURA ECONOMICS AND ANALYTICS

**ATTACHMENT J:**  
JANUARY 11, 2021, DOLI ADDENDUM TO JANUARY 11, 2021, ECONOMIC IMPACT, PROPOSED STANDARD FOR INFECTIOUS DISEASE PREVENTION OF THE SARS-COV-2 VIRUS THAT CAUSES COVID-19, PREPARED BY CHMURA ECONOMICS AND ANALYTICS

**ATTACHMENT K:**  
SUMMARY OF FINAL AMENDMENTS TO THE VIRGINIA STANDARD ADOPTED BY THE VIRGINIA SAFETY AND HEALTH CODES BOARD ON AUGUST 26, 2021

**ATTACHMENT L:**  
BASIS, PURPOSE AND IMPACT OF THE FINAL AMENDMENTS TO THE VIRGINIA STANDARD ADOPTED BY THE VIRGINIA SAFETY AND HEALTH CODES BOARD AUGUST 26, 2021.

**ATTACHMENT M:**  
AUGUST 20, 2021, ECONOMIC IMPACT, PROPOSED STANDARD FOR INFECTIOUS DISEASE PREVENTION OF THE SARS-COV-2 VIRUS THAT CAUSES COVID-19, PREPARED BY CHMURA ECONOMICS AND ANALYTICS

**ATTACHMENT N:**  
AUGUST 20, 2021, DOLI ADDENDUM TO AUGUST 20, 2021, ECONOMIC IMPACT OF PROPOSED AMENDMENTS TO THE VIRGINIA STANDARD FOR INFECTIOUS DISEASE PREVENTION OF THE SARS-COV-2 VIRUS THAT CAUSES COVID-19, PREPARED BY CHMURA ECONOMICS AND ANALYTICS

**ATTACHMENT O:**  
EXECUTIVE ORDER 6 (EO 6), REINVIGORATING JOB GROWTH BY REMOVING BURDENSOME REGULATIONS FROM VIRGINIA'S BUSINESS COMMUNITY

**ATTACHMENT P:**

**FEBRUARY 15, 2022 DRAFT GUIDANCE DOCUMENT: PROTECTING WORKERS, GUIDANCE ON MITIGATING AND PREVENTING THE SPREAD OF COVID-19 IN THE WORKPLACE**

**ATTACHMENT Q:**

UNSOLICITED Direct to DOLI Comments from the General Public as of February 15, 2022

**II. Background.**

A. Situation Summary.<sup>10</sup>

- On February 7, 2020, the Commissioner of the Virginia Department of Health (VDH) issued a Declaration of Public Emergency.<sup>11</sup>
- On March 7, 2020 the first case of COVID-19 in Virginia was confirmed.<sup>12</sup>
- On March 11, 2020 the World Health Organization characterized COVID-19 as a pandemic.<sup>13</sup>
- On March 12, 2020 Governor Ralph Northam issued Executive Order 51, Declaration of a State of Emergency Due To Novel Coronavirus (Covid-19) in the Commonwealth of Virginia.<sup>14</sup>
- On March 13, 2020, President Donald Trump declared a national emergency in response to the COVID-19 pandemic.<sup>15</sup>
- On March 17, 2020 Governor Northam and State Health Commissioner M. Norman Oliver, MD, MA issued a Declaration of Public Health Emergency.<sup>16</sup>
- On March 23, 2020 Governor Northam issued Executive Order 53<sup>17</sup> that orders the closure of certain non-essential businesses, bans all gatherings of more than 10 people, and closes all K-12 schools for the remainder of the academic year. Governor Northam also urged all Virginians to avoid non-essential travel outside

<sup>10</sup> <https://www.vdh.virginia.gov/coronavirus/> - Situation Summary Taken in Part from the Virginia Department of Health Website

<sup>11</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/Order-of-the-Governor-and-State-Health-Commissioner-Declaration-of-Public-Health-Emergency.pdf>

<sup>12</sup> <https://www.vdh.virginia.gov/news/2020-news-releases/first-virginia-case-of-covid-19-confirmed-at-fort-belvoir/>

<sup>13</sup> <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>

<sup>14</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/eo/EO-51-Declaration-of-a-State-of-Emergency-Due-to-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/eo/EO-51-Declaration-of-a-State-of-Emergency-Due-to-Novel-Coronavirus-(COVID-19).pdf)

<sup>15</sup> <https://www.whitehouse.gov/presidential-actions/proclamation-declaring-national-emergency-concerning-novel-coronavirus-disease-covid-19-outbreak/>

<sup>16</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/Order-of-the-Governor-and-State-Health-Commissioner-Declaration-of-Public-Health-Emergency.pdf>

<sup>17</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-53-Temporary-Restrictions-Due-To-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-53-Temporary-Restrictions-Due-To-Novel-Coronavirus-(COVID-19).pdf)

the home, if and when possible. Food establishments are mandated to offer curbside takeout and delivery service only, or close to the public.

- On March 25, 2020 Governor Northam and State Health Commissioner Norman Oliver, MD, MA directed all hospitals to stop performing elective surgeries or procedures to help conserve supplies of personal protective equipment (PPE). Order of Public Health Emergency Two.<sup>18</sup>
- On March 30, 2020 Governor Northam issued Executive Order 55<sup>19</sup>, a statewide Temporary Stay at Home order. The executive order took effect immediately and will remain in place until June 10, 2020. The order directed all Virginians to stay home except in extremely limited circumstances. Individuals may leave their residence for allowable travel, including to seek medical attention, work, care for family or household members, obtain goods and services like groceries, prescriptions, and others as outlined in Executive Order Fifty-Three, and engage in outdoor activity with strict social distancing requirements.
- On April 23, 2020, the Commissioner of Labor and Industry received a petition from the Virginia Legal Aid Justice Center (LAJC), Community Organizing, and Community Solidarity with the Poultry Workers organizations to enact an emergency regulation to address COVID-19 related workplace hazards in the poultry processing and meatpacking industries.
- On May 8, 2020 Governor Northam issued Executive Order 61 and Order of Public Health Emergency Three, Phase One Easing of Certain Temporary Restrictions Due to Novel Coronavirus (COVID-19).<sup>20</sup>
- On May 12, 2020 Governor Northam issued Executive Order 62 and Order of Public Health Emergency Four, Jurisdictions Temporarily Delayed from Entering Phase One in Executive Order 61 and Permitted to Remain in Phase Zero Northern Virginia Region.<sup>21</sup>
- On May 14, 2020 Governor Northam issued Amended Executive Order 62 and Amended Order of Public Health Emergency Four, Jurisdictions Temporarily Delayed from Entering Phase One in Executive Order 61 and Permitted to Remain in Phase Zero, Phase Zero Jurisdictions.<sup>22</sup>

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<sup>18</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/Order-of-Public-Health-Emergency-Two---Order-of-The-Governor-and-State-Health-Commissioner.pdf>

<sup>19</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-55-Temporary-Stay-at-Home-Order-Due-to-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-55-Temporary-Stay-at-Home-Order-Due-to-Novel-Coronavirus-(COVID-19).pdf)

<sup>20</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-61-and-Order-of-Public-Health-Emergency-Three---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-61-and-Order-of-Public-Health-Emergency-Three---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-(COVID-19).pdf)

<sup>21</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-62-and-Order-of-Public-Health-Emergency-Four---Jurisdictions-Temporarily-Delayed-From-Entering-Phase-One-in-Executive-Order-61-and-Permitted-to-Remain-in-Phase-Zero-Northern-Virginia-Region.pdf>

<sup>22</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-62-and-Order-of-Public-Health-Emergency-Four-AMENDED.pdf>

- On May 26, 2020 Governor Northam issued a revised Executive Order 63<sup>23</sup> (EO 63), “Order of Public Health Emergency Five, Requirement to Wear Face Covering While Inside Buildings.” EO 63 also directed the Commissioner of the Virginia Department of Labor and Industry [and Virginia Safety and Health Codes Board] to promulgate emergency regulations and standards to control, prevent, and mitigate the spread of COVID-19 in the workplace.
- On December 10, 2020 Governor Northam issued Executive Order 72<sup>24</sup> (EO 72) “Order of Public Health Emergency Nine, Common Sense Surge Restrictions, Certain Temporary Restrictions Due to Novel Coronavirus (COVID-19).”
- On May 14, 2021, Governor Northam issued Executive Order 79 (EO79) “Order of Public Health Emergency Ten, Ending of Common Sense Public Health Restrictions Due to Novel Coronavirus (COVID-19).”
- On May 28, 2021, the CDC issued “Interim Public Health Recommendations for Fully Vaccinated People”<sup>25</sup> which cleared fully vaccinated people to safely resume most normal activities. The CDC continues to recommend preventative measures for unvaccinated people (unvaccinated people refers to individuals of all ages, including children, that have not completed a vaccination series or received a single-dose vaccine) including wearing a face covering and staying six feet apart from people who don’t live with you.<sup>26</sup>

Face coverings continue to be required on planes, buses, trains, and other forms of public transportation traveling into, within, or out of the United States and in U.S. transportation hubs such as airports and stations.

- On June 10, 2021, federal OSHA issued an updated version of “Protecting Workers: Guidance on Mitigating and Preventing the Spread of COVID-19 in the Workplace.”<sup>27</sup> The guidance focuses on safety and health protections and mitigation efforts to protect unvaccinated, not fully vaccinated and otherwise at-risk workers:
  1. Grant paid time off for employees to get vaccinated.
  2. Instruct any workers who are infected, unvaccinated workers who have had close contact with someone who tested positive for SARS-CoV-2, and all workers with COVID-19 symptoms to stay home from work
  3. Implement physical distancing for unvaccinated and otherwise at-risk workers in all communal work areas
  4. Provide unvaccinated and otherwise at-risk workers with face coverings or surgical masks, unless their work task requires a respirator or other PPE

<sup>23</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-63-and-Order-Of-Public-Health-Emergency-Five---Requirement-To-Wear-Face-Covering-While-Inside-Buildings.pdf>

<sup>24</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-72-and-Order-of-Public-Health-Emergency-Nine-Common-Sense-Surge-Restrictions-Certain-Temporary-Restrictions-Due-to-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-72-and-Order-of-Public-Health-Emergency-Nine-Common-Sense-Surge-Restrictions-Certain-Temporary-Restrictions-Due-to-Novel-Coronavirus-(COVID-19).pdf)

<sup>25</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

<sup>26</sup> <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>

<sup>27</sup> <https://www.osha.gov/coronavirus/safework>

5. Educate and train workers on your COVID-19 policies and procedures using accessible formats and in language they understand
  6. Suggest that unvaccinated customers, visitors, or guests wear face coverings
  7. Maintain Ventilation Systems
  8. Perform routine cleaning and disinfection
  9. Record and report COVID-19 infections and deaths: Under mandatory OSHA rules in 29 CFR 1904
  10. Implement protections from retaliation and set up an anonymous process for workers to voice concerns about COVID-19-related hazards
  11. Follow other applicable mandatory OSHA standards
- On June 21, 2021, federal OSHA issued an Emergency Temporary Standard for Occupational Exposure to COVID-19 (COVID-19 ETS) applicable to employees engaged in healthcare services and healthcare support services.<sup>28</sup> At its June 29, 2021 meeting, the Board adopted the COVID-19 ETS in Virginia that applies to healthcare services and healthcare support services which expires within six months or when repealed by the Board, whichever occurs first. Application of the Virginia Standard to healthcare services and healthcare support services is suspended while the COVID-19 ETS is in effect, and would reapply after the COVID-19 ETS is no longer in effect.
  - On June 29, 2021, the Board adopted federal OSHA's COVID-19 ETS for Virginia with an effective date of August 2, 2021.<sup>29</sup> The COVID-19 ETS will expire within six months or when repealed by the Board, whichever occurs first.
  - On August 12, 2021, Virginia State Health Commissioner Oliver, MD, MA issued a Statewide Requirement to Wear Masks in K-12 Schools<sup>30</sup> under his ongoing Order of Public Health Emergency originally issued on February 7, 2020.
  - On August 13, 2021, federal OSHA issued an updated version of “Protecting Workers: Guidance on Mitigating and Preventing the Spread of COVID-19 in the Workplace.”<sup>31</sup>
  - On August 26, 2021, the Board adopted revisions to the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 That Causes COVID-19, §16 VAC 25-220, which took effect September 8, 2021.
  - On November 5, 2021, federal OSHA issued an Emergency Temporary Standard for Occupational Exposure to COVID-19 (COVID-19 ETS) with a vaccination or testing mandate applicable to employers with 100 or more employees.<sup>32</sup> The ETS was challenged in federal court and ultimately stayed by the U. S. Supreme Court on January 13, 2022 in National Federation of Independent Businesses, et al., Applicants v. Department of Labor, Occupational Safety and Health Administration, et al.<sup>33</sup>

<sup>28</sup> <https://www.govinfo.gov/content/pkg/FR-2021-06-21/pdf/2021-12428.pdf>

<sup>29</sup> <https://www.doli.virginia.gov/emergency-temporary-standard-interim-final-rule/>

<sup>30</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/PHE-Order\\_K-12-8-12-2021.pdf](https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/PHE-Order_K-12-8-12-2021.pdf)

<sup>31</sup> <https://www.osha.gov/coronavirus/safework>

<sup>32</sup> <https://www.osha.gov/news/newsreleases/national/11042021>

<sup>33</sup> [https://www.supremecourt.gov/opinions/21pdf/21a244\\_hgci.pdf](https://www.supremecourt.gov/opinions/21pdf/21a244_hgci.pdf)

- On January 14, 2022, Governor Northam issued Executive Order 84 (EO 84), Declaration of Limited State of Emergency, Providing Flexibility to Hospitals, Health Systems, Nursing Homes, Certified Nursing Facilities, and Other Health Care Providers to Combat COVID-19.
- On January 15, 2022, Governor Glenn Youngkin issued Executive Order 6 (EO 6), Reinvigorating Job Growth by Removing Burdensome Regulations From Virginia's Business Community.
- On January 20, 2022, Governor Youngkin issued Executive Order 11 (EO 11), Declaration of Limited State of Emergency, Providing Flexibility to Hospitals, Health Systems, Nursing Homes, Certified Nursing Facilities, and Other Health Care Providers to Combat COVID-19.<sup>34</sup>

B. Federal OSHA Emergency Temporary Standard for Healthcare Services and Healthcare Support Services.

On June 21, 2021, federal OSHA adopted a COVID-19 Emergency Temporary Standard, 1910.502, *et seq.*, applicable to the healthcare industry (OSHA Healthcare ETS) (employees engaged in healthcare services and healthcare support services), but does not have a specific regulation or standard that addresses the SARS-CoV-2 virus that causes COVID-19 for employers in non-healthcare settings.

On June 29, 2021, the Board adopted federal OSHA's Healthcare ETS for Virginia with an effective date of August 2, 2021. The OSHA Healthcare ETS will expire in Virginia within six months, when withdrawn by OSHA or repealed by the Board, whichever occurs first. During the pendency of the OSHA Healthcare ETS, application of the Virginia Standard to healthcare services and healthcare support services is suspended and will reapply after the COVID-19 ETS is no longer in effect.

Federal OSHA issued the following statement on December 27, 2021 regarding the OSHA Healthcare ETS<sup>35</sup>:

On June 21, 2021, OSHA adopted a Healthcare Emergency Temporary Standard (Healthcare ETS) protecting workers from COVID-19 in settings where they provide healthcare or healthcare support services. 86 FR 32376. Under the OSH Act, an ETS is effective until superseded by a permanent standard – a process contemplated by the OSH Act to occur within 6 months of the ETS's promulgation. 29 U.S.C. 655(c).

OSHA announces today that it intends to continue to work expeditiously to issue a final standard that will protect healthcare workers from COVID-19 hazards, and will do so as it also considers its broader infectious disease rulemaking. However, given that OSHA anticipates a final rule cannot be completed in a timeframe approaching the one contemplated by the OSH Act, OSHA also announces today

<sup>34</sup> <https://www.vapa.org/wp-content/uploads/2022/01/EO11.pdf>

<sup>35</sup> <https://www.osha.gov/coronavirus/ets/>

that it is withdrawing the non-recordkeeping portions of the healthcare ETS. The COVID-19 log and reporting provisions, 29 CFR 1910.502(q)(2)(ii), (q)(3)(ii)-(iv), and (r), remain in effect. These provisions were adopted under a separate provision of the OSH Act, section 8, and OSHA found good cause to forgo notice and comment in light of the grave danger presented by the pandemic. See 86 FR 32559.

With the rise of the Delta variant this fall, and now the spread of the Omicron variant this winter, OSHA believes the danger faced by healthcare workers continues to be of the highest concern and measures to prevent the spread of COVID-19 are still needed to protect them. Given these facts, and given OSHA's anticipated finalization of this rule, OSHA strongly encourages all healthcare employers to continue to implement the ETS's requirements in order to protect employees from a hazard that too often causes death or serious physical harm to employees.

As OSHA works towards a permanent regulatory solution, OSHA will vigorously enforce the general duty clause and its general standards, including the Personal Protective Equipment (PPE) and Respiratory Protection Standards, to help protect healthcare employees from the hazard of COVID-19. The Respiratory Protection Standard applies to personnel providing care to persons who are suspected or confirmed to have COVID-19. OSHA will accept compliance with the terms of the Healthcare ETS as satisfying employers' related obligations under the general duty clause, respiratory protection, and PPE standards. Continued adherence to the terms of the healthcare ETS is the simplest way for employers in healthcare settings to protect their employees' health and ensure compliance with their OSH Act obligations.

OSHA believes the terms of the Healthcare ETS remain relevant in general duty cases in that they show that COVID-19 poses a hazard in the healthcare industry and that there are feasible means of abating the hazard.

OSHA plans to publish a notice in the Federal Register to implement this announcement.

The Department has been informed by federal OSHA that its withdrawal of the OSHA Healthcare ETS does not take effect until published in the Federal Register, which as of February 11, 2022 has not yet occurred, although the legal basis for this decision is not clear. However, federal OSHA informed State Plans on February 9, 2022 that it is using its enforcement discretion to no longer enforce the OSHA Healthcare ETS.

The OSHA Healthcare ETS is the subject of a lawsuit by National Nurses United and other organizations filed on January 5, 2022<sup>36</sup> in the D. C. Circuit Court of Appeals which requests that the Court issue a writ of mandamus to OSHA compelling it within 30 days of the Court's grant of a writ to issue a Permanent Standard for Healthcare

Occupational Exposure to COVID-19 (Permanent Standard); and compels OSHA to retain and enforce the OSHA Healthcare ETS until it is properly superseded by the Permanent Standard.

### III. Summary of Rulemaking Process.

#### A. Petition Concerning Poultry and Meat Processing.

On April 23, 2020, the Commissioner of Labor and Industry received a petition from the Virginia Legal Aid Justice Center (LAJC), Community Organizing, and Community Solidarity with the Poultry Workers organizations to enact an emergency regulation to address COVID-19 related workplace hazards in the poultry processing and meatpacking industries. On April 29, 2020, Commissioner C. Ray Davenport provided an initial response to the April 23<sup>rd</sup> petition letter.

On May 6, 2020, the Commissioner received a follow-up letter from the same petitioners. On May 14, 2020, Commissioner C. Ray Davenport provided a follow-up response to the April 23<sup>rd</sup> and May 6<sup>th</sup> petition letters indicating that the petition would be submitted to the Virginia Safety and Health Codes Board for consideration.

#### B. Virginia Executive Order 63, issued May 26, 2020.

On May 26, 2020, Governor Northam issued a revised Executive Order 63<sup>37</sup> (EO 63), “Order of Public Health Emergency Five, Requirement to Wear Face Covering While Inside Buildings” that provides in part:

“E. Department of Labor and Industry

Except for paragraph B above, this Order does not apply to employees, employers, subcontractors, or other independent contractors in the workplace. The Commissioner of the Virginia Department of Labor and Industry shall promulgate emergency regulations and standards to control, prevent, and mitigate the spread of COVID-19 in the workplace. The regulations and standards adopted in accordance with §§ 40.1-22(6a) or 2.2-4011 of the Code of Virginia shall apply to every employer, employee, and place of employment within the jurisdiction of the Virginia Occupational Safety and Health program as described in 16 Va. Admin. Code § 25-60-20 and Va. Admin. Code § 25-60-30. These regulations and standards must address personal protective equipment, respiratory protective equipment, and sanitation, access to employee exposure and medical records and hazard communication. Further, these regulations and standards may not conflict with requirements and guidelines applicable to businesses set out and incorporated into Amended Executive Order 61 and Amended Order of Public Health Emergency Three.”<sup>38</sup> (Emphasis added).

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<sup>37</sup> *Id.*

<sup>38</sup> [https://www.governor.virginia.gov/media/governorviriniagov/executive-actions/EO-61-and-Order-Of-Public-Health-Emergency-Three-AMENDED---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorviriniagov/executive-actions/EO-61-and-Order-Of-Public-Health-Emergency-Three-AMENDED---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-(COVID-19).pdf)



Although EO 63 does not mention the Safety and Health Codes Board, Governor Northam issued a news release which says in part:

“The Governor is also directing the Commissioner of the Department of Labor and Industry to develop emergency temporary standards for occupational safety that will protect employees from the spread of COVID-19 in their workplaces. These occupational safety standards will require the approval by vote of the Virginia Safety and Health Codes Board and must address personal protective equipment, sanitation, record-keeping of incidents, and hazard communication. Upon approval, the Department of Labor and Industry will be able to enforce the standards through civil penalties and business closures.”<sup>39</sup> (Emphasis added).

C. Emergency Meetings of Safety and Health Codes Board.

1. Emergency Temporary Standard.

On June 12, 2020 the Department posted a Notice of Meeting for a June 24, 2020 emergency meeting<sup>40</sup> of the Safety and Health Codes Board to consider for adoption an Emergency Temporary Standard/Emergency Regulation (“ETS/ER”), Infectious Disease Prevention: SARS-CoV-2 Virus That Causes COVID-19, applicable to every employer, employee, and place of employment in the Commonwealth of Virginia within the jurisdiction of the VOSH program as described in §§16VAC 25-60-20 and 16 VAC 25-60-30.

On June 12, 2020 the Department also opened a 10 day Comment Forum<sup>41</sup> to provide the public the opportunity to submit written comments on the Department’s request to consider for adoption an ETS/ER Infectious Disease Prevention, SARS-CoV-2 Virus that Causes COVID-19. The comment period closed on June 22, 2020, and the comments were reviewed with the Board at its meeting on June 24, 2020.

On June 24, 2020, the Board decided to proceed with the adoption of an ETS under Va. Code §40.1-22(6a) and further provided that once the ETS was adopted, the Board would proceed with the consideration of adopting a permanent replacement standard for the ETS.

The Board continued its meeting of June 24<sup>th</sup> on June 29, 2020,<sup>42</sup> July 7, 2020<sup>43</sup> and July 15, 2020.<sup>44</sup> On July 15, 2020, the Virginia Safety and Health Codes Board adopted §16 VAC 25-220, Emergency Temporary Standard, Infectious Disease Prevention: SARS-CoV-2 Virus That Causes COVID-19.

The ETS was published in the Richmond Times Dispatch on July 27, 2020 and took

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<sup>39</sup> <https://www.governor.virginia.gov/newsroom/all-releases/2020/may/headline-857020-en.html>

<sup>40</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=31004>

<sup>41</sup> <https://townhall.virginia.gov/L/comments.cfm?GeneralNoticeid=1118>

<sup>42</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=31037>

<sup>43</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=31057>

<sup>44</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=31089>

immediate effect.<sup>45</sup> The ETS expired on January 26, 2021.

D. Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 That Causes COVID-19.

1. Proposed Permanent Standard.

Pursuant to Va. Code §40.1-22(6a), publication of the COVID-19 ETS in the Richmond Times Dispatch constituted notice that the Board intended to adopt a permanent standard within a period of six months.

The Board opted to engage in the following notice and comment process that would mirror, to the extent possible within the compressed six month timeline for adoption, Virginia Administrative Process Act (APA) procedures:

- The Board held a 60 day written comment period for the proposed permanent standard running from August 27, 2020 to September 25, 2020.<sup>46</sup>
- The Board held a public hearing on the proposed permanent standard on September 30, 2020.<sup>47</sup>

The Department received 993 written comments through the Virginia Regulatory Townhall for the 60 day written comment period from August 27, 2020 to September 25, 2020. There were 33 written comments sent directly to the Department during the 60 day written comment period, although a number of those were also posted by the Commenters on the Virginia Regulatory Townhall. There were 29 oral comments received during the public hearing on September 30, 2020.

The Board was briefed on the Department's response to the public comments at its regular meeting on November 12, 2020.

- In response to the public comments received, the Department developed recommended revisions to the proposed permanent standard and published them on December 10, 2020 with a 30 day written comment period ending January 9, 2021.<sup>48</sup>
- A public hearing was held on January 5, 2021.<sup>49</sup>
- An economic impact analysis (EIA)<sup>50</sup> based on the requirements of Va. Code §2.2-4007.04<sup>51</sup> was issued on January 11, 2021. The EIA was prepared by Chmura

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<sup>45</sup> [http://register.dls.virginia.gov/emergency\\_regs.shtml](http://register.dls.virginia.gov/emergency_regs.shtml)

<sup>46</sup> <https://townhall.virginia.gov/L/ViewNotice.cfm?gnid=1137>

<sup>47</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=31418>

<sup>48</sup> <https://townhall.virginia.gov/L/ViewNotice.cfm?gnid=1177>

<sup>49</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=31985>

<sup>50</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/VDOLI-COVID-Regulation-Economic-Impact-Analysis-EIA-20210111.pdf>

<sup>51</sup> <https://law.lis.virginia.gov/vacode/title2.2/chapter40/section2.2-4007.04/>

Economics & Analytics, a nationally recognized economic consulting firm.<sup>52</sup> The Department issued an Addendum to the EIA<sup>53</sup> on January 11, 2021.

2. Review of Comments Submitted: Initial 60 day Written Comment Period from August 27, 2020 to September 25, 2020; and Public Hearing of September 30, 2020.

The Department received 993 written comments through the Virginia Regulatory Townhall for the 60 day written comment period from August 27, 2020 to September 25, 2020.<sup>54</sup>

There were 33 written comments sent directly to the Department during the 60 day written comment period, although a number of those were also posted by the Commenter on the Virginia Regulatory Townhall.<sup>55</sup>

There were 29 oral comments received during the public hearing on September 30, 2020.<sup>56</sup>

3. Review of Comments Submitted: Follow-up 30 day Written Comment Period from December 10, 2020 to January 9, 2021; and Public Hearing of January 5, 2021.

The Department received 238 written comments through the Virginia Regulatory Townhall for the 30 day written comment period from December 10, 2020 to January 9, 2021.<sup>57</sup>

There were 21 written comments sent directly to the Department during the 30 day written comment period, although a number of those were also posted by the Commenter on the Virginia Regulatory Townhall.

There were 24 oral comments received during the public hearing on January 5, 2020.

4. Adoption of Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 That Causes COVID-19.

A meeting of the Board to consider adoption of a final standard was held January 12, 2021<sup>58</sup> and a continuation of the meeting was held on January 13, 2021,<sup>59</sup> at which time the Board adopted the final standard, 16VAC25-220 with an effective

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<sup>52</sup> <http://www.chmuraecon.com/>

<sup>53</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/DOLI-ADDENDUM-TO-EIA-Final-1.11.2021.pdf>

<sup>54</sup> [https://townhall.virginia.gov/L/GetFile.cfm?File=meeting\92\31594\Agenda\\_DOLI\\_31594\\_v6.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=meeting\92\31594\Agenda_DOLI_31594_v6.pdf)

<sup>55</sup> *Id.*

<sup>56</sup> <https://townhall.virginia.gov/L/ViewNotice.cfm?gnid=1162>

<sup>57</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/Combined-Townhall-Direct-to-DOLI-and-Oral-Comments-with-Dept-Response-1.10.2021-FOR-PUBLICATION.pdf>

<sup>58</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=31986>

<sup>59</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=31987>

date of January 27, 2021.<sup>60</sup>

16VAC25-220-20.C provides that within fourteen (14) days of the expiration of the Governor’s COVID-19 State of Emergency and Commissioner of Health’s COVID-19 Declaration of Public Emergency, the Virginia Safety and Health Codes Board shall notice a regular, special, or emergency meeting/conduct a regular, special, or emergency meeting to determine whether there is a continued need for the standard.<sup>61</sup>

The state of emergency that Governor Northam declared on March 12, 2020 in response to COVID-19 expired on June 30.<sup>62</sup>

E. Proposed Changes to the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 That Causes COVID-19.

On June 29, 2021, the Board adopted federal OSHA’s COVID-19 ETS for Virginia with an effective date of August 2, 2021.<sup>63</sup> The COVID-19 ETS will expire within six months or when repealed by the Board, whichever occurs first. During the pendency of the COVID-19 ETS, application of the Virginia Standard to healthcare services and healthcare support services is suspended and will reapply after the COVID-19 ETS is no longer in effect.

On June 29, 2021, the Board adopted proposed amendments to the Virginia Standard which were the subject of a 30 day written comment period.<sup>64</sup>

On July 1, 2021, Governor Northam completed his review of the proposed amendments to 16VAC25-220 adopted by the Board on June 29, 2021, and requested the following substitute language for 16VAC25-220-10.E be reconsidered by the Board when it reconvenes to consider final adoption of the proposed amendments to the Virginia Standard:

E. To the extent that an employer actually complies with a recommendation contained in current CDC guidelines, whether mandatory or nonmandatory, to mitigate SARS-CoV-2 virus and COVID-19 disease related hazards or job tasks addressed by this standard, ~~and provided that the CDC recommendation provides equivalent or greater protection than provided by a provision of this~~

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<sup>60</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/Final-Standard-for-Infectious-Disease-Prevention-of-the-Virus-That-Causes-COVID-19-16-VAC25-220-1.27.2021.pdf>

<sup>61</sup> NOTE 1: The intent of the language is to give the Board the maximum amount of flexibility to “notice” the Board meeting within 14 days even if the Board may not actually meet within 14 days.

NOTE 2: The new language in 16VAC25-220.C requires the Board to make a “determination” of whether there is continued need for the standard. The Department has identified three “determination” options:

- That there is no continued need for the standard;
- That there is a continued need for the standard with no changes; and
- That there is a continued need for a revised standard.

Regardless of the determination, the Department and Board will provide notice and comment opportunities on any changes to or revocation of the standard.

<sup>62</sup> <https://www.governor.virginia.gov/newsroom/all-releases/2021/june/headline-897920-en.html>

<sup>63</sup> <https://www.doli.virginia.gov/emergency-temporary-standard-interim-final-rule/>

<sup>64</sup> <https://www.doli.virginia.gov/proposed-changes-to-fps/>

~~standard~~, the employer's actions shall be considered in compliance with the related provisions of this standard. An employer's actual compliance with a recommendation contained in current CDC guidelines, whether mandatory or non-mandatory, to mitigate SARS-CoV-2 and COVID-19 related hazards or job tasks addressed by a provision of this standard shall be considered evidence of good faith in any enforcement proceeding related to this standard. The Commissioner of Labor and Industry shall consult with the State Health Commissioner for advice and technical aid before making a determination related to compliance with current CDC guidelines.

1. Review of Comments Submitted: 30 day Written Comment Period from July 1, 2021 to July 30, 2021; and Public Hearing of August 5, 2021.

The Department received 268 written comments through the Virginia Regulatory Townhall for the 30 day written comment period from July 1, 2021 to July 31, 2021.<sup>65</sup>

There were 19 written comments sent directly to the Department during the 30 day written comment period, although a number of those were also posted by the Commenter on the Virginia Regulatory Townhall.<sup>66</sup>

There were 7 oral comments received during the public hearing on August 5, 2021.<sup>67</sup>

[The Department's responses to the above comments were provided to the Board in a separate document.]

2. An economic impact analysis (EIA)<sup>68</sup> on the Proposed Amendments based on the requirements of Va. Code §2.2-4007.04<sup>69</sup> is being prepared by Chmura Economics & Analytics, a nationally recognized economic consulting firm.<sup>70</sup>

[The EIA was provided to the Board along with the Department's response in separate documents]

3. Written Comment Period from August 16, 2021 to August 23, 2021 opened to addressed DOLI's Requested Revisions to the Board's Proposed Amendments.

On August 16, 2021, after consultation with the Virginia Department of Health (VDH), DOLI has decided to recommend revisions<sup>71</sup> to the Board's Proposed

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<sup>65</sup> <https://townhall.virginia.gov/L/ViewNotice.cfm?GNid=1283>

<sup>66</sup> Public comments sent direct to DOLI can be found here: <https://www.doli.virginia.gov/proposed-changes-to-fps/>

<sup>67</sup> <https://townhall.virginia.gov/L/ViewMeeting.cfm?MeetingID=32816>

A recording of the public hearing can be found here: <https://www.doli.virginia.gov/proposed-changes-to-fps/>

<sup>68</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/VDOLI-COVID-Regulation-Economic-Impact-Analysis-EIA-20210111.pdf>

<sup>69</sup> <https://law.lis.virginia.gov/vacode/title2.2/chapter40/section2.2-4007.04/>

<sup>70</sup> <http://www.chmuraecon.com/>

<sup>71</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/08/Revisions-to-Proposed-Amendments-to-the-FPS-for-COVID-19-16VAC25-220-Adopted-06.29.2021.pdf>

Amendments to the Virginia Standard originally adopted on June 29, 2021, in response to the CDC's Updated Guidance for Fully Vaccinated People issued on July 27, 2021<sup>72</sup> (requirement in certain situations for fully vaccinated employees to wear face coverings in areas of substantial or high transmission).

The proposed revisions were the subject of a written comment period<sup>73</sup> from August 16, 2021 to August 23, 2021 on the Virginia Regulatory Townhall.

[The Department's responses to the above comments were provided to the Board in a separate document.]

4. On August 26, 2021, the Board adopted as final the amendments and revisions to the standard. Governor Northam reviewed the amendments/revisions and the standard was published on September 8, 2021 and became effective the same day.<sup>74</sup>

**F. Legal Challenges to Governor's COVID-19 Related Executive Orders and the Virginia COVID-19 Emergency Temporary Standard (ETS) Effective July 27, 2020 and the Permanent Standard Effective January 27, 2021.**

Multiple legal challenges to COVID-19 related Governor's Executive Orders and the VOSH Emergency Temporary Standard (ETS) for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, 16VAC25-220, were filed in the Circuit Court for the City of Richmond and consolidated. On March 4, 2021, the Court granted the Commonwealth's motion to dismiss. On March 31, 2021, the plaintiffs appealed the dismissal to the Virginia Court of Appeals (case number 0316-21-2).

The Court of Appeals issued its ruling in the case on December 7, 2021.<sup>75</sup>

The Court found that Governor's Executive Orders (EO) are not subject to the Virginia Administrative Process Act (APA), and that the challenges to the Department's Emergency Temporary Standard (ETS) are moot because it has expired. The Court also found that the Department's Final Permanent Standard, which replaced the ETS, went through a distinct and separate rulemaking process and must be challenged separately, if at all.

The Court further found that the Plaintiff's claims under the Virginia Religious Freedom Act are moot because the Executive Orders expired and were replaced. Finally, the Court found that with regard to Count IV in the case (that EO restrictions violated the separation of powers provisions of the Virginia Constitution and impermissibly infringed on rights of assembly and association and the free exercise of religion), broader constitutional claims were raised which are not within the appellate jurisdiction of the Court of Appeals, and transferred those assignments to the Supreme Court of Va.

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<sup>72</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

<sup>73</sup> <https://townhall.virginia.gov/L/ViewNotice.cfm?GNid=1309>

<sup>74</sup> 16VAC25-220. et seq., <https://law.lis.virginia.gov/admincode/title16/agency25/chapter220/section10/>

<sup>75</sup> <https://www.vacourts.gov/opinions/opncavwp/0316212.pdf>

#### **IV. Updates to CDC Guidance Since September 8, 2021 Effective Date of Virginia Standard.**

##### **A. Omicron Variant.**

As of December 20, 2021, "CDC has been collaborating with global public health and industry partners to learn about Omicron, as we continue to monitor its course. We don't yet know how easily it spreads, the severity of illness it causes, or how well available vaccines and medications work against it.

##### **Spread**

The Omicron variant likely will spread more easily than the original SARS-CoV-2 virus and how easily Omicron spreads compared to Delta remains unknown. CDC expects that anyone with Omicron infection can spread the virus to others, even if they are vaccinated or don't have symptoms."<sup>76</sup>

As of December 20, 2021, "The rapid growth rate in Omicron infections is believed to result from a combination of increased transmissibility and the ability to evade immunity conferred by past infection or vaccination (i.e., immune evasion) 4; 5. Data from laboratory experiments and epidemiologic investigations suggest a greater role for immune evasion than increased transmissibility; immunity conferred by prior infection or vaccination is likely to be reduced compared with Delta but not completely overcome. Data also show that vaccinated people who either receive a booster dose or who were also previously infected are likely to have stronger protection against Omicron."<sup>77</sup>

As of January 25, 2022, "The B.1.1.529 (Omicron) variant of SARS-CoV-2, the virus that causes COVID-19, was first clinically identified in the United States on December 1, 2021, and spread rapidly. By late December, it became the predominant strain, and by January 15, 2022, it represented 99.5% of sequenced specimens in the United States. The Omicron variant has been shown to be more transmissible and less virulent than previously circulating variants."<sup>78</sup>

##### **Omicron Subvariant BA.2**

CNBC.com, February 9, 2022, "WHO says new omicron BA.2 subvariant will rise globally, but scientists don't know if it can reinfect people."<sup>79</sup>

The World Health Organization expects a more transmissible version of omicron to increase in circulation around the world, though it's not yet clear if the Covid subvariant can reinfect people who caught an earlier version of the omicron strain.

Maria Van Kerkhove, the WHO's Covid-19 technical lead, said Tuesday the

<sup>76</sup> [https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html?s\\_cid=11734:omicron%20vaccine:sem.ga:p:RG:GM:gen:PTN:FY22](https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html?s_cid=11734:omicron%20vaccine:sem.ga:p:RG:GM:gen:PTN:FY22)

<sup>77</sup> <https://www.cdc.gov/coronavirus/2019-ncov/science/forecasting/mathematical-modeling-outbreak.html>

<sup>78</sup> [https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e4.htm?s\\_cid=mm7104e4\\_w](https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e4.htm?s_cid=mm7104e4_w)

<sup>79</sup> <https://www.cnb.com/2022/02/08/who-says-omicron-bapoint2-subvariant-will-rise-globally.html>

global health agency is tracking four different versions of omicron. Van Kerkhove said the BA.2 subvariant, which is more contagious than the currently dominant BA.1 version, will likely become more common.

“BA.2 is more transmissible than BA.1 so we expect to see BA.2 increasing in detection around the world,” Van Kerkhove said during a question-and-answer session livestreamed on the WHO’s social media platforms Tuesday.

....

Researchers in Denmark<sup>80</sup> have found that BA.2 is about 1.5 times more transmissible than BA.1 and it is more adept at infecting people who are vaccinated and even boosted. However, people who are fully vaccinated are less likely to spread it than the unvaccinated.

....

Most states in the U.S. have confirmed the presence of BA.2, though it’s circulating at a low level with 460 total cases confirmed so far, according to an international data base that tracks Covid variants."

## "Vaccines

Current vaccines are expected to protect against severe illness, hospitalizations, and deaths due to infection with the Omicron variant. However, breakthrough infections in people who are fully vaccinated are likely to occur. With other variants, like Delta, vaccines have remained effective at preventing severe illness, hospitalizations, and death. The recent emergence of Omicron further emphasizes the importance of vaccination and boosters."<sup>81</sup>

CDC.gov, Morbidity and Mortality Weekly Report (MMWR), January 21, 2022, "Effectiveness of a Third Dose of mRNA Vaccines Against COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Adults During Periods of Delta and Omicron Variant Predominance — VISION Network, 10 States, August 2021–January 2022":

"[A] multistate analysis of 222,772 ED [Emergency Department] and UC [Urgent Care] encounters and 87,904 hospitalizations among adults with COVID-19–like illness during August 26, 2021–January 5, 2022, estimates of VE [Vaccine Effectiveness] against laboratory-confirmed COVID-19 declined during the Omicron-predominant period compared with VE during the Delta-predominant period. During both periods, VE was significantly lower among patients who received their second mRNA COVID-19 vaccine dose  $\geq 180$  days before the medical encounters compared with those vaccinated more recently. VE increased following a third dose and was highly effective during both the Delta- and Omicron-predominant periods at preventing COVID-19–associated ED and UC encounters (94% and 82%, respectively) and preventing COVID-19–associated hospitalizations (94% and 90%, respectively).

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<sup>80</sup> <https://www.cnn.com/2022/01/28/the-new-bapoint2-omicron-subvariant-is-already-circulating-in-half-of-us-states.html>

<sup>81</sup> [https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html?s\\_cid=11734:omicron%20vaccine:sem.ga:p:RG:GM:gen:PTN:FY22](https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html?s_cid=11734:omicron%20vaccine:sem.ga:p:RG:GM:gen:PTN:FY22)



Estimates of VE for 2 doses of an mRNA vaccine were higher against COVID-19–associated hospitalizations than against COVID-19–associated ED or UC encounters, especially during the Omicron period, which is consistent with possible vaccine attenuation of severity of COVID-19 disease but was not observed in this network previously. This study also found that immunocompromised adults had lower third dose VE against COVID-19–associated ED and UC encounters and hospitalization, which is consistent with trends observed for VE following a second dose and is consistent with recommendations for a booster dose for this group 5 months after the additional primary dose.

....

These findings underscore the importance of receiving a third dose of mRNA COVID-19 vaccine to prevent both moderately severe and severe COVID-19, especially while the Omicron variant is the predominant circulating variant and when the effectiveness of 2 doses of mRNA vaccines is significantly reduced against this variant. All unvaccinated persons should get vaccinated as soon as possible. All adults who have received mRNA vaccines during their primary COVID-19 vaccination series should receive a third dose when eligible, and eligible persons should stay up to date with COVID-19 vaccinations."<sup>82</sup>

### **"Treatments**

Scientists are working to determine how well existing treatments for COVID-19 work. Based on the changed genetic make-up of Omicron, some treatments are likely to remain effective while others may be less effective."

#### **B. Isolation Guidance for the General Public.**

As of January 20, 2021,<sup>83</sup> "Isolation is used to separate people with confirmed or suspected COVID-19 from those without COVID-19. People who are in isolation should stay home until it's safe for them to be around others....Everyone who has presumed or confirmed COVID-19 should stay home and isolate from other people for at least 5 full days (day 0 is the first day of symptoms or the date of the day of the positive viral test for asymptomatic persons). They should wear a mask when around others at home and in public for an additional 5 days. People who are confirmed to have COVID-19 or are showing symptoms of COVID-19 need to isolate regardless of their vaccination status. This includes:

- People who have a positive viral test for COVID-19, regardless of whether or not they have symptoms.
- People with symptoms of COVID-19, including people who are awaiting test results or have not been tested. People with symptoms should isolate even if they do not know if they have been in close contact with someone with COVID-19."

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<sup>82</sup> [https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e3.htm?s\\_cid=mm7104e3\\_x](https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e3.htm?s_cid=mm7104e3_x)

<sup>83</sup> <https://www.cdc.gov/coronavirus/2019-ncov/your-health/quarantine-isolation.html>

"If you test positive for COVID-19 and never develop symptoms, isolate for at least 5 days. Day 0 is the day of your positive viral test (based on the date you were tested) and day 1 is the first full day after the specimen was collected for your positive test. You can leave isolation after 5 full days."<sup>84</sup>

NOTE: "Quarantine is a strategy used to prevent transmission of COVID-19 by keeping people who have been in close contact with someone with COVID-19 apart from others."<sup>85</sup>

**The Virginia Standard does not address quarantine issues, which are the purview of the Virginia Department of Health (VDH).**

**C. Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2.**

As of January 21, 2022<sup>86</sup>:

**Key Points**

- In general, asymptomatic HCP who have had a higher-risk exposure do not require work restriction if they are [up to date](#) with all recommended COVID-19 vaccine doses, do not develop symptoms or test positive for SARS-CoV-2. The duration of protection offered by booster doses of vaccine and their effect on emerging variants are not clear; additional updates will be provided as more information becomes available.

**Work Restrictions for HCP With SARS-CoV-2 Infection and Exposures**  
 "Up to Date" with all recommended COVID-19 vaccine doses is defined in [Stay Up to Date with Your Vaccines | CDC](#)

For more details, including recommendations for healthcare personnel who are immunocompromised, have severe to critical illness, or are within 90 days of prior infection, refer to [Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2](#) (conventional standards) and [Strategies to Mitigate Healthcare Personnel Staffing Shortages](#) (contingency and crisis standards).


**Work Restrictions for HCP With SARS-CoV-2 Infection**

Vaccination Status	Conventional	Contingency	Crisis
Up to Date and Not Up to Date	10 days OR 7 days with negative test <sup>†</sup> , if asymptomatic or mild to moderate illness (with improving symptoms)	5 days with/without negative test, if asymptomatic or mild to moderate illness (with improving symptoms)	No work restriction, with prioritization considerations (e.g., types of patients they care for)

**Work Restrictions for Asymptomatic HCP with SARS-CoV-2 Exposures**

Vaccination Status	Conventional	Contingency	Crisis
Up to Date	No work restrictions, with negative test on days 1 <sup>‡</sup> and 5-7	No work restriction	No work restriction
Not Up to Date	10 days OR 7 days with negative test <sup>†</sup>	No work restriction with negative tests on days 1 <sup>‡</sup> , 2, 3, & 5-7 (if shortage of tests prioritize Day 1 to 2 and 5-7)	No work restrictions (test if possible)

<sup>†</sup>Negative test result within 48 hours before returning to work  
<sup>‡</sup>For calculating day of test: 1) for those with infection consider day of symptom onset (or first positive test if asymptomatic) as day 0; 2) for those with exposure consider day of exposure as day 0

 [cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> [https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assessment-hcp.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Freturn-to-work.html](https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assessment-hcp.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Freturn-to-work.html)

V. **Basis for Board Action.**

A. Basis.

1. Applicable Statutes.

The Safety and Health Codes Board is authorized by Title 40.1-22(5)<sup>87</sup> to:

“... adopt, alter, amend, or repeal rules and regulations to further, protect and promote the safety and health of employees in places of employment over which it has jurisdiction and to effect compliance with the federal OSH Act of 1970...as may be necessary to carry out its functions established under this title....All such rules and regulations shall be designed to protect and promote the safety and health of such employees. In making such rules and regulations to protect the occupational safety and health of employees, the Board shall adopt the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity. However, such standards shall be at least as stringent as the standards promulgated by the Federal Occupational Safety and Health Act of 1970 (P.L. 91-596). In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws. Whenever practicable, the standard promulgated shall be expressed in terms of objective criteria and of the performance desired. Such standards when applicable to products which are distributed in interstate commerce shall be the same as federal standards unless deviations are required by compelling local conditions and do not unduly burden interstate commerce.”

Va. Code §40.1-22(6a)<sup>88</sup> provides that:

....

(6a) The Board shall provide, without regard to the requirements of Chapter 40 (§ 2.2-4000 et seq.) of Title 2.2, for an emergency temporary standard to take immediate effect upon publication in a newspaper of general circulation, published in the City of Richmond, Virginia, if it determines that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and that such emergency standard is necessary to protect employees from such danger. The publication mentioned herein shall constitute notice that the Board intends to adopt such standard within a period of six months. The Board by similar publication shall prior to the expiration of six months give notice of the time and date of, and conduct a hearing on, the adoption of a permanent standard. The emergency temporary standard shall expire within six months or when superseded by a permanent standard, whichever occurs first, or when repealed by the Board.

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<sup>87</sup> <https://law.lis.virginia.gov/vacode/40.1-22/>

<sup>88</sup> *Id.*

(Emphasis added).

The Department consulted with the OAG concerning the meaning and proper application of Va. Code §40.1-22(6a):

Any proposed changes to or proposed revocation of the Virginia Standard will go through a similar notice and comment process to that used for adoption of the current standard. This includes a written comment period for the public and stakeholders to provide written feedback to the Board about the proposed changes or proposed revocation, at least one public hearing, and the development of an Economic Impact Analysis (EIA) as necessary (an EIA would not be necessary in the event of proposed revocation). The Board will then hold a second meeting and vote to accept or reject the proposed changes or proposed revocation as final, which would become effective upon publication in a newspaper of general circulation published in the City of Richmond, Virginia.

B. Summary of Case Law on "Grave Danger" and "Necessity".

The terms “grave danger” and “necessity” are not defined in the statute, but have been addressed in federal court cases surrounding federal OSHA’s similar statutory requirement in the OSH Act, §6(c) (identical language underlined):

“(1) The Secretary shall provide, without regard to the requirements of chapter 5, title 5, Unites States Code, for an emergency temporary standard to take immediate effect upon publication in the Federal Register if he determines –

(A) that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and  
(B) that such emergency standard is necessary to protect employees from such danger. (Emphasis added).

29 U.S.C. § 655(c).

From *Asbestos Information Ass’n/North America v. OSHA*, 727 F.2d 415 (5th Cir. 1984) – review of OSHA’s Emergency Temporary Standard (ETS) lowering the PEL for asbestos under Section 6(c) of the OSH Act (29 U.S.C. § 655(c):

“As the Supreme Court has noted, the determination of what constitutes a risk worthy of Agency action is a policy consideration that belongs, in the first instance to the Agency. [Citation omitted] The Secretary determined that eighty lives at risk is a grave danger. We are not prepared to say it is not. The Agency need not support its conclusion ‘with anything approaching scientific certainty. [Citation omitted] ... so long as the Agency supports its conclusion with ‘a body of reputable scientific thought,’ it may ‘use conservative assumptions’ to support that conclusion. The Agency also has prerogative to choose between conflicting evidence of equivalent quality, and a court will consider a finding consistent with one authority or another to be supported by substantial evidence.”

From *Florida Peach Growers Ass'n v. Dept. of Labor*, 489 F.2d 120 (5th Cir. 1974) – review of OSHA ETS regarding protecting farmworkers from exposure to certain pesticides during cultivation of various crops:

“The Act requires determination of danger from exposure to harmful substances, not just a danger of exposure; and, not exposure to just a danger, but to a grave danger; and, not the necessity of just a temporary standard, but that an emergency standard is necessary.

OSHA relied on a report finding that 800 persons are killed annually from the improper use of pesticides, and 80,000 injured. The court found this did not support a conclusion that the per se use of the pesticides presents a “grave danger.” *Id.* at 131. There was not enough data in the record on deaths from use of pesticide in the workplace (as opposed to ingestion by children, etc.).

The court looked at petitioner’s evidence “detailing the generally mild nature of the relatively few cases of illness reported by crop workers exposed solely to residues. . . . from time to time a group of workers will experience nausea, excessive salivation and perspiration, blurred vision, abdominal cramps, vomiting, and diarrhea, in approximately that sequence. . . . these are not grave illnesses, however, and do not support a determination of a grave danger. . . . no deaths have been conclusively attributed to exposure to residues.” *Id.* at 131.

The court said “We reject any suggestion that deaths must occur before health and safety standards may be adopted. Nevertheless, the danger of incurable, permanent, or fatal consequences to workers, as opposed to easily curable and fleeting effects on their health, becomes important in the consideration of the necessity for emergency measures to meet a grave danger.” *Id.* at 132.

From *International Union, United Auto., Aerospace, and Agr. Implement Workers of America, UAW v. Donovan*, 590 F. Supp. 747 (D.D.C. 1984), where OSHA declined to promulgate an ETS on formaldehyde in the workplace. The court action was brought in district court challenging decision under the federal APA:

“The ‘grave danger’ and ‘necessity’ findings must be based on evidence of actual, prevailing industrial conditions, i.e., current levels of employee exposure to the substance in question.” *Id.* at 751.

The Court also agreed with the defendant's position that “A danger rises to the level of ‘grave’ when, based on actual workplace conditions, employees are faced with a risk of contracting serious disease which is substantially greater than a ‘significant risk [a finding by OSHA of “significant risk of material health impairment”<sup>89</sup> to employees from an occupational health hazard is necessary to support the adoption of a health standard]. *Id.* at 755.

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<sup>89</sup> “Before OSHA promulgates any permanent health or safety standard, it must make a ‘threshold finding’ that ‘it is at least more likely than not that long-term exposure’ to the regulated substance at current exposure levels ‘presents a significant risk of material impairment’ that ‘can be eliminated or lessened by a change in practices.’” *Industrial Union Department, AFLCIO v. American Petroleum Institute (Benzene)*, 448 U.S. 607, 642, 653 (1980) (plurality) The Supreme Court has provided the guidepost that OSHA follows: a one-in-a-thousand risk that exposure to the regulated

From *Dry Color Mfrs. Ass'n, Inc. v. Brennan*, 486 F.2d 98 (3d Cir. 1973), a review of OSHA's emergency regulations regarding 14 carcinogenic substances under Section 6(c) of the OSH Act (29 U.S.C. § 655(c)):

"...the most that can be said is that DCB and EI pose a 'potential' cancer hazard to men. Although the danger to cancer is surely "grave," subsection 6(c)(1) of the Act requires a grave danger of exposure to substances 'determined to be toxic or physically harmful.' 486 F.2d 98, 104.

"While the Act does not require an absolute certainty as to the deleterious effect of a substance on man, an emergency temporary standard must be supported by evidence that shows more than some possibility that a substance may cause cancer in man. On this record, the evidence supplies no more than some possibility that DCB and EI may cause cancer in man." *Id.* at 104-5.

### C. Background.

#### 1. SARS-CoV-2 Virus That Causes the COVID-19 Disease.

SARS-CoV-2 is a betacoronavirus, like MERS-CoV (Middle East Respiratory Syndrome Coronavirus) and SARS-CoV (Severe Acute Respiratory Syndrome Coronavirus). Coronaviruses are named for crown-like spikes on their surface. SARS-CoV-2 causes the Coronavirus Disease 2019 (COVID-19).

SARS-CoV-2 is easily transmitted through the air from person-to-person through respiratory droplets, aerosols, and other forms of airborne transmission, and the virus can settle and deposit on environmental surfaces where it can remain viable for days.

#### **Pandemic, Endemic, Epidemic**

CNBC.com, February 2, 2022, "Covid will always be an epidemic virus — not an endemic one, scientist warns."<sup>90</sup>

"According to the U.S. Centers for Disease Control and Prevention, an epidemic occurs when the number of cases of a disease increases, often suddenly, above what is usually expected.

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substance will be fatal can reasonably be considered significant but a one-in-a-billion risk is likely not significant. *Id.* at 655–56.

OSHA must support its significant risk finding with substantial evidence. *Id.* at 653. Although it must rely on a "body of reputable scientific thought" when assessing risk, *id.* at 656, OSHA does not have to "calculate the exact probability of harm" or support its finding "with anything approaching scientific certainty," *id.* at 655–56. OSHA is entitled to "some leeway" when its "findings must be made on the frontiers of scientific knowledge." *Id.* at 656. We "do not reweigh the evidence and come to our own conclusion[s]; rather, we assess the reasonableness of OSHA's conclusion." *Public Citizen Health Research Group v. Tyson (Ethylene Oxide)*, 796 F.2d 1479, 1495 (D.C. Cir. 1986). *North America's Building Trades Unions v. Occupational Safety and Health Administration and United States Department of Labor*, No. 16-1105,

[https://www.cadc.uscourts.gov/internet/opinions.nsf/03C747A5AB141C90852581FE0055A642/\\$file/16-1105-1710179.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/03C747A5AB141C90852581FE0055A642/$file/16-1105-1710179.pdf)

<sup>90</sup><https://www.cnb.com/2022/02/02/covid-will-never-become-an-endemic-virus-scientist-warns.html>

The WHO declares a disease a pandemic when its growth is exponential and it is spreading globally.

“While an epidemic is large, it is also generally contained or expected in its spread, while a pandemic is international and out of control,” experts from Columbia University’s Mailman School of Public Health explained in a blog post last year. “The difference between an epidemic and a pandemic isn’t in the severity of the disease, but the degree to which it has spread.”

Endemic disease is defined as “the constant presence or usual prevalence of a disease or infectious agent in a population within a geographic area” by the U.S. CDC.”

....

“Covid-19 will never become an endemic illness and will always behave like an epidemic virus, an expert in biosecurity has warned.

Raina MacIntyre, a professor of global biosecurity at the University of New South Wales in Sydney, told CNBC that although endemic disease can occur in very large numbers, the number of cases does not change rapidly as seen with the coronavirus.

“If case numbers do change [with an endemic disease], it is slowly, typically over years,” she said via email. “Epidemic diseases, on the other hand, rise rapidly over periods of days to weeks.”

Scientists use a mathematical equation, the so-called R naught (or  $R_0$ ), to assess how quickly a disease is spreading. The  $R_0$  indicates how many people will catch a disease from an infected person, with experts at Imperial College London estimating omicron’s could be higher than 3.

If a disease’s  $R_0$  is greater than 1, growth is exponential, meaning the virus is becoming more prevalent and the conditions for an epidemic are present, MacIntyre said.

“The public health goal is to keep the effective R — which is  $R_0$  modified by interventions such as vaccines, masks or other mitigations — below 1,” she told CNBC. “But if the  $R_0$  is higher than 1, we typically see recurrent epidemic waves for respiratory transmitted epidemic infections.”

MacIntyre noted that this is the pattern that was seen with smallpox for centuries and is still seen with measles and influenza. It’s also the pattern unfolding with Covid, she added, for which we have seen four major waves in the past two years.

“Covid will not magically turn into a malaria-like endemic infection where levels stay constant for long periods,” she contended. “It will keep causing epidemic waves, driven by waning vaccine immunity, new variants that escape vaccine protection, unvaccinated pockets, births and migration.”

## Signs and Symptoms

"Signs of COVID-19" are abnormalities that can be objectively observed, and may include fever, trouble breathing or shortness of breath, cough, vomiting, new confusion, bluish lips or face, etc.

"Symptoms of COVID-19" are abnormalities that are subjective to the person and not observable to others, and may include "fever or chill, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, diarrhea."<sup>91</sup>

"Symptoms"<sup>92</sup>

Most common

- Fever
- Cough (dry)
- Fatigue

Less common

- Myalgia
- Pharyngitis (or other respiratory symptoms)
- Headache
- GI including diarrhea
- Conjunctivitis
- Loss of taste or smell
- Rash (chilblains, discoloring on fingers/toes)

Serious/warning symptoms

- Shortness of breath
- Chest pain/pressure
- Confusion
- Lethargy
- Cyanosis

### COVID-19 Medical Complications.

"Although most people with COVID-19 have mild to moderate symptoms, the disease can cause severe medical complications and lead to death in some people. Older adults or people with existing chronic medical conditions are at greater risk of becoming seriously ill with COVID-19."<sup>93</sup>

In one study from March 27, 2020, younger adults 20–44 account for 20% of

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<sup>91</sup> <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>

<sup>92</sup>

[https://www.hopkinsguides.com/hopkins/view/Johns\\_Hopkins\\_ABX\\_Guide/540747/all/Coronavirus\\_COVID\\_19\\_SA\\_RS\\_CoV\\_2](https://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540747/all/Coronavirus_COVID_19_SA_RS_CoV_2)

<sup>93</sup> <https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963>



hospitalizations, 12% of ICU admissions.”<sup>94</sup>

“When to seek emergency medical attention....

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone

This list is not all possible symptoms. Please call your medical provider for any other symptoms that are severe or concerning....”<sup>95</sup>

“Complications can include:

- Pneumonia and trouble breathing
- Organ failure in several organs
- Heart problems
- A severe lung condition that causes a low amount of oxygen to go through your bloodstream to your organs (acute respiratory distress syndrome)
- Blood clots
- Acute kidney injury
- Additional viral and bacterial infections”<sup>96</sup>

#### “Illness Severity [CDC]

In a February 16, 2021 study, the largest cohort of >44,000 persons with COVID-19 from China showed that illness severity can range from mild to critical:

- Mild to moderate (mild symptoms up to mild pneumonia): 81%
- Severe (dyspnea, hypoxia, or >50% lung involvement on imaging): 14%
- Critical (respiratory failure, shock, or multi-organ system dysfunction): 5%

In this study, all deaths occurred among patients with critical illness and the overall case fatality rate was 2.3%. The case fatality rate among patients with critical disease was 49%. Among children in China, illness severity was lower with 94% having asymptomatic, mild or moderate disease, 5% having severe disease, and <1% having critical disease.

In a study of U.S. COVID-19 cases with known disposition, the proportion of persons who were hospitalized was 14%. The proportion of persons with COVID-19 admitted to the intensive care unit (ICU) was 2%, and overall 5% of patients died.<sup>97</sup>

<sup>94</sup> <https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e2.htm>

<sup>95</sup> <https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/steps-when-sick.html>

<sup>96</sup> <https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963>

[https://www.hopkinsguides.com/hopkins/view/Johns\\_Hopkins\\_ABX\\_Guide/540747/all/Coronavirus\\_COVID\\_19\\_SA\\_RS\\_CoV\\_2](https://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540747/all/Coronavirus_COVID_19_SA_RS_CoV_2)

<sup>97</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

CDC.gov, December 20, 2021, "Potential Rapid Increase of Omicron Variant Infections in the United States."

"At present, early data suggest Omicron infection might be less severe than infection with prior variants; however, reliable data on clinical severity remain limited. Even if the proportion of infections associated with severe outcomes is lower than with previous variants, given the likely increase in number of infections, the absolute numbers of people with severe outcomes could be substantial. In addition, demand for ambulatory care, supportive care for treatment of mild cases, and infection control requirements, quarantining/isolation of exposed/infected workforce could also stress the healthcare system. These stresses likely will be in addition to the ongoing Delta variant infections and a rising burden of illness caused by other respiratory pathogens, such as influenza, which have begun circulating at greater frequencies."<sup>98</sup>

Imperial College London, December 22, 2021, "Report 50 - Hospitalisation risk for Omicron cases in England"<sup>99</sup>

Researchers in England, Scotland, and South Africa have found the risk of admission to hospital to be between 15% and 80% lower with omicron than the delta variant. The findings have not been peer reviewed, and all three studies accept limitations in the research, but the unanimity of the findings has been welcomed. "In my view, there is now solid reason to favour a more optimistic outcome of omicron in the UK than was feared," said James Naismith, director of the Rosalind Franklin Institute at the University of Oxford.<sup>100</sup>

International Journal of Infectious Diseases, December 28, 2021, "Decreased severity of disease during the first global omicron variant covid-19 outbreak in a large hospital in Tshwane, South Africa."

"466 hospital COVID-19 admissions since 14 November 2021 were compared to 3962 admissions since 4 May 2020, prior to the Omicron outbreak. Ninety-eight patient records at peak bed occupancy during the outbreak were reviewed for primary indication for admission, clinical severity, oxygen supplementation level, vaccination and prior COVID-19 infection":

## "RESULTS

For the Omicron and previous waves, deaths and ICU admissions were 4.5% vs 21.3% ( $p < 0.00001$ ), and 1% vs 4.3% ( $p < 0.00001$ ) respectively; length of stay was 4.0 days vs 8.8 days; and mean age was 39 years vs 49,8 years.

Admissions in the Omicron wave peaked and declined rapidly with peak bed occupancy at 51% of the highest previous peak during the Delta wave.

<sup>98</sup> <https://www.cdc.gov/coronavirus/2019-ncov/science/forecasting/mathematical-modeling-outbreak.html>

<sup>99</sup> <https://www.imperial.ac.uk/mrc-global-infectious-disease-analysis/covid-19/report-50-severity-omicron/>

<sup>100</sup> <https://www.bmj.com/content/375/bmj.n3144>

Sixty two (63%) patients in COVID-19 wards had incidental COVID-19 following a positive SARS-CoV-2 PCR test. Only one third (36) had COVID-19 pneumonia, of which 72% had mild to moderate disease. The remaining 28% required high care or ICU admission. Fewer than half (45%) of patients in COVID-19 wards required oxygen supplementation compared to 99.5% in the first wave. The death rate in the face of an exponential increase in cases during the Omicron wave at the city and provincial levels shows a decoupling of cases and deaths compared to previous waves, corroborating the clinical findings of decreased severity of disease seen in patients admitted to the Steve Biko Academic Hospital.

## CONCLUSION

There was decreased severity of COVID-19 disease in the Omicron-driven fourth wave in the City of Tshwane, its first global epicentre."<sup>101</sup>

NOTE: "The younger age profile of patients is likely to have been a factor of this clinical profile."<sup>102</sup>

Vitals.sutterfield.org, December 28, 2021, "Omicron is the Dominant COVID Variant for Two Reasons."<sup>103</sup>

"The Omicron variant of COVID-19 has taken firm hold in the United States. Infectious disease specialist Dr. Gary Green explains why that is....

The first case of Omicron was detected in the U.S. on Nov. 22. Thirty days later, CDC Director Dr. Rochelle Walensky said Omicron accounted for half of all new COVID-19 cases and 90% of cases in some parts of the country.

....

Omicron is highly catchy. Here's how we know. A virus' infection rate – the average number of infected contacts per infected individual – is measured as  $R_0$  or Basic Reproduction Number. Original SARS-CoV-2 from China has  $R_0 \sim 2.79$  and the Delta variant has  $R_0 \sim 5.08$ . The Omicron variant has  $R_0 7.0$  or greater. Dr. Green says this means one case of Omicron infection can result in more than seven other infections. For perspective, the  $R_0$  for seasonal influenza is roughly 1.2 and the  $R_0$  for mumps is 7. The  $R_0$  for measles is 12-18.

"While Omicron's spread is swift, it's less virulent, particularly among a highly vaccinated people," says Dr. Green. This is good news about where the population is headed.

"Similar to the progression 1918 pandemic, Omicron is the first predominant strain to be less virulent (or severe) and may mark an evolutionary turn towards becoming more endemic."

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<sup>101</sup> [https://www.ijidonline.com/article/S1201-9712\(21\)01256-X/fulltext](https://www.ijidonline.com/article/S1201-9712(21)01256-X/fulltext)

<sup>102</sup> *Id.*

<sup>103</sup> <https://vitals.sutterhealth.org/omicron-is-the-us-dominant-covid-variant-for-two-reasons/>

Medrxiv, January 1, 2022, "Epidemiological Characteristics and Severity of Omicron Variant Cases in the APHP Critical Care Units."<sup>104</sup>

Results. On January 18, 45% of patients in the ICU and 63.8% of patients in conventional hospital units were infected with the Omicron variant ( $p < 0.001$ ). The risk of ICU admission with Omicron was reduced by 64% than with Delta (9.3% versus 25.8% of cases, respectively,  $p < 0.001$ ). In critically ill patients, 400 had the Delta variant, 229 the Omicron variant, 98 had an uninformative variant screening test and 161 did not have information on variant screening test. 747 patients (84.1%) were admitted for pneumonia. Compared to patients infected with Delta, Omicron patients were more vaccinated ( $p < 0.001$ ), even with 3 doses, more immunocompromised ( $p < 0.001$ ), less admitted for pneumonia ( $p < 0.001$ ), especially when vaccinated (62.1% in vaccinated versus 80.7% in unvaccinated,  $p < 0.001$ ), and less invasively ventilated ( $p = 0.02$ ). Similar results were found in the subgroup of pneumonia but Omicron cases were older. Unadjusted in-ICU mortality did not differ between Omicron and Delta cases, neither in the overall population (20.0% versus 27.9%,  $p = 0.08$ ), nor in patients with pneumonia (31.6% versus 29.7%, respectively) where adjusted in-ICU mortality did not differ according to the variant (HR 1.43 95% CI [0.89;2.29],  $p = 0.14$ ).

Conclusion and relevance. Compared to the Delta variant, the Omicron variant is less likely to result in ICU admission and less likely to be associated with pneumonia. However, when patients with the Omicron variant are admitted for pneumonia, the severity seems similar to that of patients with the Delta variant, with more immunocompromised and vaccinated patients and no difference in adjusted in-ICU mortality. Further studies are needed to confirm our results.

UPI.com, January 3, 2022, Omicron COVID-19 causes less lung damage in animal studies:"<sup>105</sup>

"The Omicron variant of COVID-19 may cause less severe illness than earlier strains of the virus because it attacks the lungs differently, a study<sup>106</sup> posted online Monday found.

In research with mice and hamsters, animals infected with the Omicron variant of the virus had less damage in their upper and lower respiratory tracts, said researchers from the United States and Japan.

In addition, the strain that first emerged in South Africa in late November has a "lower viral burden" in the nose, throat and lungs, which essentially means there is less virus in these locations and less chance for spread to other parts of the body, they said.

The mice and hamsters in the study, which the researchers intentionally infected with the Omicron variant for the experiments, showed evidence of "weakened"

<sup>104</sup> <https://www.medrxiv.org/content/10.1101/2022.01.25.22269839v1>

<sup>105</sup> [https://www.upi.com/Health\\_News/2022/01/03/covid-19-omicron-lung-damage-animal-studies/6811641220695/](https://www.upi.com/Health_News/2022/01/03/covid-19-omicron-lung-damage-animal-studies/6811641220695/)

<sup>106</sup> <https://www.researchsquare.com/article/rs-1211792/v1>; <https://www.nature.com/articles/s41586-022-04441-6>

infections in the lungs and lost less weight than rodents sickened with other strains, a sign of less severe illness, according to the researchers."

ECDC.europa.eu, European Centre for Disease Prevention and Control, January 14, 2022, "Weekly epidemiological update: Omicron variant of concern (VOC) – week 2 (data as of 13 January 2022) EU/EEA."<sup>107</sup>

#### Disease severity related to Omicron

Preliminary evidence suggests that infections with the Omicron VOC have a less severe clinical presentation than Delta. However, it is still too early to make a complete assessment of Omicron's severity.

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The UKHSA shared a report estimating that Omicron-infected individuals have 50% lower risk to visit or to be admitted to the hospital than people with infection due to Delta (hazard ratio 0.53, 95% CI 0.50-0.57). They also found a 65% lower hospitalisation risk for Omicron cases who had received 2 doses of a vaccine and 81% reduction with 3 doses, compared to unvaccinated.

Another study<sup>108</sup> from Scotland used the national data of individuals with symptomatic Omicron infection and identified a reduced hospitalisation risk compared to Delta cases, while the rate of possible reinfection for Omicron was 10 times that of Delta. Vaccinated individuals with the third vaccine dose had a 57% (95% CI 55-60) lower risk to experience symptoms following Omicron infection.

A recent Canadian report<sup>109</sup> confirmed low hospital admission rates (0.3%) and case fatality (<0.1%) for Omicron cases. Shorter median length of hospital stay and reduced need for respiratory support than the previous variants were also reported in another publication<sup>110</sup> (not peer-review) from Texas.

Similar findings were published in a preprint<sup>111</sup> from Southern California where they also report reduced risk of hospital/ICU admission and mortality for Omicron cases compared to Delta. The median hospital stay duration for symptomatic patients was approximately 70% (~3.4 days) shorter for Omicron infected cases. The added value of this study is the contemporaneous comparison of Omicron and Delta variants co-circulating among the same exposed population.

However, most of studies do not account for waning immunity, neither for the likely large amount of under-ascertained reinfections. This could lead to an overestimation of the decrease in severity.

<sup>107</sup> <https://www.ecdc.europa.eu/en/news-events/weekly-epidemiological-update-omicron-variant-concern-voc-week-2-data-13-january-2022>

<sup>108</sup> <https://www.research.ed.ac.uk/en/publications/severity-of-omicron-variant-of-concern-and-vaccine-effectiveness->

<sup>109</sup> <https://www.publichealthontario.ca/-/media/documents/ncov/epi/covid-19-weekly-epi-summary-report.pdf?la=en>

<sup>110</sup> <https://www.medrxiv.org/content/10.1101/2021.12.30.21268560v2>

<sup>111</sup> <https://www.medrxiv.org/content/10.1101/2022.01.11.22269045v1>

CDC.gov, January 25, 2022, Morbidity and Mortality Weekly Report (MMWR), "Trends in Disease Severity and Health Care Utilization During the Early Omicron Variant Period Compared with Previous SARS-CoV-2 High Transmission Periods — United States, December 2020–January 2022."

"Emergence of the Omicron variant in December 2021 led to a substantial increase in COVID-19 cases in the United States. Although the rapid rise in cases has resulted in the highest number of COVID-19–associated ED visits and hospital admissions since the beginning of the pandemic, straining the health care system, disease severity appears to be lower than compared with previous high disease-transmission periods. In addition to lower ratios of ED visits, hospitalizations, and deaths to cases observed during the Omicron period, disease severity indicators were also lower among hospitalized COVID-19 patients, including ICU admission, receipt of IMV, length of stay, and in-hospital death. This apparent decrease in disease severity is likely related to multiple factors, most notably increases in vaccination coverage among eligible persons, and the use of vaccine boosters among recommended subgroups."<sup>112</sup>

CDC.gov, February 44, 2022, Morbidity and Mortality Weekly Report (MMWR), "Clinical Characteristics and Outcomes Among Adults Hospitalized with Laboratory-Confirmed SARS-CoV-2 Infection During Periods of B.1.617.2 (Delta) and B.1.1.529 (Omicron) Variant Predominance — One Hospital, California, July 15–September 23, 2021, and December 21, 2021–January 27, 2022."<sup>113</sup>

Among adults hospitalized with SARS-CoV-2 infection at a single hospital in California during the Omicron-predominant period (December 21, 2021–January 27, 2022), COVID-19 vaccination, particularly receipt of a booster dose, was associated with lower likelihood of ICU admission, and, among adults aged  $\geq 65$  years, lower likelihood of death while hospitalized. Compared with the period of Delta predominance, a higher proportion of adults hospitalized during Omicron predominance were fully vaccinated.

Consistent with earlier findings, Omicron-period hospitalizations were associated with a lower likelihood of ICU admission, IMV, and death while hospitalized, compared with Delta-period hospitalizations. However, the proportion requiring ICU admission and IMV did not differ significantly when stratified by vaccination status, suggesting that much of the lower disease severity observed during Omicron predominance might be driven by increased population-level vaccine-conferred immunity. These findings support the continued importance of COVID-19 vaccination, including booster doses, in mitigating the risk of severe illness associated with SARS-CoV-2 infection.

From mid-July through mid-December 2021, the proportion of fully vaccinated adults in Los Angeles County increased nearly 20%, from approximately 65% to 77%, but the proportion of SARS-CoV-2 hospitalizations occurring in fully vaccinated adults increased almost 60%, from approximately 25% to 40%. The

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<sup>112</sup> [https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e4.htm?s\\_cid=mm7104e4\\_w](https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e4.htm?s_cid=mm7104e4_w)

<sup>113</sup> <https://www.cdc.gov/mmwr/volumes/71/wr/mm7106e2.htm>

increase in the percentage of fully vaccinated Hispanic adults and the decrease in the percentage of non-Hispanic White adults hospitalized between the two periods likely reflect increased vaccination coverage among Hispanic persons during fall 2021.

Increases in infections among vaccinated persons during the period of Omicron predominance were likely driven both by waning vaccine-derived immunity over time and by relative resistance to vaccine neutralization in the Omicron variant compared with the Delta variant. This is consistent with the observed decline in effectiveness of 2-dose vaccination against COVID-19 hospitalization during the Omicron period. A previous study also found that, compared with the period of Delta predominance, the period of Omicron predominance in Los Angeles County was associated with a decrease in the degree of protection against COVID-19 and hospitalization. Despite this, COVID-19 vaccination, including a booster dose, was associated with lower likelihood of ICU admission during the Omicron period, and lower likelihood of death among adults aged  $\geq 65$  years, who are at higher risk for severe outcomes when hospitalized with COVID-19.

Early reports suggest that the Omicron variant has lower replication competence in lung parenchyma, possibly contributing to a decreased severity of illness compared with earlier variants (3). However, among patients hospitalized for COVID-19 during the early Omicron predominant period, most had lower respiratory symptoms and abnormal chest imaging, approximately one third had hypoxemia, and 10% required IMV. These findings demonstrate that, despite observed changes compared with Delta, Omicron variant infection still causes severe lower respiratory illness. Similar data on patient symptoms were not available for Delta-period hospitalizations. However, fewer Omicron-period patients received COVID-19-directed therapies, which might suggest lower proportion with hypoxemia, compared with Delta-period patients. Alternatively, this change might have been driven by changes in prescribing practices or other unmeasured factors.

Approximately 20% of SARS-CoV-2 admissions during early Omicron predominance were likely for reasons other than COVID-19, a proportion even higher among young and vaccinated adults. Given high rates of SARS-CoV-2 community transmission, this is not unexpected.

## 2. National and State COVID-19 Case, Death and Hospitalization Statistics.

### Centers for Disease Control (CDC): U.S. and Virginia Statistics

- a. **As of June 21, 2020**, in the U. S. there were 1,248,029 total cases reported (32,411 new cases compared to June 20, 2020) of COVID-19 and 119,615 deaths (560 new deaths compared to June 20, 2020).<sup>114</sup> Confirmed COVID-19 cases in Virginia totaled 57,994 with 1,611 deaths.

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<sup>114</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

- b. **As of December 26, 2020**, in the U. S. there were 18,730,806 total cases reported (146,512 new cases compared to December 25, 2020) and 329,592 deaths (1,692 new deaths compared to December 25, 2020). Confirmed COVID-19 cases in Virginia totaled 333,576 with 4,854 deaths.<sup>115</sup>
- c. **As of June 11, 2021**, in the U. S. there were 33,246,578 total cases reported (current 7-day average of 13,997 cases), 2,243,371 hospitalizations (current 7-day average of 2,239), and 596,059 total deaths (current 7-day moving average of 347 deaths).<sup>116</sup> **As of June 14, 2021**, cases in Virginia totaled 677,812<sup>117</sup> (7-day average 140 cases), 30,182 hospitalizations (7-day average of 10 hospitalizations),<sup>118</sup> with 11,318 deaths (7-day average of 3 deaths).<sup>119</sup>
- d. **As of August 11, 2021**, in the U. S. there were 36,268,057 total cases reported (current 7-day average of 114,190 cases), 2,507,105 hospitalizations (current 7-day average of 10,072), and 617,096 total deaths (current 7-day moving average of 407 deaths).<sup>120</sup> **As of August 10, 2021**, cases in Virginia totaled 725,971<sup>121</sup> (7-day average 1,700 cases), 32,399 hospitalizations (7-day average of 37 hospitalizations),<sup>122</sup> with 11,625 deaths (7-day average of 5 deaths).<sup>123</sup>
- e. **As of February 2, 2022**, in the U. S. there were 75,605,991 total cases reported (current 7-day average of 378,015 cases), 4,317,927 hospitalizations (current 7-day average of 16,068), and 892,442 total deaths (current 7-day moving average of 2,404 deaths).<sup>124</sup>
- As of February 5, 2022**, cases in Virginia totaled 1,598,416<sup>125</sup> (7-day average 4,468 cases<sup>126</sup>), 47,208 hospitalizations (7-day average of 28 hospitalizations<sup>127</sup>), with 17,393 deaths (7-day average of 8 deaths<sup>128</sup>).

<sup>115</sup> *Id.*

<sup>116</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>117</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>118</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>119</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>120</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>121</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>122</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>123</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>124</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>125</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>126</sup> Week ending 2.5.2022, 20,102 confirmed cases and 11,172 probable cases = total of 31,274, 7-day rolling average of 4,468, <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-in-virginia/covid-19-in-virginia-cases/>

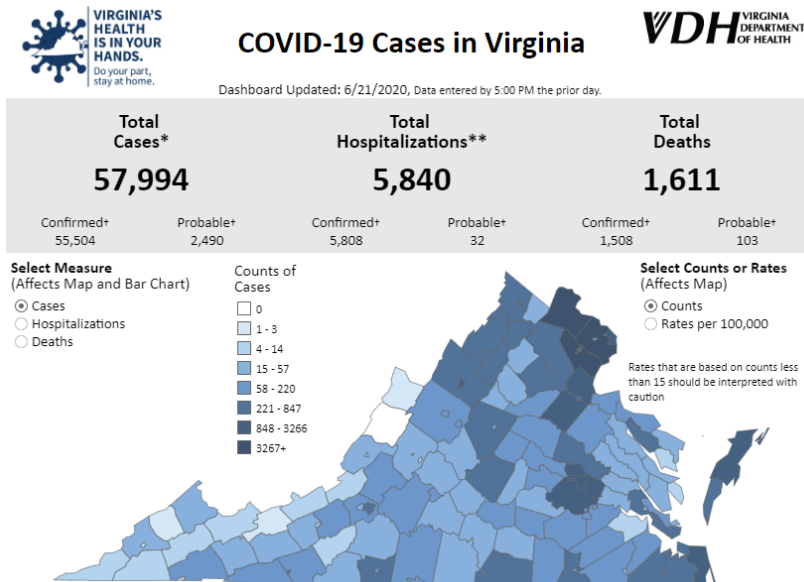
<sup>127</sup> Week ending 2.5.2022, 179 confirmed hospitalizations and 20 probable hospitalizations = total of 199, 7-day rolling average of 28, <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>128</sup> Week ending 2.5.2022, 45 confirmed deaths and 14 probable deaths = total of 59, 7-day rolling average of 8, <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

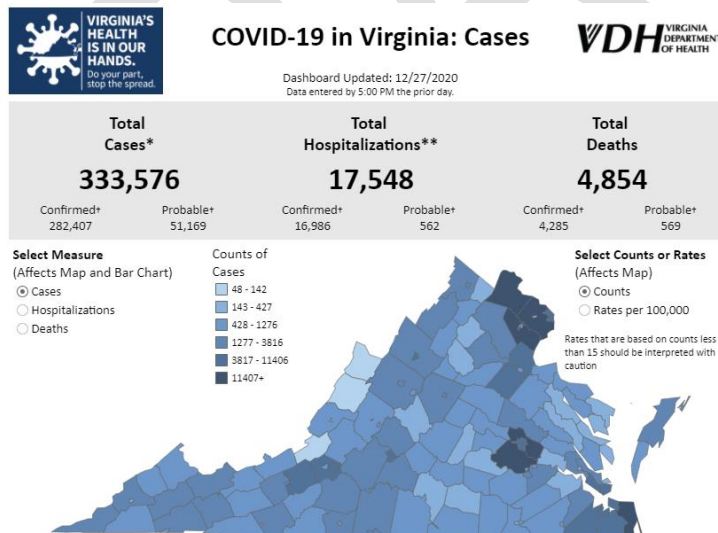


## National and Virginia Charts

### Virginia Cases by County as of June 21, 2020.<sup>129</sup>



### Virginia Cases by County as of December 26, 2020.<sup>130</sup>



### Virginia Cases by County as of June 14, 2021.<sup>131</sup>

<sup>129</sup> <https://www.vdh.virginia.gov/coronavirus/>

<sup>130</sup> *Id.*

<sup>131</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>



# COVID-19 in Virginia: Cases



Dashboard Updated: 6/14/2021  
Data entered by 5:00 PM the prior day.

Total Cases*		Total Hospitalizations**		Total Deaths	
<b>677,812</b>		<b>30,182</b>		<b>11,318</b>	
Confirmed+	Probable+	Confirmed+	Probable+	Confirmed+	Probable+
527,559	150,253	28,642	1,540	9,553	1,765

Select Measure (Affects Map and Bar Chart)

- Cases
- Hospitalizations
- Deaths

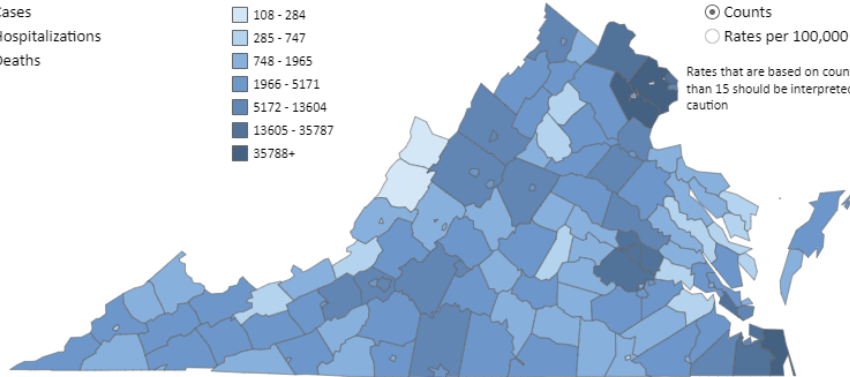
Counts of Cases

- 108 - 284
- 285 - 747
- 748 - 1965
- 1966 - 5171
- 5172 - 13604
- 13605 - 35787
- 35788+

Select Counts or Rates (Affects Map)

- Counts
- Rates per 100,000

Rates that are based on counts less than 15 should be interpreted with caution



Virginia Cases by County as of August 17, 2021.<sup>132</sup>



# COVID-19 in Virginia: Cases



Dashboard Updated: 8/17/2021  
Data entered by 5:00 PM the prior day.

Total Cases*		Total Hospitalizations**		Total Deaths	
<b>725,971</b>		<b>32,399</b>		<b>11,625</b>	
Confirmed+	Probable+	Confirmed+	Probable+	Confirmed+	Probable+
557,789	168,182	30,686	1,713	9,819	1,806

Select Measure (Affects Map and Bar Chart)

- Cases
- Hospitalizations
- Deaths

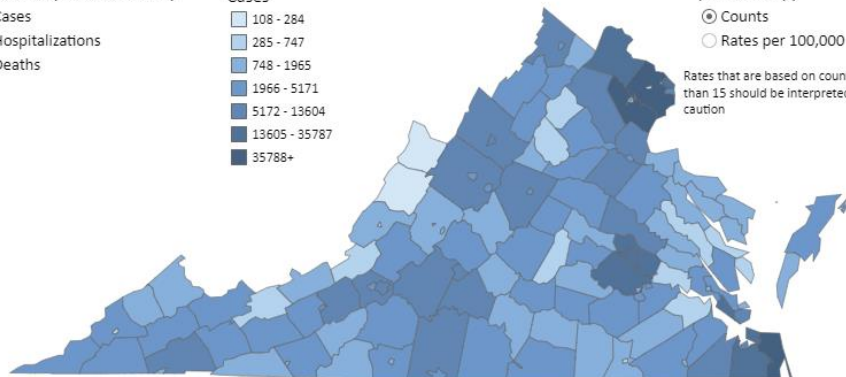
Counts of Cases

- 108 - 284
- 285 - 747
- 748 - 1965
- 1966 - 5171
- 5172 - 13604
- 13605 - 35787
- 35788+

Select Counts or Rates (Affects Map)

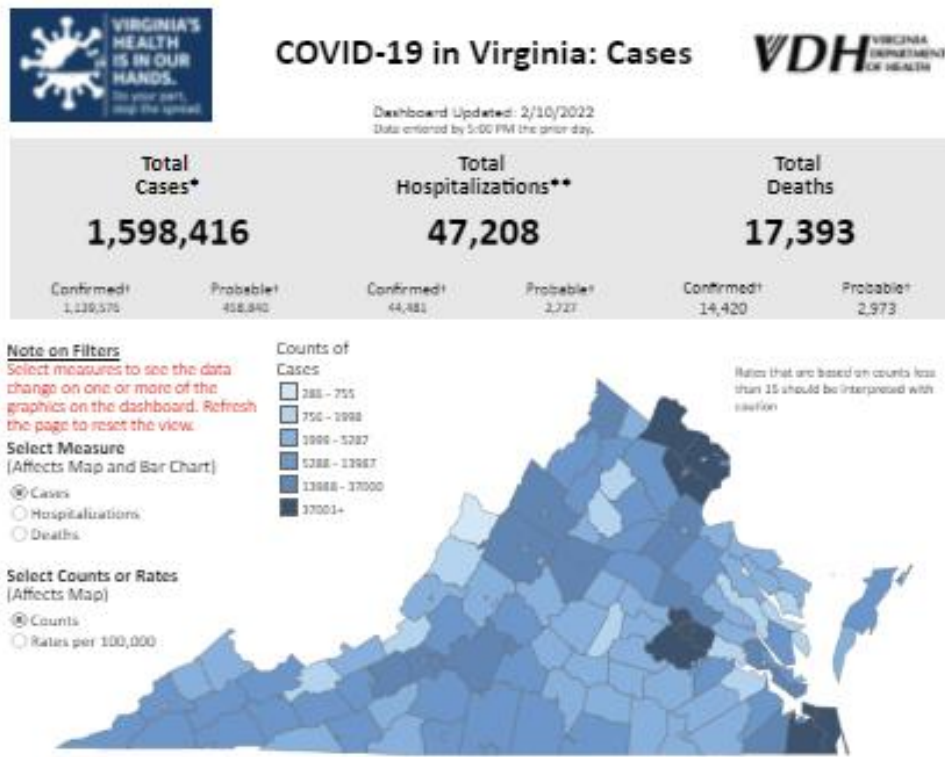
- Counts
- Rates per 100,000

Rates that are based on counts less than 15 should be interpreted with caution



<sup>132</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

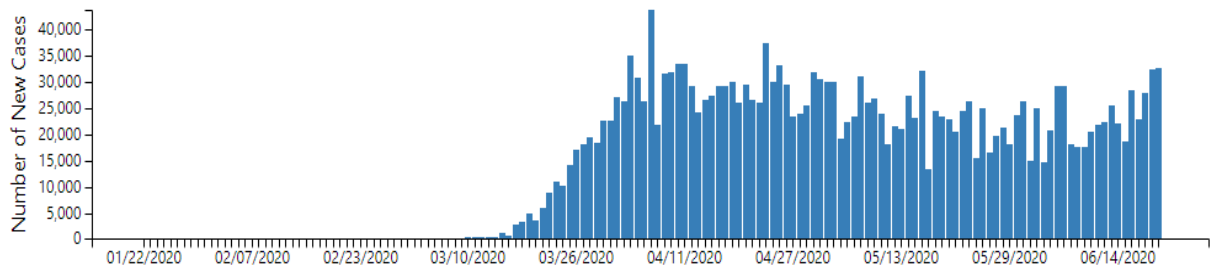
Virginia Cases by County as of February 10, 2022.<sup>133</sup>



National COVID-19 Cases as of June 21, 2020<sup>134</sup>

New Cases by Day

The following chart shows the number of new COVID-19 cases reported each day in the U.S. since the beginning of the outbreak. Hover over the bars to see the number of new cases by day.



<sup>133</sup> <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-in-virginia/covid-19-in-virginia-cases/>

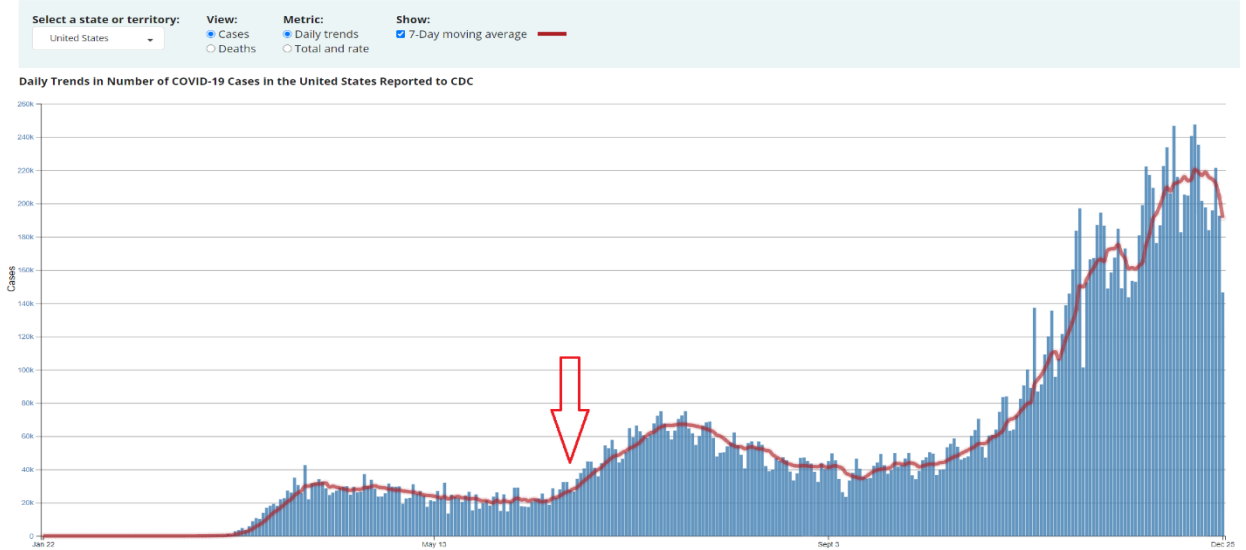
<sup>134</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

**Red arrows** indicate dates of Board actions on COVID-19.

## National COVID-19 Cases as of December 26, 2020.<sup>135</sup>

Trends in Number of COVID-19 Cases and Deaths in the US Reported to CDC, by State/Territory

Reported to the CDC by State or Territory



## National COVID-19 Cases as of June 11, 2021<sup>136</sup>

Daily Trends in COVID-19 Cases in the United States Reported to CDC

7-Day moving average

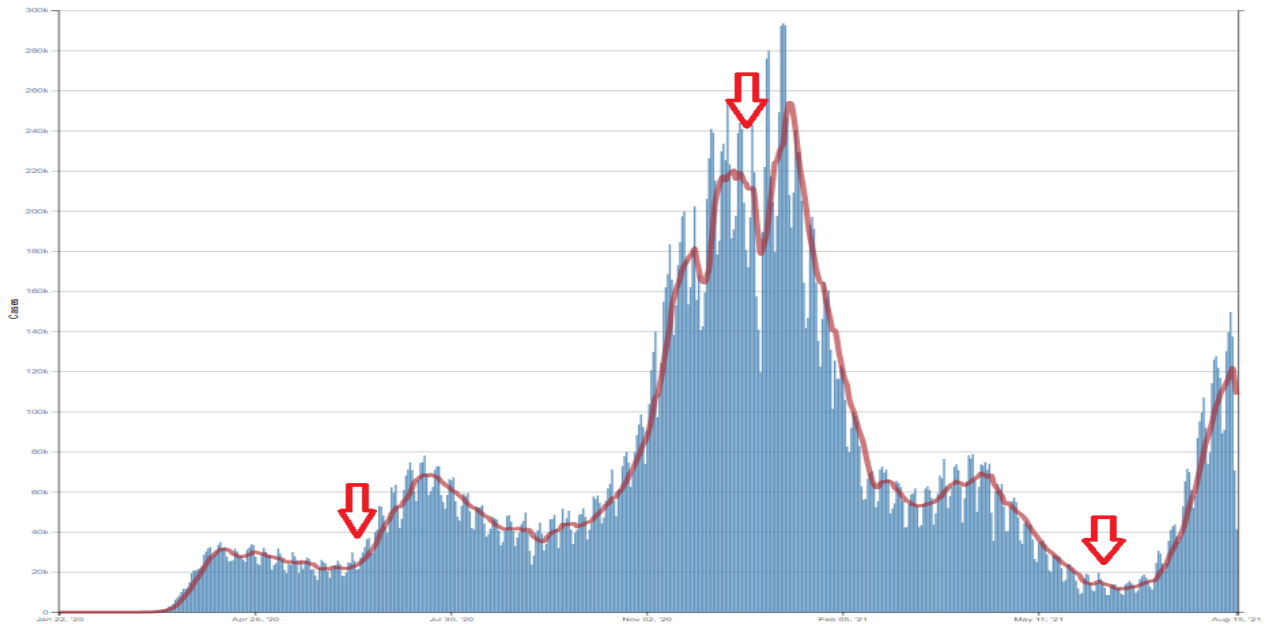


<sup>135</sup> *Id.*

<sup>136</sup> [https://townhall.virginia.gov/L/GetFile.cfm?File=meeting\92\32669\Agenda\\_DOLI\\_32669\\_v6.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=meeting\92\32669\Agenda_DOLI_32669_v6.pdf)

## National COVID-19 Cases as of August 17, 2021<sup>137</sup>

Daily Trends in Number of COVID-19 Cases in the United States Reported to CDC



## National COVID-19 Cases as of February 4, 2022<sup>138</sup>

### Daily Trends in COVID-19 Cases in the United States Reported to CDC

— 7-Day moving average



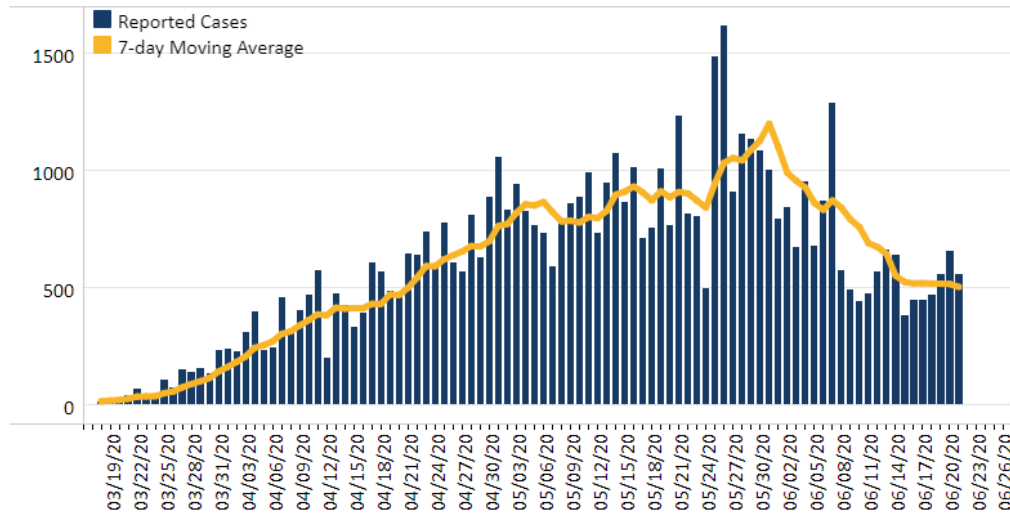
<sup>137</sup> [https://covid.cdc.gov/covid-data-tracker/#trends\\_dailytrendscases](https://covid.cdc.gov/covid-data-tracker/#trends_dailytrendscases)

<sup>138</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

## Virginia Cases as of June 21, 2020.<sup>139</sup>

### Total Cases by Date Reported

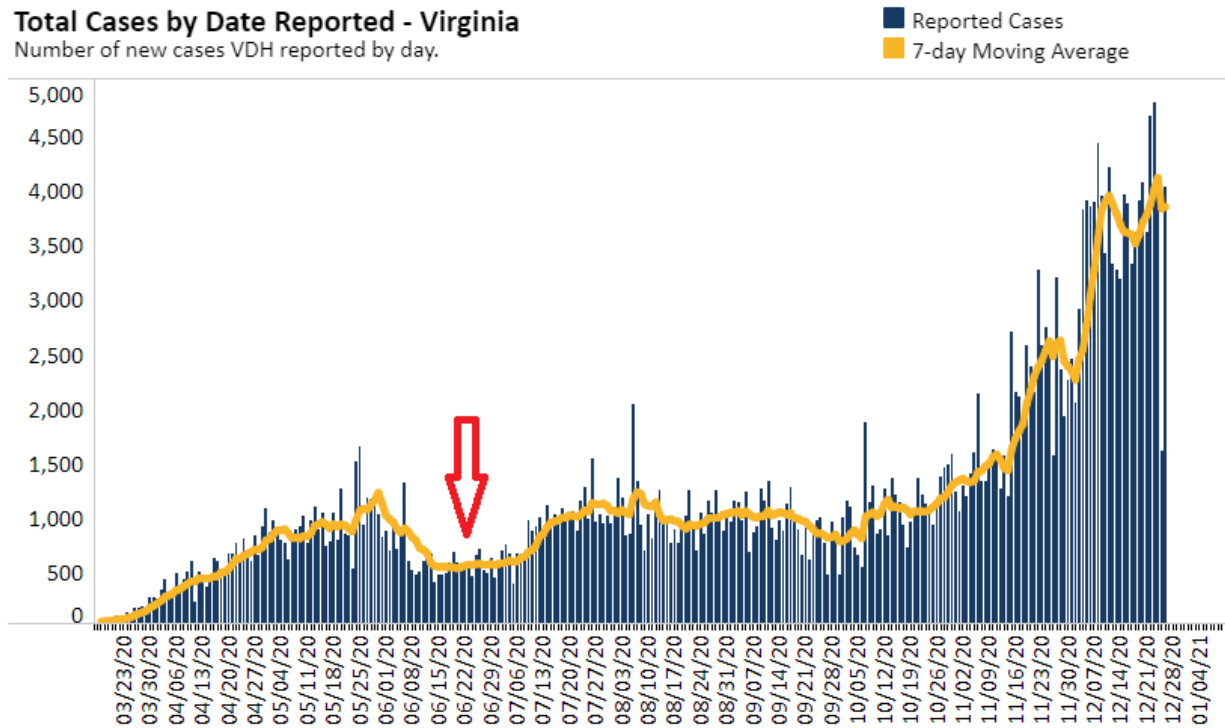
Number of new cases VDH reported by day.



## Virginia Cases as of December 26, 2020.<sup>140</sup>

### Total Cases by Date Reported - Virginia

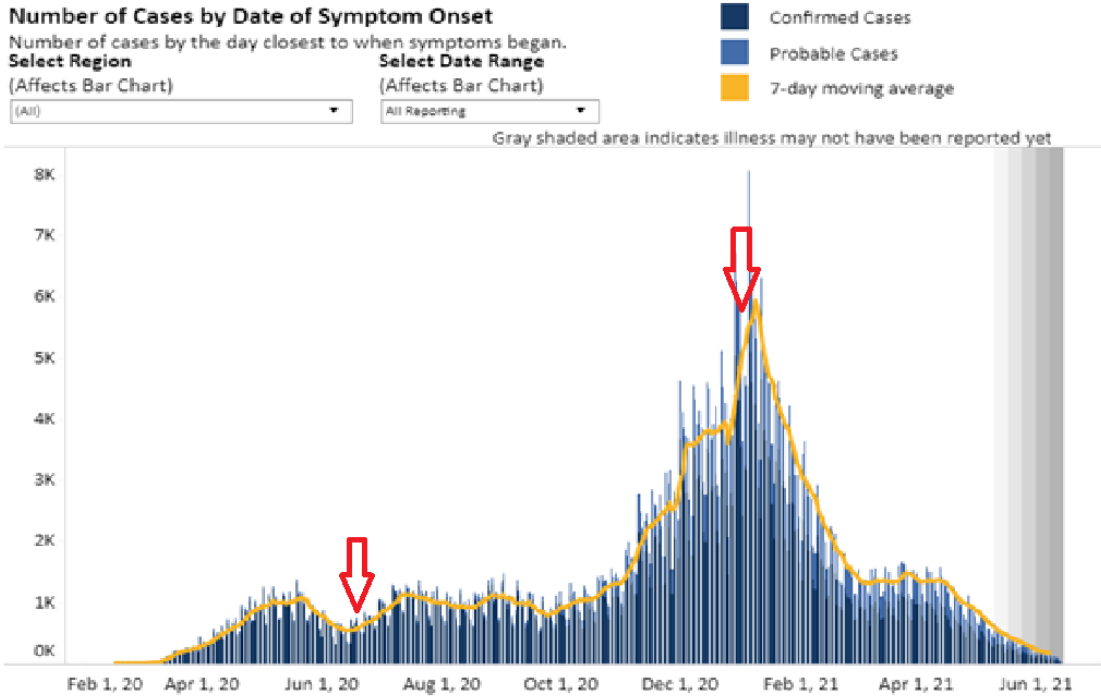
Number of new cases VDH reported by day.



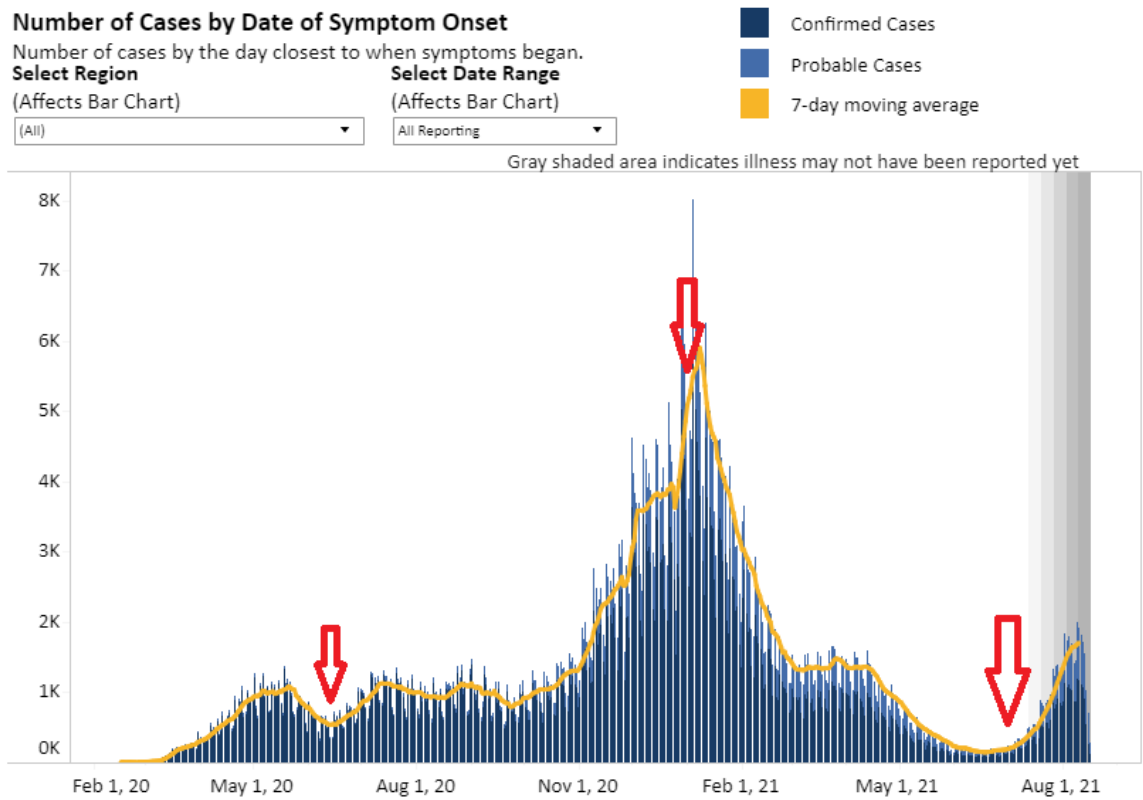
<sup>139</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

<sup>140</sup> *Id.*

## Virginia Cases as of June 14, 2021.<sup>141</sup>



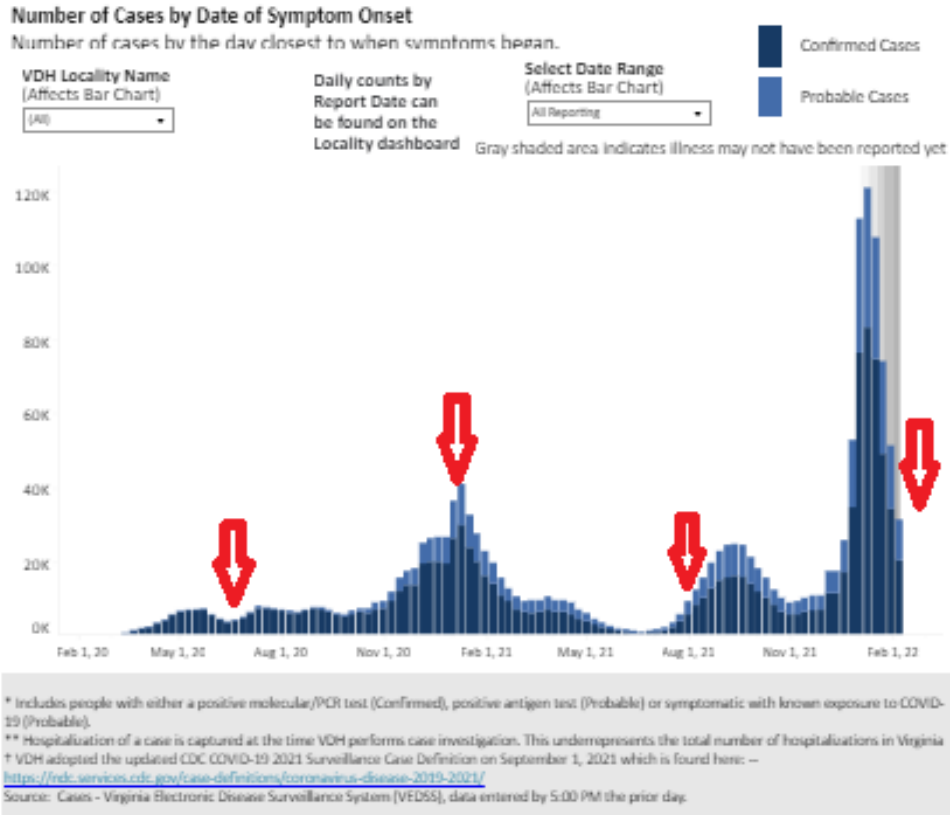
## Virginia Cases as of August 17, 2021.<sup>142</sup>



<sup>141</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

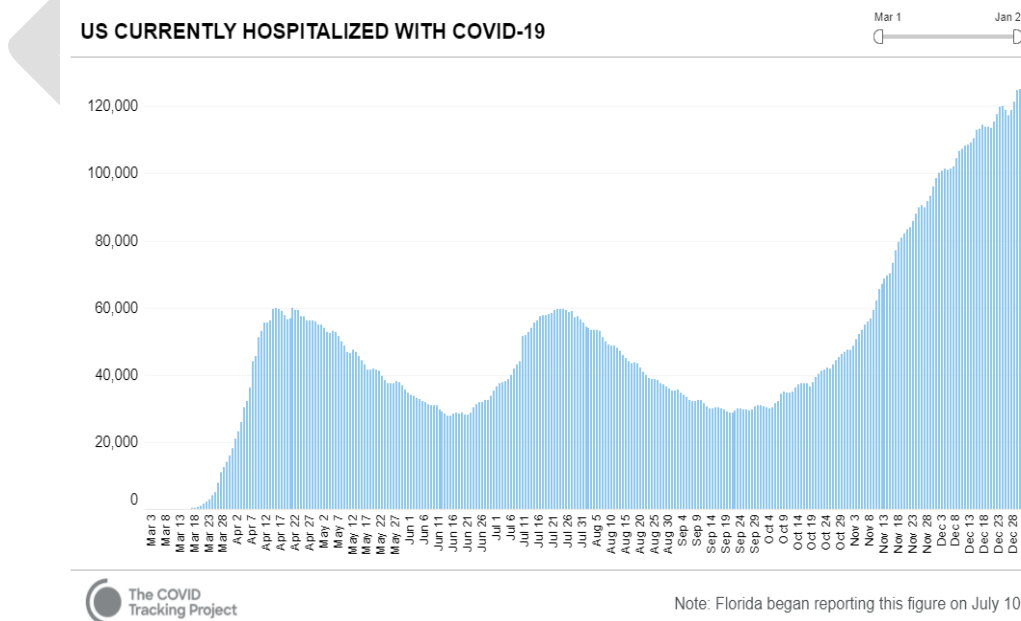
<sup>142</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

## Virginia Cases as of February 10, 2022.



Hospitalizations.<sup>143</sup>

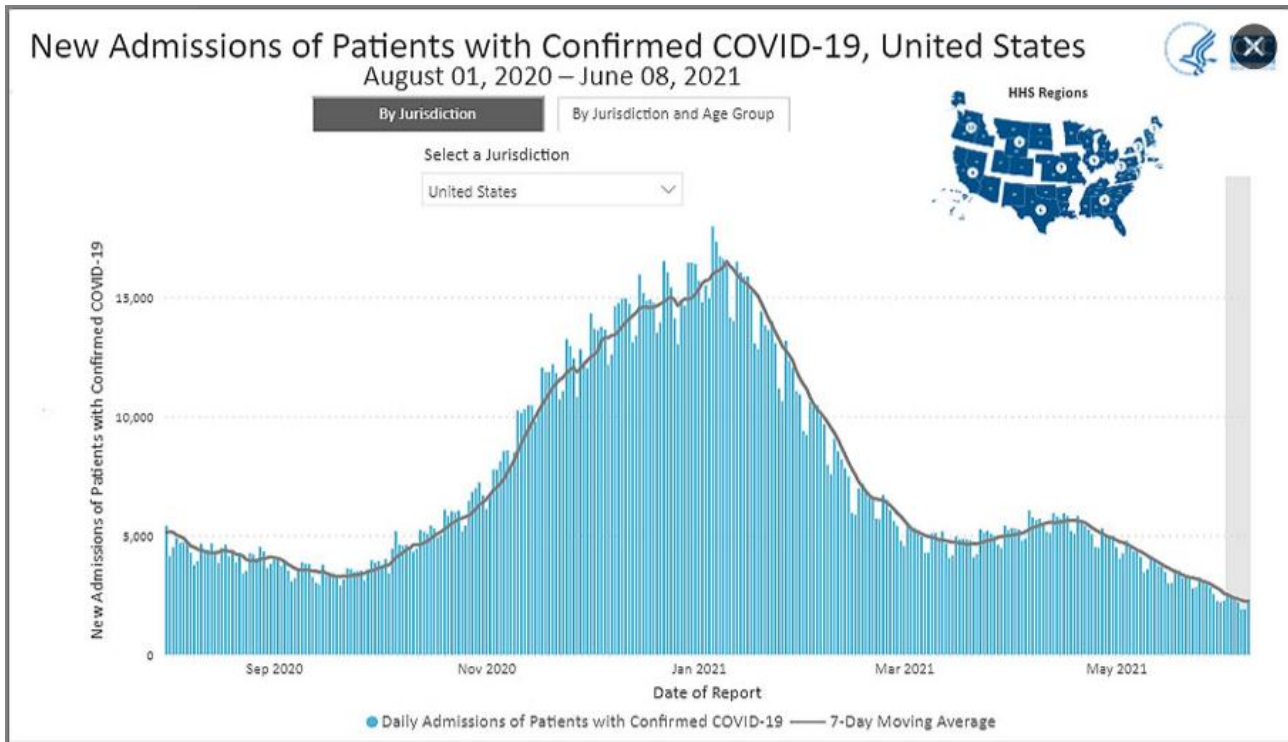
## U. S. Hospitalizations through January 2, 2021.



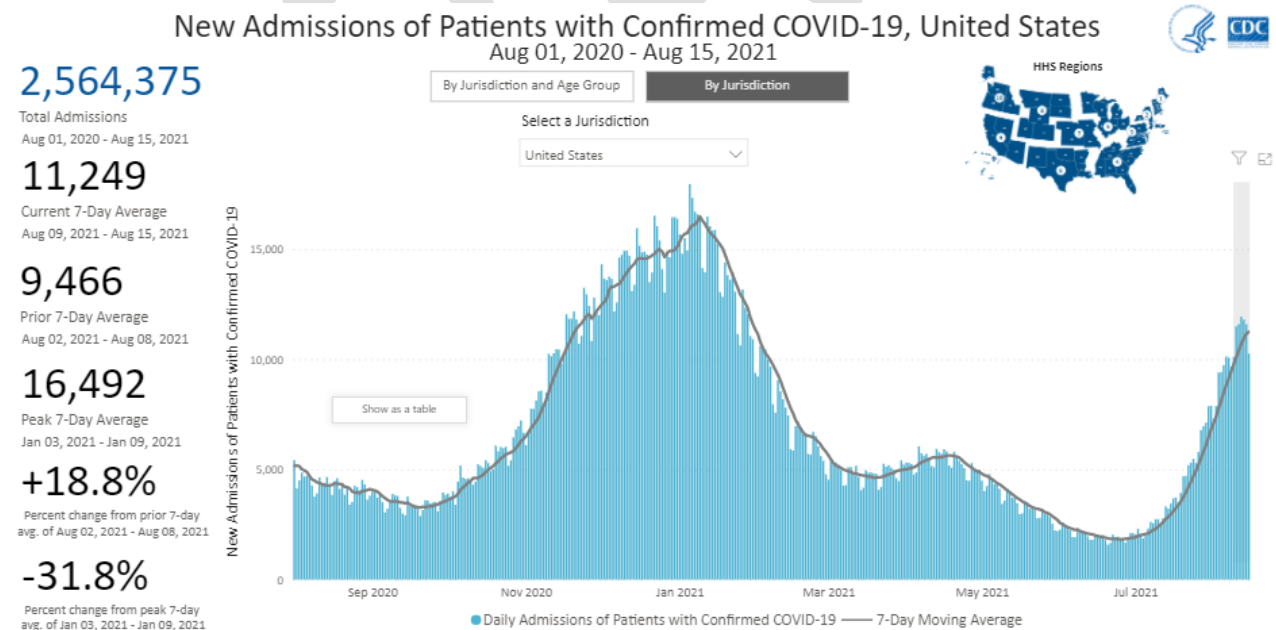
<sup>143</sup> <https://covidtracking.com/data/charts/us-currently-hospitalized>



## U. S. Hospitalizations August 1, 2020 through June 8, 2021.<sup>144</sup>



## U. S. Hospitalizations from August 1, 2020 through August 15, 2021.<sup>145</sup>



Based on reporting from all hospitals (N=5,251). Due to potential reporting delays, data reported in the most recent 7 days (as represented by the shaded bar) should be interpreted with caution.

Small shifts in historic data may occur due to changes in the CMS Provider of Services file, which is used to identify the cohort of included hospitals. Data since December 1, 2020 have had error correction methodology applied. Data prior to this date may have anomalies that are still being resolved. Data prior to August 1, 2020 are unavailable.

Last Updated: Aug 17, 2021

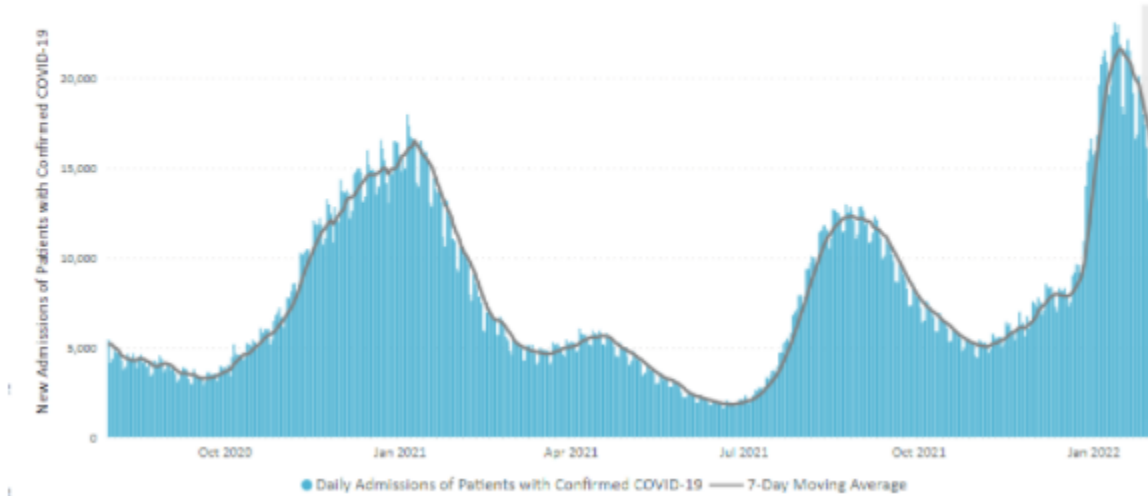
Unified Hospital Dataset, White House COVID-19 Team, Data Strategy and Execution Workgroup

<sup>144</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>145</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

**U. S. Hospitalizations from August 1, 2020 through February 1, 2022.<sup>146</sup>**

## Daily Trends in Number of New COVID-19 Hospital Admissions in the United States



### COVID-19 in Virginia Demographics as of June 22, 2021.<sup>147</sup>

Approximately 74.1% of COVID-19 cases occurred in the working age population of 20-69.

### COVID-19 in Virginia: Demographics

**Select Health District**  
(Affects Boxed Numbers and Health District Bar Charts)

(All)

Current Selection: All Health Districts

**Select Measure**  
(Affects All Bar Chart)

Cases

Hospitalizations

Deaths

Dashboard Updated: 6/22/2021  
Data entered by 5:00 PM the prior day.

**All Health Districts Cases\***

**678,909**

Confirmed+ 528,533    Probable+ 150,376

**All Health Districts Hospitalizations\*\***

**30,361**

Confirmed+ 28,809    Probable+ 1,552

**All Health Districts Deaths**

**11,367**

Confirmed+ 9,597    Probable+ 1,770

Cases by Age Group - All Health Districts

Not Reported: 8,131

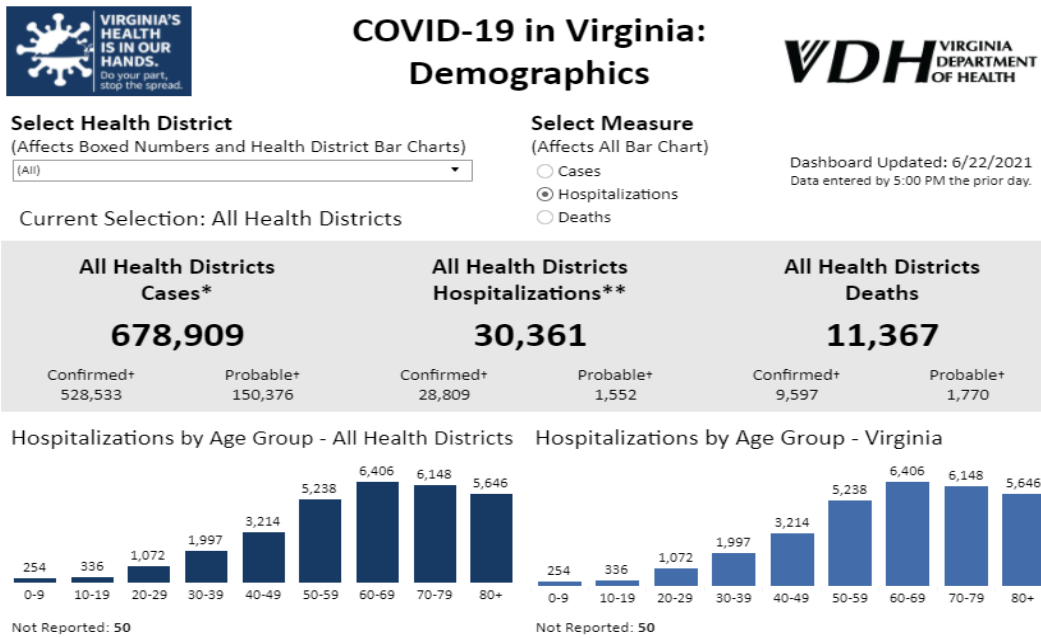
Cases by Age Group - Virginia

Not Reported: 8,131

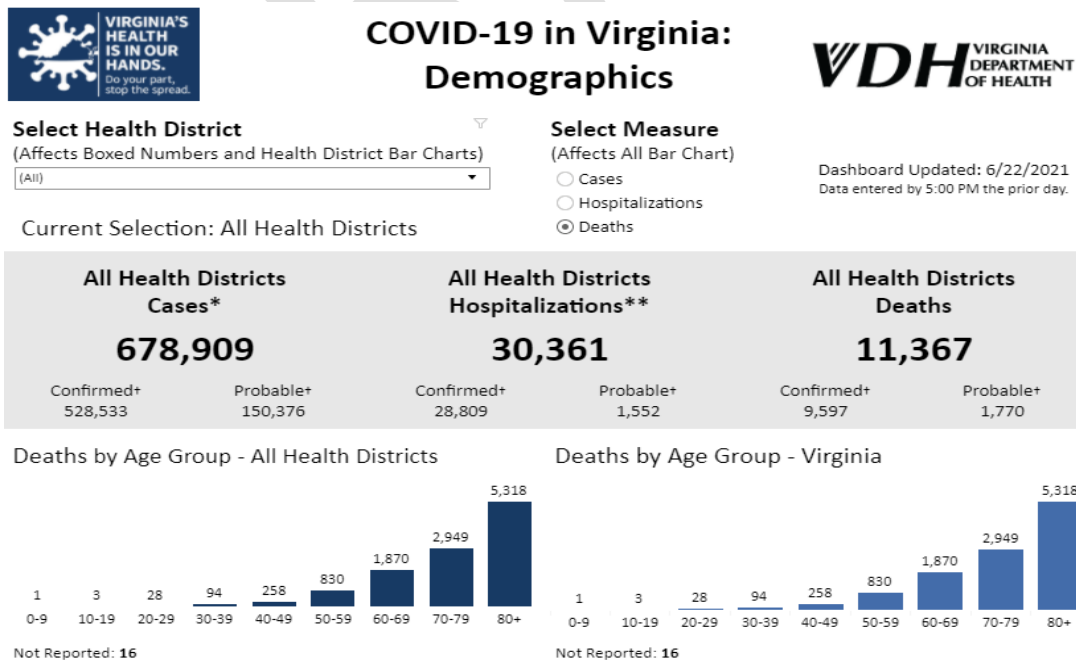
<sup>146</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>147</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-demographics/>

Approximately 59.0% of COVID-19 hospitalizations occurred in the working age population of 20-69 as of June 22, 2021.

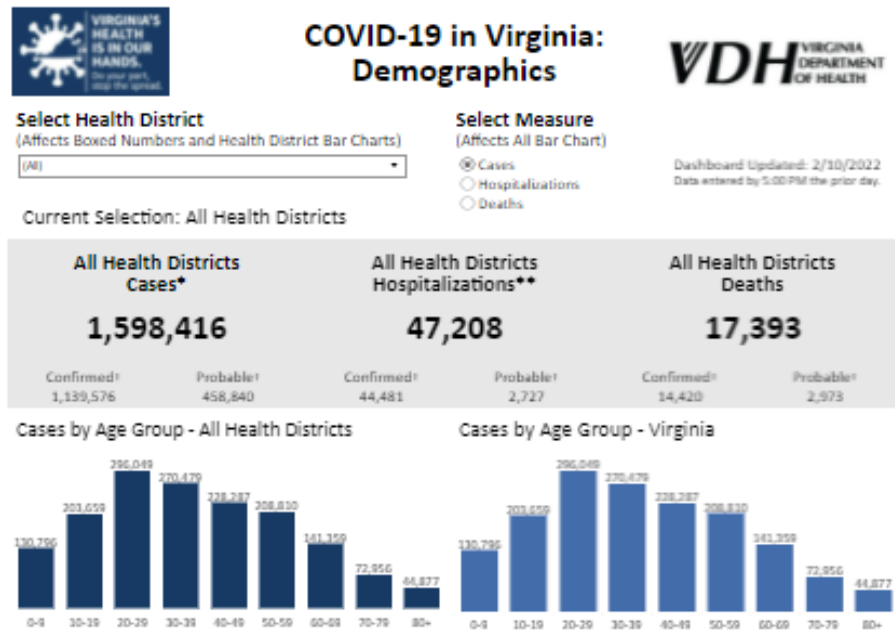


Approximately 27.1% of COVID-19 deaths occurred in the working age population of 20-69 as of June 22, 2021.

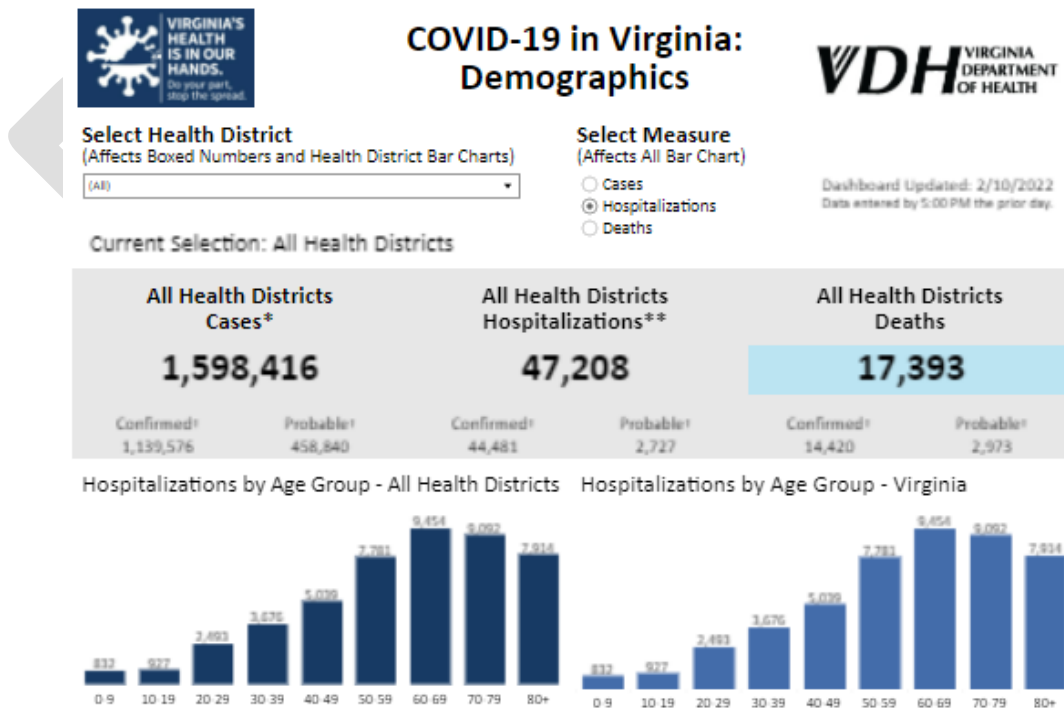


**COVID-19 in Virginia Demographics as of February 10, 2022.<sup>148</sup>**

Approximately **71.6%** of COVID-19 cases occurred in the working age population of 20-69 as of February 10, 2022.



Approximately **60.2%** of COVID-19 hospitalizations occurred in the working age population of 20-69 as of February 10, 2022.



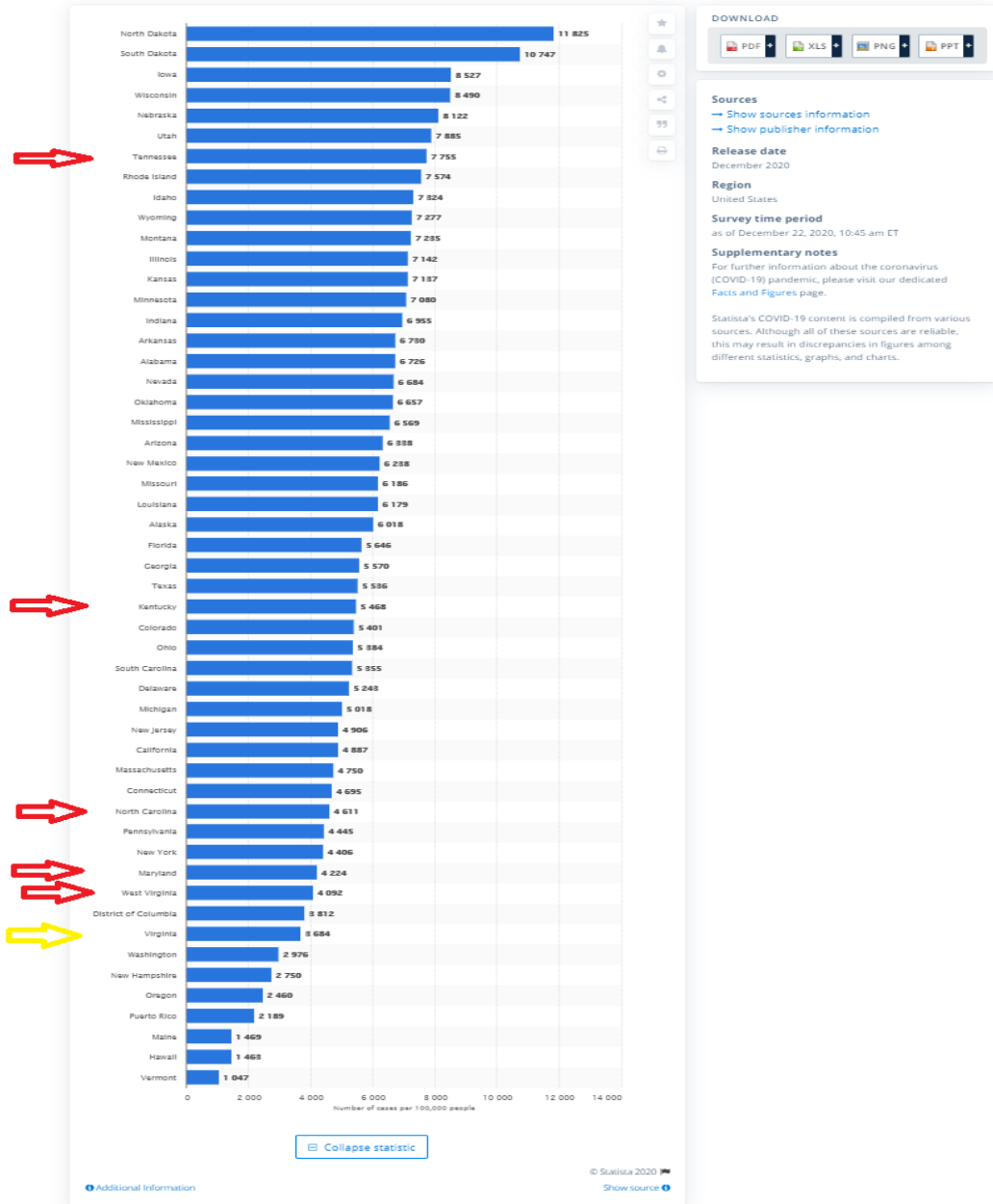
<sup>148</sup> <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-in-virginia/covid-19-in-virginia-demographics/>

COVID-19 State Rankings: Total Cases per 100K as of December 22, 2020 <sup>149</sup>

- 7 - Tennessee
- 29 - Kentucky
- 39 - North Carolina
- 42 - Maryland
- 43 - West Virginia
- 45 - Virginia

Health, Pharma & Medtech > State of Health

Rate of coronavirus (COVID-19) cases in the United States as of December 22, 2020, by state (per 100,000 people)

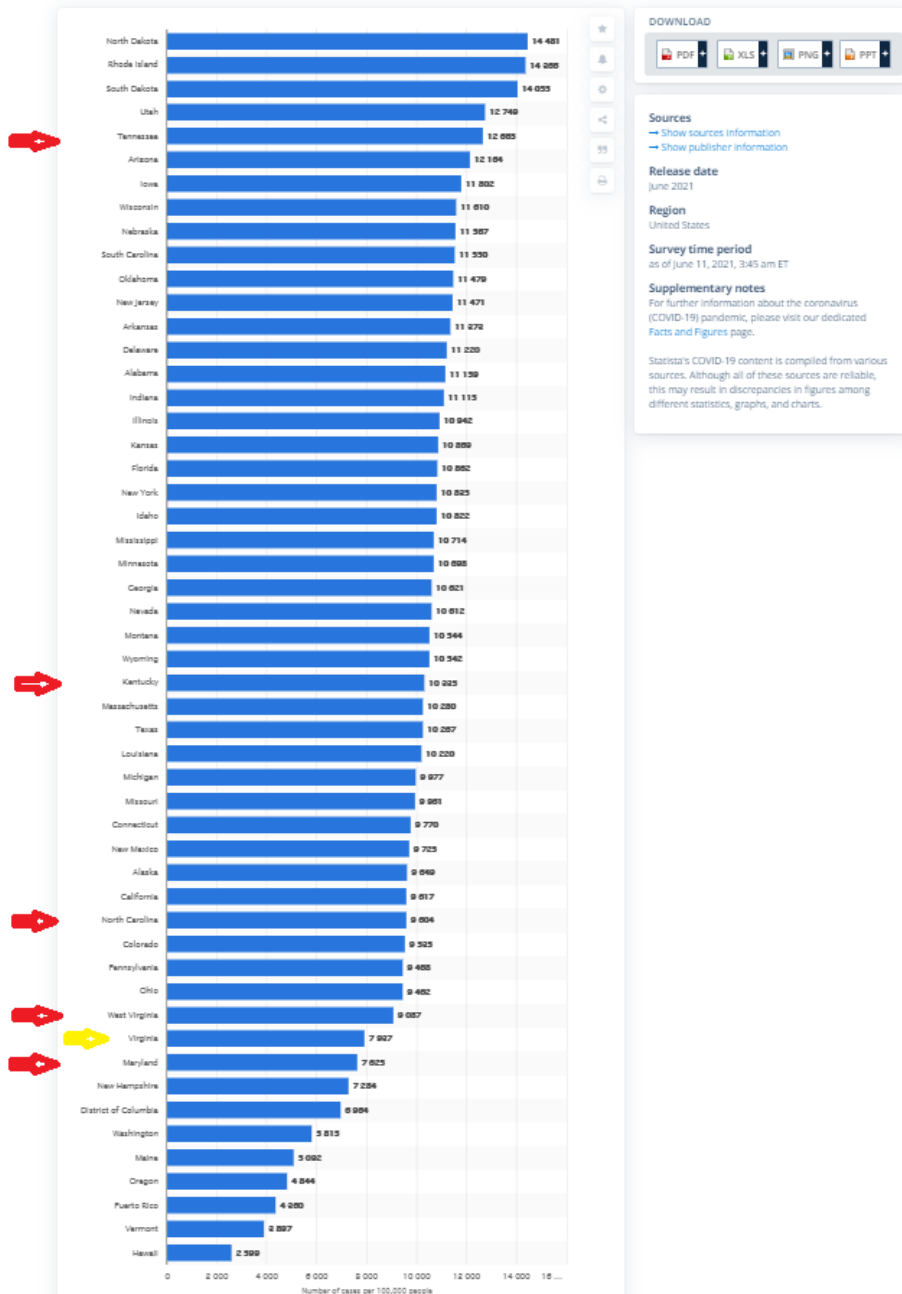


<sup>149</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

COVID-19 State Rankings: Total Cases per 100K as of June 11, 2021 <sup>150</sup>

- 5 - Tennessee
- 28 - Kentucky
- 38 - North Carolina
- 42 - West Virginia
- 43 - Virginia
- 44 - Maryland

Rate of coronavirus (COVID-19) cases in the United States as of June 11, 2021, by state  
(per 100,000 people)

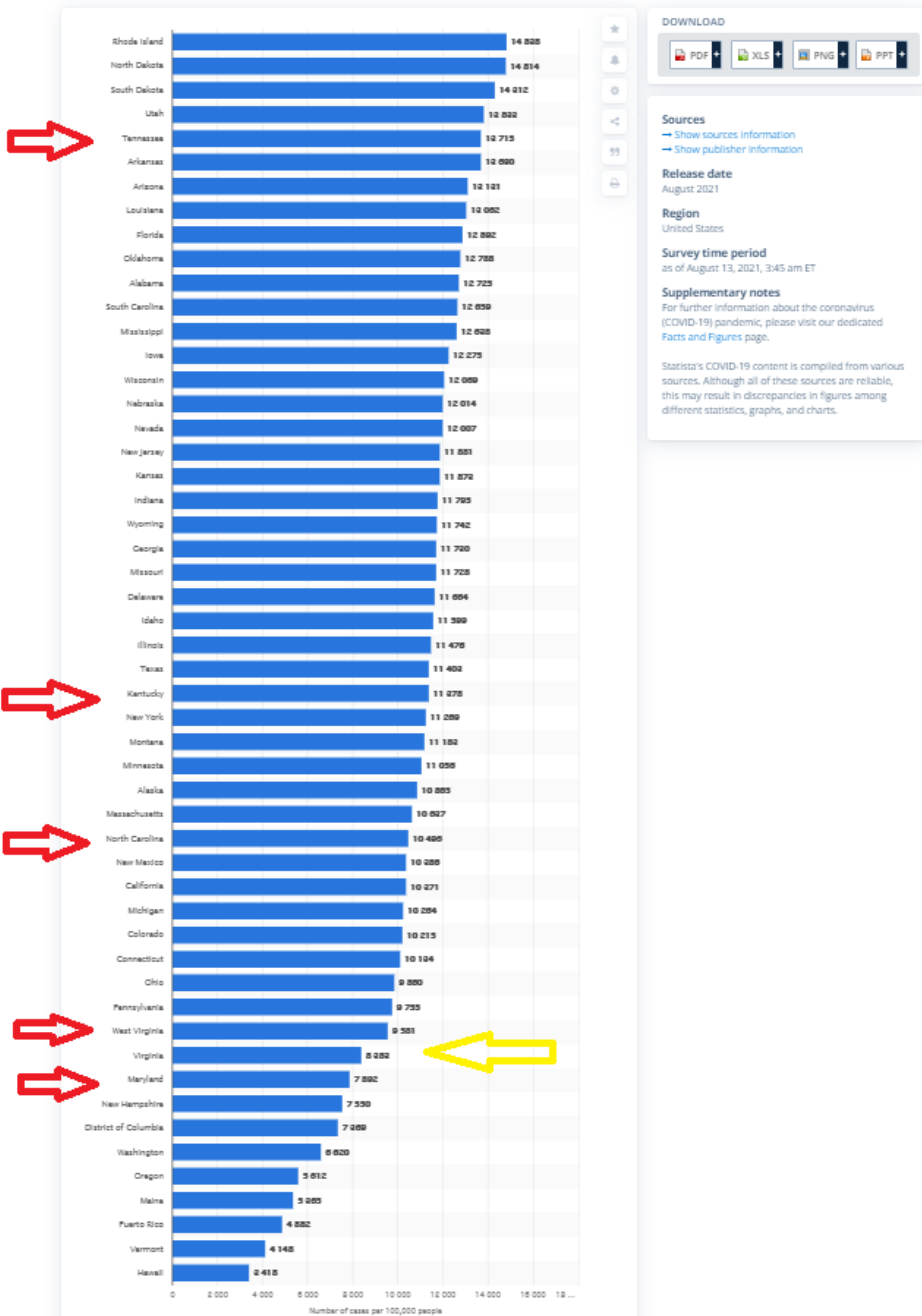


<sup>150</sup> <https://www.statista.com/statistics/1109004/coronavirus-covid19-cases-rate-us-americans-by-state/>

COVID-19 State Rankings: Total Cases per 100K as of August 13, 2021 <sup>151</sup>

- 5 - Tennessee
- 28 - Kentucky
- 34 - North Carolina
- 42 - West Virginia
- 43 - Virginia
- 44 - Maryland

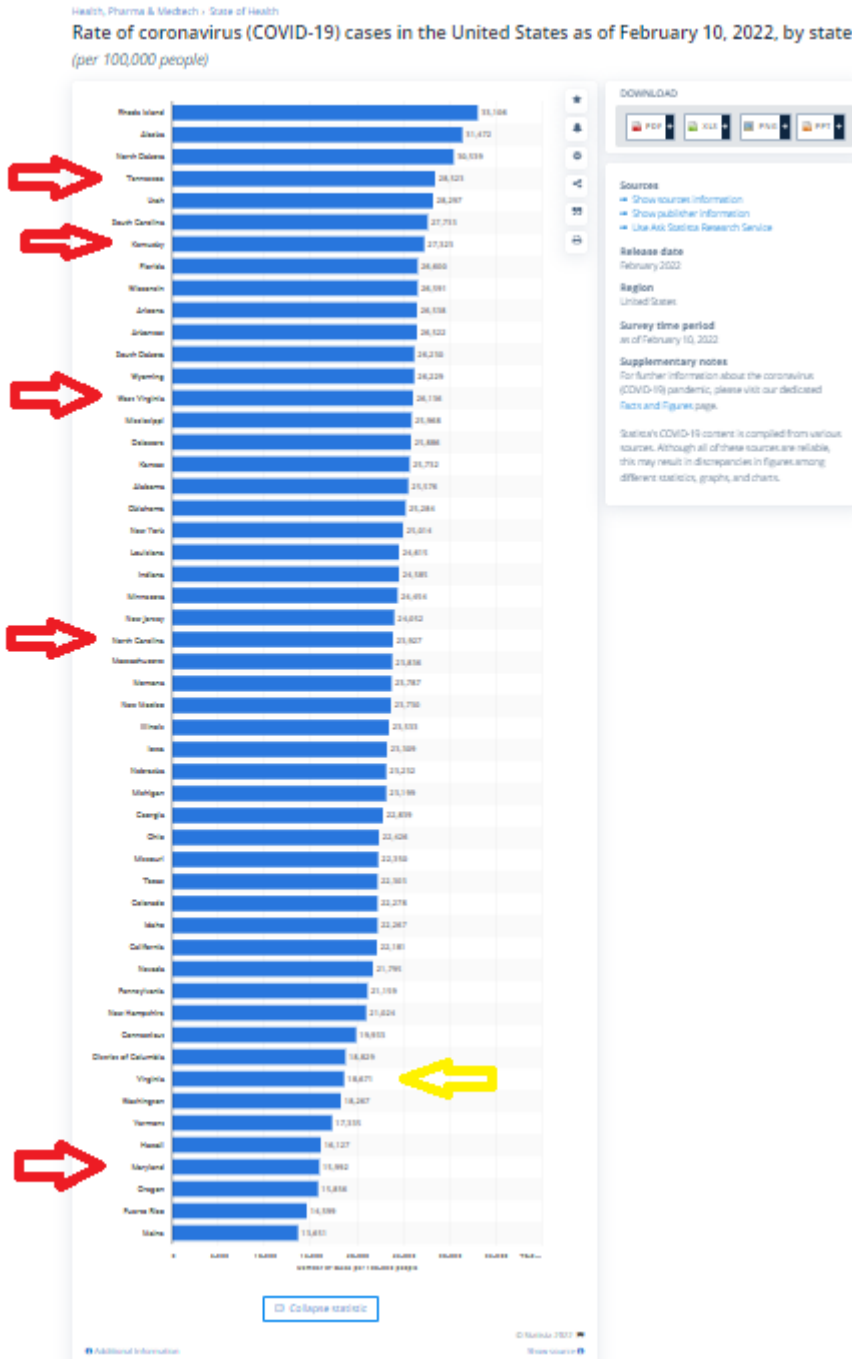
Rate of coronavirus (COVID-19) cases in the United States as of August 13, 2021, by state  
(per 100,000 people)



<sup>151</sup> <https://www.statista.com/statistics/1109004/coronavirus-covid19-cases-rate-us-americans-by-state/>

**COVID-19 State Rankings: Total Cases per 100K as of February 10, 2022 <sup>152</sup>**

- 4 - Tennessee
- 7 - Kentucky
- 14 - West Virginia
- 25 - North Carolina
- 45 - Virginia**
- 49 - Maryland



<sup>152</sup> <https://www.statista.com/statistics/1109004/coronavirus-covid19-cases-rate-us-americans-by-state/>



**Summary Table of COVID-19 State/Territory Rankings for Virginia, Kentucky, Maryland, North Carolina, Tennessee and West Virginia, Total Cases Per 100K.<sup>153</sup>**

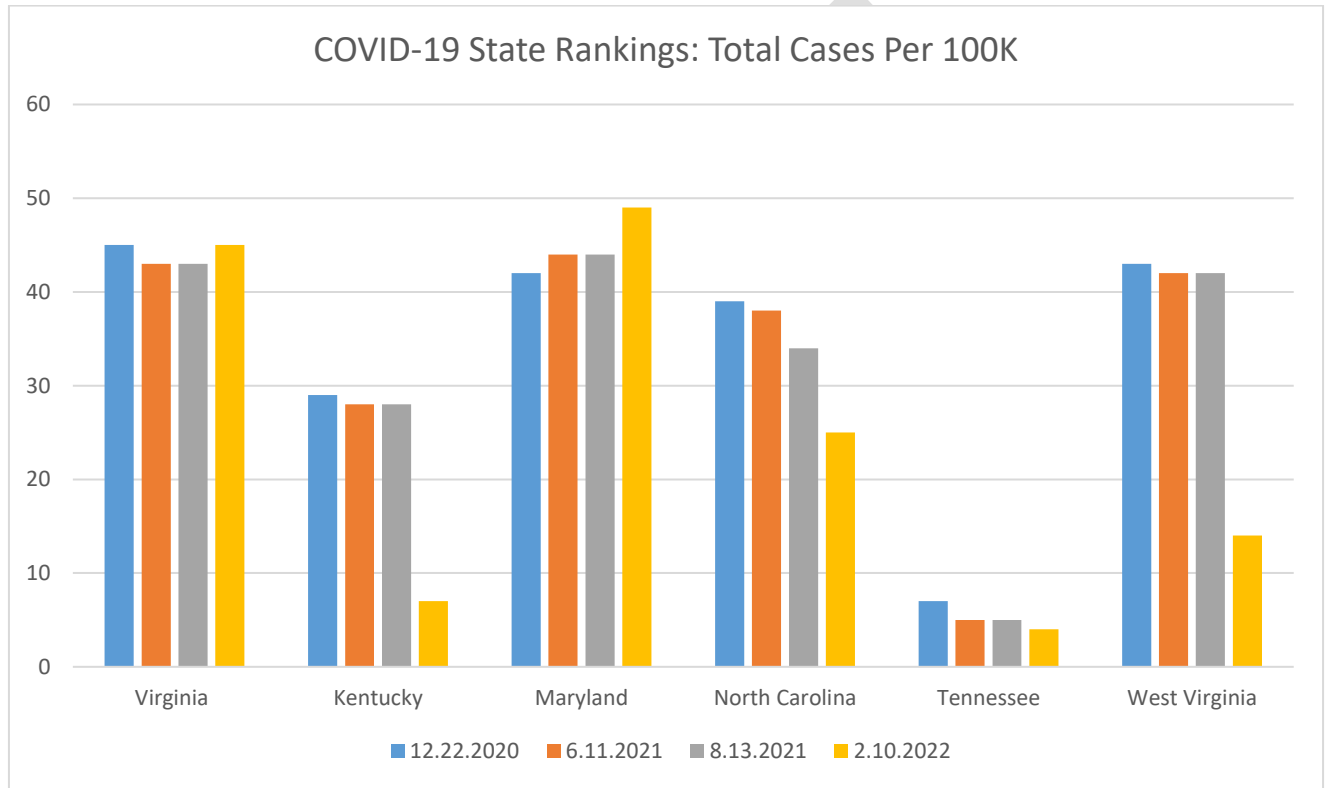
Data point dates:

December 22, 2020

June 11, 2021

August 13, 2021

February 10, 2022



<sup>153</sup> *Id.*

COVID-19 State/Territory Rankings: Average Daily Cases per 100K in Last 7 Days as of December 26, 2020. <sup>154</sup>

- 1 - Tennessee
- 6 - West Virginia
- 19 - North Carolina
- 25 - Kentucky
- 30 - Virginia
- 39 - Maryland

Data Table for Average Daily Cases per 100k in Last 7 Days

CDC | Updated: Dec 27 2020 2:05PM

State/Territory ↕	Average Daily Cases per 100k in Last 7 Days ↕
Tennessee	119.7
California	95.7
Arizona	88
Oklahoma	83.2
Indiana	72.5
West Virginia	71.4
Alabama	68.6
Utah	67.3
Arkansas	65.6
Nevada	64
Delaware	63.6
New York*	63.6
Pennsylvania	63.2
Georgia	62.6
Ohio	61.4
Massachusetts	59.7
Mississippi	57.9
Rhode Island	57.4
North Carolina	56.8
New Mexico	56.5
Idaho	53.7
South Carolina	50.9
New Jersey	50.6
New York City*	50.5
Kentucky	48
Florida	46.4
Kansas	45.4
New Hampshire	45.4
Illinois	44.8
Virginia	44.7
Nebraska	43.7
Louisiana	43.2
Texas	42.7
South Dakota	42.4
Colorado	42.2
Wyoming	40.9
Missouri	40.8
Connecticut	39.9
Maryland	38.7
Wisconsin	37.7
Montana	37.6
Iowa	37
Alaska	34.3
Maine	31.2
Minnesota	30.2
Michigan	29
District of Columbia	27.7
North Dakota	26.7
Washington	26.5
Oregon	22.1
Puerto Rico	21.4
Vermont	14.3
Virgin Islands	9.1
Hawaii	8.5
Guam	6.3
Northern Mariana Islands	1.8
American Samoa	0
Federated States of Micronesia	0
Palau	0
Republic of Marshall Islands	0

<sup>154</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

COVID-19 State/Territory Rankings: Average Daily Cases per 100K in Last 7 Days as of June 14, 2021.<sup>155</sup>

11	-	Kentucky
21	-	West Virginia
39	-	Tennessee
42	-	North Carolina
47	-	Virginia
49	-	Maryland

Data Table for Cumulative Cases per 100k in Last 7 Days

CDC | Data as of: June 14, 2021 1:13 PM ET. Posted: June 14, 2021 2:13 PM ET [Download Data](#)

State/Territory ↕	7-Day Case Rate per 100,000 ↕
Virgin Islands	89.8
Colorado	73.2
Wyoming	67.7
Missouri	64.2
Utah	59.8
Washington	51.8
Arkansas	50.7
Florida	50.6
Nevada	43.2
Oregon	42.1
Kentucky	40.7
Arizona	40.3
Montana	39.6
Indiana	33.9
Idaho	32.1
Alabama	31.1
Louisiana	29.7
North Dakota	29.5
Texas	29
Mississippi	28.9
West Virginia	28.1
Kansas	26.6
Hawaii	25.6
Maine	25.4
Oklahoma	25.1
South Carolina	24.3
Georgia	24.1
Delaware	23.8
Pennsylvania	22
New Mexico	20.5
Ohio	20.5
Alaska	19.6
American Samoa	N/A
Guam	20.5
New York City*	20.2
Minnesota	19
New Jersey	18.7
Illinois	18.6
Tennessee	18.3
Michigan	18.2
Iowa	17.4
North Carolina	16.5
New York*	15.7
Rhode Island	14
Wisconsin	12.5
Massachusetts	11.5
Virginia	11.5
Puerto Rico	11.1
Maryland	11
New Hampshire	11
Nebraska	10.6
South Dakota	10.1
California	9.7
Vermont	9.3
Connecticut	9.2
District of Columbia	8.8
Federated States of Micronesia	N/A
Northern Mariana Islands	0
Palau	0
Republic of Marshall Islands	0

<sup>155</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_casesper100klast7days](https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days)

COVID-19 State/Territory Rankings: Average Daily Cases per 100K in Last 7 Days as of August 16, 2021.<sup>156</sup>

- 10 - Kentucky
- 11 - Tennessee
- 29 - North Carolina
- 42 - Virginia
- 43 - West Virginia
- 47 - Maryland

Data Table for Cumulative Cases per 100k in Last 7 Days

CDC | Data as of: August 16, 2021 1:36 PM ET. Posted: August 16, 2021 4:59 PM ET

State/Territory ↕	7-Day Case Rate per 100,000 ↕
Florida	704.5
Louisiana	642
Mississippi	540.5
Arkansas	514.6
Alabama	356
Texas	337.2
Hawaii	324.6
Missouri	317.3
Georgia	306
Kentucky	306
Tennessee	291.8
South Carolina	289.7
Virgin Islands	285.6
Arizona	266.6
Wyoming	248.3
Oklahoma	231.3
Kansas	227.3
Oregon	223.5
Alaska	213.1
Puerto Rico	197
Idaho	186.7
Washington	186.4
New Mexico	186.3
Nevada	180.1
Indiana	179.9
Guam	176.8
Delaware	176
New York City*	171.2
North Carolina	164.4
Montana	161.3
New York (Level of Community Transmission)*	151.8
Ohio	149.1
Utah	142.3
New York*	137.1
California	136.6
Wisconsin	136.1
Rhode Island	132.9
Iowa	132.7
New Jersey	131.9
North Dakota	130.4
Illinois	127
Virginia	124.1
West Virginia	119.7
Minnesota	112.1
District of Columbia	109
Pennsylvania	108.1
Maryland	99
Massachusetts	91.8
Connecticut	81.5
Maine	77.1
Colorado	76.9
South Dakota	74.8
Michigan	70.5
New Hampshire	68.9
Vermont	66.5
Nebraska	39.6
Northern Mariana Islands	0
Palau	0
Republic of Marshall Islands	0
American Samoa	N/A
Federated States of Micronesia	N/A



<sup>156</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_casesper100klast7days](https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days)

**COVID-19 State/Territory Rankings: Average Daily Cases per 100K in Last 7 Days as of February 10, 2022.** <sup>157</sup>

- 5 - Kentucky
- 6 - West Virginia
- 12 - Tennessee
- 21 - North Carolina
- 31 - Virginia**
- 58 - Maryland

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**Data Downloads and Footnotes**

Expand each accordion to view data table and download data

Data Table for Cumulative Cases per 100k in Last 7 Days

CDC | Data as of: January 24, 2022 1:47 PM ET. Posted: January 24, 2022 3:33 PM ET

[Download Data](#)

State/Territory #	7-Day Case Rate per 100,000 #
Wisconsin	2,552.1
Rhode Island	2,350.9
Utah	2,350.8
Hawaii	2,257.3
Alaska	2,225.8
Palestine	2,131.7
Oklahoma	2,085.5
Kansas	2,064
North Dakota	2,033.3
California	1,977
Arizona	1,961.3
Guam	1,940.8
Arkansas	1,904.1
Vermont	1,872.3
New Mexico	1,859.7
Alabama	1,787.5
West Virginia	1,772.9
New Hampshire	1,610.3
Massachusetts	1,591.6
Mississippi	1,571
Wyoming	1,538
South Dakota	1,528.2
Nebraska	1,505.5
Indiana	1,465.3
Illinois	1,449.9
Washington	1,449.5
Missouri	1,441
Colorado	1,426.5
Texas	1,421.1
Michigan	1,403.5
Minnesota	1,391.7
Louisiana	1,363.8
Oregon	1,363.3
Nevada	1,355
North Carolina	1,302
Delaware	1,292.4
South Carolina	1,288.2
Tennessee	1,212.7
Kentucky	1,204.6
Iowa	1,171.2
Virginia	1,131.5
Georgia	1,095.9
Florida	1,062.6
Ohio	1,044.3
Hawaii	962.5
Connecticut	956.5
Montana	937.1
Puerto Rico	923.8
New York City*	917.9
Pennsylvania	888.8
New York (Level of Community Transmission)*	882
New York*	854.7
New Jersey	824
District of Columbia	755.1
Northern Mariana Islands	615.2
Virgin Islands	600.2
Maryland	594.7
Maine	480.5
Republic of Marshall Islands	0
American Samoa	N/A
Federated States of Micronesia	N/A

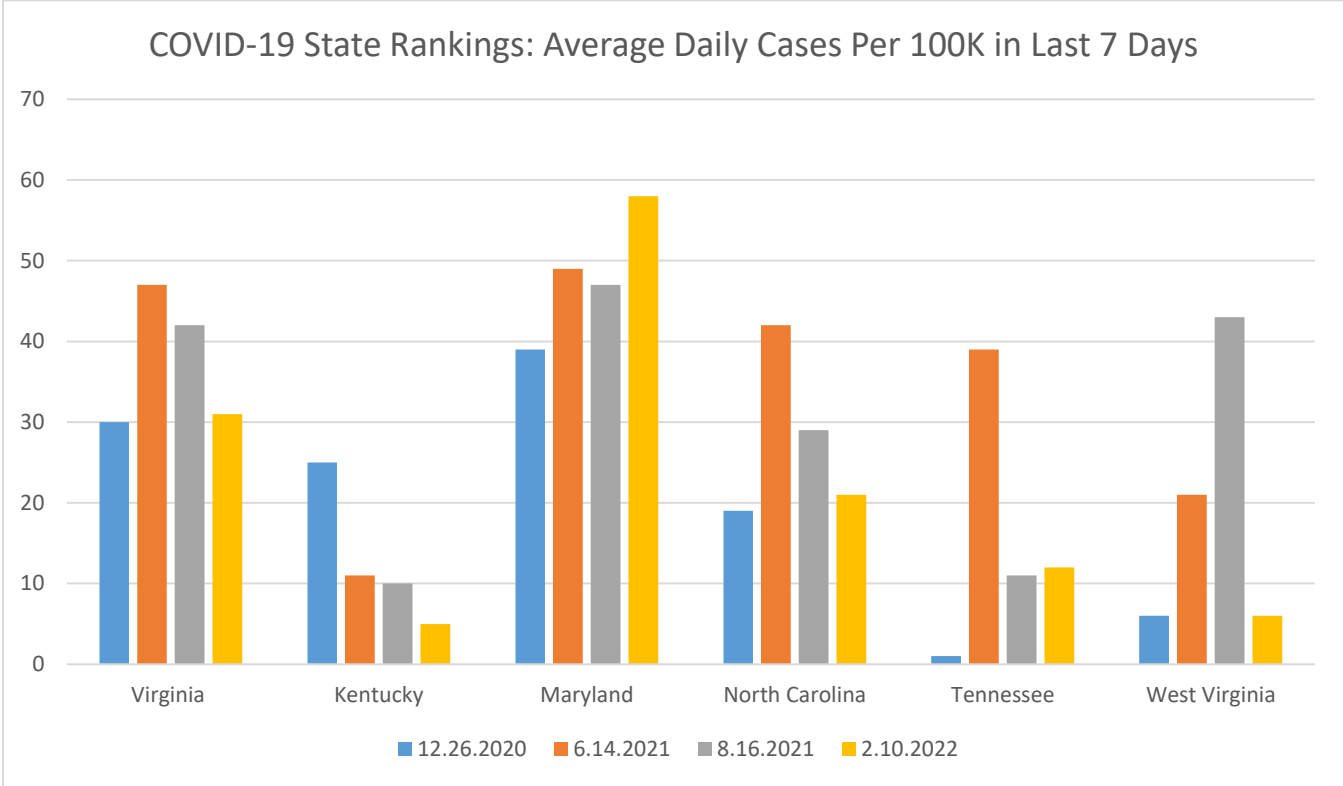


<sup>157</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_casesper100klast7days](https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days)

**Summary Table of COVID-19 State/Territory Rankings for Virginia, Kentucky, Maryland, North Carolina, Tennessee and West Virginia, Average Daily Cases Per 100K in Last 7 Days.<sup>158</sup>**

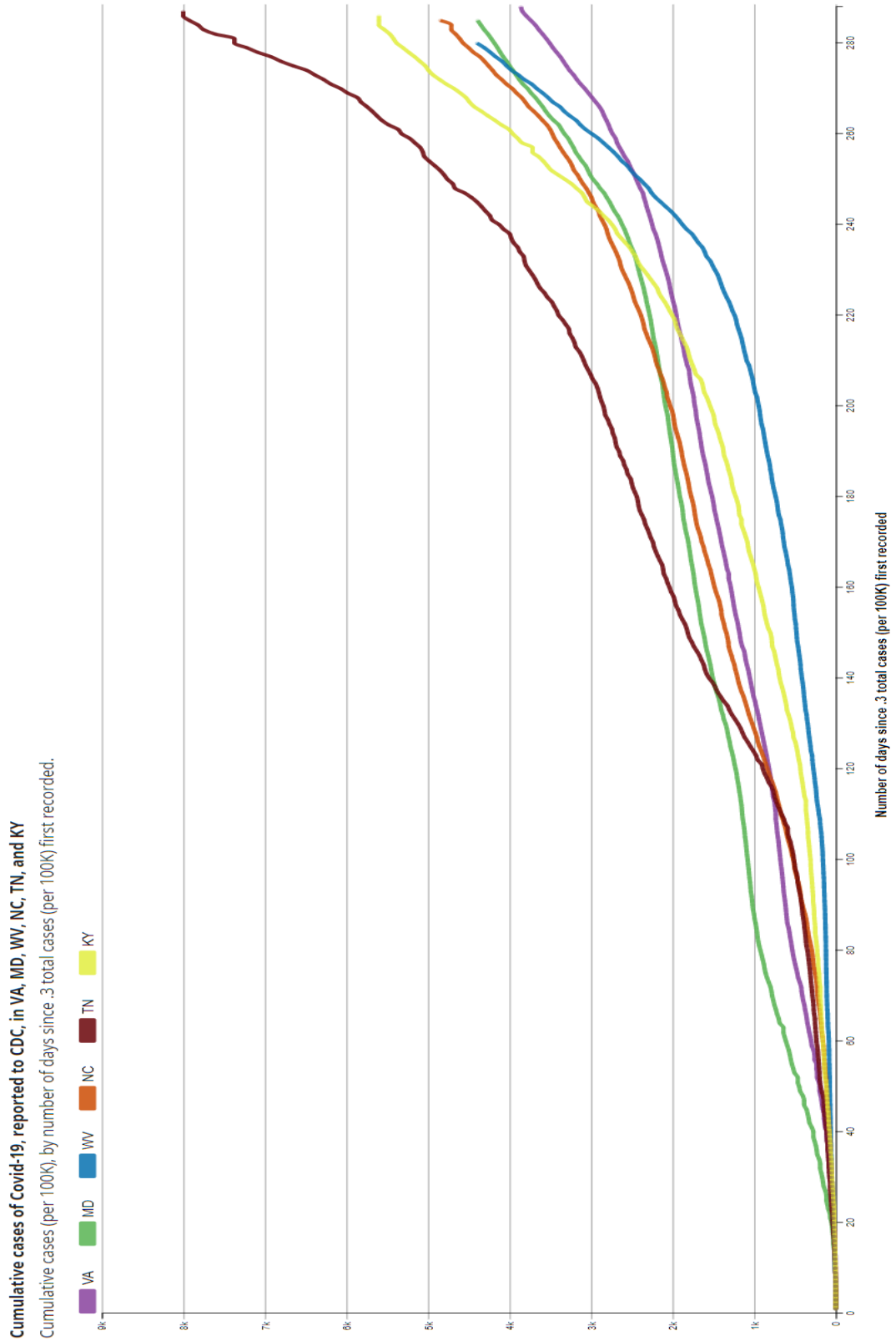
Data point dates:

- December 26, 2020
- June 14, 2021
- August 16, 2021
- February 10, 2022



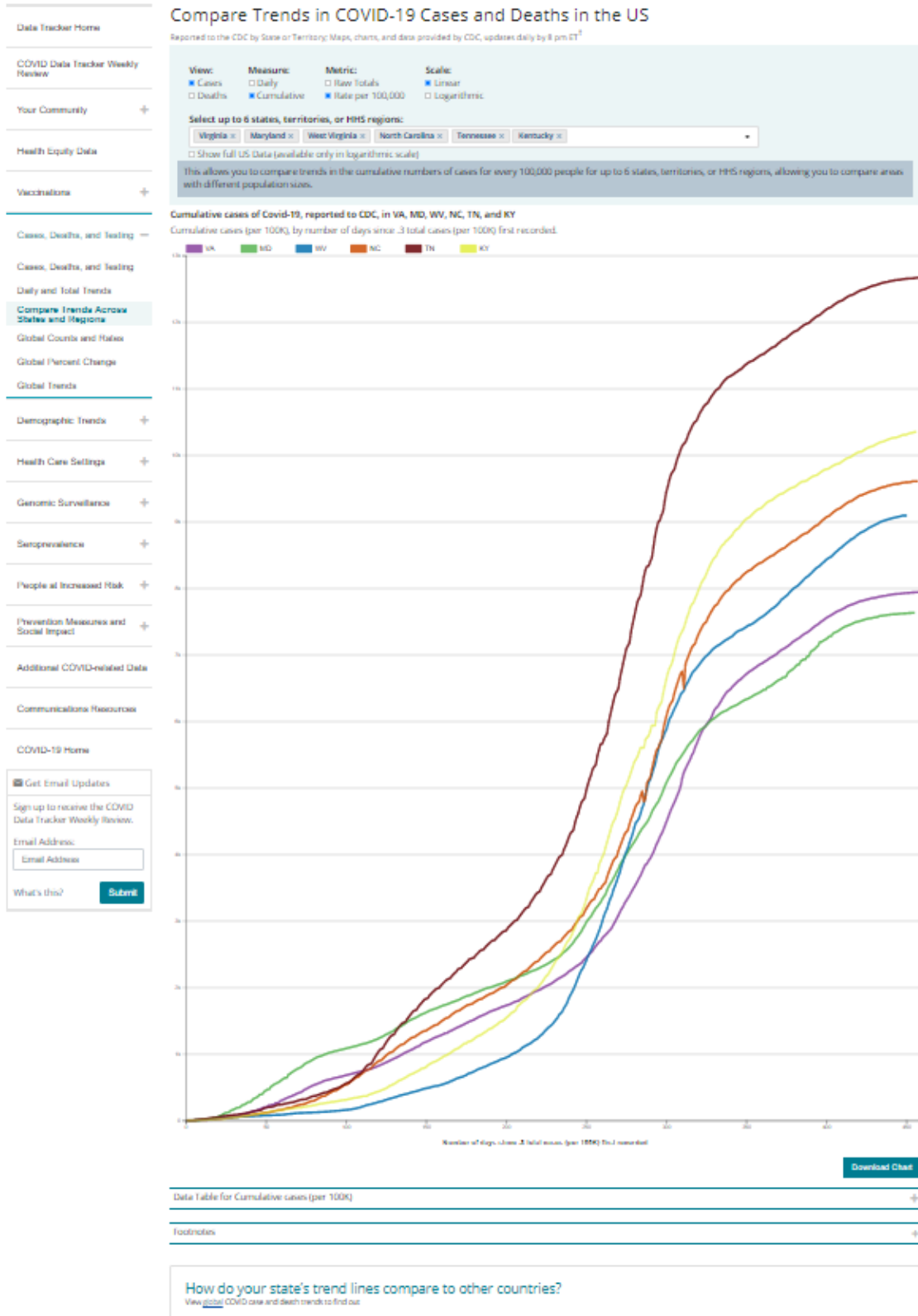
<sup>158</sup> *Id.*

Comparison of trends (Totals per 100,000) in COVID-19 cases by state December 26, 2020:<sup>159</sup>



<sup>159</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

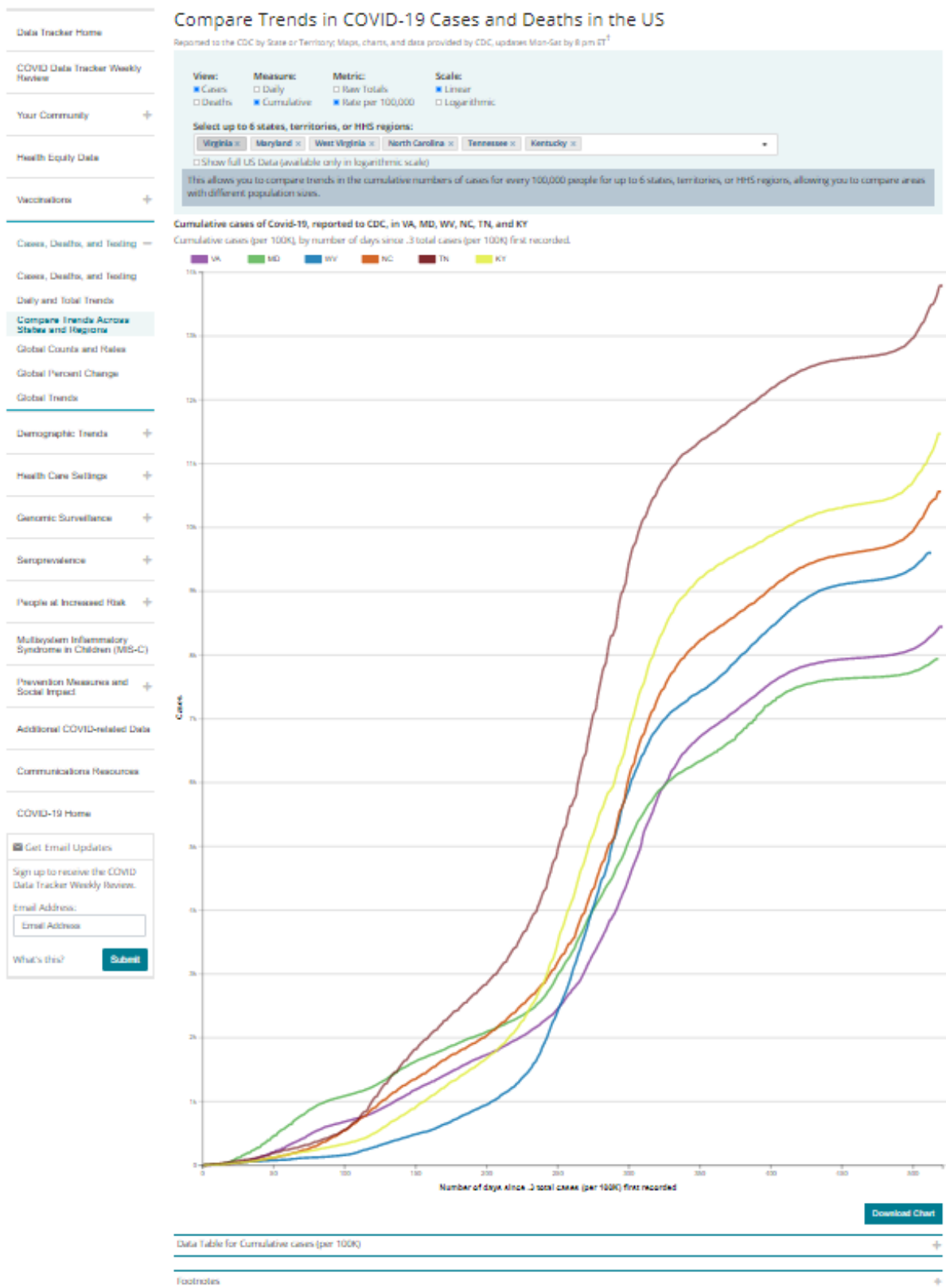
Comparison of trends (Totals per 100,000) in COVID-19 cases by state June 14, 2021:<sup>160</sup>



<sup>160</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>



Comparison of trends (Totals per 100,000) in COVID-19 cases by state August 15, 2021:<sup>161</sup>



<sup>161</sup> [https://covid.cdc.gov/covid-data-tracker/#compare-trends\\_cases-cum-rate-lin](https://covid.cdc.gov/covid-data-tracker/#compare-trends_cases-cum-rate-lin)

**Comparison of trends (Totals per 100,000) in COVID-19 cases by state February 10, 2022:<sup>162</sup>**

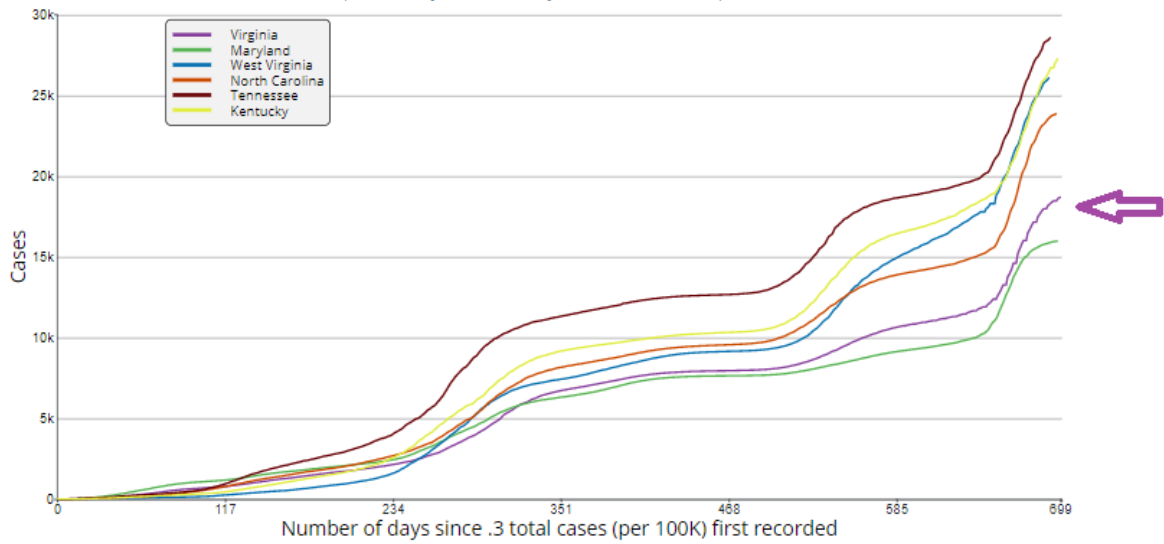
**View:**  Cases  Deaths  
**Measure:**  Daily  Cumulative  
**Metric:**  Raw Totals  Rate per 100,000  
**Scale:**  Linear  Logarithmic  
**Date:**  Index Date  Submission Date

Select up to 6 states, territories, or HHS regions:

Show full US Data (available only in logarithmic scale)

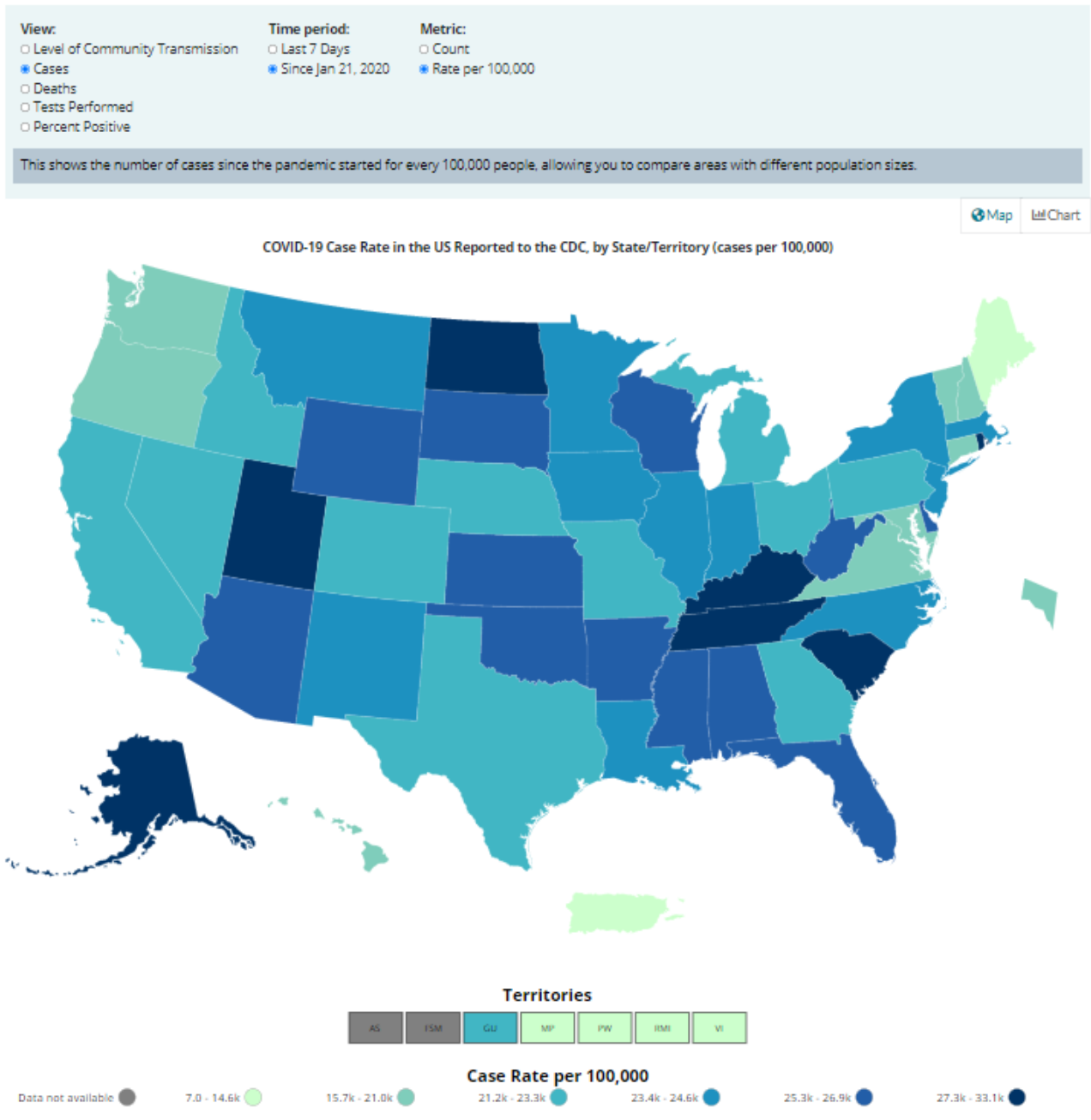
This allows you to compare trends in the cumulative numbers of cases for every 100,000 people for up to 6 states, territories, or HHS regions, allowing you to compare areas with different population sizes.

Cumulative cases of Covid-19, reported to CDC, in VA, MD, WV, NC, TN, and KY  
 Cumulative cases (per 100k) by number of days since .3 total cases (per 100K) first recorded



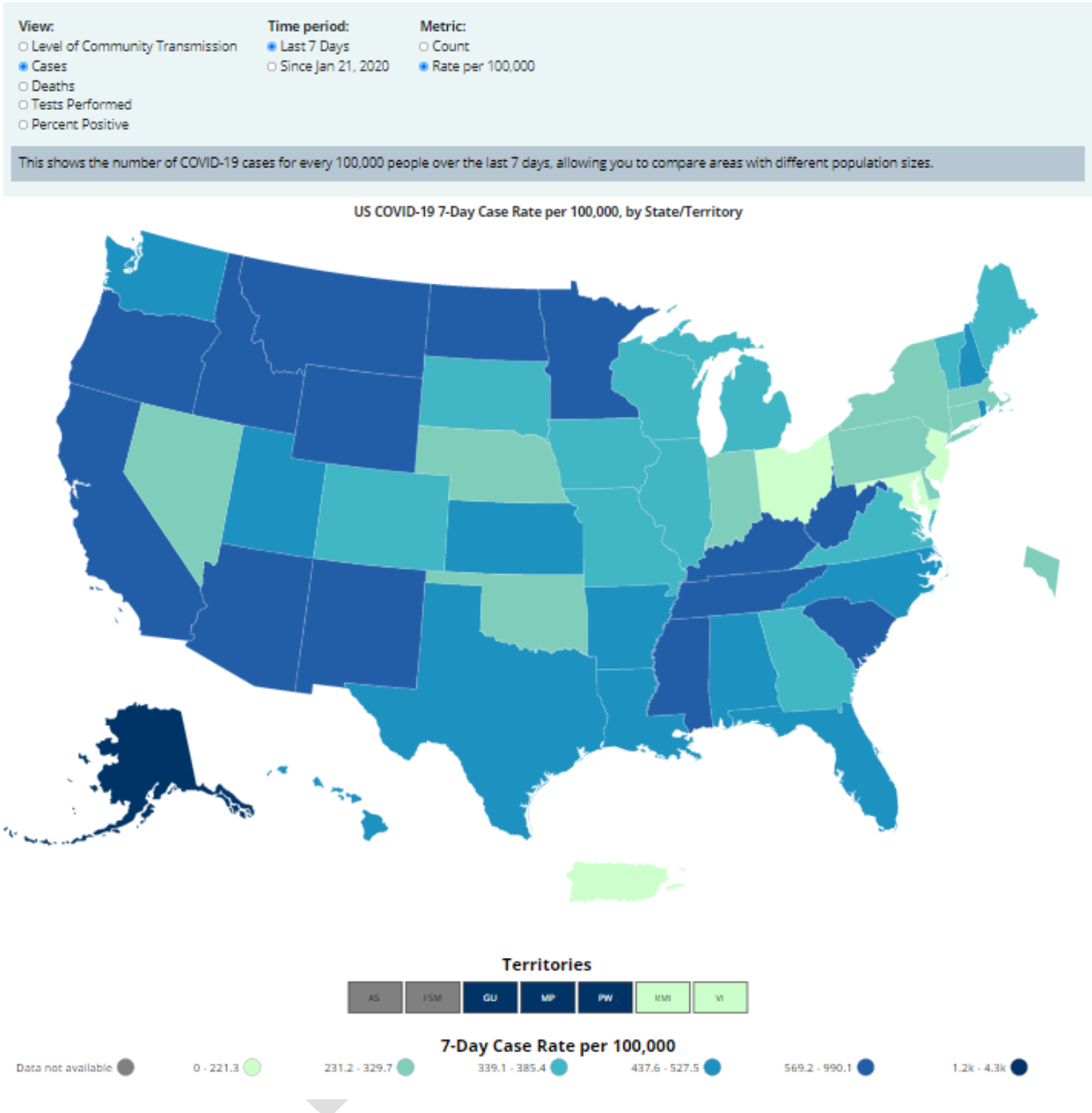
<sup>162</sup> <https://covid.cdc.gov/covid-data-tracker/#compare-trends>

**United States COVID-19 Cases Per 100K since January 21, 2020 by State, Territory, and Jurisdiction as of February 10, 2022.<sup>163</sup>**



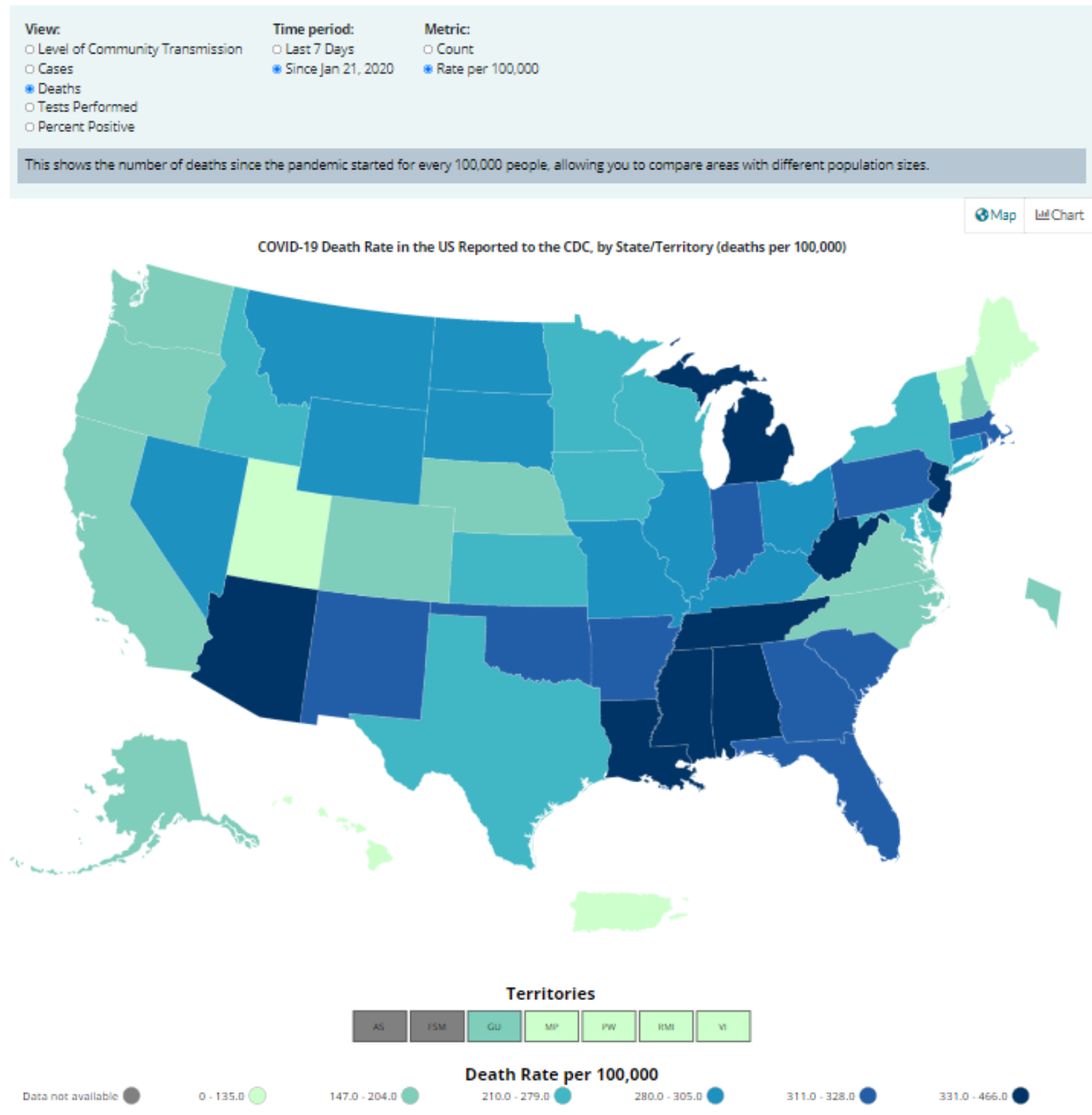
<sup>163</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_casesper100k](https://covid.cdc.gov/covid-data-tracker/#cases_casesper100k)

**United States COVID-19 Cases Per 100K Last 7-days by State, Territory, and Jurisdiction as of February 10, 2022.<sup>164</sup>**



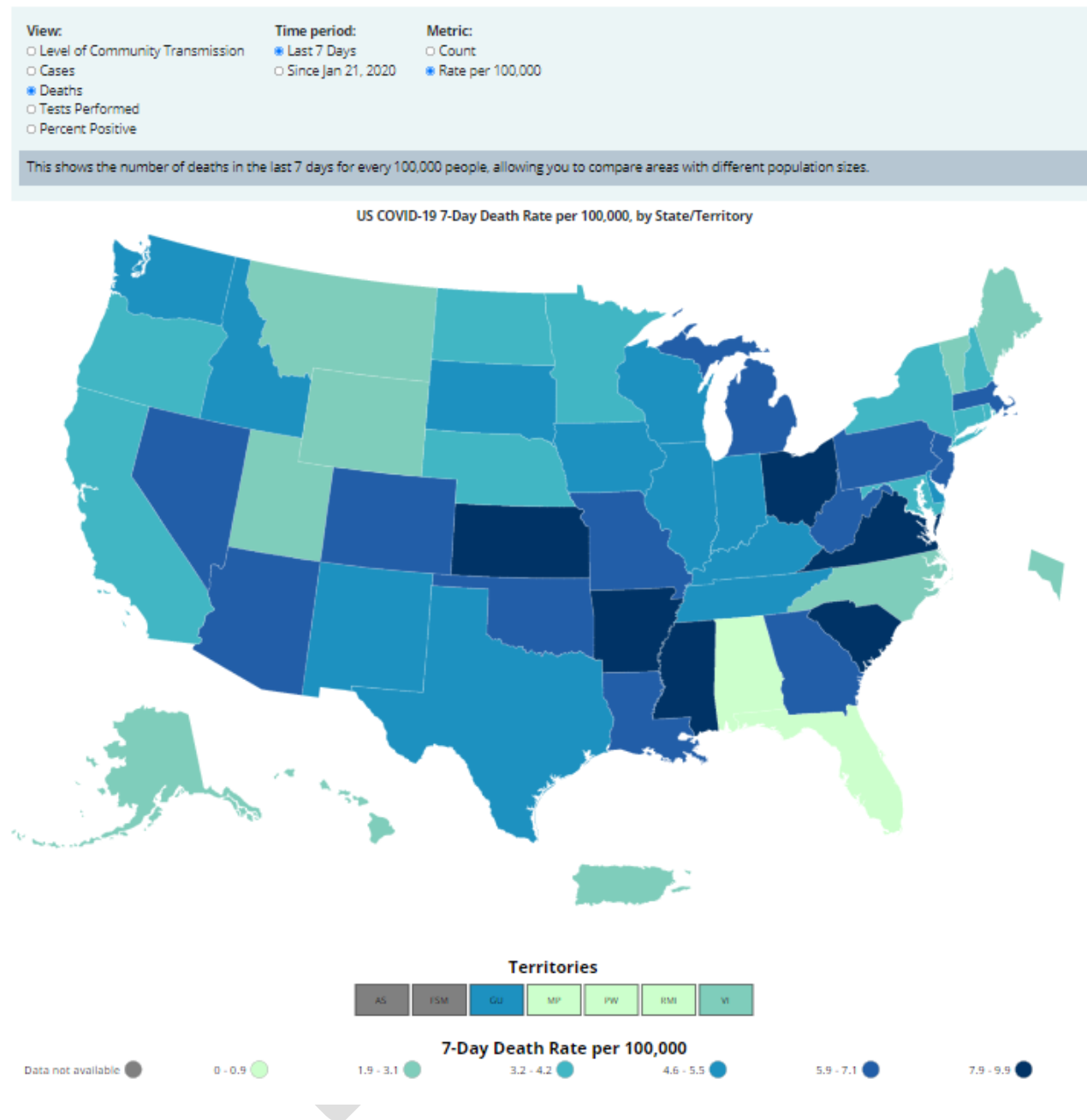
<sup>164</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_casesper100klast7days](https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days)

# United States COVID-19 Deaths Per 100K Since January 21, 2020 by State, Territory, and Jurisdiction as of February 10, 2022.<sup>165</sup>



<sup>165</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_casesper100k](https://covid.cdc.gov/covid-data-tracker/#cases_casesper100k)

# United States COVID-19 Deaths Per 100K Last 7-days by State, Territory, and Jurisdiction as of February 10, 2022.<sup>166</sup>



<sup>166</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_deathsper100klast7days](https://covid.cdc.gov/covid-data-tracker/#cases_deathsper100klast7days)

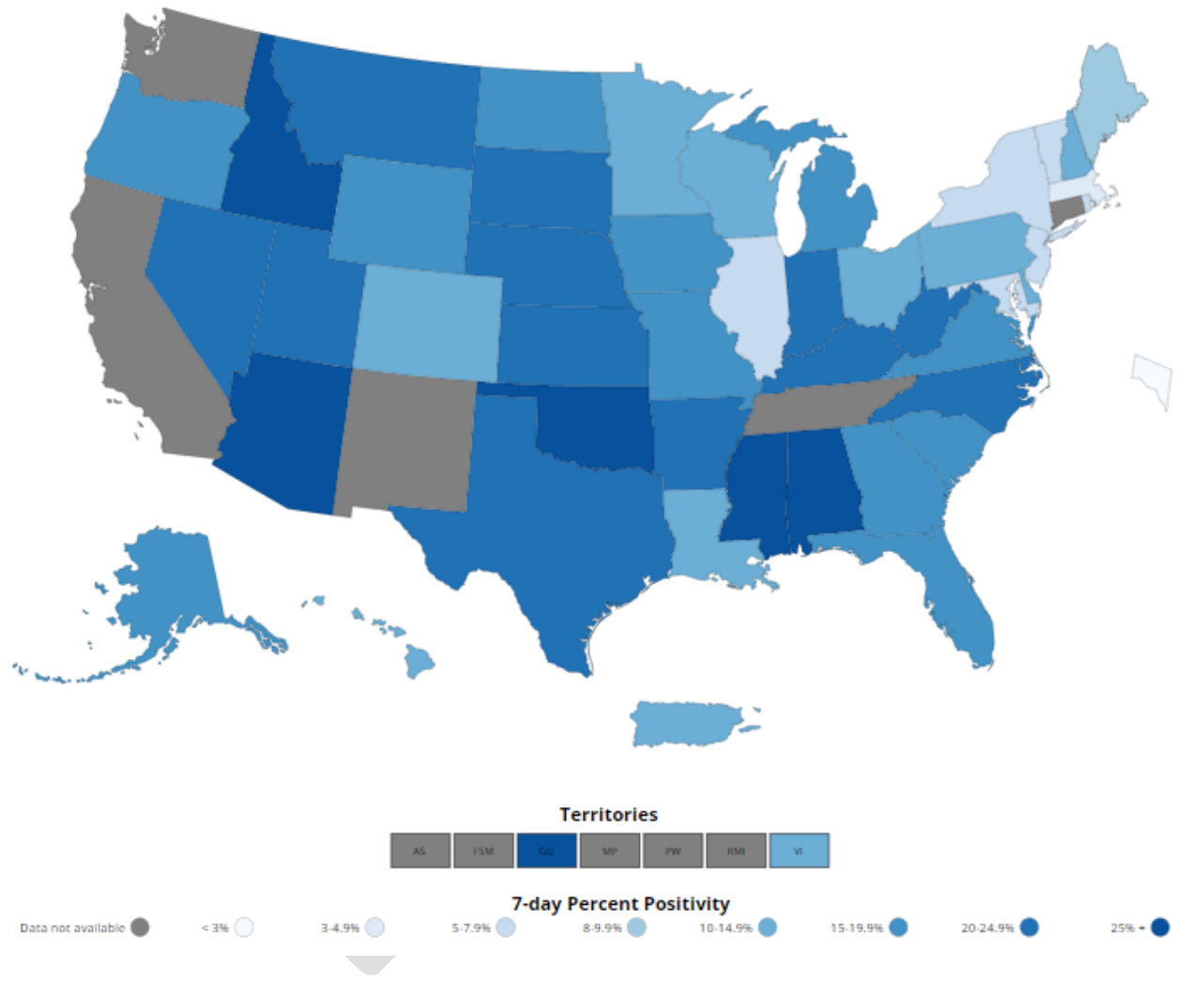
**United States COVID-19 Percent Positive Laboratory Testing (NAATs) Per 100K Last 7-days by State, Territory, and Jurisdiction as of February 10, 2022.<sup>167</sup>**

**View:**  
 Level of Community Transmission  
 Cases  
 Deaths  
 Tests Performed  
 Percent Positive

**Time period:**  
 Last 7 Days  
 Last 30 Days  
 All Time

This shows the percentage of tests that were positive over the last 7 days.

COVID-19 Nucleic Acid Amplification Tests (NAATs) 7-day Percent Positivity by State/Territory



<sup>167</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_positivity7day](https://covid.cdc.gov/covid-data-tracker/#cases_positivity7day)

**Percent of People Fully Vaccinated Reported to the CDC by State/Territory and for Select Federal Entities for the Total Population as of February 10, 2022.<sup>168</sup>**

**View:**  
 Total Doses  
 People

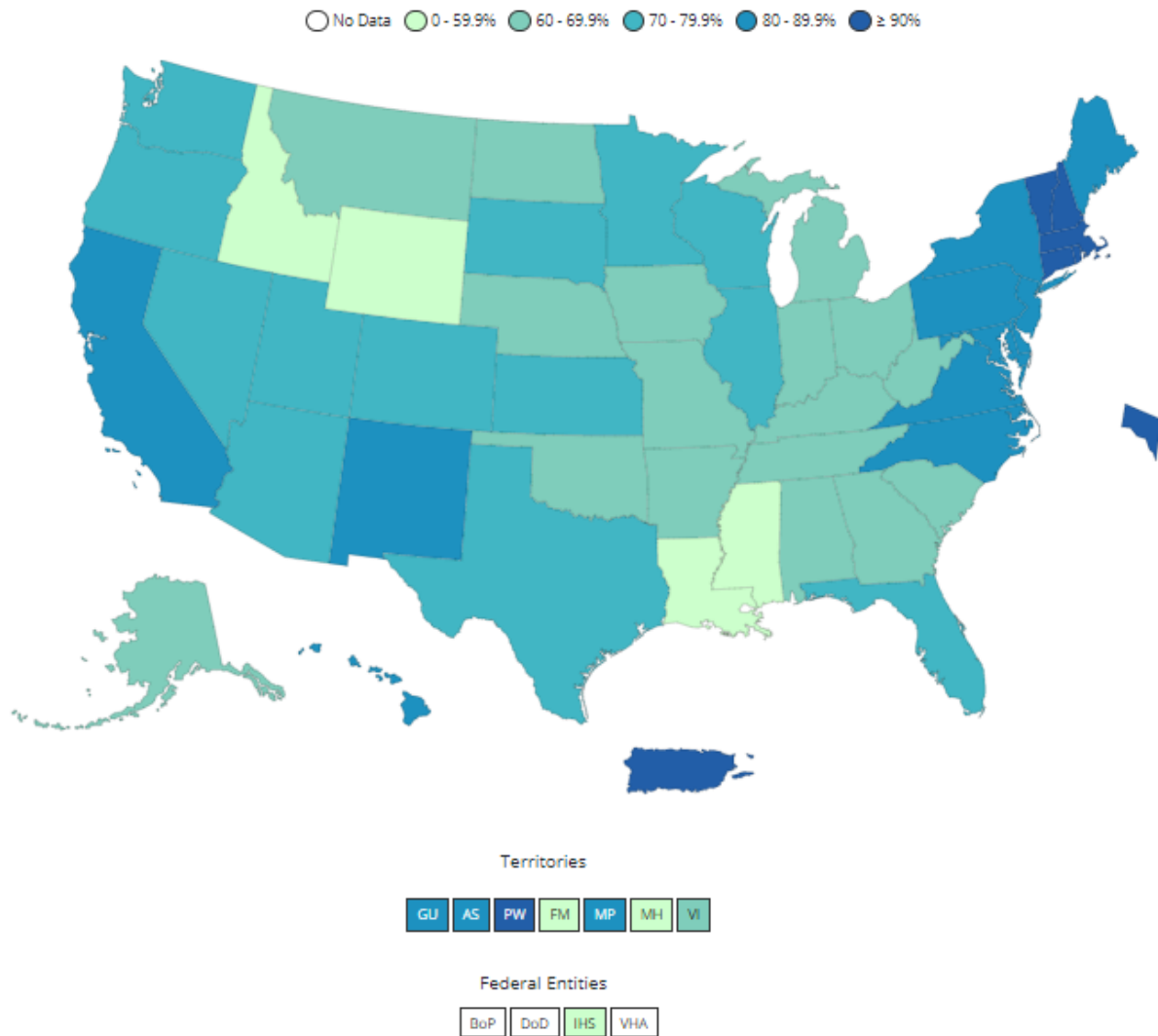
**Show:**  
 At Least One Dose  
 Fully Vaccinated  
 Booster Dose

**Metric:**  
 Count  
 % of the Population

**Population:**  
 Total Population  
 Population ≥ 5 Years of Age  
 Population ≥ 12 Years of Age  
 Population ≥ 18 Years of Age  
 Population ≥ 65 Years of Age

This shows the percentage of residents of the state or territory for the total population who received at least one dose of vaccine. Non-residents who received vaccine are attributed to their state of residence.

Percent of People Receiving at Least One Dose Reported to the CDC by State/Territory and for Select Federal Entities for the Total Population



<sup>168</sup> [https://covid.cdc.gov/covid-data-tracker/#vaccinations\\_vacc-people-fully-percent-total](https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-people-fully-percent-total)



D. SARS-CoV-2 and COVID-19, General Information, Studies, and Statistics.

1. General Information on Pandemics.<sup>169</sup>

“Viruses are constantly mutating. Those that trigger pandemics have enough novelty that the human immune system does not quickly recognize them as dangerous invaders. They force the body to create a brand-new defense, involving new antibodies and other immune system components that can react to and attack the foe. Large numbers of people get sick in the short term, and social factors such as crowding and the unavailability of medicine can drive those numbers even higher. Ultimately, in most cases, antibodies developed by the immune system to fight off the invader linger in enough of the affected population to confer longer-term immunity and limit person-to-person viral transmission. But that can take several years, and before it happens, havoc reigns.

....

Containment. The severe acute respiratory syndrome (SARS) epidemic of 2003 was caused not by an influenza virus but by a coronavirus, SARS-CoV, that is closely related to the cause of the current affliction, SARS-CoV-2. Of the seven known human coronaviruses, four circulate widely, causing up to a third of common colds. The one that caused the SARS outbreak was far more virulent. Thanks to aggressive epidemiological tactics such as isolating the sick, quarantining their contacts and implementing social controls, bad outbreaks were limited to a few locations such as Hong Kong and Toronto.

This containment was possible because sickness followed infection very quickly and obviously: almost all people with the virus had serious symptoms such as fever and trouble breathing. And they transmitted the virus after getting quite sick, not before. “Most patients with SARS were not that contagious until maybe a week after symptoms appeared,” says epidemiologist Benjamin Cowling of the University of Hong Kong. “If they could be identified within that week and put into isolation with good infection control, there wouldn’t be onward spread.” Containment worked so well there were only 8,098 SARS cases globally and 774 deaths. The world has not seen a case since 2004.

Vaccine power. When a new H1N1 influenza virus, known as swine flu, caused a pandemic in 2009, “there was an alarm bell because this was a brand-new H1N1,” Cowling says, and it was very similar to the 1918 killer. Swine flu proved less severe than feared. In part, Krammer says, “we were lucky because the pathogenicity of the virus wasn’t very high.” But another important reason was that six months after the virus appeared, scientists developed a vaccine for it.

Unlike measles or smallpox vaccines, which can confer long-term immunity, **flu vaccines offer only a few years of protection. Influenza viruses are slippery, mutating rapidly to escape immunity. As a result, the vaccines must be updated every year and given regularly.** But during a pandemic, even a short-term vaccine is a boon. The 2009 vaccine helped to temper a second wave of cases in the winter. As a result, the virus much more rapidly went the way of the 1918 virus, becoming a

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<sup>169</sup> <https://www.scientificamerican.com/article/how-the-covid-19-pandemic-could-end1/>

widely circulating seasonal flu, from which many people are now protected either by flu shots or by antibodies from a previous infection.

Projections about how COVID-19 will play out are speculative, but the end game will most likely involve a mix of everything that checked past pandemics: Continued social-control measures to buy time, new antiviral medications to ease symptoms, and a vaccine. The exact formula—how long control measures such as social distancing must stay in place, for instance—depends in large part on how strictly people obey restrictions and how effectively governments respond. For example, containment measures that worked for COVID-19 in places such as Hong Kong and South Korea came far too late in Europe and the U.S. “The question of how the pandemic plays out is at least 50 percent social and political,” Cobey says.

....

It will take a vaccine to stop transmission. That will take time—probably a year from now. Still, there is reason to think a vaccine could work effectively. Compared with flu viruses, coronaviruses don’t have as many ways to interact with host cells.

“If that interaction goes away, [the virus] can’t replicate anymore,” Krammer says. “That’s the advantage we have here.” It is not clear whether a vaccine will confer long-term immunity as with measles or short-term immunity as with flu shots. But “any vaccine at all would be helpful at this point,” says epidemiologist Aubree Gordon of the University of Michigan.

Unless a vaccine is administered to all of the world’s eight billion inhabitants who are not currently sick or recovered, COVID-19 is likely to become endemic. It will circulate and make people sick seasonally—sometimes very sick. But if the virus stays in the human population long enough, it will start to infect children when they are young.” (Emphasis added).

## 2. Transmission.

### **Modes of Transmission**

“The principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through exposure to respiratory fluids carrying infectious virus. Exposure occurs in three principal ways:

- (1) inhalation of very fine respiratory droplets and aerosol particles,
- (2) deposition of respiratory droplets and particles on exposed mucous membranes in the mouth, nose, or eye by direct splashes and sprays, and
- (3) touching mucous membranes with hands that have been soiled either directly by virus-containing respiratory fluids or indirectly by touching surfaces with virus on them.

People release respiratory fluids during exhalation (e.g., quiet breathing, speaking, singing, exercise, coughing, sneezing) in the form of droplets across a spectrum of sizes. These droplets carry virus and transmit infection.

- The largest droplets settle out of the air rapidly, within seconds to minutes.
- The smallest very fine droplets, and aerosol particles formed when these fine droplets rapidly dry, are small enough that they can remain suspended in the air for minutes to hours.

Infectious exposures to respiratory fluids carrying SARS-CoV-2 occur in three principal ways (not mutually exclusive):

- Inhalation of air carrying very small fine droplets and aerosol particles that contain infectious virus. Risk of transmission is greatest within three to six feet of an infectious source where the concentration of these very fine droplets and particles is greatest.
- Deposition of virus carried in exhaled droplets and particles onto exposed mucous membranes (i.e., “splashes and sprays”, such as being coughed on). Risk of transmission is likewise greatest close to an infectious source where the concentration of these exhaled droplets and particles is greatest.
- Touching mucous membranes with hands soiled by exhaled respiratory fluids containing virus or from touching inanimate surfaces contaminated with virus.”<sup>170</sup>

### **Asymptomatic and Pre-symptomatic Transmission**

“Increasing numbers of epidemiologic studies have documented SARS-CoV-2 transmission during the pre-symptomatic incubation period. Studies using RT-PCR detection have reported low cycle thresholds, indicating larger quantities of viral RNA, among people with asymptomatic and pre-symptomatic SARS-CoV-2 infection. Likewise in viral culture, viral growth has been observed in specimens obtained from patients with asymptomatic and pre-symptomatic infection. The proportion of SARS-CoV-2 transmission due to asymptomatic or pre-symptomatic infection compared with symptomatic infection is not entirely clear; however, recent studies do suggest that people who are not showing symptoms may transmit the virus.”<sup>171</sup>

### **Superspreaders**

Around one in five people are traditionally thought to be super-spreaders. These are people who seem to transmit a given infectious disease significantly more widely than most.<sup>172</sup>

**In a December 16, 2021 study of an Omicron variant superspreader event in Norway:**

<sup>170</sup> [https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fscience%2Fscience-briefs%2Fscientific-brief-sars-cov-2.html](https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fscience%2Fscience-briefs%2Fscientific-brief-sars-cov-2.html)

<sup>171</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

<sup>172</sup> <https://newatlas.com/health-wellbeing/covid19-case-studies-coronavirus-superspreader-clusters-cdc-report/>

"The closed event was held in a separate room (ca 145 m<sup>2</sup>) in a restaurant in Oslo from 18:00 to 22:30, after which the venue was opened to the public from 22:30 to 03:00. A pre-party had been arranged for the Christmas party attendees at a separate venue, after which they were transported by private buses to the restaurant. Although there were no restrictions in place for events at the time in Norway, all attendees of the party were reported to be fully vaccinated and had been asked by the organiser to perform a rapid antigen self-test. For other guests visiting the venue and employees working at the restaurant, there were no requirements for vaccination, COVID-19 testing, face-mask use or COVID certificate, and a guest list was not maintained. Attendees of the party mingled at the venue before and after dinner, following which the bar and dance area was opened to the public.

....

In total, 111 out of 117 attendees (95%) participated in the interviews. Respondents had an average age of 39 years (SD: 9.2; median: 38; range: 26–68) and 48 (43%) of them were women. Most respondents (n = 107; 96%) were fully vaccinated. Eighty-nine percent of the respondents (n = 99) had received two doses of mRNA vaccines. None reported having received a booster dose. All respondents reported having a negative rapid antigen self-test taken at home or PCR within 1–2 days before attending the event. Eight (7%) respondents had previously had COVID-19, but none in the previous 4 months, according to information gathered through the interviews.

Of the 111 respondents, 66 (59%) were confirmed cases (26 based on WGS and 40 based on PCR VOC screening) and 15 (14%) were probable cases (PCR-positive only). One PCR-positive attendee was confirmed to be infected with SARS-CoV-2 Delta variant (Pango lineage B.1.617.2), and subsequently excluded from further analysis. The total attack rate for the Omicron variant was 74% (81/110) (Figure). The cases had an average age of 38 years (SD: 8.6; median 36, range: 26–61) and 35 (43%) were women. The remaining 29 attendees did not have a positive PCR result by 13 December 2021."<sup>173</sup>

### **Incubation Period**

"The incubation period for COVID-19 is thought to extend to 14 days, with a median time of 4–5 days from exposure to symptoms onset. One study reported that 97.5% of people with COVID-19 who have symptoms will do so within 11.5 days of SARS-CoV-2 infection."<sup>174</sup>

### **Infectious Period**

"Children and adults with mild, symptomatic COVID-19:

Isolation can end at least 5 days after symptom onset and after fever ends for 24 hours (without the use of fever-reducing medication) and symptoms are

<sup>173</sup> <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2021.26.50.2101147>

<sup>174</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

improving, if these people can continue to properly wear a well-fitted mask around others for 5 more days after the 5-day isolation period. Day 0 is the first day of symptoms.

People who are infected but asymptomatic (never develop symptoms):

Isolation can end at least 5 days after the first positive test (with day 0 being the date their specimen was collected for the positive test), if these people can continue to wear a properly well-fitted mask around others for 5 more days after the 5-day isolation period. However, if symptoms develop after a positive test, their 5-day isolation period should start over (day 0 changes to the first day of symptoms).

People who have moderate COVID-19 illness:

Isolate for 10 days.

People who are severely ill (i.e., requiring hospitalization, intensive care, or ventilation support):

Extending the duration of isolation and precautions to at least 10 days and up to 20 days after symptom onset, and after fever ends (without the use of fever-reducing medication) and symptoms are improving, may be warranted.

People who are moderately or severely immunocompromised might have a longer infectious period:

Extend isolation to 20 or more days (day 0 is the first day of symptoms or a positive viral test). Use a test-based strategy and consult with an infectious disease specialist to determine the appropriate duration of isolation and precautions.

Recovered patients:

Patients who have recovered from COVID-19 can continue to have detectable SARS-CoV-2 RNA in upper respiratory specimens for up to 3 months after illness onset. However, replication-competent virus has not been reliably recovered from such patients, and they are not likely infectious<sup>175</sup>

### Asymptomatic Cases

A December 14, 2021 study among the tested population and individuals with confirmed COVID-19 diagnosis found:

"In this meta-analysis [involving Ninety-five unique eligible studies were included, covering 29,776,306 individuals undergoing testing] of the percentage of asymptomatic SARS-CoV-2 infections among populations tested for and with confirmed COVID-19, the pooled **percentage of asymptomatic infections was 0.25%** among the tested population and **40.50% among the confirmed**

<sup>175</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html>

**population.** The high percentage of asymptomatic infections highlights the potential transmission risk of asymptomatic infections in communities."<sup>176</sup>

The CDC estimates "the majority of SARS-CoV-2 transmission occurs early in the course of illness, generally in the 1-2 days prior to onset of symptoms and the 2-3 days after."<sup>177</sup>

## Viral Shedding

"Viral shedding by asymptomatic people may represent 40–50% of total infections though some uncertainty remains regarding how much they contribute to totals. Viral shedding may antedate symptoms by up to 3+ days."<sup>178</sup>

"Viral shedding<sup>179</sup>...occurs when a virus is released from an infected host. Studying viral shedding is helpful in understanding how infectious diseases like COVID-19 spread.

Researchers often define the term across a spectrum, using modifiers like "low" and "high" to describe levels of viral shedding. Assessing levels of viral shedding helps researchers determine at what point individuals are most infectious.

For example, a study<sup>180</sup> of 94 patients with COVID-19 suggests that those infected with the new strain of coronavirus have the highest levels of viral shedding right before showing symptoms. Other studies have shown that some individuals may continue shedding the virus even after their symptoms resolve, or subside; one study<sup>181</sup> found that individuals with mild cases of the virus may continue viral shedding up to eight days after symptom resolution.

From a public health perspective, understanding viral shedding of COVID-19 is necessary to determine appropriate actions for virus mitigation. If viral shedding is indeed highest right before a person starts showing symptoms, robust contact tracing efforts to identify potential exposures is necessary to slow the further spread of COVID-19 in communities. Information about viral spread after symptom resolution also allows public health officials to determine appropriate measures for those who have recovered from COVID-19, including guidance on extended quarantine." (Emphasis added).

British Medical Journal, January 13, 2022 study, "Covid-19: Peak of viral shedding is later with omicron variant, Japanese data suggest,"<sup>182</sup> found:

<sup>176</sup> <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2787098>

<sup>177</sup> <https://www.cdc.gov/media/releases/2021/s1227-isolation-quarantine-guidance.html>

<sup>178</sup>

[https://www.hopkinsguides.com/hopkins/view/Johns\\_Hopkins\\_ABX\\_Guide/540747/all/Coronavirus\\_COVID\\_19\\_SA\\_RS\\_CoV\\_2\\_](https://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540747/all/Coronavirus_COVID_19_SA_RS_CoV_2_)

<sup>179</sup> <https://achi.net/newsroom/defining-covid-19-terms-viral-shedding/>

<sup>180</sup> <https://www.nature.com/articles/s41591-020-0869-5>

<sup>181</sup> <https://www.healio.com/pulmonology/practice-management/news/online/%7B071c6a27-2c50-458f-9558-19b9f501df05%7D/patients-with-covid-19-may-shed-virus-after-symptom-resolution>

<sup>182</sup> <https://www.bmj.com/content/376/bmj.o89#:~:text=News->

<https://www.bmj.com/content/376/bmj.o89#:~:text=News-Covid%2D19%3A%20Peak%20of%20viral%20shedding%20is%20later%20with,omicron%20variant%2C%20Japane>

"Preliminary data from the National Institute of Infectious Diseases—which conducts disease surveillance in Japan—suggest that the amount of viral RNA is highest three to six days after diagnosis or symptom onset.

....

Previous studies suggest that the peak transmission period for people with other variants was between two days before symptoms emerged and three days afterward, with virus shedding peaking on or before symptom onset.<sup>2</sup> The Japanese study suggests that with omicron, the peak of virus shedding may be two or three days later, Hunter said."

## Basic Reproduction Number

"The basic reproductive ratio or basic reproduction number ( $R_0$ ) is the average number of infected contacts per infected individual. At a population level, a value of  $R_0$  larger than one means that a virus will continue its propagation among susceptible hosts if no environmental changes or external influences intervene. An  $R_0$  value lower than one means that the virus is doomed to extinction at the epidemiological level under those specific circumstances."<sup>183</sup>

As of June, 2020, a meta-analysis estimated that the initial median  $R_0$  [the basic reproduction number for the virus] for COVID-19 is 2.79 (meaning that one infected person will on average infect 2.79 others), although current estimates might be biased because of insufficient data.<sup>184</sup>

As of August 1, 2020, the best estimate of the CDC based on data through August 1, 2020 was an  $R_0$  value of 2.5.<sup>185</sup>

As of August 9, 2021, a study found "An  $R_0$  of 5.08 [Delta variant] is much higher than the  $R_0$  of the ancestral strain with a  $R_0$  of 2.79, which was the estimated median  $R_0$  in Liu et al.'s review study based on 14 estimates of the ancestral strain. With an  $R_0$  of 5.08, Delta also has a much higher reproductive number compared to other viral infections such SARS, MERS, smallpox, Ebola, seasonal influenza and pandemic influenza. Delta infections are associated with higher viral loads and longer duration of shedding causing higher transmissibility and  $R_0$ , and also lower vaccine effectiveness affecting the effective reproduction number impacted by disease control. Delta variant may possibly also cause more severe disease with higher odds of hospitalization, ICU admission and death."<sup>186</sup>

A December 30, 2021 study, "Relative instantaneous reproduction number of Omicron SARS-CoV-2 variant with respect to the Delta variant in Denmark," found:

The Omicron variant of the severe acute respiratory syndrome coronavirus 2

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[se%20data%20suggest&text=Patients%20with%20the%20omicron%20variant,testing%20positive%20could%20be%20shortened.](https://www.sciencedirect.com/topics/immunology-and-microbiology/basic-reproduction-number)

<sup>183</sup> <https://www.sciencedirect.com/topics/immunology-and-microbiology/basic-reproduction-number>

<sup>184</sup> [https://wwwnc.cdc.gov/eid/article/26/6/20-0495\\_article](https://wwwnc.cdc.gov/eid/article/26/6/20-0495_article)

<sup>185</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

<sup>186</sup> <https://academic.oup.com/jtm/article/28/7/taab124/6346388>

(SARS-CoV-2) has become widespread across the world in a flashing manner. As of December 7, 2021, a total of 758 Omicron cases were confirmed in Denmark. Using the nucleotide sequences of the Delta and Omicron variants registered from Denmark in the GISAID database, we found that the effective (instantaneous) reproduction number of Omicron is 3.19 (95% confidence interval [CI]: 2.82-3.61) times greater than that of Delta under the same epidemiological conditions. The proportion of Omicron infections among all SARS-CoV-2 infections in Denmark was expected to exceed 95% on December 28, 2021, with a 95% CI from December 25 to December 31, 2021.

## Infectious Dose and Viral Load

“Infectious respiratory diseases spread when a healthy person comes in contact with virus particles expelled by someone who is sick — usually through a cough or sneeze. The amount of particles a person is exposed to can affect how likely they are to become infected and, once infected, how severe the symptoms become.

The amount of virus necessary to make a person sick is called the infectious dose. Viruses with low infectious doses are especially contagious in populations without significant immunity. The minimum infectious dose of SARS-CoV-2, the virus that causes COVID-19, is unknown so far, but researchers suspect it is low. “The virus is spread through very, very casual interpersonal contact,” W. David Hardy, a professor of infectious disease at Johns Hopkins University School of Medicine, told STAT.<sup>187</sup>

A high infectious dose may lead to a higher viral load, which can impact the severity of COVID-19 symptoms. Viral load is a measure of virus particles. It is the amount of virus present once a person has been infected and the virus has had time to replicate in their cells. With most viruses, higher viral loads are associated with worse outcomes.

One study<sup>188</sup> of COVID-19 patients in China found that those with more severe symptoms tended to have higher viral loads. ‘It’s not proven, but it would make sense that higher inoculating doses will lead to higher viral loads, and higher viral loads would translate into more pathogenic clinical courses,’ said Dan Barouch, director of the Center for Virology and Vaccine Research at Beth Israel Deaconess Medical Center.’<sup>189</sup> (Emphasis added).

National Center for Biotechnology, January 6, 2022, "Omicron Variant (B.1.1.529): Infectivity, Vaccine Breakthrough, and Antibody Resistance,"<sup>190</sup>

"The identification of Omicron as a variant of concern (VOC) by the World Health Organization (WHO) has triggered countries around the world to put in place travel restrictions and precautionary measures. At this moment, the scientific community knows little about Omicron’s infectivity, vaccine breakthrough, and

<sup>187</sup> <https://www.statnews.com/2020/04/14/how-much-of-the-coronavirus-does-it-take-to-make-you-sick/>

<sup>188</sup> [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(20\)30196-1/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30196-1/fulltext)

<sup>189</sup> <https://www.statnews.com/2020/04/14/how-much-of-the-coronavirus-does-it-take-to-make-you-sick/>

<sup>190</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8751645/>



antibody resistance. Since the spike (S) protein, particularly, its receptor-binding domain (RBD), plays a vital role in viral infection, it has been a key target of vaccines and antibody drugs. Therefore, the study of Omicron's 15 RBD mutations can lead to valuable understanding of Omicron's infectivity, vaccine breakthrough, and antibody resistance.

On the basis of a well-tested and experimentally confirmed deep learning model trained with tens of thousands of experimental data, we investigate the impacts of Omicron's RBD mutations to its infectivity. We show that Omicron is about 10 times more infectious than the original virus or about 2.8 times as infectious as the Delta variant. Using the structures of 185 known antibody-RBD complexes, we reveal that Omicron's vaccine-escape capability is near 14 times as high as that of the Delta variant. We unveil that Omicron may completely abolish the Eli Lilly antibody cocktail. Omicron RBD mutations may also compromise monoclonal antibodies (mAbs) from Regeneron, AstraZeneca, Celltrion, and Rockefeller University. However, mAbs from GlaxoSmithKline might not be affected much. Our results call for the development of a new generation of vaccines and mAbs that will not be easily affected by viral mutations."

### 3. Infection Fatality Rate.

Though there are limitations on the availability and accuracy of COVID-19 data around the country, researchers are conducting studies to determine a likely range of the "infection mortality rate" (IFR) of COVID-19. The infection fatality rate is the ratio of deaths divided by the number of actual infections with SARS-CoV-2.

A study by the University of Washington using data through April 20, 2020 calculated the U.S. "infection mortality rate" among symptomatic cases (IFR-S) to be 1.3%.<sup>191</sup>

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<sup>191</sup> <https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2020.00455>; Study assumptions: We make three assumptions for our analysis: (1) Errors in the numerator and the denominator lead to underreporting of true COVID-19 deaths and cases, respectively; error is smaller for deaths than for cases. (2) Both the errors are declining over time. (3) The errors in the denominator are declining at a faster rate than the error in the numerator.

Assumption #1 is self-evident; both the deaths and the actual cases are undercounted during the initial phase of the epidemic. Because deaths are much more visible events than infections, which, in the case of COVID-19, can go asymptomatic during the first few days of infection, we posit that, at any point in time, the errors in the denominator are larger than the errors in the numerator. Hence, this assumption leads to CFR estimates being larger than the IFR-S, which is typically believed to be true based on observed data.

Assumption #2 is our central assumption, which states that under some stationary processes of care delivery, health care supply, and reporting, which are all believed to be improving over time, the errors in both the numerator and the denominator are declining. It implies that we are improving in the measurement of both the numerator and denominator over time, albeit at different rates in different jurisdictions.

Assumption #3 posits that the error in the denominator is declining faster than the error in the numerator. This assumption indicates that the CFR rates, based on the number of cumulative COVID-19 deaths and the cumulative reported COVID-19 cases, are declining over time and are confirmed based on our observed data (described in detail below).

Another study calculated a global IFR of 1.04%.<sup>192</sup>

A study by the London School of Hygiene and Tropical Medicine estimated the infection fatality rate on the Diamond Princess Cruise Ship to be 1.2%.<sup>193</sup> Nearly the entire cruise ships 3,711 passengers and crew were tested.

A study<sup>194</sup> published in the International Journal of Infectious Diseases in December 2020, concluded: “Based on a systematic review and meta-analysis of published evidence on COVID-19 until July 2020, the IFR of the disease across populations is 0.68% (0.53%–0.82%). However, due to very high heterogeneity in the meta-analysis, it is difficult to know if this represents a completely unbiased point estimate. It is likely that, due to age and perhaps underlying comorbidities in the population, different places will experience different IFRs due to the disease. Given issues with mortality recording, it is also likely that this represents an underestimate of the true IFR figure. More research looking at age-stratified IFR is urgently needed to inform policymaking on this front.”

As of March 19, 2021, the CDC’s best estimate of the infection fatality rate for COVID-19 is 2.5.<sup>195</sup>

The generally accepted approximate IFR-S of seasonal influenza is 0.1%.<sup>196</sup>

Medrxiv.org, January 11, 2022, "Clinical outcomes among patients infected with Omicron (B.1.1.529) SARS-CoV-2 variant in southern California:"<sup>197</sup>

NOTE: This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.

"The Omicron (B.1.1.529) variant of SARS-CoV-2 has rapidly achieved global dissemination, accounting for most infections in the United States by December 2021. Risk of severe outcomes associated with Omicron infections, as compared to earlier SARS-CoV-2 variants, remains unclear.

....

We analyzed clinical and epidemiologic data from cases testing positive for SARS-CoV-2 infection within the Kaiser Permanente Southern California healthcare system from November 30, 2021 to January 1, 2022....

## Results

<sup>192</sup> <https://www.medrxiv.org/content/10.1101/2020.05.11.20098780v1>

<sup>193</sup> <https://www.medrxiv.org/content/10.1101/2020.03.05.20031773v2>

<sup>194</sup> *A systematic review and meta-analysis of published research data on COVID-19 infection fatality rates,* <https://www.sciencedirect.com/science/article/pii/S1201971220321809?via%3Dihub>

<sup>195</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

<sup>196</sup>

[https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00455?utm\\_campaign=covid19fasttrack&utm\\_medium=pre&utm\\_content=basu&utm\\_source=mediaadvisory&](https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00455?utm_campaign=covid19fasttrack&utm_medium=pre&utm_content=basu&utm_source=mediaadvisory&)

<sup>197</sup> <https://www.medrxiv.org/content/10.1101/2022.01.11.22269045v1>

Our analyses included 52,297 cases with SGTF (Omicron) and 16,982 cases with non-SGTF (Delta [B.1.617.2]) infections, respectively. Hospital admissions occurred among 235 (0.5%) and 222 (1.3%) of cases with Omicron and Delta variant infections, respectively. Among cases first tested in outpatient settings, the adjusted hazard ratios for any subsequent hospital admission and symptomatic hospital admission associated with Omicron variant infection were 0.48 (0.36-0.64) and 0.47 (0.35-0.62), respectively. Rates of ICU admission and mortality after an outpatient positive test were 0.26 (0.10-0.73) and 0.09 (0.01-0.75) fold as high among cases with Omicron variant infection as compared to cases with Delta variant infection. Zero cases with Omicron variant infection received mechanical ventilation, as compared to 11 cases with Delta variant infections throughout the period of follow-up (two-sided  $p < 0.001$ ). Median duration of hospital stay was 3.4 (2.8-4.1) days shorter for hospitalized cases with Omicron variant infections as compared to hospitalized patients with Delta variant infections, reflecting a 69.6% (64.0-74.5%) reduction in hospital length of stay.

Conclusions During a period with mixed Delta and Omicron variant circulation, SARS-CoV-2 infections with presumed Omicron variant infection were associated with substantially reduced risk of severe clinical endpoints and shorter durations of hospital stay."

#### 4. COVID-19 Virus Mutations.

Depending on the level of contagiousness of COVID-19 expressed in the  $R_0$ <sup>198</sup> value, "the threshold for combined [COVID-19] vaccine efficacy and herd immunity needed for disease extinction" is estimated between 55% and 82% "(i.e., >82% of the population has to be immune, through either vaccination or prior infection, to achieve herd immunity to stop transmission).<sup>199</sup>

"The new [SARS-CoV-2] coronavirus is an RNA virus: a collection of genetic material packed inside a protein shell. Once an RNA virus makes contact with a host, it starts to make new copies of itself that can go on to infect other cells.

RNA viruses, like the flu and measles, are more prone to changes and mutations compared with DNA viruses, such as herpes, smallpox, and human papillomavirus (HPV).

'In the world of RNA viruses, change is the norm. We expect RNA viruses to change frequently. That's just their nature,' said Dr. Mark Schleiss, a pediatric

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<sup>198</sup> "The basic reproduction number ( $R_0$ ), pronounced "R naught," is intended to be an indicator of the contagiousness or transmissibility of infectious and parasitic agents....  $R_0$  has been described as being one of the fundamental and most often used metrics for the study of infectious disease dynamics (7–12). An  $R_0$  for an infectious disease event is generally reported as a single numeric value or low–high range, and the interpretation is typically presented as straightforward; an outbreak is expected to continue if  $R_0$  has a value  $>1$  and to end if  $R_0$  is  $<1$  (13). The potential size of an outbreak or epidemic often is based on the magnitude of the  $R_0$  value for that event (10), and  $R_0$  can be used to estimate the proportion of the population that must be vaccinated to eliminate an infection from that population (14,15).  $R_0$  values have been published for measles, polio, influenza, Ebola virus disease, HIV disease, a diversity of vectorborne infectious diseases, and many other communicable diseases (14,16–18).

[https://wwwnc.cdc.gov/eid/article/25/1/17-1901\\_article](https://wwwnc.cdc.gov/eid/article/25/1/17-1901_article)

<sup>199</sup> [https://wwwnc.cdc.gov/eid/article/26/7/20-0282\\_article#suggestedcitation](https://wwwnc.cdc.gov/eid/article/26/7/20-0282_article#suggestedcitation)

infectious disease specialist and investigator with the Institute for Molecular Virology at the University of Minnesota.

SARS-CoV-2 is no exception, and over the past few months it has been mutating. But the virus has mutated at a very slow pace. And when it does mutate, the new copies aren't far off from the original virus.

‘The sequences of the original isolates from China are very close to those in viruses circulating in the U.S. and the rest of the world,’ said Dr. John Rose, a senior research scientist in the department of pathology at Yale Medicine who’s helping develop a COVID-19 vaccine.

....

Early research from scientists at Los Alamos National Laboratory<sup>200</sup> shows that SARS-CoV-2 has mutated into a new form that may be more contagious.

The new strain is responsible for the vast majority of infections reported around the world since mid-March, according to the new study published in the preprint research website BioRxiv Thursday.

In total, the researchers identified 14 strains of COVID-19 and released their findings to help those working on vaccines and treatments.

That being said, the new dominant strain identified does seem to be more infectious in laboratory settings.

But scientists are now trying to understand how the variation behaves in the body — which may be very different from lab settings. Additionally, the study is in preprint, which means it hasn't yet been fully peer-reviewed.

It's also unclear whether the new mutation infects and sickens people differently. At this time, the illness and hospitalization rates caused by the new variation seems to be similar.”<sup>201</sup>

### **Delta Variant**

CNN.com, June 14, 2021, “A new coronavirus variant is on the rise. Here's why experts are concerned”<sup>202</sup>

“The [Delta variant](#)<sup>203</sup> is on its way to becoming the dominant strain of coronavirus in the US, raising concerns that outbreaks could hit unvaccinated people this fall.

And a new study shows the Delta variant is associated with almost double the risk of hospitalization compared to the Alpha variant.

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<sup>200</sup> <https://www.biorxiv.org/content/10.1101/2020.04.29.069054v1>

<sup>201</sup> <https://www.healthline.com/health-news/what-to-know-about-mutation-and-covid-19#The-new-coronavirus-is-mutating,-but-very-slowly>

<sup>202</sup> <https://www.cnn.com/2021/06/14/health/us-coronavirus-monday/index.html>

<sup>203</sup> <https://www.cnn.com/2021/06/10/health/delta-variant-india-explained-coronavirus-intl-cmd/index.html>

The Alpha (B.1.1.7) variant, which is "stickier" and more contagious<sup>204</sup> than the original strain of novel coronavirus, became the dominant strain in the US<sup>205</sup> this spring.

But health experts worry the Alpha variant could be trumped by the Delta variant, which appears to be even more transmissible and may cause more severe illness<sup>206</sup> for those not vaccinated.

As of June 14, 2021, about 10% of Covid-19 cases in the US can be attributed to the Delta variant. But that proportion is doubling every two weeks, Scott Gottlieb, a former commissioner of the US Food and Drug Administration, said in a CBS interview Sunday. He said the Delta variant will probably take over as the dominant strain of coronavirus in the US.

As of June 22, 2021, the Delta variant now makes up about 20% of all new COVID-19 cases in the U.S.<sup>207</sup>

"I think in parts of the country where you have less vaccination -- particularly in parts of the South, where you have some cities where vaccination rates are low -- there's a risk that you could see outbreaks with this new variant," Gottlieb said.

While 52.4% of Americans have received at least one dose of vaccine, only 43.4% have been fully vaccinated, according to data Sunday from the US Centers for Disease Control and Prevention.

The Delta variant could pose a serious risk for states lagging in Covid-19 vaccinations, but the good news is Americans can stave off the danger by getting vaccinated.

Studies suggest those who are fully vaccinated have protection against the Delta variant.

"We have the tools to control this and defeat it," Gottlieb said. "We just need to use those tools."

New research shows the Delta variant may lead to more hospitalizations. The Delta variant -- or the B1.617.2 strain first detected in India -- has been linked to about double the risk of hospitalization compared to the Alpha variant first found in the UK, according to the preliminary findings of a Scottish study published Monday in The Lancet.

The Alpha variant used to be the dominant strain in the UK. But last week, Health Secretary Matt Hancock said the Delta variant had taken over -- making

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<sup>204</sup> <https://www.cnn.com/2021/04/12/health/b117-covid-variant-young-patients/index.html>

<sup>205</sup> <https://www.cnn.com/videos/health/2021/04/07/walensky-covid-19-uk-variant-sot-cohen-nr-vpx.cnn>

<sup>206</sup> <https://www.cnn.com/2021/06/10/health/delta-variant-india-explained-coronavirus-intl-cmd/index.html>

<sup>207</sup> <https://www.cnbc.com/2021/06/22/fauci-declares-delta-variant-greatest-threat-to-the-nations-efforts-to-eliminate-covid.html>

up 91% of new cases in the UK.”

### **Omicron Variant**

"On November 26, 2021, the World Health Organization (WHO) announced a new severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variant Omicron (B.1.1.529), as a variant of concern (VOC). This variant carries an unusually high number of mutations, 32, on the spike (S) protein, the main antigenic target of antibodies generated by either infections or vaccination. In comparison, the devastating Delta variant has only five S protein mutations, which posed a high potential global risk and has spread internationally."<sup>208</sup>

"The B.1.1.529 (Omicron) variant of SARS-CoV-2, the virus that causes COVID-19, was first clinically identified in the United States on December 1, 2021, and spread rapidly. By late December, it became the predominant strain, and by January 15, 2022, it represented 99.5% of sequenced specimens in the United States\* (1). The Omicron variant has been shown to be more transmissible and less virulent than previously circulating variants...."<sup>209</sup>

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<sup>208</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8751645/>

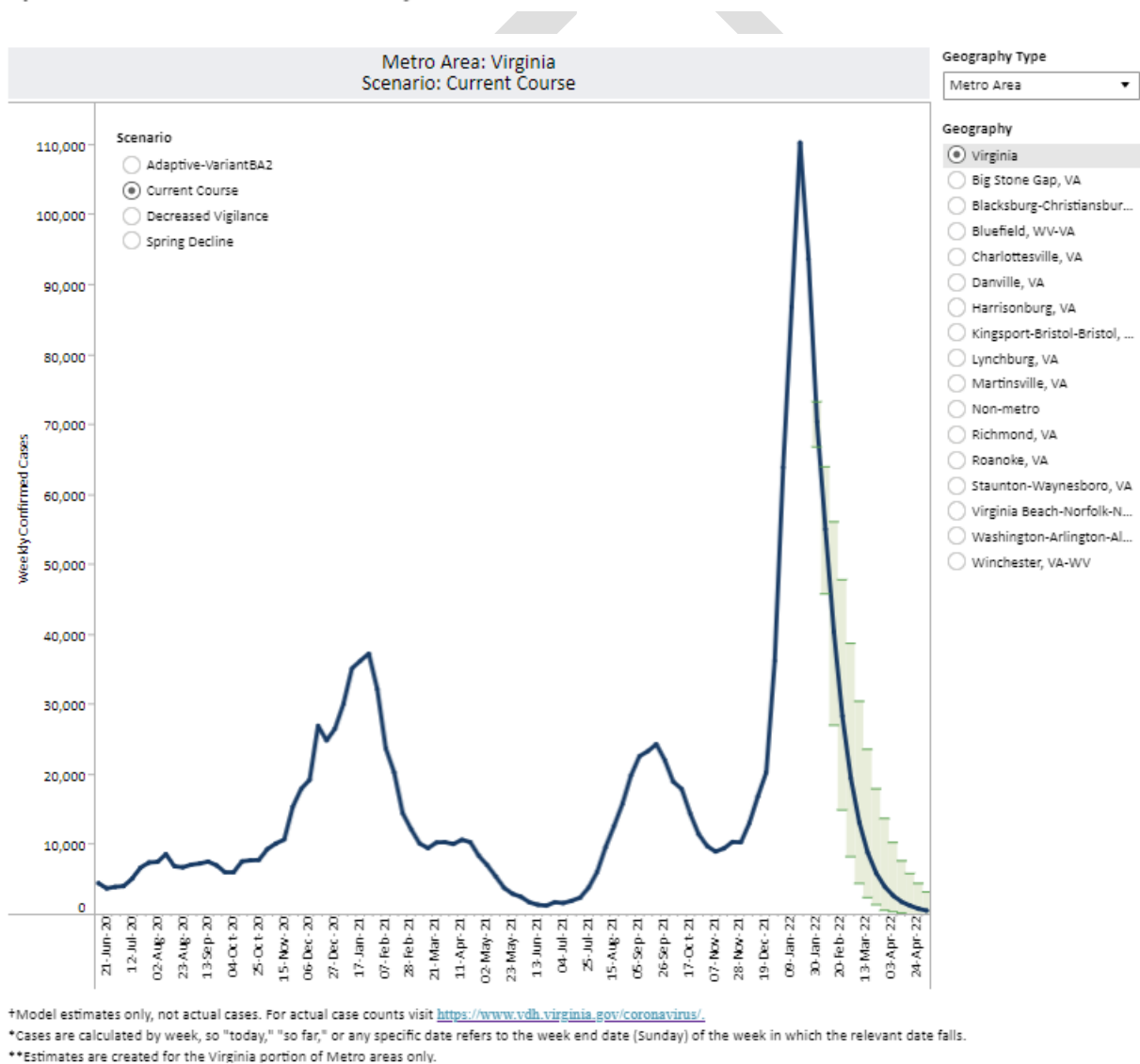
<sup>209</sup> [https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e4.htm?s\\_cid=mm7104e4\\_w](https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e4.htm?s_cid=mm7104e4_w)

## Omicron Modeling in Virginia

UVA [University of Virginia] COVID-19 Model Projections, February 2, 2022.<sup>210</sup>

The COVID-19 pandemic remains a public health emergency. The future course of COVID-19 depends on all of us. In Virginia, case growth is surging as the Omicron variant moves into Virginia. Based on local conditions and trends, the model estimates new confirmed cases already peaked at 110,225 per week during the week ending January 16, 2022. However, viruses are difficult to forecast and this is just one potential path. One outbreak - or one outbreak avoided - can set us down very different paths. The 95% confidence intervals in the chart below shows the range of potential paths the model currently projects.

Models can help us understand the potential course of COVID-19, but they are not crystal balls. Most models struggle to project policy changes, changes in human behavior, or new or rare events. Seasons, vaccines, new variants or policies may affect COVID-19 spread in ways that are difficult to predict. To provide some insight, the UVA team includes several scenarios. The "Omicron" scenario shows how Omicron may influence cases. The "Surge Control" scenario shows what may occur if we reduce transmission rates by 25%. The "Holiday" scenarios add the potential impact of cooler weather and the holidays.



<sup>210</sup> <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-data-insights/uva-covid-19-model/>

## 5. COVID-19 Vaccine Development and Deployment.

### How COVID-19 Vaccines Work<sup>211</sup>

“COVID-19 vaccines help our bodies develop immunity to the virus that causes COVID-19 without us having to get the illness. Different types of vaccines work in different ways to offer protection, but with all types of vaccines, the body is left with a supply of “memory” T-lymphocytes as well as B-lymphocytes that will remember how to fight that virus in the future.

It typically takes a few weeks for the body to produce T-lymphocytes and B-lymphocytes after vaccination. Therefore, it is possible that a person could be infected with the virus that causes COVID-19 just before or just after vaccination and then get sick because the vaccine did not have enough time to provide protection.

Sometimes after vaccination, the process of building immunity can cause symptoms, such as fever. These symptoms are normal and are a sign that the body is building immunity.”

### Authorized Vaccines

Currently, three vaccines are authorized and recommended to prevent COVID-19:<sup>212</sup>

Pfizer-BioNTech <sup>[1]</sup>	Moderna <sup>[1]</sup>	Johnson & Johnson's Janssen <sup>[1,2]</sup>
<b>Ages Recommended</b> 5+ years old	<b>Ages Recommended</b> 18+ years old	<b>Ages Recommended</b> 18+ years
<b>Primary Series</b> 2 doses Given 3 weeks (21 days) apart <sup>[3]</sup>	<b>Primary Series</b> 2 doses Given 4 weeks (28 days) apart <sup>[3]</sup>	<b>Primary Series</b> 1 dose
<b>Booster Dose</b> Everyone ages 18 years and older should get a booster dose of either Pfizer-BioNTech or Moderna (COVID-19 vaccines) 5 months after the last dose in their primary series.  Teens 12-17 years old should get a Pfizer-BioNTech COVID-19 Vaccine booster 5 months after the last dose in their primary series.	<b>Booster Dose</b> Everyone ages 18 years and older should get a booster dose of either Pfizer-BioNTech or Moderna (COVID-19 vaccines) 5 months after the last dose in their primary series.	<b>Booster Dose</b> Everyone ages 18 years and older should get a booster dose of either Pfizer-BioNTech or Moderna (mRNA COVID-19 vaccines) at least 2 months after the first dose of J&J/Janssen COVID-19 vaccine. You may get J&J/Janssen <a href="#">in some situations</a> .
<b>When Fully Vaccinated<sup>4</sup></b> 2 weeks after 2 <sup>nd</sup> dose	<b>When Fully Vaccinated<sup>4</sup></b> 2 weeks after 2 <sup>nd</sup> dose	<b>When Fully Vaccinated<sup>4</sup></b> 2 weeks after 1 <sup>st</sup> dose

<sup>211</sup> [https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/how-they-work.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fvaccines%2Fabout-vaccines%2Fhow-they-work.html](https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/how-they-work.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fvaccines%2Fabout-vaccines%2Fhow-they-work.html)

<sup>212</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines.html>



## **Booster Shot**

"Everyone ages 16 years and older can get a [booster shot](#) after they have completed their COVID-19 vaccine primary series. People ages 16 to 17 years old can get the Pfizer-BioNTech COVID-19 booster shot.

People ages 18 years and older have the option to either get the same COVID-19 vaccine product as their primary series, or to get a different COVID-19 vaccine. People may have a preference for the vaccine type that they originally received, or they may prefer to get a different booster. CDC's recommendations now allow for this type of mix and match dosing for booster shots (Pfizer-BioNTech, Moderna, or J&J/Janssen) for people ages 18 years and older. You may consider the benefits and risks of each product and discuss with your healthcare provider which COVID-19 vaccine product is the most appropriate booster for you.

Currently, a booster shot is not recommended for [children younger than 16 years old](#)."<sup>213</sup>

## **Cost is not an obstacle to getting vaccinated against COVID-19**

COVID-19 vaccines are available for everyone at no cost. Vaccines were paid for with taxpayer dollars and will be given to all people living in the United States, regardless of insurance or immigration status.<sup>214</sup>

## **Previously infected people, natural immunity and access to a COVID-19 vaccine**

Can people with a history of SARS-CoV-2 infection receive a COVID-19 vaccine?

Yes. CDC recommends COVID-19 vaccination for all people with prior SARS-CoV-2 infection. However, the timing of the vaccination depends on when a person had SARS-CoV-2 infection and/or when they received treatment.

People with a prior infection: Offer vaccination regardless of history of prior symptomatic or asymptomatic SARS-CoV-2 infection, including to people with prolonged post-COVID-19 symptoms and people who experienced a [breakthrough infection](#).

People with a current infection: Defer vaccination of people with known current SARS-CoV-2 infection until the person has recovered from acute illness (if the person has symptoms) and until [criteria](#) have been met for them to discontinue isolation. This recommendation applies to any vaccine, including the first and second doses of COVID-19 vaccine.

“Getting COVID-19 may offer some natural protection, known as immunity. Current evidence suggests that reinfection with the virus that causes COVID-19 is uncommon

<sup>213</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq.html>

<sup>214</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/no-cost.html>

in the 90 days after initial infection. However, experts don't know for sure how long this protection lasts, and the risk of severe illness and death from COVID-19 far outweighs any benefits of natural immunity."<sup>215 216</sup>

You should be vaccinated regardless of whether you already had COVID-19. That's because experts do not yet know how long you are protected from getting sick again after recovering from COVID-19. Studies have shown that in people who have recovered from COVID-19, vaccination provides a strong boost in protection. Learn more about [why getting vaccinated is a safer way to build protection](#) than getting infected.

A study<sup>217</sup> published in the CDC's Morbidity and Mortality Weekly Report on August 13, 2021 found that:

"Although laboratory evidence suggests that antibody responses following COVID-19 vaccination provide better neutralization of some circulating variants than does natural infection,<sup>218</sup> few real-world epidemiologic studies exist to support the benefit of vaccination for previously infected persons. This report details the findings of a case-control evaluation of the association between vaccination and SARS-CoV-2 reinfection in Kentucky during May–June 2021...."

....

"Among Kentucky residents infected with SARS-CoV-2 in 2020, vaccination status of those reinfected during May–June 2021 was compared with that of residents who were not reinfected. In this case-control study, being unvaccinated was associated with 2.34 times the odds of reinfection compared with being fully vaccinated."

NEJM.com, New England Journal of Medicine, February 9, 2022, "Protection against the Omicron Variant from Previous SARS-CoV-2 Infection."<sup>219</sup>

"Natural infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) elicits strong protection against reinfection with the B.1.1.7 (alpha),<sup>1,2</sup> B.1.351 (beta),<sup>1</sup> and B.1.617.2 (delta)<sup>3</sup> variants. However, the B.1.1.529 (omicron) variant harbors multiple mutations that can mediate immune evasion. We estimated the effectiveness of previous infection in preventing symptomatic new cases caused by omicron and other SARS-CoV-2 variants in Qatar. In this study, we extracted data regarding coronavirus disease 2019 (Covid-19) laboratory testing, vaccination, clinical infection data, and related demographic details from the national SARS-CoV-2 databases, which include all results of polymerase-

<sup>215</sup> <https://www.cdc.gov/vaccines/covid-19/hcp/answering-questions.html>

<sup>216</sup> <https://www.cdc.gov/vaccines/vac-gen/immunity-types.htm>

<sup>217</sup> <https://www.cdc.gov/mmwr/volumes/70/wr/mm7032e1.htm>

<sup>218</sup> [https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-by-product%2Fclinical-considerations.html#CoV-19-vaccination](https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-by-product%2Fclinical-considerations.html#CoV-19-vaccination) and <https://www.cdc.gov/coronavirus/2019-ncov/hcp/testing-overview.html>

<sup>219</sup> <https://www.nejm.org/doi/full/10.1056/NEJMc2200133>

chain-reaction (PCR) testing, vaccinations, and hospitalizations and deaths for Covid-19 in Qatar since the start of the pandemic.

....

The effectiveness of previous infection in preventing reinfection was estimated to be 90.2% (95% confidence interval [CI], 60.2 to 97.6) against the alpha variant, 85.7% (95% CI, 75.8 to 91.7) against the beta variant, 92.0% (95% CI, 87.9 to 94.7) against the delta variant, and 56.0% (95% CI, 50.6 to 60.9) against the omicron variant (Table 1). Sensitivity analyses confirmed the study results, as expected for this study design, which is robust regardless of the approach that is used to control for vaccine-induced immunity.<sup>4</sup> An additional analysis that was adjusted for the interval since previous infection also confirmed the study results (Table S4).

Among the patients with reinfection, progression to severe Covid-19 occurred in one patient with the alpha variant, in two patients with the beta variant, in no patients with the delta variant, and in two patients with the omicron variant. None of the reinfections progressed to critical or fatal Covid-19. The effectiveness with respect to severe, critical, or fatal Covid-19 was estimated to be 69.4% (95% CI, -143.6 to 96.2) against the alpha variant, 88.0% (95% CI, 50.7 to 97.1) against the beta variant, 100% (95% CI, 43.3 to 100) against the delta variant, and 87.8% (95% CI, 47.5 to 97.1) against the omicron variant. (For the delta variant, the calculation of the 95% confidence interval is clarified in a footnote in Table 1.) Limitations of the estimations (e.g., the relatively young population of Qatar) are discussed in Section S1.

Overall, in a national database study in Qatar, we found that the effectiveness of previous infection in preventing reinfection with the alpha, beta, and delta variants of SARS-CoV-2 was robust (at approximately 90%), findings that confirmed earlier estimates.<sup>1-3</sup> Such protection against reinfection with the omicron variant was lower (approximately 60%) but still considerable. In addition, the protection of previous infection against hospitalization or death caused by reinfection appeared to be robust, regardless of variant."

## Continued need to wear face covering and practice physical distancing after vaccination

CDC Guidance on Face Coverings/Face Masks regardless of vaccination status<sup>220</sup>:

# Use Masks to Slow the Spread of COVID-19

Updated Aug. 12, 2021 Languages ▾ Print

## Types of Masks

To protect yourself and others from COVID-19, CDC continues to recommend that you wear the most protective mask you can, that fits well and that you will wear consistently. [Learn about the types of masks.](#)

## Who Should Wear a Mask?

- People, including children older than 2, should wear a mask in indoor public places if they are:
  - Not fully vaccinated
  - Fully vaccinated and in an area with substantial or high transmission
  - Fully vaccinated and with weakened immune systems
- In general, you do not need to wear a mask in outdoor settings.
  - In areas with [high numbers of COVID-19 cases](#), consider wearing a mask in crowded outdoor settings and for activities with [close contact](#) with others who are not fully vaccinated.



## Unvaccinated and Not Fully Vaccinated People

APNews.com, June 24, 2021, "Nearly all COVID deaths in US are now among unvaccinated."<sup>221</sup>

" Nearly all COVID-19 deaths in the U.S. now are in people who weren't vaccinated, a staggering demonstration of how effective the shots have been and an indication that deaths per day — now down to under 300 — could be practically zero if everyone eligible got the vaccine.

An Associated Press analysis of available government data from May shows that "breakthrough" infections in fully vaccinated people accounted for fewer than 1,200 of more than 853,000 COVID-19 hospitalizations. That's about 0.1%.

And only about 150 of the more than 18,000 COVID-19 deaths in May were in fully vaccinated people. That translates to about 0.8%, or five deaths per day on average.

<sup>220</sup> <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/masks.html>

<sup>221</sup> <https://apnews.com/article/coronavirus-pandemic-health-941fcf43d9731c76c16e7354f5d5e187>

The AP analyzed figures provided by the Centers for Disease Control and Prevention. The CDC itself has not estimated what percentage of hospitalizations and deaths are in fully vaccinated people, citing limitations in the data.

Among them: Only about 45 states report breakthrough infections, and some are more aggressive than others in looking for such cases. So the data probably understates such infections, CDC officials said.

Still, the overall trend that emerges from the data echoes what many health care authorities are seeing around the country and what top experts are saying.

Earlier this month, Andy Slavitt, a former adviser to the Biden administration on COVID-19, suggested that 98% to 99% of the Americans dying of the coronavirus are unvaccinated.

And CDC Director Dr. Rochelle Walensky said on Tuesday that the vaccine is so effective that “nearly every death, especially among adults, due to COVID-19, is, at this point, entirely preventable.” She called such deaths 'particularly tragic.'"

### **How Long Does Vaccine Immunity Last**

USAToday.com, August 19, 2021, "Vaccine effectiveness declines over time, studies say"

Protection provided by COVID-19 vaccines declines over time, but protection against the most severe effects of the disease — including hospitalization and death — remains strong, according to three studies published Wednesday by the Centers for Disease Control and Prevention.

Morbidity and Mortality Weekly Report (MMWR), August 18, 2021, "New COVID-19 Cases and Hospitalizations Among Adults, by Vaccination Status — New York, May 3–July 25, 2021"<sup>222</sup>

In this study, current COVID-19 vaccines were highly effective against hospitalization ([vaccine effectiveness] VE >90%) for fully vaccinated New York residents, even during a period during which prevalence of the Delta variant increased from <2% to >80% in the U.S. region that includes New York, societal public health restrictions eased,<sup>§§</sup> and adult full-vaccine coverage in New York neared 65%. However, during the assessed period, rates of new cases increased among both unvaccinated and fully vaccinated adults, with lower relative rates among fully vaccinated persons. Moreover, VE against new infection declined from 91.7% to 79.8%. To reduce new COVID-19 cases and hospitalizations, these findings support the implementation of a layered approach centered on vaccination, as well as other prevention

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<sup>222</sup> [https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e1.htm?s\\_cid=mm7034e1\\_w](https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e1.htm?s_cid=mm7034e1_w)

strategies.

Morbidity and Mortality Weekly Report (MMWR), August 18, 2021, " Effectiveness of Pfizer-BioNTech and Moderna Vaccines in Preventing SARS-CoV-2 Infection Among Nursing Home Residents Before and During Widespread Circulation of the SARS-CoV-2 B.1.617.2 (Delta) Variant — National Healthcare Safety Network, March 1–August 1, 2021"<sup>223</sup>

Analysis of nursing home COVID-19 data from NHSN indicated a significant decline in effectiveness of full mRNA COVID-19 vaccination against laboratory-confirmed SARS-CoV-2 infection, from 74.7% during the pre-Delta period (March 1–May 9, 2021) to 53.1% during the period when the Delta variant predominated in the United States. This study could not differentiate the independent impact of the Delta variant from other factors, such as potential waning of vaccine-induced immunity. Further research on the possible impact of both factors on VE among nursing home residents is warranted. Because nursing home residents might remain at some risk for SARS-CoV-2 infection despite vaccination, multipronged COVID-19 prevention strategies, including infection control, testing, and vaccination of nursing home staff members, residents, and visitors are critical.

Medrxiv.org, August 8, 2021, "Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence"<sup>224</sup>

Although clinical trials and real-world studies have affirmed the effectiveness and safety of the FDA-authorized COVID-19 vaccines, reports of breakthrough infections and persistent emergence of new variants highlight the need to vigilantly monitor the effectiveness of these vaccines. Here we compare the effectiveness of two full-length Spike protein-encoding mRNA vaccines from Moderna (mRNA-1273) and Pfizer/BioNTech (BNT162b2) in the Mayo Clinic Health System over time from January to July 2021, during which either the Alpha or Delta variant was highly prevalent. We defined cohorts of vaccinated and unvaccinated individuals from Minnesota (n = 25,589 each) matched on age, sex, race, history of prior SARS-CoV-2 PCR testing, and date of full vaccination.

Both vaccines were highly effective during this study period against SARS-CoV-2 infection (mRNA-1273: 86%, 95%CI: 81-90.6%; BNT162b2: 76%, 95%CI: 69-81%) and COVID-19 associated hospitalization (mRNA-1273: 91.6%, 95% CI: 81-97%; BNT162b2: 85%, 95% CI: 73-93%).

However, in July, the effectiveness against infection was considerably lower for mRNA-1273 (76%, 95% CI: 58-87%) with an even more pronounced reduction in effectiveness for BNT162b2 (42%, 95% CI: 13-62%).

Morbidity and Mortality Weekly Report (MMWR), August 18, 2021, Sustained

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<sup>223</sup> [https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e3.htm?s\\_cid=mm7034e3\\_w](https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e3.htm?s_cid=mm7034e3_w)

<sup>224</sup> <https://www.medrxiv.org/content/10.1101/2021.08.06.21261707v1>

Effectiveness of Pfizer-BioNTech and Moderna Vaccines Against COVID-19 Associated Hospitalizations Among Adults — United States, March–July 2021<sup>225</sup>

In a multistate network that enrolled adults hospitalized during March–July 2021, effectiveness of 2 doses of mRNA vaccine against COVID-19–associated hospitalization was sustained over a follow-up period of 24 weeks (approximately 6 months). These findings of sustained VE [vaccine effectiveness] were consistent among subgroups at highest risk for severe outcomes from COVID-19, including older adults, adults with three or more chronic medical conditions, and those with immunocompromising conditions. Overall VE in adults with immunocompromising conditions was lower than that in those without immunocompromising conditions but was sustained over time in both populations.

These data provide evidence for sustained high protection from severe COVID-19 requiring hospitalization for up to 24 weeks among fully vaccinated adults, which is consistent with data demonstrating mRNA COVID-19 vaccines have the capacity to induce durable immunity, particularly in limiting the severity of disease. Alpha variants were the predominant viruses sequenced, although Delta variants became dominant starting in mid-June, consistent with national surveillance data. Because of limited sequenced virus, Delta-specific VE was not assessed. VE was similar during June–July when circulation of Delta increased in the United States compared with VE during March–May when Alpha variants predominated, although further surveillance is needed.

CDC, October 29, 2021, "Science Brief: SARS-CoV-2 Infection-induced and Vaccine-induced Immunity."<sup>226</sup>

Available evidence shows that fully vaccinated individuals and those previously infected with SARS-CoV-2 each have a low risk of subsequent infection for at least 6 months. Data are presently insufficient to determine an antibody titer threshold that indicates when an individual is protected from infection. At this time, there is no FDA-authorized or approved test that providers or the public can use to reliably determine whether a person is protected from infection.

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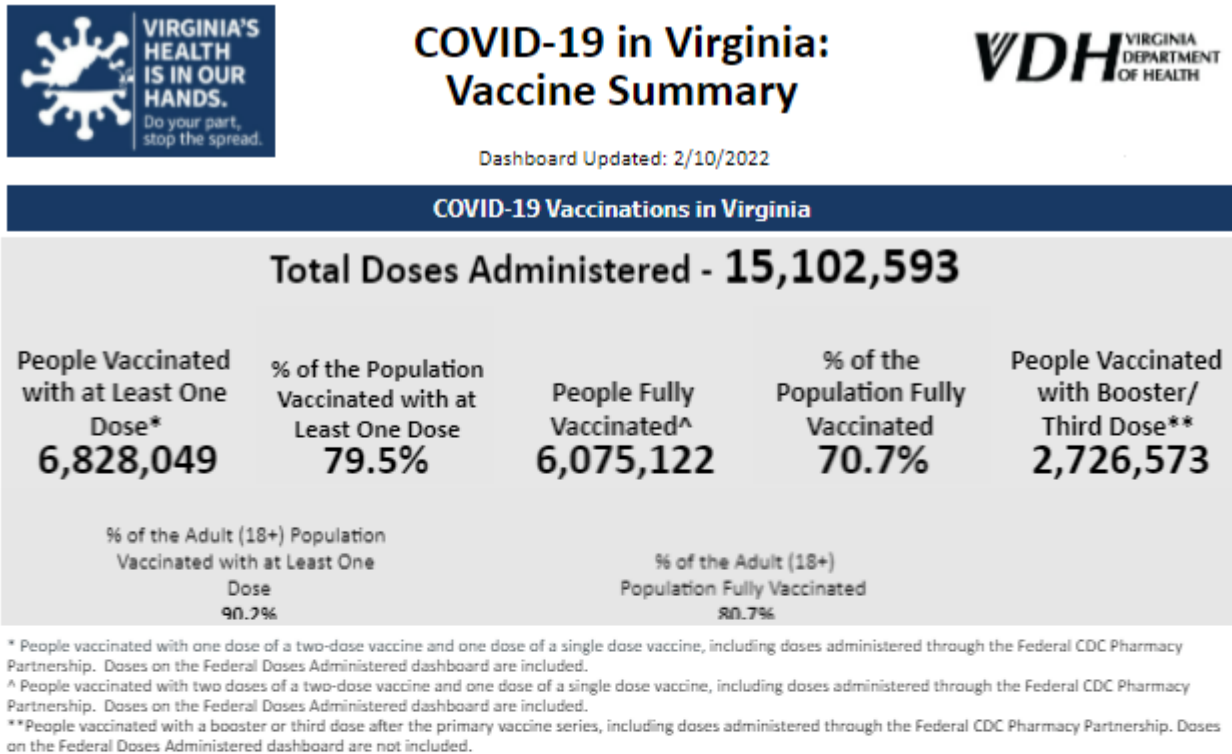
<sup>225</sup> <https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e2.htm>

<sup>226</sup> <https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/vaccine-induced-immunity.html>

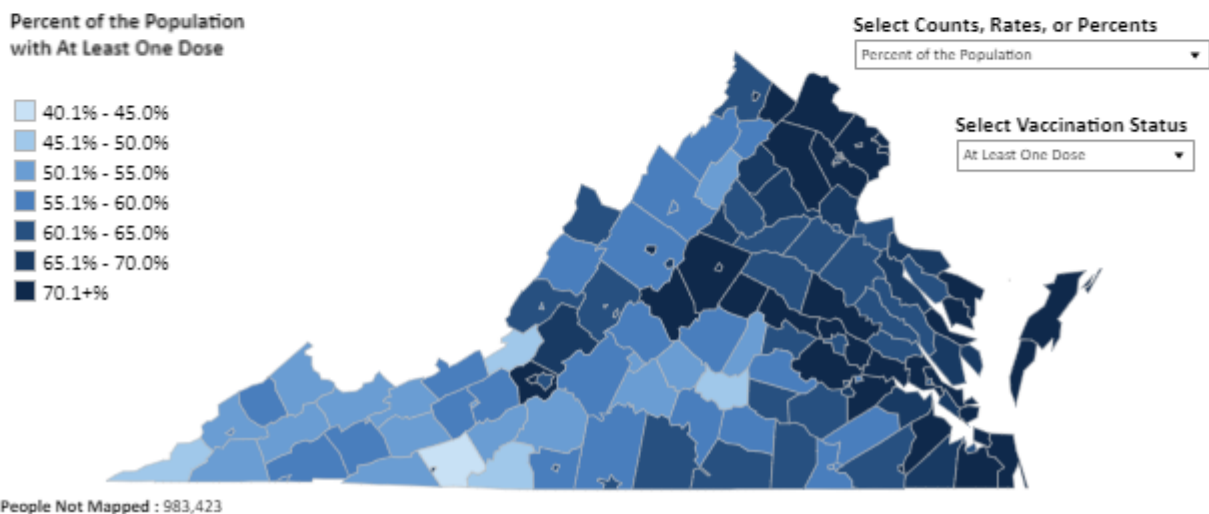
## 6. Virginia Vaccination Data

Virginia has one of the highest vaccination rates in the country (10<sup>th</sup> among states and the District of Columbia as of February 5, 2022<sup>227</sup>).

**Virginia Vaccination Summary as of February 10, 2022.<sup>228</sup>**



### People Vaccinated by Locality of Residence and Vaccination Status - Percent of the Population



<sup>227</sup> <https://www.beckershospitalreview.com/public-health/states-ranked-by-percentage-of-population-vaccinated-march-15.html>

<sup>228</sup> <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-in-virginia/covid-19-vaccine-summary/>



## 7. Community and Workplace Transmission

Although U. S. and Virginia vaccination rates and case rates are very promising and heading in the right directions, most scientific sources indicate that COVID-19 exposures in the workplace will not be going away anytime soon:

An uneven vaccine rollout could eventually make coronavirus outbreaks look a bit like measles outbreaks,...A single person carrying the measles virus can infect 12 or more people, but the spread of the virus is mostly contained through high vaccination rates. There are, however, still outbreaks in communities where immunization rates are low....Occasionally, those outbreaks spill out into the wider community....it's unlikely we'll ever eradicate the coronavirus — not any time soon, anyway. There's only one virus scientists have wiped out with a vaccine: smallpox. The World Health Organization began that effort in 1959, declaring the disease eradicated by 1980.<sup>229</sup>

CDC modeling of "Projected Incident Cases by Epidemiological Week and by Scenario for Round 5" shows a wide variance of future incident cases depending on the prevalence of vaccinations and the use of NPI (NonPharmaceutical Interventions such as face coverings and physical distancing).<sup>230</sup>

"Community transmission," also called "community spread," means people have been infected with SARS-CoV-2 in an area, including some who are not sure how or where they became infected. The level of community transmission may be obtained from the VDH website and is assessed using, at a minimum, two metrics: new COVID-19 cases per 100,000 persons in the last 7 days and percentage of positive SARS-CoV-2 diagnostic nucleic acid amplification tests in the last 7 days. For each of these metrics, CDC classifies transmission values as low, moderate, substantial, or high. If the values for each of these two metrics differ (e.g., one indicates moderate and the other low), then the higher of the two should be used for decision-making.<sup>231</sup>

CDC core indicators of and thresholds for community transmission levels of SARS-CoV-2:

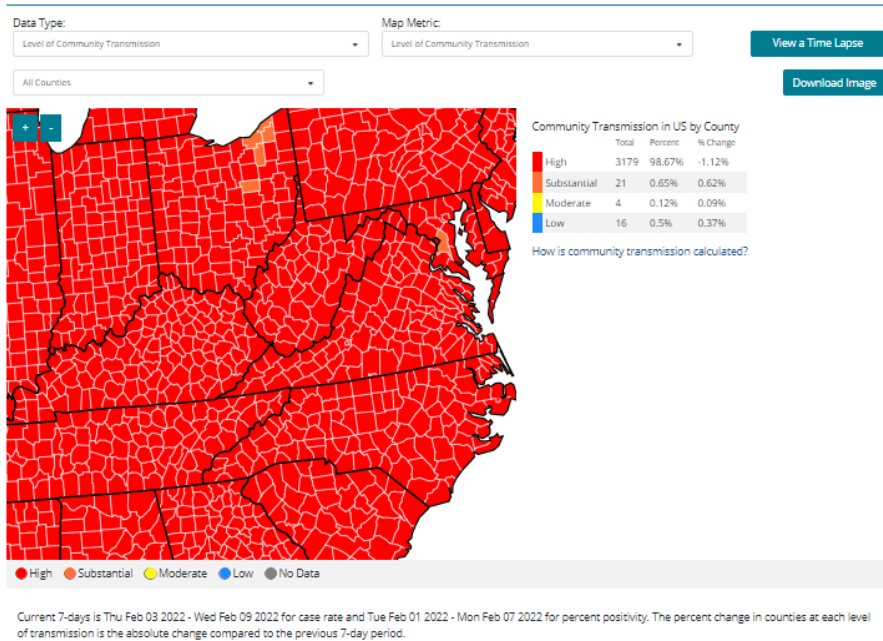
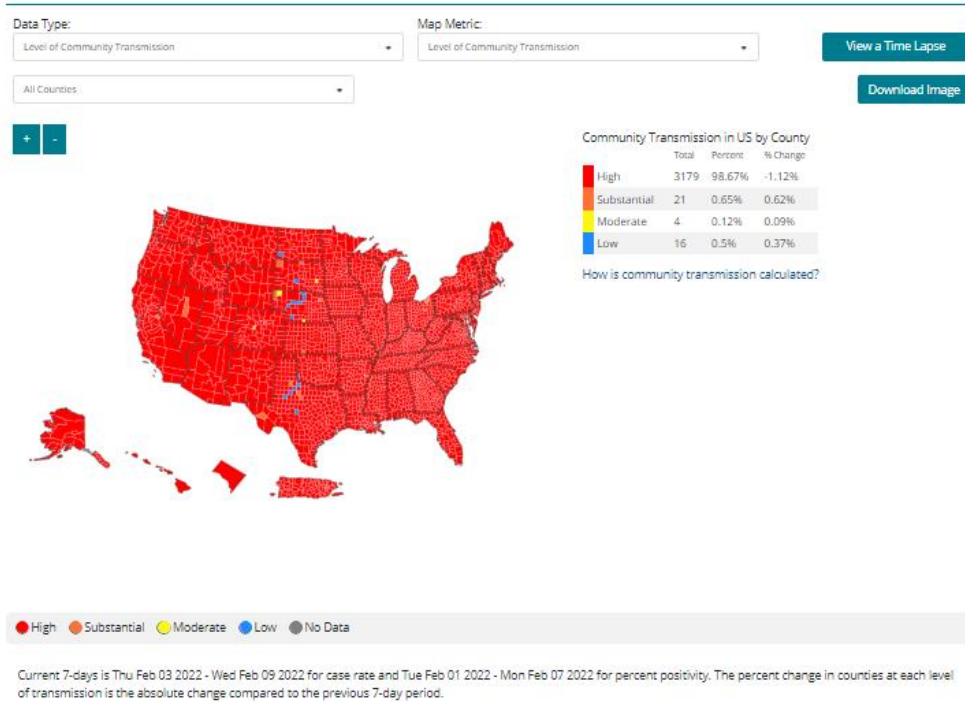
<b><u>Indicator Level</u></b>	<b><u>Low</u></b>	<b><u>Moderate</u></b>	<b><u>Substantial</u></b>	<b><u>High</u></b>
<u>New COVID-19 cases per 100,000 the last 7 days</u>	<u>0–9.99</u>	<u>10.00–49.99</u>	<u>50.00–99.99</u>	<u>≥100.00</u>
<u>Percentage of positive SARS-CoV-2 diagnostic nucleic acid amplification tests in the last 7 days</u>	<u>&lt;5.00</u>	<u>5.00–7.99</u>	<u>8.00–9.99</u>	<u>≥10.00</u>

<sup>229</sup> <https://www.sandiegouniontribune.com/news/health/story/2021-05-22/the-pandemic-will-end-but-the-coronavirus-is-probably-here-to-stay-heres-why>

<sup>230</sup> <https://covid19scenariomodelinghub.org/viz.html>

<sup>231</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/08/Revisions-to-Proposed-Amendments-to-the-FPS-for-COVID-19-16VAC25-220-Adopted-06.29.2021.pdf> and [https://www.cdc.gov/mmwr/volumes/70/wr/mm7030e2.htm#T1\\_down](https://www.cdc.gov/mmwr/volumes/70/wr/mm7030e2.htm#T1_down)

As of February 10, 2022, the overwhelming majority of US and Virginia counties and cities have high or substantial levels of community transmission.<sup>232</sup>



<sup>232</sup> <https://covid.cdc.gov/covid-data-tracker/#county-view>

Weekly VOSH COVID-19 Response report for June 11, 2021:

SUMMARY   VOSH COVID-19 RESPONSE									
Dates	4/23/21	4/30/21	5/7/21	5/14/21	5/21/21	5/28/21	6/4/21	6/11/21	Total
<b>Phone Calls</b>									
Total Phone Calls	94	69	64	110	113	92	78	70	12948
UPAs Complaints   OIS Statewide	19	8	12	7	4	1	4	1	1943 *
# Inspections	6	1	3	3	0	2	0	0	208 **
<i>Complaints, Referrals, Hospitalizations &amp; Fatalities</i>									
Inspections w/ Violations	57	57	57	58	61	63	66	70	70
Inspections Closed	99	104	105	109	117	118	119	125	125
# of Violations Issued - Final Order Cases (Willful, Serious, OTS)	148	198	198	202	207	211	221	232	232
#EEs Exposed	7065	12316	12316	12364	12519	12584	12690	12806	12806
# Hospitalizations	1	2	0	0	0	0	0	0	78 ***
Fatalities/Workplace deaths	0	1	2	0	0	1	0	0	44
# of Emails forwarded to Regional/Field Offices from MF <i>COVID-19 positive Cases Reports (ETS)   Complaints (does not include reports submitted by phone in the Regional Offices).</i>	3	3	2	2	0	2	0	0	669
# REDCAP Notifications (Launched 09/28/20)	283	267	201	126	88	93	45	48	25832
# REDCAP Notifications (3 or more cases reported)	80	50	30	33	14	14	9	5	6714
* Time Range: 01/01/2020 to 06/11/2021   UPA numbers may change as Regions update the system.									
**Inspections opened (Total: 208 - Draft + Final)									
% of COVID-19 Inspections closed - 60% (125)									
% of COVID-19 Inspections with violations - 34% (70)									
***There are Employers submitting multiple notifications. Some of the hospitalizations reported to VOSH later resulted in fatalities.									

Fatalities - Calendar Year	2020	2021	% [2021]
Total	57	24	33
COVID-19	31	13	54%
Fall	8	6	25%
Struck-By	12	4	17%
Caught-in	5	1	4%
Electrocution	1		0%

NOTE: The “REDCAP Notifications” row has statistics for employer reported outbreaks to VDH of 2 or more positive COVID-19 employee cases within a 14 day period of employees who were at the facility within the previous 14 days.

The “REDCAP Notifications (3 or more cases reported) row has statistics for employer reported outbreaks to DOLI of 3 or more positive COVID-19 employee cases within a 14 day period of employees who were at the facility within the previous 14 days. (During the week of 6/4/2021, the 5 reports of 3 or more cases to DOLI are included in the total of 48 REDCAP notifications overall).

NOTE: “UPA” means unprogrammed activity (complaints, referrals, fatalities, hospitalizations). “MF” means Occupational Safety Compliance Director Marta Fernandes

**Weekly VOSH COVID-19 Response report for February 4, 2022:**

SUMMARY   VOSH COVID-19 RESPONSE											
Dates	11/26/21	12/3/21	12/10/21	12/17/21	12/31/21	1/7/22	1/14/22	1/21/22	1/28/22	2/4/22	Total
<b>Phone Calls</b>											
<b>Total Phone Calls</b>	35	56	70	50	81	133	113	131	114	72	15483
<b>UPAs Complaints   OIS Statewide</b>	2	13	16	15	34	45	22	9	31	10	2455 *
<b># Inspections</b>	0	0	1	3	8	3	2	0	2	5	274 **
<i>Complaints, Referrals, Hospitalizations &amp; Fatalities</i>											
<i>Inspections w/ Violations</i>	106	105	105	105	106	106	107	110	112	117	117
<i>Inspections Closed</i>	185	186	187	187	187	189	190	190	191	192	192
<i># of Violations Issued - Final Order Cases (Willful, Serious, OTS)</i>	362	358	358	358	358	358	367	374	379	401	379
<i>#EEs Exposed</i>	15595	15588	15588	15588	15588	15588	16603	17907	17995	18993	18993
<i>Initial Penalty (\$)</i>	\$ 840,125	\$ 840,125	\$ 840,125	\$ 840,125	\$ 840,125	\$ 840,125	\$ 803,815	\$ 806,649	\$ 872,704	\$ 883,759	\$ 883,759
<b># Hospitalizations</b>	0	1	1	3	4	0	2	0	2	4	118 ***
<b>Fatalities/Workplace deaths</b>	0	0	0	1	5	2	1	0	1	1	61
<b># of Emails forwarded to Regional/Field Offices from MF</b>											
<b>COVID-19 positive Cases Reports (ETS)   Complaints</b> <i>(does not include reports submitted by phone in the Regional Offices).</i>	1	0	4	2	4	7	10	3	3	2	743
<b># REDCAP Notifications (Launched 09/28/20)</b>	207	461	531	641	2487	3228	3949	2728	2174	1239	52,176
<b># REDCAP Notifications (3 or more cases reported   2 or more - Since 09/10/21)</b>	133	293	347	429	1881	2457	2967	1939	1441	782	23,717

\* Time Range: 01/01/2020 to 02/04/2022 | UPA numbers may change as Regions update the system.

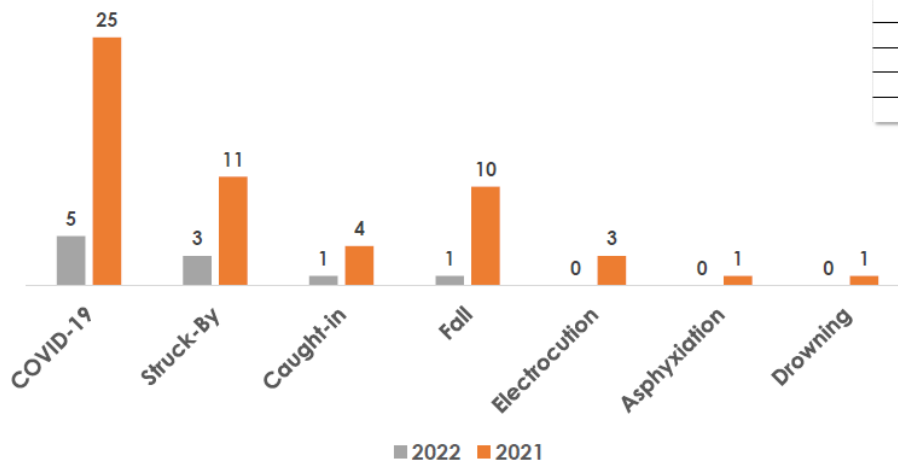
\*\*Inspections opened (Total: 274 - Draft + Final)

% of COVID-19 Inspections closed - 70% (192)

% of COVID-19 Inspections with violations - 43% (117)

\*\*\*There are Employers submitting multiple notifications. Some of the hospitalizations reported to VOSH later resulted in fatalities.

**CY 22 vs 21 | Fatalities – 02/04/22**



Fatalities Calendar Year	2020	2021	2022
<b>Total</b>	57	55	10
<b>COVID-19</b>	31	25	5
<b>Struck-By</b>	12	11	3
<b>Caught-in</b>	5	4	1
<b>Fall</b>	8	10	1
<b>Electrocution</b>	1	3	0
<b>Asphyxiation</b>	0	1	0
<b>Drowning</b>	0	1	0

E. Virginia VWCC and VOSH Statistics.

1. Virginia Workers Compensation Statistics as of May 31, 2020.<sup>233</sup>

Since February, 2020, the Virginia Workers' Compensation Commission received 3,154 COVID-19 related claims as of May 31, 2020 in a wide variety of occupational settings, representing a nearly 44.5% increase in claims over a 20 day period since May 11, 2020 (2,182 claims).

NOTE 1: Individual private self-insurers are not included in these statistics.

NOTE 2: Most but not all claims are assigned a NAICS code (North American Industrial Classification Code). As of May 31, 2020, 18.4 % (581 claims) of claims were not assigned a NAICS code. A cursory review of the non-NAICS claims revealed that a significant number were in healthcare or long term care environments.

NOTE 3: Workers classified as independent contractors are not included in these statistics. There is a practice known as "misclassification"<sup>234</sup> of employees as independent contractors that has been found to be prevalent in certain industries<sup>235</sup> in Virginia that impacts the ability to obtain accurate workers' compensation data.

2. Virginia Workers Compensation Statistics as of November 30, 2020.

Since February, 2020, the Virginia Workers' Compensation Commission received 9,773 COVID-19 related claims as of November 30, 2020.

3. Virginia Workers Compensation Statistics as of June 15, 2021.

Since February, 2020, the Virginia Workers' Compensation Commission received 15,770 COVID-19 related claims as of June 15, 2021.

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<sup>233</sup> Virginia Department of Human Resources Workers' Compensation Statistics as of May 31, 2020.

As of May 31, 2020, the Virginia Department of Human Resource Management (DHRM) Workers' Compensation Division has received 42 claims involving COVID-19 exposure. Agencies involved included: Library of Virginia, State Corporation Commission, Virginia Alcoholic Beverage Control Authority, Virginia Commonwealth University, Virginia Department of Agriculture and Consumer Services, Virginia Department of Behavioral Health and Developmental Services, Virginia Department of Corrections, Virginia Department of Forestry, Virginia Department of Game and Inland Fisheries, Virginia Department of Health, Virginia Department of Juvenile Justice, Virginia Department of Military Affairs, Virginia Department of Motor Vehicles, and Virginia State Police.

<sup>234</sup> <https://www.doli.virginia.gov/vosh-programs/misclassification-in-the-workplace/>

<sup>235</sup> [http://www.dpor.virginia.gov/uploadedFiles/MainSite/Content/Licensees/JLARC\\_Employee%20Misclassification%20Report%20\(2012\).pdf](http://www.dpor.virginia.gov/uploadedFiles/MainSite/Content/Licensees/JLARC_Employee%20Misclassification%20Report%20(2012).pdf)

VWCC Reports Thirty-three (33) Employee Deaths as of June 15, 2021

**4. Virginia Workers Compensation Statistics as of January 24, 2022.**

Since February, 2020, the Virginia Workers' Compensation Commission received 20,266 COVID-19 related claims as of January 24, 2022.

**VWCC Reports forty-nine (49) COVID-19 associated Employee Deaths as of January 24, 2022.**

3. Deaths, Hospitalizations, and Employee Complaints reported to the Virginia Department of Labor and Industry.

Pursuant to Va. Code §40.1-51.1.D,<sup>236</sup> employers must report employee deaths and hospitalizations to DOLI.

NOTE: The VOSH Program has investigated an average of 37 annual work-related<sup>237</sup> employee deaths over the last five calendar years. The 31 COVID-19 death notifications in 2020 would represent 84% of the deaths investigated by VOSH in an average year.

The 13 COVID-19 death notifications in 2021 would represent 35% of the deaths investigated by VOSH in an average year.

**Total fatalities and hospitalizations related to COVID-19 reported to VOSH through February 4, 2022 are 61 and 118 respectively.**

4. VOSH Inspection and Citation History.

NOTE: See ATTACHMENT F for VOSH Investigation and Inspection Procedures.

See ATTACHMENT H for a list of VOSH Violations Issued in COVID-19 Cases Opened from February 1, 2020 to January 21, 2022.

**Inspections for All COVID-19 Inspections through January 28, 2022:**

Inspections in Progress	25
Inspections Closed with No Violations	106

<sup>236</sup> <https://law.lis.virginia.gov/vacode/40.1-51.1/>

<sup>237</sup> NOTE: The VOSH Program will ultimately make a determination as to whether an employee's death due to COVID-19 was work-related or not. An infectious disease such as COVID-19 presents additional difficulties to investigators when it comes to determining work-relatedness.

Inspections with Violations 102

Total Inspections 233<sup>238</sup>

Violation Types (current)

Serious	204	(61.8%)
Other-than-serious	119	(36.1%)
Willful	7	(2.1%)
Repeat	0	(0%)

Total Violations 330<sup>239</sup>

Initial Penalties Issued: \$781,010.00

F. Workplace exposures to SARS-CoV-2 and COVID-19 no longer constitute a grave danger to employees and employers in Virginia pursuant to Va. Code §40.1-22(6a).

1. Statutory Construction of Va. Code §40.1-22(6a).

Va. Code §40.1-22(6) provides the Board procedures for adopting an Emergency Temporary Standard and Permanent Standard:

§ 40.1-22. Safety and Health Codes Commission continued as Safety and Health Codes Board.

....

(6) Chapter 40 (§ 2.2-4000 et seq.) of Title 2.2 shall apply to the adoption of rules and regulations under this section and to proceedings before the Board.

(6a) The Board shall provide, without regard to the requirements of Chapter 40 (§ 2.2-4000 et seq.) of Title 2.2, for an emergency temporary standard to take immediate effect upon publication in a newspaper of general circulation, published in the City of Richmond, Virginia, **if it determines that employees are exposed to grave danger from exposure** to substances or agents determined to be toxic or physically harmful or **from new hazards**, and that such emergency standard is necessary to protect employees from such danger. The publication mentioned herein shall constitute notice that the Board intends to adopt such standard within a period of six months. **The Board by similar publication shall prior to the expiration of six months give notice of the time and date of, and conduct a hearing on, the adoption of a permanent standard.** The emergency temporary standard shall expire within six months or when superseded by a permanent standard, whichever occurs first, or when repealed by the Board.

(Emphasis added).

<sup>238</sup> OSHA Information System Scan Summary Report for COVID-19 Inspections From January 1, 2020 to January 28, 2022

<sup>239</sup> OSHA Information Violation Detail Data Report for COVID-19 Violation Issued From January 1, 2020 to January 28, 2022

The term “grave danger” is not defined in the statute, but has been addressed in federal court cases surrounding federal OSHA’s similar statutory requirement in the OSH Act, §6(c), 29 U.S.C. § 655(c)<sup>240</sup> (See case law discussion above).

From *International Union, United Auto., Aerospace, and Agr. Implement Workers of America, UAW v. Donovan*, 590 F. Supp. 747 (D.D.C. 1984), where OSHA declined to promulgate an ETS on formaldehyde in the workplace. The court action was brought in district court challenging decision under the federal APA:

“The ‘grave danger’ and ‘necessity’ findings must be based on evidence of actual, prevailing industrial conditions, i.e., current levels of employee exposure to the substance in question.” *Id.* at 751.

The Court also agreed with the defendant's position that “A danger rises to the level of ‘grave’ when, based on actual workplace conditions, employees are faced with a risk of contracting serious disease which is substantially greater than a ‘significant risk [a finding by OSHA of “significant risk of material health impairment”<sup>241</sup> to employees from an occupational health hazard is necessary to support the adoption of a health standard]. *Id.* at 755.

## **2. Finding that SARS-CoV-2 and COVID-19 no longer constitute a grave danger to employees in Virginia that necessitates the continued existence of the Virginia Standard to protect employees from such danger.**

Staff of the Department of Labor and Industry recommends that the Virginia Safety and Health Codes Board make a finding that there is no longer a continued need for the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus that Causes COVID-19, 16VAC25-220, based on emerging scientific and medical evidence that the current widespread variants of the virus no longer constitute a grave danger to employees in the workplace under Va. Code §40.1-22(6a), and as discussed in the U. S. Supreme Court’s decision in *National Federation of*

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<sup>240</sup> [https://www.osha.gov/laws-regs/oshact/section\\_6](https://www.osha.gov/laws-regs/oshact/section_6)

<sup>241</sup> “Before OSHA promulgates any permanent health or safety standard, it must make a “threshold finding” that “it is at least more likely than not that long-term exposure” to the regulated substance at current exposure levels “presents a significant risk of material impairment” that “can be eliminated or lessened by a change in practices.” *Industrial Union Department, AFLCIO v. American Petroleum Institute (Benzene)*, 448 U.S. 607, 642, 653 (1980) (plurality) The Supreme Court has provided the guidepost that OSHA follows: a one-in-a-thousand risk that exposure to the regulated substance will be fatal can reasonably be considered significant but a one-in-a-billion risk is likely not significant. *Id.* at 655–56.

OSHA must support its significant risk finding with substantial evidence. *Id.* at 653. Although it must rely on a “body of reputable scientific thought” when assessing risk, *id.* at 656, OSHA does not have to “calculate the exact probability of harm” or support its finding “with anything approaching scientific certainty,” *id.* at 655–56. OSHA is entitled to “some leeway” when its “findings must be made on the frontiers of scientific knowledge.” *Id.* at 656. We “do not reweigh the evidence and come to our own conclusion[s]; rather, we assess the reasonableness of OSHA’s conclusion.” *Public Citizen Health Research Group v. Tyson (Ethylene Oxide)*, 796 F.2d 1479, 1495 (D.C. Cir. 1986).

*North America’s Building Trades Unions v. Occupational Safety and Health Administration and United States Department of Labor*, No. 16-1105, [https://www.cadc.uscourts.gov/internet/opinions.nsf/03C747A5AB141C90852581FE0055A642/\\$file/16-1105-1710179.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/03C747A5AB141C90852581FE0055A642/$file/16-1105-1710179.pdf)



Independent Businesses, et al., Applicants v. Department of Labor, Occupational Safety and Health Administration, et al.<sup>242</sup>

NOTE: Please note that by recommending the Board make a finding that SARS-CoV-2 and COVID-19 work-related hazards no longer constitute a grave danger to employees, the Department is not saying that the virus does not constitute a "significant risk" to employees, which would be the basis for adopting an OSHA standard. However, if the Board wished to undertake such a rulemaking, it would have to proceed under the requirements of Va. Code §40.1-22(5) and -22(6)<sup>243</sup> and the notice and comment procedures of the Virginia Administrative Process Act.<sup>244</sup>

The Board has previously found that the Alpha variants presented a grave danger to employees in support of its adoption of the original Virginia Emergency Temporary Standard (Virginia ETS) effective July 27, 2020 and the permanent standard adopted effective January 27, 2021. The Board also found that the emerging Delta variant presented a grave danger to employees in support of its adoption of amendments to the permanent standard effective September 8, 2021. At those times, the Board was presented with supporting information including, but not limited to:

- that complications from the Alpha and Delta variants included "pneumonia and trouble breathing, organ failure in several organs, heart problems, a severe lung condition that causes a low amount of oxygen to go through your bloodstream to your organs (acute respiratory distress syndrome), blood clots, acute kidney injury, additional viral and bacterial infections, permanent long term injury to the body, and death."<sup>245</sup>
- that the Alpha variant was highly transmissible
- no vaccines were available during the date range of the Virginia ETS
- the infection fatality rate (IFR) for the Alpha variant was significantly higher than that posed by seasonal influenza<sup>246</sup>
- studies indicated that the Delta variant was more transmissible than the Alpha variant<sup>247</sup>
- studies indicated that the Delta variant was linked to higher risk of hospitalizations than the Alpha variant<sup>248</sup>

As is supported by the information presented below and in the administrative record presented to the Board, based on emerging scientific and medical evidence, in contrast to the grave danger posed by the Alpha and Delta variants, it is the Department's position that it appears that there is no longer a basis for concluding that the current widespread variant of the virus (Omicron) constitutes a grave danger to employees in the workplace:

<sup>242</sup> [https://www.supremecourt.gov/opinions/21pdf/21a244\\_hgci.pdf](https://www.supremecourt.gov/opinions/21pdf/21a244_hgci.pdf)

<sup>243</sup> <https://law.lis.virginia.gov/vacode/40.1-22/>

<sup>244</sup> <http://register.dls.virginia.gov/process.shtml>

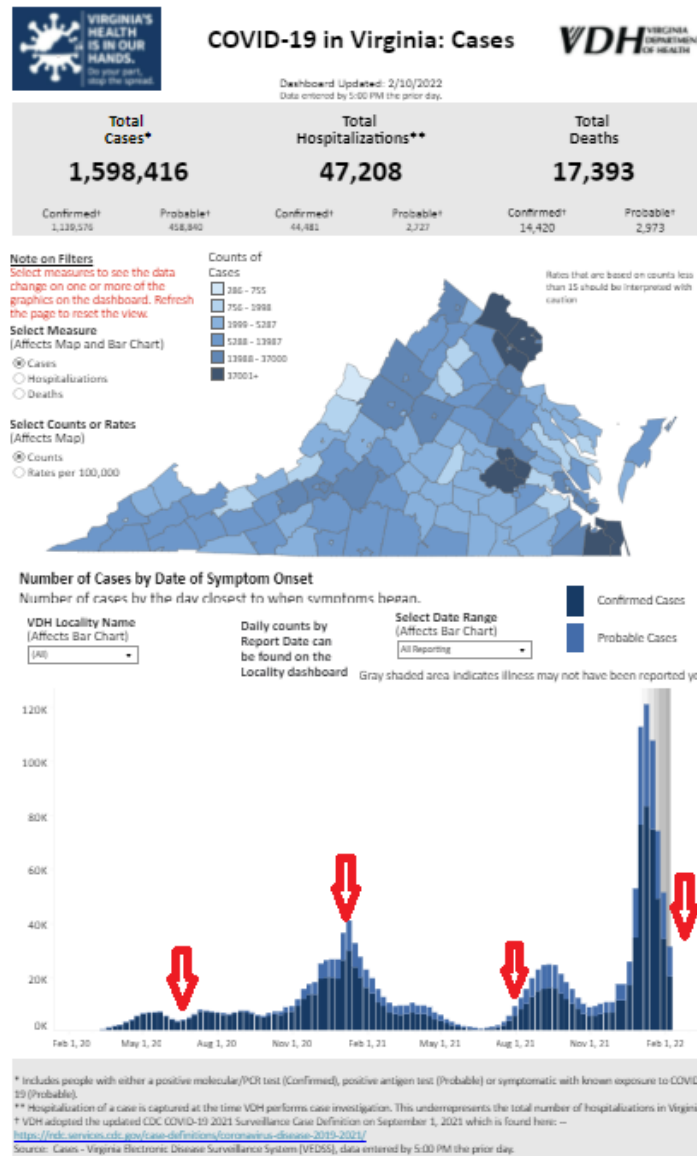
<sup>245</sup> Page 208, [https://townhall.virginia.gov/L/GetFile.cfm?File=meeting\92\32907\Agenda\\_DOLI\\_32907\\_v6.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=meeting\92\32907\Agenda_DOLI_32907_v6.pdf)

<sup>246</sup> *Id.* at 62-63.

<sup>247</sup> *Id.* at 81.

<sup>248</sup> *Id.* at page 82.

- the Omicron variant is more transmissible than the Delta variant and quickly replaced the Delta variant as the dominant cause of infections in the United States and Virginia (the first case of Omicron in Virginia was reported December 9, 2021<sup>249</sup> and as of January 7, 2022, Omicron accounted for 94% of new cases in Virginia<sup>250 251</sup>
- the extremely rapid spread of the Omicron variant combined with its higher transmissibility rate resulted in Virginia daily case reported peaks 300-400% higher statewide than those for the Alpha and Delta variants (**February 10, 2022 data**)<sup>252</sup>.



249 <https://www.usnews.com/news/best-states/virginia/articles/2021-12-09/first-case-of-omicron-variant-confirmed-in-virginia>

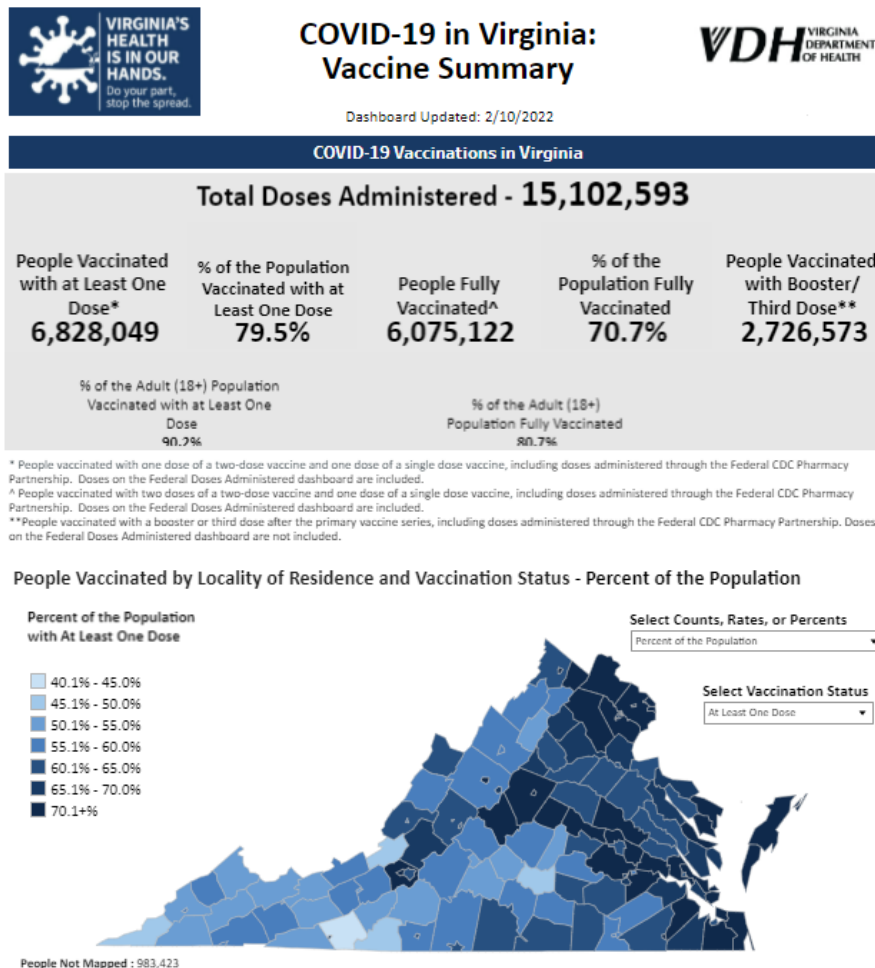
250 <https://www.vdh.virginia.gov/coronavirus/2022/01/07/uva-covid-19-modeling-weekly-update-42/>

251 <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-data-insights/variants/>

252 <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-in-virginia/covid-19-in-virginia-cases/>

- The CDC reports that "Current vaccines are expected to protect against severe illness, hospitalizations, and deaths due to infection with the Omicron variant. However, breakthrough infections in people who are fully vaccinated are likely to occur. With other variants, like Delta, vaccines have remained effective at preventing severe illness, hospitalizations, and death. The recent emergence of Omicron further emphasizes the importance of vaccination and boosters."<sup>253</sup>
- The Omicron's variant's extremely rapid displacement of the Delta variant in Virginia has essentially eliminated the grave dangers associated with the Delta variant, particularly for vaccinated workers.
- Virginia has one of the highest vaccination rates in the country (10<sup>th</sup> among states and the District of Columbia as of February 5, 2022<sup>254</sup>) with 79.0% of the population vaccinated with at least one dose and 70.2% of the population fully vaccinated:

### Virginia Vaccination Summary as of February 10, 2022.<sup>255</sup>



<sup>253</sup> [https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html?s\\_cid=11734:omicron%20vaccine:sem.ga:p:RG:GM:gen:PTN:FY22](https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html?s_cid=11734:omicron%20vaccine:sem.ga:p:RG:GM:gen:PTN:FY22)

<sup>254</sup> <https://www.beckershospitalreview.com/public-health/states-ranked-by-percentage-of-population-vaccinated-march-15.html>

<sup>255</sup> <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-in-virginia/covid-19-vaccine-summary/>

- NEJM.com, New England Journal of Medicine, February 9, 2022, "Protection against the Omicron Variant from Previous SARS-CoV-2 Infection."<sup>256</sup>

"Natural infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) elicits strong protection against reinfection with the B.1.1.7 (alpha),<sup>1</sup> B.1.351 (beta),<sup>1</sup> and B.1.617.2 (delta)<sup>3</sup> variants. However, the B.1.1.529 (omicron) variant harbors multiple mutations that can mediate immune evasion. We estimated the effectiveness of previous infection in preventing symptomatic new cases caused by omicron and other SARS-CoV-2 variants in Qatar. In this study, we extracted data regarding coronavirus disease 2019 (Covid-19) laboratory testing, vaccination, clinical infection data, and related demographic details from the national SARS-CoV-2 databases, which include all results of polymerase-chain-reaction (PCR) testing, vaccinations, and hospitalizations and deaths for Covid-19 in Qatar since the start of the pandemic.

....

The effectiveness of previous infection in preventing reinfection was estimated to be 90.2% (95% confidence interval [CI], 60.2 to 97.6) against the alpha variant, 85.7% (95% CI, 75.8 to 91.7) against the beta variant, 92.0% (95% CI, 87.9 to 94.7) against the delta variant, and 56.0% (95% CI, 50.6 to 60.9) against the omicron variant (Table 1). Sensitivity analyses confirmed the study results, as expected for this study design, which is robust regardless of the approach that is used to control for vaccine-induced immunity.<sup>4</sup> An additional analysis that was adjusted for the interval since previous infection also confirmed the study results (Table S4).

Among the patients with reinfection, progression to severe Covid-19 occurred in one patient with the alpha variant, in two patients with the beta variant, in no patients with the delta variant, and in two patients with the omicron variant. None of the reinfections progressed to critical or fatal Covid-19. The effectiveness with respect to severe, critical, or fatal Covid-19 was estimated to be 69.4% (95% CI, -143.6 to 96.2) against the alpha variant, 88.0% (95% CI, 50.7 to 97.1) against the beta variant, 100% (95% CI, 43.3 to 100) against the delta variant, and 87.8% (95% CI, 47.5 to 97.1) against the omicron variant. (For the delta variant, the calculation of the 95% confidence interval is clarified in a footnote in Table 1.) Limitations of the estimations (e.g., the relatively young population of Qatar) are discussed in Section S1.

Overall, in a national database study in Qatar, we found that the effectiveness of previous infection in preventing reinfection with the alpha, beta, and delta variants of SARS-CoV-2 was robust (at approximately 90%), findings that confirmed earlier estimates.<sup>1-3</sup> Such protection against reinfection with the omicron variant was lower (approximately 60%) but still considerable. In addition, the protection of previous infection against hospitalization or death caused by reinfection appeared to be robust, regardless of variant."

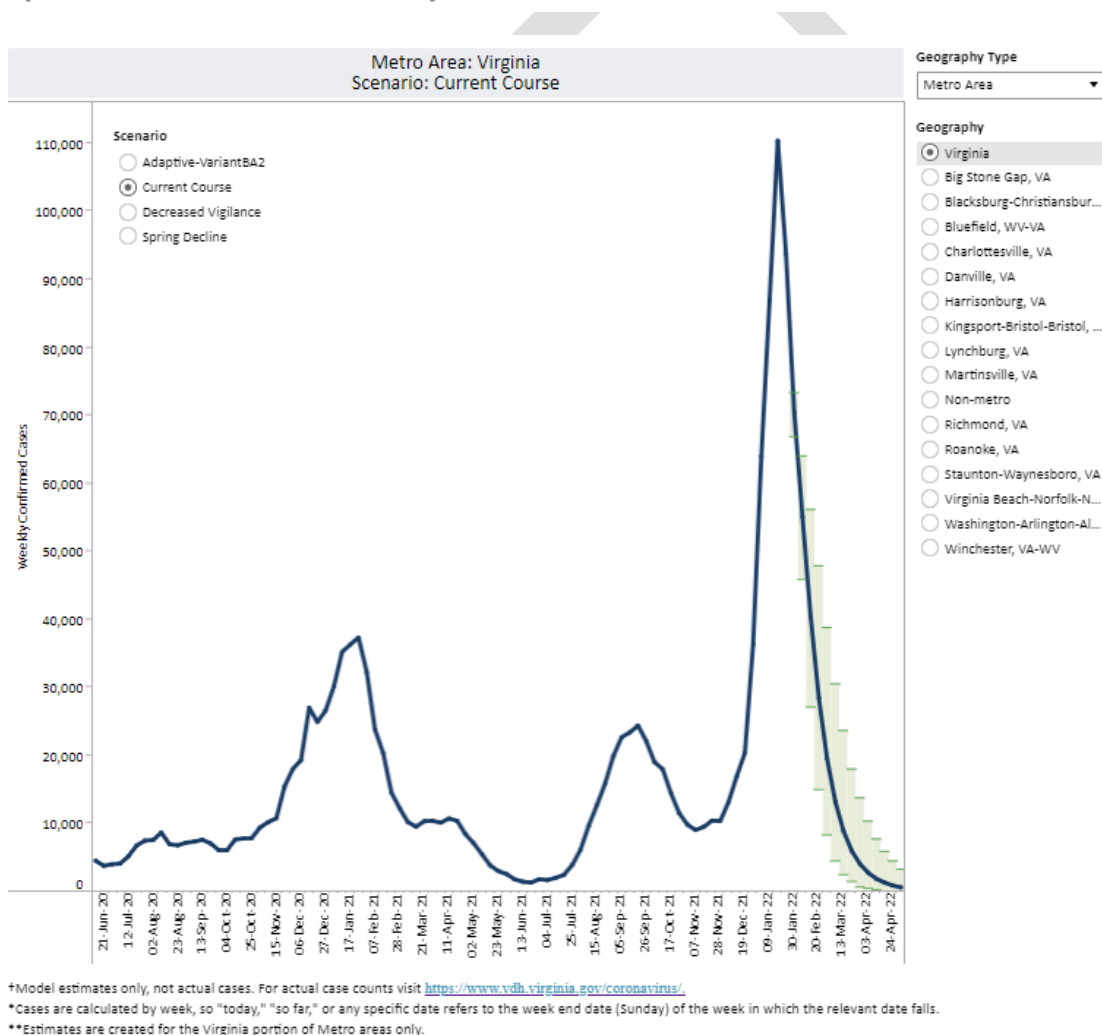
- Omicron variant infections are rapidly decreasing in Virginia and the trend is expected to continue in the near term through April, 2022;

<sup>256</sup> <https://www.nejm.org/doi/full/10.1056/NEJMc2200133>

## Omicron Modeling in Virginia: UVA [University of Virginia] COVID-19 Model Projections, February 2, 2022.<sup>257</sup>

The COVID-19 pandemic remains a public health emergency. The future course of COVID-19 depends on all of us. In Virginia, case growth is surging as the Omicron variant moves into Virginia. Based on local conditions and trends, the model estimates new confirmed cases already peaked at 110,225 per week during the week ending January 16, 2022. However, viruses are difficult to forecast and this is just one potential path. One outbreak - or one outbreak avoided - can set us down very different paths. The 95% confidence intervals in the chart below shows the range of potential paths the model currently projects.

Models can help us understand the potential course of COVID-19, but they are not crystal balls. Most models struggle to project policy changes, changes in human behavior, or new or rare events. Seasons, vaccines, new variants or policies may affect COVID-19 spread in ways that are difficult to predict. To provide some insight, the UVA team includes several scenarios. The "Omicron" scenario shows how Omicron may influence cases. The "Surge Control" scenario shows what may occur if we reduce transmission rates by 25%. The "Holiday" scenarios add the potential impact of cooler weather and the holidays.



- Early scientific studies (some of which are peer reviewed and some that have not yet undergone peer review) and medical information suggests that the

<sup>257</sup> <https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-data-insights/uva-covid-19-model/>

Omicron variant is likely less severe than infection with prior variants, particularly so for vaccinated and boosted individuals:

- CDC.gov, December 20, 2021, "Potential Rapid Increase of Omicron Variant Infections in the United States." "At present, early data suggest Omicron infection might be less severe than infection with prior variants; however, reliable data on clinical severity remain limited."<sup>258</sup>
- Imperial College London, December 22, 2021, "Report 50 - Hospitalisation risk for Omicron cases in England"<sup>259</sup>

Researchers in England, Scotland, and South Africa have found the risk of admission to hospital to be between 15% and 80% lower with omicron than the delta variant. The findings have not been peer reviewed, and all three studies accept limitations in the research, but the unanimity of the findings has been welcomed. "In my view, there is now solid reason to favour a more optimistic outcome of omicron in the UK than was feared," said James Naismith, director of the Rosalind Franklin Institute at the University of Oxford.<sup>260</sup>

- Medrxiv, January 1, 2022, "Epidemiological Characteristics and Severity of Omicron Variant Cases in the APHP Critical Care Units."<sup>261</sup>

Results. On January 18, 45% of patients in the ICU and 63.8% of patients in conventional hospital units were infected with the Omicron variant ( $p < 0.001$ ). The risk of ICU admission with Omicron was reduced by 64% than with Delta (9.3% versus 25.8% of cases, respectively,  $p < 0.001$ ). In critically ill patients, 400 had the Delta variant, 229 the Omicron variant, 98 had an uninformative variant screening test and 161 did not have information on variant screening test. 747 patients (84.1%) were admitted for pneumonia. Compared to patients infected with Delta, Omicron patients were more vaccinated ( $p < 0.001$ ), even with 3 doses, more immunocompromised ( $p < 0.001$ ), less admitted for pneumonia ( $p < 0.001$ ), especially when vaccinated (62.1% in vaccinated versus 80.7% in unvaccinated,  $p < 0.001$ ), and less invasively ventilated ( $p = 0.02$ ). Similar results were found in the subgroup of pneumonia but Omicron cases were older. Unadjusted in-ICU mortality did not differ between Omicron and Delta cases, neither in the overall population (20.0% versus 27.9%,  $p = 0.08$ ), nor in patients with pneumonia (31.6% versus 29.7%, respectively) where adjusted in-ICU mortality did not differ according to the variant (HR 1.43 95%CI [0.89;2.29],  $p = 0.14$ ).

Conclusion and relevance. Compared to the Delta variant, the Omicron variant is less likely to result in ICU admission and less likely to be

<sup>258</sup> <https://www.cdc.gov/coronavirus/2019-ncov/science/forecasting/mathematical-modeling-outbreak.html>

<sup>259</sup> <https://www.imperial.ac.uk/mrc-global-infectious-disease-analysis/covid-19/report-50-severity-omicron/>

<sup>260</sup> <https://www.bmj.com/content/375/bmj.n3144>

<sup>261</sup> <https://www.medrxiv.org/content/10.1101/2022.01.25.22269839v1>

associated with pneumonia. However, when patients with the Omicron variant are admitted for pneumonia, the severity seems similar to that of patients with the Delta variant, with more immunocompromised and vaccinated patients and no difference in adjusted in-ICU mortality. Further studies are needed to confirm our results.

- UPI.com, January 3, 2022, Omicron COVID-19 causes less lung damage in animal studies:<sup>262</sup>

"The Omicron variant of COVID-19 may cause less severe illness than earlier strains of the virus because it attacks the lungs differently, a study<sup>263</sup> posted online Monday found.

In research with mice and hamsters, animals infected with the Omicron variant of the virus had less damage in their upper and lower respiratory tracts, said researchers from the United States and Japan.

In addition, the strain that first emerged in South Africa in late November has a "lower viral burden" in the nose, throat and lungs, which essentially means there is less virus in these locations and less chance for spread to other parts of the body, they said.

The mice and hamsters in the study, which the researchers intentionally infected with the Omicron variant for the experiments, showed evidence of "weakened" infections in the lungs and lost less weight than rodents sickened with other strains, a sign of less severe illness, according to the researchers."

- Medrxiv.org, January 11, 2022, "Clinical outcomes among patients infected with Omicron (B.1.1.529) SARS-CoV-2 variant in southern California."<sup>264</sup>

NOTE: This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.

"The Omicron (B.1.1.529) variant of SARS-CoV-2 has rapidly achieved global dissemination, accounting for most infections in the United States by December 2021. Risk of severe outcomes associated with Omicron infections, as compared to earlier SARS-CoV-2 variants, remains unclear. ....

We analyzed clinical and epidemiologic data from cases testing positive for SARS-CoV-2 infection within the Kaiser Permanente Southern California healthcare system from November 30, 2021 to January 1, 2022....

<sup>262</sup> [https://www.upi.com/Health\\_News/2022/01/03/covid-19-omicron-lung-damage-animal-studies/6811641220695/](https://www.upi.com/Health_News/2022/01/03/covid-19-omicron-lung-damage-animal-studies/6811641220695/)

<sup>263</sup> <https://www.researchsquare.com/article/rs-1211792/v1>; <https://www.nature.com/articles/s41586-022-04441-6>

<sup>264</sup> <https://www.medrxiv.org/content/10.1101/2022.01.11.22269045v1>

## Results

Our analyses included 52,297 cases with SGTF (Omicron) and 16,982 cases with non-SGTF (Delta [B.1.617.2]) infections, respectively. Hospital admissions occurred among 235 (0.5%) and 222 (1.3%) of cases with Omicron and Delta variant infections, respectively. Among cases first tested in outpatient settings, the adjusted hazard ratios for any subsequent hospital admission and symptomatic hospital admission associated with Omicron variant infection were 0.48 (0.36-0.64) and 0.47 (0.35-0.62), respectively. Rates of ICU admission and mortality after an outpatient positive test were 0.26 (0.10-0.73) and 0.09 (0.01-0.75) fold as high among cases with Omicron variant infection as compared to cases with Delta variant infection. Zero cases with Omicron variant infection received mechanical ventilation, as compared to 11 cases with Delta variant infections throughout the period of follow-up (two-sided  $p < 0.001$ ). Median duration of hospital stay was 3.4 (2.8-4.1) days shorter for hospitalized cases with Omicron variant infections as compared to hospitalized patients with Delta variant infections, reflecting a 69.6% (64.0-74.5%) reduction in hospital length of stay.

Conclusions During a period with mixed Delta and Omicron variant circulation, SARS-CoV-2 infections with presumed Omicron variant infection were associated with substantially reduced risk of severe clinical endpoints and shorter durations of hospital stay."

- ECDC.europa.eu, European Centre for Disease Prevention and Control, January 14, 2022, "Weekly epidemiological update: Omicron variant of concern (VOC) – week 2 (data as of 13 January 2022) EU/EEA."<sup>265</sup>

### Disease severity related to Omicron

Preliminary evidence suggests that infections with the Omicron VOC have a less severe clinical presentation than Delta. However, it is still too early to make a complete assessment of Omicron's severity.

Not peer-reviewed [data](#)<sup>266</sup> from South Africa show that despite the higher number of SARS-CoV-2 cases during the Omicron wave, the hospital admission rates were lower (4.9%) than in the previous waves (Beta 18.9%, Delta 13.7%). Likewise, fewer patients had severe disease (28.8%) than the Beta (60.1%) and Delta (66.8%) waves. However, it is important to consider that 73% of the adult population in the area had already been infected with SARS-CoV-2 before Omicron's dominance, and that incidental positive patients due to screening were also counted in

<sup>265</sup> <https://www.ecdc.europa.eu/en/news-events/weekly-epidemiological-update-omicron-variant-concern-voc-week-2-data-13-january-2022>

<sup>266</sup> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3996320](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3996320)



the Omicron cases. Therefore, no conclusion on the inherent severity of Omicron can be made from these data.

The UKHSA shared a [report](#) estimating that Omicron-infected individuals have 50% lower risk to visit or to be admitted to the hospital than people with infection due to Delta (hazard ratio 0.53, 95% CI 0.50-0.57). They also found a 65% lower hospitalisation risk for Omicron cases who had received 2 doses of a vaccine and 81% reduction with 3 doses, compared to unvaccinated.

Another [study](#)<sup>267</sup> from Scotland used the national data of individuals with symptomatic Omicron infection and identified a reduced hospitalisation risk compared to Delta cases, while the rate of possible reinfection for Omicron was 10 times that of Delta. Vaccinated individuals with the third vaccine dose had a 57% (95% CI 55-60) lower risk to experience symptoms following Omicron infection.

A recent Canadian [report](#)<sup>268</sup> confirmed low hospital admission rates (0.3%) and case fatality (<0.1%) for Omicron cases. Shorter median length of hospital stay and reduced need for respiratory support than the previous variants were also reported in another [publication](#)<sup>269</sup> (not peer-reviewed) from Texas.

Similar findings were published in a [preprint](#)<sup>270</sup> from Southern California where they also report reduced risk of hospital/ICU admission and mortality for Omicron cases compared to Delta. The median hospital stay duration for symptomatic patients was approximately 70% (~3.4 days) shorter for Omicron infected cases. The added value of this study is the contemporaneous comparison of Omicron and Delta variants co-circulating among the same exposed population.

However, most of studies do not account for waning immunity, neither for the likely large amount of under-ascertained reinfections. This could lead to an overestimation of the decrease in severity.

- CDC.gov, January 25, 2022, Morbidity and Mortality Weekly Report (MMWR), "Trends in Disease Severity and Health Care Utilization During the Early Omicron Variant Period Compared with Previous SARS-CoV-2 High Transmission Periods — United States, December 2020–January 2022."

"Emergence of the Omicron variant in December 2021 led to a substantial increase in COVID-19 cases in the United States. Although the rapid rise in cases has resulted in the highest number of COVID-19–associated ED visits and hospital admissions since the beginning of the pandemic, straining the health care system, disease severity appears to be lower than compared with

<sup>267</sup> <https://www.research.ed.ac.uk/en/publications/severity-of-omicron-variant-of-concern-and-vaccine-effectiveness->

<sup>268</sup> <https://www.publichealthontario.ca/-/media/documents/ncov/epi/covid-19-weekly-epi-summary-report.pdf?la=en>

<sup>269</sup> <https://www.medrxiv.org/content/10.1101/2021.12.30.21268560v2>

<sup>270</sup> <https://www.medrxiv.org/content/10.1101/2022.01.11.22269045v1>

previous high disease-transmission periods. In addition to lower ratios of ED visits, hospitalizations, and deaths to cases observed during the Omicron period, disease severity indicators were also lower among hospitalized COVID-19 patients, including ICU admission, receipt of IMV, length of stay, and in-hospital death. This apparent decrease in disease severity is likely related to multiple factors, most notably increases in vaccination coverage among eligible persons, and the use of vaccine boosters among recommended subgroups."<sup>271</sup>

#### G. Legal Protections for Employees Remaining if the Virginia Standard is Revoked.

1. The Department will issue a Guidance document entitled: "Protecting Workers, Guidance on Mitigating and Preventing the Spread of Covid-19 in the Workplace," which will be based on a current OSHA guidance document<sup>272</sup> of the same name, with Virginia specific changes (See Attachment P).

2. All of VOSH's standards that apply to protecting workers from infection remain in place. These mandatory VOSH standards include: requirements for PPE (e.g., 1910.132<sup>273</sup> and 133<sup>274</sup>), respiratory protection (1910.134<sup>275</sup>), sanitation (1910.141<sup>276</sup> and 16VAC25-160<sup>277</sup>), temporary labor camps (1910.142<sup>278</sup>), protection from bloodborne pathogens (1910.1030<sup>279</sup>), VOSH's requirements for employee access to medical and exposure records (1910.1020<sup>280</sup>), and requirements in the VOSH Administrative Regulations Manual (16VAC25-60-120,<sup>281</sup> -130,<sup>282</sup> -140<sup>283</sup> and -150.<sup>284</sup>

3. When an employer or VOSH determines that PPE is necessary to protect unvaccinated and otherwise at-risk workers from exposure to COVID-19, the employer must provide PPE in accordance with relevant mandatory VOSH standards and should consider providing PPE in accordance with other industry-specific guidance. Respirators, if necessary, must be provided and used in compliance with 1910.134 (e.g., medical determination, fit testing, training on its correct use), including certain provisions for voluntary use when workers supply their own respirators, and other PPE must be provided and used in accordance with the applicable standards in part 1910, Subpart I (e.g., 1910.132 and 133). There are times when PPE is not called

<sup>271</sup> [https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e4.htm?s\\_cid=mm7104e4\\_w](https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e4.htm?s_cid=mm7104e4_w)

<sup>272</sup> <https://www.osha.gov/coronavirus/safework>

<sup>273</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132>

<sup>274</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.133>

<sup>275</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134>

<sup>276</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.141>

<sup>277</sup> <https://law.lis.virginia.gov/admincode/title16/agency25/chapter160/section10/>

<sup>278</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.142>

<sup>279</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030>

<sup>280</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1020>

<sup>281</sup> <https://law.lis.virginia.gov/admincode/title16/agency25/chapter60/section120/>

<sup>282</sup> <https://law.lis.virginia.gov/admincode/title16/agency25/chapter60/section130/>

<sup>283</sup> <https://law.lis.virginia.gov/admincode/title16/agency25/chapter60/section140/>

<sup>284</sup> <https://law.lis.virginia.gov/admincode/title16/agency25/chapter60/section150/>

for by VOSH standards or other industry-specific guidance, but some workers may have a legal right to PPE as a reasonable accommodation under the ADA.

4. If someone who has been in the facility within 24 hours is suspected of having or confirmed to have COVID-19, follow the CDC cleaning and disinfection recommendations. Follow requirements in mandatory VOSH standards 1910.1200<sup>285</sup> and 1910.132, 133, and 138<sup>286</sup> for hazard communication and PPE appropriate for exposure to cleaning chemicals.

5. Under Va. Code §40.1-51.1.A,<sup>287</sup> the general duty clause, Virginia employers are responsible for providing a safe and healthy workplace free from recognized hazards likely to cause death or serious physical harm to employees.<sup>288</sup>

6. Va. Code §40.1-51.2:1<sup>289</sup> prohibits discharging or in any other way discriminating against an employee for engaging in various occupational safety and health activities. Examples of violations could include discriminating against employees for raising a reasonable concern about infection control related to COVID-19 to the employer, the employer's agent, other employees, a government agency, or to the public, such as through print, online, social, or any other media; or against an employee for voluntarily providing and safely wearing their own PPE, such as a respirator, face shield, gloves, or surgical mask.

7. Federal OSHA is in the final rule stage for a COVID-19 Healthcare Standard<sup>290</sup> and has stated that "The agency is prioritizing its resources to focus on finalizing a

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<sup>285</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1200>

<sup>286</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.138>

<sup>287</sup> <https://law.lis.virginia.gov/vacode/40.1-51.1/>

<sup>288</sup> Federal OSHA Region III (federal region in which Virginia is located and monitored by) issued the following citation under §5(a)(1) of the OSH Act of 1970, the "general duty clause," to address a COVID-19 outbreak as a workplace:

"29 CFR OSH ACT of 1970 Section (5)(a)(1): The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious physical harm to employees, in that employees were not protected from the hazard of contracting the virus, SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), the cause of the COVID-19 disease....On or about April 19, 2021, and continuing thereafter, the employer did not develop and implement timely and effective measures to mitigate the spread of SARS-CoV-2, the virus that causes Coronavirus Disease 2019 (COVID-19). Employees working in the Pouch Room and DE Line worked in close proximity to each other and were not required to wear face coverings. The employer did not use social distancing or physical barriers in the production areas or breakrooms. The employer did not screen employees before entering the facility and did not implement a procedure for disinfecting the production area. An outbreak occurred between April 19 and April 25, 2021 where 15 of the workers in these areas tested positive for the virus. Workers subsequently infected their families and friends, many of whom became seriously ill. After the outbreak, the employer still failed to implement any measures to protect workers from the virus. Abatement certification and documentation required within 10 days after abatement date. The certification shall include a statement that abatement is complete, the date and method of abatement, and state that employees and their representatives were informed of this abatement. Abatement documentation shall include documents demonstrating that abatement is complete, such as evidence of the purchase or repair of equipment, photograph or video evidence of abatement or other written records.

[https://www.osha.gov/pls/fimis/establishment.violation\\_detail?id=1528699.015&citation\\_id=01001](https://www.osha.gov/pls/fimis/establishment.violation_detail?id=1528699.015&citation_id=01001)

<sup>289</sup> <https://law.lis.virginia.gov/vacode/title40.1/chapter3/section40.1-51.2:1/>

<sup>290</sup> <https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202110&RIN=1218-AD36>

permanent COVID-19 Healthcare Standard."<sup>291</sup> As of February 9, 2022, OSHA's stated goal is to publish a final standard in six to nine months.

VOSH is required by the OSH Act of 1970<sup>292</sup> and OSHA regulations<sup>293</sup> to be "at least as effective as" federal OSHA, and state action on new OSHA standards and regulations is required within six months of adoption.<sup>294</sup> Should OSHA adopt a permanent COVID-19 Healthcare Standard, the Department would schedule a meeting of the Board to consider for adoption the OSHA standard.

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<sup>291</sup> <https://www.osha.gov/coronavirus/ets2>

<sup>292</sup> [https://www.osha.gov/laws-regs/oshact/section\\_18](https://www.osha.gov/laws-regs/oshact/section_18)

<sup>293</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1902/1902.4>

<sup>294</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1953/1953.5>

## RECOMMENDED ACTION

1. Staff of the Department of Labor and Industry recommends that the Virginia Safety and Health Codes Board make a finding that there is no longer a continued need for the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus that Causes COVID-19, 16VAC25-220, based on emerging scientific and medical evidence that the current widespread variants of the virus no longer constitute a grave danger to employees in the workplace under Va. Code §40.1-22(6a), and as discussed in the U. S. Supreme Court's decision in *National Federation of Independent Businesses, et al., Applicants v. Department of Labor, Occupational Safety and Health Administration, et al.*<sup>295</sup>

To be voted on if Recommended Action 1 is adopted:

2. If the Board finds that there is no longer a continued need for the standard, Staff of the Department of Labor and Industry recommends that the Virginia Safety and Health Codes Board propose that the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus that Causes COVID-19, 16VAC25-220, be revoked and that such proposal be the subject of a thirty day written comment period and public hearing prior to any final vote to revoke the standard.

The Department also recommends that the Board state in any motion it may make to revoke this regulation that it will receive, consider and respond to petitions by any interested person at any time with respect to reconsideration or revision of this or any other regulation.

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<sup>295</sup> [https://www.supremecourt.gov/opinions/21pdf/21a244\\_hgci.pdf](https://www.supremecourt.gov/opinions/21pdf/21a244_hgci.pdf)

## ATTACHMENT A: INDUSTRY SPECIFIC INFORMATION ASSOCIATED WITH ADOPTION OF THE EMERGENCY TEMPORARY STANDARD AND ORIGINAL VIRGINIA STANDARD

The following is not intended to be an exhaustive list of all industries or job tasks with potential COVID-19 exposure risks (i.e., “very high,” “high,” “medium,” “lower”), but does provide a broad overview of the types of job tasks and hazards that expose employees to the various levels of COVID-19 exposure risk. The following also provides statistics and reports on work-related COVID-19 infections, non-fatal illnesses, hospitalizations, and deaths.

Reference to non-employee infections, non-fatal illnesses, hospitalizations, and deaths are provided to demonstrate the actual and potential exposure for employees at work whose job tasks involved close contact inside 6 feet with other COVID-19 infected employees and non-employees.

### 1. Meat and Poultry Processing.

The meat and poultry processing work environment contains various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

“Multiple outbreaks of COVID-19 among meat and poultry processing facility workers have occurred in the United States recently.

....

Workers involved in meat and poultry processing are not exposed to SARS-CoV-2 through the meat products they handle. However, their work environments—processing lines and other areas in busy plants where they have **close contact** with coworkers and supervisors—may contribute substantially to their potential exposures. The risk of occupational transmission of SARS-CoV-2 depends on several factors.

Some of these factors are described in the U.S. Department of Labor and U.S. Department of and Health and Human Services’ booklet “Guidance on Preparing Workplaces for COVID-19.”<sup>296</sup> Distinctive factors that affect workers’ risk for exposure to SARS-CoV-2 in meat and poultry processing workplaces include:

- Distance between workers – meat and poultry processing workers often work **close** to one another on processing lines. Workers may also be near one another at other times, such as when clocking in or out, during breaks, or in locker/changing rooms.
- Duration of contact – meat and poultry processing workers often have **prolonged closeness** to coworkers (e.g., for 10-12 hours per shift). Continued contact with potentially infectious individuals increases the risk of SARS-CoV-2 transmission.
- Type of contact – meat and poultry processing workers may be exposed to the infectious virus through respiratory droplets in the air – for example, when workers in the plant who have the virus cough or sneeze. It is also possible that exposure could occur from contact with contaminated surfaces or objects, such as tools, workstations, or break room tables. Shared spaces such as break rooms, locker rooms, and entrances/exits to the facility may contribute to their risk.

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<sup>296</sup> <https://www.osha.gov/Publications/OSHA3990.pdf>

- Other distinctive factors that may increase risk among these workers include:
  - A common practice at some workplaces of sharing transportation such as ride-share vans or shuttle vehicles, car-pools, and public transportation.
  - Frequent contact with fellow workers in community settings in areas where there is ongoing community transmission.<sup>297</sup>  
(Emphasis added).

## **Meat and Poultry Processing COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

Newsobserver.com, May 23, 2020, “Coronavirus outbreaks at processors force NC farmers to start killing 1.5M chickens”

“[North Carolina] Agriculture officials said Thursday that 2,006 workers in 26 processing plants across the state have tested positive for coronavirus. Although some plants have closed temporarily to clean and disinfect, none have shut down in North Carolina.”<sup>298</sup>

Virginia Mercury.com, May 5, 2020, “COVID-19 cases keep climbing at Virginia poultry plants; some members of Congress seek better protections”

“COVID-19 cases continue to rise at Virginia’s Eastern Shore poultry plants, with Gov. Ralph Northam on Monday reporting more than 260 cases associated with two facilities run by Tyson Foods and Perdue Farms in Accomack County.

‘We are also still closely tracking cases in the Shenandoah Valley, which has a large number of plants — cases that have increased as well, but the increase is smaller and could be leveling off,’ said Northam. ‘Our focus right now remains on the Shore.’

Poultry plant-related cases now represent about 60 percent of Accomack’s confirmed cases, which according to the Virginia Department of Health totaled 425 Monday. Twenty-one people in the county have been hospitalized, and six have died. How much testing has been conducted is unclear.”<sup>299</sup>

CDC, May 8, 2020, “COVID-19 Among Workers in Meat and Poultry Processing Facilities — 19 States, April 2020”

“Persons in congregate work and residential locations are at increased risk for transmission and acquisition of respiratory infections.

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<sup>297</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/meat-poultry-processing-workers-employers.html>

<sup>298</sup> <https://www.newsobserver.com/news/business/article242944156.html>

<sup>299</sup> <https://www.nbc12.com/2020/05/05/covid-cases-keep-climbing-virginia-poultry-plants-some-members-congress-look-better-protections/>

Factors potentially affecting risk for infection include difficulties with workplace physical distancing and hygiene and crowded living and transportation conditions.

....

Among workers, socioeconomic challenges might contribute to working while feeling ill, particularly if there are management practices such as bonuses that incentivize attendance.

....

By April 27, CDC had received aggregate data on COVID-19 cases from 19 of 23 states reporting at least one case related to this industry; there were 115 meat or poultry processing facilities with COVID-19 cases, including 4,913 workers with diagnosed COVID-19 (Table 1). Among 17 states reporting the number of workers in their affected facilities, 3.0% of 130,578 workers received diagnoses of COVID-19. The percentage of workers with diagnosed COVID-19 ranged from 0.6% to 18.2%. Twenty COVID-19–related deaths were reported among workers.

....

Sociocultural and economic challenges to COVID-19 prevention in meat and poultry processing facilities (Table 2) include accommodating the needs of workers from diverse backgrounds who speak different primary languages; one facility reported a workforce with 40 primary languages. This necessitates innovative approaches to educating and training employees and supervisors on safety and health information.

In addition, some employees were incentivized to work while ill as a result of medical leave and disability policies and attendance bonuses that could encourage working while experiencing symptoms.

Finally, many workers live in crowded, multigenerational settings and sometimes share transportation to and from work, contributing to increased risk for transmission of COVID-19 outside the facility itself. Changing transportation to and from the facilities to increase the number of vehicles and reduce the number of passengers per vehicle helped maintain physical distancing in some facilities.

Cases of COVID-19 have been observed in other congregate settings, including long-term care facilities (5), acute care hospitals (6), correctional facilities (7), and homeless shelters (8). Similarly, the crowded conditions for workers in meat and poultry processing facilities could result in high risk for SARS-CoV-2 transmission.

Respiratory disease outbreaks in this type of setting demonstrate the need for heightened attention to worker safety (9). However, COVID-19 among workers in meat and processing facilities could be due to viral transmission at the workplace or in the community.”<sup>300</sup>

## 2. Seafood Processing.

The seafood processing work environment contains various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

“During 2011-2017, seafood processing workers had the highest injury/illness rate of any U.S.

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<sup>300</sup> <https://www.cdc.gov/mmwr/volumes/69/wr/mm6918e3.htm>



maritime workers at 6,670 injuries/illnesses per 100,000 workers. Occupational hazards in this industry include exposures to biological aerosols containing allergens, microorganisms, and toxins; bacteria and parasites; excessive noise levels; low temperatures; poor workplace organization; poor ergonomics; and contact with machinery and equipment.”<sup>301</sup>



[CDC photo of seafood processing employees working in close proximity to each other] Seafood processing worker transporting fresh mackerel while the production line prepares fish in the background.<sup>302</sup>

### **Seafood Processing COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Seafoodsource.com, Louisiana, May 21, 2020,*

“Around 100 people at three crawfish farms in Louisiana have tested positive for COVID-19, state health officials announced earlier this week.

The Louisiana Department of Health declined to name the three crawfish farms, citing “active, evolving, protected investigations,” according to The Advocate.

Louisiana Office of Public Health Assistant Secretary Alex Billioux said the outbreaks were concentrated among migrant workers living in dormitory-like settings. The local crawfish industry is highly reliant on workers – many from Mexico – who use H-2B visas to live and work temporarily in the United States. According to Louisiana State University Assistant Professor of Agriculture Economics and Agribusiness Maria

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<sup>301</sup> [https://www.cdc.gov/niosh/programs/cms/seafood\\_processing.html](https://www.cdc.gov/niosh/programs/cms/seafood_processing.html)

<sup>302</sup> *Id.*

Bampasidou, a review of federal data showed Louisiana had 31 seafood processing facilities file for H-2B visas. Collectively, they received nearly all of the 1,467 positions they applied for. The workers live in trailers or bunkhouses provided by employers in exchange for a cut of workers' paychecks, depending on the type of visa, according to *The Advocate*.

David Savoy, the operator of a crawfish farm and processing facility near Church Point, Louisiana, said working and living conditions are tight in most of the industry's facilities.

'It's like a house with a family in it,' Savoy said. 'If one person gets it, there's a good chance everyone's going to get sick. That's just the reality of the situation.'"<sup>303</sup>

*Newscentermaine.com*, Portland, ME, May 18, 2020, "Bristol Seafood voluntarily closes after workers test positive for COVID-19"

"Bristol Seafood announced Monday it is voluntarily pausing production in its Portland Fish Pier processing plant after identifying confirmed positive cases of COVID-19 among staff members.

The Maine Center for Disease Control (Maine CDC) Director Dr. Nirav Shah said in the daily coronavirus briefing Monday that they began working with the company over the weekend to investigate the outbreak and collect additional samples for testing."<sup>304</sup>

*KATU.com*, Astoria, OR, May 4, 2020, "11 at Astoria seafood facility test positive for coronavirus"

"Eleven employees at a seafood processing plant in Astoria have tested positive for COVID-19, health officials said Monday.

The Clatsop County Public Health investigation started Friday when they learned an employee at Bornstein Seafood facility tested positive for the novel coronavirus, COVID-19. They ran tests on 35 other employees and found that 11 others had the virus.

The county is working closely with the facility to test the rest of the company's workforce and started contact tracing with those people who tested positive.

Borstein's facility in Astoria is closed until further notice. The company also said its employees were told to self-isolate at home while they work with public health officials.

'The 11 positive cases reported Monday included four women (one aged 30-39 and three aged 40 to 49) and seven men (two aged 30 to 39, four aged 50 to 59 and one

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<sup>303</sup> <https://www.seafoodsource.com/news/supply-trade/covid-19-outbreak-sickens-100-workers-in-louisiana-crawfish-industry>

<sup>304</sup> <https://www.newscentermaine.com/article/news/health/coronavirus/bristol-seafood-voluntarily-closes-after-workers-test-positive-for-covid-19/97-6dbe22cd-1014-474e-9152-c054c42d5cb6>

aged 60 to 69),’ Clatsop County Public Health said.”<sup>305</sup>

### 3. Food Processing.

The food processing work environment contains various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

To the extent that food processing employees “...work environments—processing lines and other areas in busy plants where they have close contact with coworkers and supervisors” mirror those in the meat and poultry processing industries, they are exposed to the same hazards and undertake the same job tasks that result in “medium” and “low” risk exposures.

#### **Food Processing COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Martinsvillebulletin.com*, Martinsville, VA, May 27, 2020, “Monogram Snacks in Henry County will shut down voluntarily for COVID-19 testing after positive tests lead to complaints about employee’s safety filed with state and OSHA”

“Angela Hairston’s brother is living in isolation at a hotel, separated from his 81-year-old mother at their home in Henry County. **He is listed statistically as a “confirmed COVID-19 male, 56 years old,” along with five of his coworkers at Monogram Snacks in Martinsville.**

But Hairston’s brother not only contracted the coronavirus, **he also continued to work after being tested because he said he feared loss of income or being fired by Monogram if he didn’t.**

....

The Bulletin obtained a copy of the complaint alleging “unsafe work practices and a lack of appropriate safeguards to prevent employee injuries.”

The complaint also alleges several employees, including Hairston’s brother, have been injured on the job and that “workers are reluctant to raise concerns about conditions and procedures that they consider to be potentially hazardous with supervisors because of a fear of retaliation due to the overall company culture.”

Said Hairston: ‘OSHA did not appear to address those concerns, and the conditions ... deteriorated further in the midst of COVID-19. My brother lives with my mother, who is 81 years old and has a number of chronic health issues. Due to her age and underlying medical conditions, she is in the high-risk category for severe illness from COVID-19 ... and the virus ... could be deadly given her underlying health issues.’

Monogram Foods Communications Coordinator Sally Vaughan released a statement late Tuesday in which she praised the management and employees.

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<sup>305</sup> <https://katu.com/news/local/11-employees-at-astoria-borstein-seafood-processing-facility-test-positive-for-covid-19-closure>

‘To date, our leaders and team members at our Martinsville, Virginia plant have done an incredible job preventing the spread of COVID-19 by implementing and executing our practices and protocols and providing constant oversight on risk reduction and mitigation,’ Vaughan said. **‘Less than 1% of our nearly 650 team members at Martinsville have tested positive for COVID-19 during the pandemic.’**

Monogram Foods employs 630 people in three manufacturing centers on a 54-acre site at the Patriot Centre Industrial Park in Henry County. The company produces prepackaged snacks.

....

On May 12, Roanoke Regional Health Director Paul Saunier notified Hairston by letter of the findings by VOSH.

‘Based on the employer’s investigation results and the documentation the employer has provided to our agency, the employer is operating in accordance with the Governor’s Executive Orders and is implementing appropriate preventive measures,’ Saunier wrote. “VOSH has determined that the investigation can now be closed.”

Hairston wrote back to Saunier that she was appalled that VOSH would accept statements made by Luffman without verifying them, so she took her concerns to her Facebook page.

On May 19, Saunier notified Hairston that VOSH had opened a second investigation on Monogram Snacks.”<sup>306</sup>

*Oregonlive.com*, Vancouver, WA, May 22, 2020, “Vancouver frozen fruit processor reports 27 coronavirus cases”

“A Vancouver food processing company says 27 of its employees have COVID-19. It may be the Portland area’s biggest workplace outbreak reported thus far, excluding the healthcare sector.

Josh Hinerfeld, CEO of Firestone Pacific Foods, said the company had its first confirmed case midday Sunday and learned of two more later that afternoon. The Vancouver plant shut down Monday but the infection total has now grown to 27, including 17 new cases Friday.

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Firestone processes frozen fruit.”<sup>307</sup>

*Vadogwood.com*, Virginia, May 21, 2020, “Here Are All the Virginia Factories With Coronavirus Outbreaks”

“At least seven workers at the facility in Chesterfield County have tested positive for COVID-19 and are now in quarantine at home, WRIC-TV in Richmond reported. A spokesperson for Maruchan Virginia Inc., which is a subsidiary of Toyo Suisan Kaisha

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<sup>306</sup> [https://www.martinsvillebulletin.com/news/local/monogram-snacks-in-henry-county-will-shut-down-voluntarily-for-covid-19-testing-after-positive/article\\_665228f4-4673-59d4-b5a5-d19824a49ac0.html](https://www.martinsvillebulletin.com/news/local/monogram-snacks-in-henry-county-will-shut-down-voluntarily-for-covid-19-testing-after-positive/article_665228f4-4673-59d4-b5a5-d19824a49ac0.html)

<sup>307</sup> <https://www.oregonlive.com/business/2020/05/vancouver-frozen-fruit-processor-reports-10-coronavirus-cases.html>

Ltd in Tokyo, told the news station that the factory remains open despite the positive cases.”<sup>308</sup>

“We can confirm the Maruchan Virginia report about employees testing positive for COVID-19 at their Chesterfield facility,” Chesterfield Health District Director Dr. Alexander Samuel said in a statement to Fox5.”<sup>309</sup>

*Oregonlive.com*, Albany, OR, May 12, 2020, “Oregon cites National Frozen Foods, site of coronavirus outbreak, for unsafe practices”

“Oregon regulators cited an Albany fruit and vegetable processor Monday for safety violations after a coronavirus outbreak there infected at least 34.

National Frozen Foods faces a \$2,000 penalty for failing to adopt practices to enable workers to stay at least six feet apart from one another.

....

[Oregon] OSHA said it inspected the Albany plant on April 20 in response to worker complaints. The regulatory agency said National Frozen Food allowed employees on frozen packaging lines to work within two to four feet of one another.”<sup>310</sup>

#### 4. Healthcare, Nursing Home Care,<sup>311</sup> and Long Term Care.<sup>312</sup>

The healthcare, nursing home care and long term care work environment contains various hazards and job tasks which present the full spectrum or exposure risks (Very high, High, Medium, Lower):

Very high – “Performing aerosol-generating procedures (e.g., intubation, cough induction procedures, bronchoscopies, some dental procedures and exams, or invasive specimen collection) on known or suspected COVID-19 patients. Collecting or handling specimens from known or suspected COVID-19 patients.”<sup>313</sup>

High – “Entering a known or suspected COVID-19 patient’s room. Providing care for a known or suspected COVID-19 patient not involving aerosol-generating procedures.”<sup>314</sup>

Medium – “Providing care to the general public who are not known or suspected COVID-19 patients. Working at busy staff work areas within a healthcare facility.”<sup>315</sup>

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<sup>308</sup> <https://www.ktvu.com/news/coronavirus-outbreak-at-maruchan-ramen-noodle-factory-sickens-at-least-7-workers-in-virginia>

<sup>309</sup> <https://www.fox5dc.com/news/health-officials-cant-provide-updates-on-covid-19-outbreak-at-virginia-maruchan-ramen-factory>

<sup>310</sup> <https://www.oregonlive.com/business/2020/05/oregon-cites-national-frozen-foods-site-of-coronavirus-outbreak-for-unsafe-practices.html>

<sup>311</sup> OSHA publication “COVID-19 Guidance for Nursing Home and Long-Term Care Facility Workers” references “OSHA’s COVID-19 guidance for healthcare workers and employers.”

<sup>312</sup> *Id.*

<sup>313</sup> <https://www.osha.gov/SLTC/covid-19/healthcare-workers.html>

<sup>314</sup> *Id.*

<sup>315</sup> *Id.*

Lower – “Performing administrative duties in non-public areas of healthcare facilities, away from other staff members.”<sup>316</sup>

## Healthcare, Nursing Home Care and Long Term Care COVID-19 Reports and Statistics

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*CDC.gov*, May 31, 2020, “Cases & Deaths among Healthcare Personnel [HCP]”

“Data were collected from 1,417,310 people, but healthcare personnel status was only available for 304,479 (21.5%) people. For the 66,447 cases of COVID-19 among healthcare personnel, death status was only available for 37,485 (56.4%).

Cases among HCP: 66,447

Deaths among HCP: 318<sup>317</sup>

*Usatoday.com*, April 13, 2020, referencing *Cincinnati Enquirer* story, “Health care workers in Ohio are testing positive for COVID-19 at an alarming rate”

**“More than 1,300 health care workers in Ohio have tested positive for the novel coronavirus since the pandemic began, accounting for about 1 of every 5 positive tests in the state.**

But Ohio’s public health officials aren’t talking about where all those employees work, how they’re doing now or how many may have been infected in “hot spots,” or clusters of positive tests.

State and local health departments, the Ohio Hospital Association, the Health Collaborative of Greater Cincinnati and the hospitals themselves all have refused to provide details beyond a statewide total.

The reason? Most say revealing more information could jeopardize the privacy of infected employees.

They say more specific numbers for hospitals, or even for entire cities or counties, could allow someone to figure out who got sick, thereby violating the workers’ privacy rights.

....

Not everyone thinks the secrecy is a good idea. Shortages of protective equipment and tests, along with the daily challenges of coping with a pandemic, mean health care workers are at significant risk every time they go to work.

More information about what’s happening in those workplaces, some say, could

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<sup>316</sup> *Id.*

<sup>317</sup> <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>

identify locations that need additional help and resources protecting the people who work there.

‘From a health care worker perspective, I think those numbers can be beneficial,’ said Michelle Thoman, president of the Registered Nurses Association at the University of Cincinnati Medical Center. ‘If you see that numbers in your facility or hospital are climbing, you can be prepared for that.’<sup>318</sup> (Emphasis added).

*WRIC.com*, Richmond, VA, April 30, 2020, “Canterbury Rehabilitation & Healthcare Center reports 50th COVID-19 death”

“Officials at Canterbury Rehabilitation & Healthcare Center in Henrico County today reported the facility’s 50th coronavirus-related death. The resident died yesterday in a hospital.

Canterbury officials also reported that 51 patients who previously tested positive for COVID-19 have fully recovered. A cluster of COVID-19 deaths and infections have been reported at Canterbury Rehabilitation & Healthcare Center since the outbreak began.

More than 100 residents and staff members have tested positive for the virus, making Canterbury one of the worst clusters of cases in the United States. Recent reports obtained by 8News state that Canterbury is certified as a 190-bed facility.<sup>319</sup>

Beginning April 1, 2020, the Virginia Department of Health (VDH) conducted an assessment of the Canterbury Rehabilitation facility and of the 141 residents, 91 tested positive for COVID-19 (64.5%).<sup>320</sup>

CDC, March 27, 2020, “COVID-19 in a Long-Term Care Facility — King County, Washington, February 27–March 9, 2020”

“On February 28, 2020, a case of coronavirus disease (COVID-19) was identified in a woman resident of a long-term care skilled nursing facility (facility A) in King County, Washington.\* Epidemiologic investigation of facility A identified 129 cases of COVID-19 associated with facility A, including 81 of the residents, 34 staff members, and 14 visitors; 23 persons died. Limitations in effective infection control and prevention and staff members working in multiple facilities contributed to intra- and inter-facility spread.

COVID-19 can spread rapidly in long-term residential care facilities, and persons with chronic underlying medical conditions are at greater risk for COVID-19–associated severe disease and death. Long-term care facilities should take proactive steps to protect the health of residents and preserve the health care workforce by identifying and excluding potentially infected staff members and visitors, ensuring early

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<sup>318</sup> <https://www.usatoday.com/story/news/nation/2020/04/13/ohio-health-care-workers-test-positive-covid-19-alarming-rate/2981253001/>

<sup>319</sup> <https://www.wric.com/health/coronavirus/canterbury-rehabilitation-healthcare-center-reports-50th-covid-19-death/>

<sup>320</sup> <https://www.vdh.virginia.gov/content/uploads/sites/96/2020/05/Canterbury-04-16-2020-COVID-Focus-POC.pdf>

recognition of potentially infected patients, and implementing appropriate infection control measures.

....

Reported symptom onset dates for facility residents and staff members ranged from February 16 to March 5. The median patient age was 81 years (range = 54–100 years) among facility residents, 42.5 years (range = 22–79 years) among staff members, and 62.5 years (range = 52–88 years) among visitors; 84 (65.1%) patients were women (Table). Overall, 56.8% of facility A residents, 35.7% of visitors, and 5.9% of staff members with COVID-19 were hospitalized.

Preliminary case fatality rates among residents and visitors as of March 9 were 27.2% and 7.1%, respectively; no deaths occurred among staff members. The most common chronic underlying conditions among facility residents were hypertension (69.1%), cardiac disease (56.8%), renal disease (43.2%), diabetes (37.0%), obesity (33.3%), and pulmonary disease (32.1%). Six residents and one visitor had hypertension as their only chronic underlying condition.

....

Information received from the survey and on-site visits identified factors that likely contributed to the vulnerability of these facilities, including 1) staff members who worked while symptomatic; 2) staff members who worked in more than one facility; 3) inadequate familiarity and adherence to standard, droplet, and contact precautions and eye protection recommendations; 4) challenges to implementing infection control practices including inadequate supplies of PPE and other items (e.g., alcohol-based hand sanitizer) §; 5) delayed recognition of cases because of low index of suspicion, limited testing availability, and difficulty identifying persons with COVID-19 based on signs and symptoms alone.

....

The findings in this report suggest that once COVID-19 has been introduced into a long-term care facility, it has the potential to result in high attack rates among residents, staff members, and visitors.”<sup>321</sup>

## 5. Dental Services.

Dental work environment contains various hazards and job tasks which present “high”, “medium” (close contact), and “lower” risk exposures:

“The practice of dentistry involves the use of rotary dental and surgical instruments, such as handpieces or ultrasonic scalers and air-water syringes. These instruments create a visible spray that can contain particle droplets of water, saliva, blood, microorganisms, and other debris. Surgical masks protect mucous membranes of the mouth and nose from droplet spatter, but they do not provide complete protection against inhalation of airborne infectious agents. There are currently no data available to assess the risk of SARS-CoV-2 transmission during dental practice.”<sup>322</sup>

### **Dentist Offices COVID-19 Reports and Statistics**

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<sup>321</sup> [https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e1.htm?s\\_cid=mm6912e1\\_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e1.htm?s_cid=mm6912e1_w)

<sup>322</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html>



The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.

NBCbayarea.com, May, 14, 2020, “Potential COVID Aerosol Hazards in the Dentist Chair”

“I can't express enough how dangerous it is in a dental office right now, we have the ability to be asymptomatic and spread this to other people as much as we're looking out for our own safety,” said Cindi Roddan, a dental hygienist, adding, ‘Everything that we do in dentistry creates aerosols. It is so dangerous.’

Dental Hygienist Tops List of Jobs Exposed to Disease. Dental hygienists are potentially exposed to disease on a daily basis, according to federal employment data. Professions are ranked on a scale in which 100 represents daily contact, 75 is weekly, 50 is monthly and 25 is daily.

Occupation	Context
Dental Hygienists	100
Acute Care Nurses	100
Family and General Practitioners	100
Internists, General	100
Critical Care Nurses	99
Hospitalists	99
Oral and Maxillofacial Surgeons	99
Respiratory Therapists	98
Respiratory Therapy Technicians	98
Anesthesiologist Assistants	97
Occupational Therapy Aides	97
Orderlies	97
Dental Assistants	96
Medical and Clinical Laboratory Technologists	96
Nurse Anesthetists	96
Urologists	96
Allergists and Immunologists	95
Dentists, General	95
Radiation Therapists	95
Registered Nurses	95

Table: Sean Myers/NBC Bay Area • Source: [the National Center for O\\*NET Development](#) • Created with [Datawrapper](#)

High speed drills, ultrasonic scalers and air-water syringes are the tools used in dentistry. According to the Centers for Disease Control they are also potent spreaders of coronavirus because they “create a visible spray that contains large droplets of water, saliva, blood, microorganisms and other debris.”

If a patient is infected with the COVID-19 virus, even if they show no symptoms, those aerosols can contain enough of the virus to infect a dental hygienist, or even the next patient who sits in the dental chair.” (Emphasis added).

Dental-tribune.com, Jakarta, Indonesia, April 16, 2020, “Dentists in Indonesia are dying from

## COVID-19”

“The Indonesian Medical Association has confirmed that 24 medical professionals have died in the country from COVID-19, six of whom were dentists. Not all of those who died were working on the front line in the battle against the illness. The government’s COVID-19 response team has called on the health ministry to protect doctors and dentists by advising them to close their practices.”<sup>323</sup>

*Bridgemi.com*, April 10, 2020, Michigan, “Ascension doctor becomes 7th Michigan health care worker to die of coronavirus”<sup>324</sup>

“Seven health care workers in southeast Michigan have now died from complications of the coronavirus, including a doctor at Ascension Macomb Hospital who graduated from Wayne State University.

....

One of them was Dr. Chris Firlit, a 37-year-old husband and father of three. Firlit was a member of the Wayne State University's class of 2018, and lived in Berkley.

Firlit was a senior resident in the oral maxillofacial surgery program at Ascension Macomb Hospital. Wayne State announced his death Tuesday and said he had died this week, but did not provide the exact date.”

*Docseducation.com*, April 9, 2020, “The Pandemic and the Dentist”<sup>325</sup>

“Risk to the Dental Professional

....

The dental professional is particularly at risk if one is working on an infected patient or an asymptomatic carrier because of close contact with the patient and the risk of blood, saliva and droplet exposure. In Italy, there were 7 dental professionals who died of COVID-19 during the pandemic.”

*Medrxiv.org*, April 5, 2020, “Physician Deaths from Corona Virus Disease (COVID-19)”<sup>326</sup>

“RESULTS: We found 198 physician deaths from COVID-19, but complete details were missing for 49 individuals. The average age of the physicians that died was 63.4 years (range 28 to 90 years) and the median age was 66 years of age. Ninety percent of the deceased physicians were male (175/194). General practitioners and emergency room doctors (78/192), respiriologists (5/192), internal medicine specialists (11/192) and anesthesiologists (6/192) comprised 52% of those dying. Two percent of the deceased were epidemiologists (4/192), 2% were infectious disease specialists (4/192), **5% were dentists (9/192)**, 4% were ENT (8/192), and 4% were ophthalmologists

<sup>323</sup> <https://www.dental-tribune.com/news/dentists-in-indonesia-are-dying-from-covid-19/>

<sup>324</sup> <https://www.bridgemi.com/michigan-health-watch/ascension-doctor-becomes-7th-michigan-health-care-worker-die-coronavirus>

<sup>325</sup> <https://www.docseducation.com/blog/pandemic-and-dentist>

<sup>326</sup> <https://www.medrxiv.org/content/10.1101/2020.04.05.20054494v1.full.pdf>

(7/192). The countries with the most reported physician deaths were Italy (79/198), Iran (43/198), China (16/198), Philippines (14/198), United States (9/192) and Indonesia (7/192).” (Emphasis added).

## 6. Morgue and Mortuary Services

The morgue and mortuary services work environment contains various hazards and job tasks which can present risk exposures at all levels:

Very high – “Morgue workers performing autopsies, which generally involve aerosol-generating procedures, on the bodies of people who are known to have, or suspected of having, COVID-19 at the time of their death.”<sup>327</sup>

High – “Mortuary workers involved in preparing (e.g., for burial or cremation) the bodies of people who are known to have, or suspected of having, COVID-19 at the time of their death.”<sup>328</sup>

Medium – “Medium exposure risk jobs include those that require frequent and/or close contact with (i.e., within 6 feet of) people who may be infected with SARS-CoV-2, but who are not known or suspected COVID-19 patients....In areas where there is ongoing community transmission, workers in this category may have contact with the general public [funerals] (e.g., schools, high-population-density work environments, some high-volume retail settings).”<sup>329</sup>

Lower – “Lower exposure risk (caution) jobs are those that do not require contact with people known to be, or suspected of being, infected with SARS-CoV-2 nor frequent close contact with (i.e., within 6 feet of) the general public. Workers in this category have minimal occupational contact with the public and other coworkers [administrative services associated with funerals].”<sup>330</sup>

### **Morgue and Mortuary Services COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Tuscon.com, Tucson, AZ, May 2, 2020, “Illnesses at Tucson funeral home highlight risks to 'last responders' during pandemic”*

“Numerous employees at a Tucson funeral home contracted coronavirus, but experts say it is unlikely they were infected by the body of a COVID-19 victim.

Adair Funeral Homes temporarily closed its Dodge Chapel after “a number” of staff members fell ill and were sent home to recover in self-quarantine, according to a

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<sup>327</sup> <https://www.osha.gov/Publications/OSHA3990.pdf> at page 19.

<sup>328</sup> *Id.*

<sup>329</sup> *Id.* at page 20.

<sup>330</sup> *Id.* at page 20.

written statement from the company.

The incident highlights lingering questions about how the virus is transmitted, and it underscores the essential work still being done by so-called “last responders” in the community’s morgues and mortuaries.

‘They really are heroes, but they don’t get the recognition they deserve, because it’s death and nobody wants to talk about that,’ said Judith Stapley, executive director of the Arizona State Board of Funeral Directors and Embalmers.

Adair did not identify the suspected source of the outbreak. It’s unclear if the Dodge Chapel has handled any of the more than 80 people who have died from the coronavirus in Pima County.

Dr. Greg Hess, chief medical examiner for the county, said it is doubtful the outbreak at the mortuary came from a corpse.

‘Are we hearing that someone has contracted COVID from a dead body? We’re not,’ Hess said. ‘It’s possible, but honestly there is a much greater risk of contracting it from somewhere else.’”<sup>331</sup>

*CDC.gov*, “Community Transmission of SARS-CoV-2 at Two Family Gatherings [including a Funeral]” — Chicago, Illinois, February–March 2020

“Most early reports of person-to-person SARS-CoV-2 transmission have been among household contacts, where the secondary attack rate has been estimated to exceed 10% (1), in health care facilities (2), and in congregate settings (3).

However, widespread community transmission, as is currently being observed in the United States, requires more expansive transmission events between non-household contacts. In February and March 2020, the Chicago Department of Public Health (CDPH) investigated a large, multifamily cluster of COVID-19. Patients with confirmed COVID-19 and their close contacts were interviewed to better understand non-household, community transmission of SARS-CoV-2. This report describes the cluster of 16 cases of confirmed or probable COVID-19, including three deaths, likely resulting from transmission of SARS-CoV-2 at two family gatherings (a funeral and a birthday party).”<sup>332</sup> (Emphasis added).

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<sup>331</sup> [https://tucson.com/news/local/illnesses-at-tucson-funeral-home-highlight-risks-to-last-responders-during-pandemic/article\\_e0ea6dbc-721b-5b46-a30b-609fcdd9ae5a.html](https://tucson.com/news/local/illnesses-at-tucson-funeral-home-highlight-risks-to-last-responders-during-pandemic/article_e0ea6dbc-721b-5b46-a30b-609fcdd9ae5a.html)

<sup>332</sup> [https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e1.htm?s\\_cid=mm6915e1\\_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e1.htm?s_cid=mm6915e1_w)

“The findings in this investigation are subject to at least three limitations. First, lack of laboratory testing for probable cases means some probable COVID-19 patients might have instead experienced unrelated illnesses, although influenza-like illness was declining in Chicago at the time. Second, phylogenetic data, which could confirm presumed epidemiologic linkages, were unavailable. For example, patient B3.1 experienced exposure to two patients with confirmed COVID-19 in this cluster, and the causative exposure was presumed based on expected incubation periods. Patient D3.1 was a health care professional, and, despite not seeing any patients with known COVID-19, might have acquired SARS-CoV-2 during clinical practice rather than through contact with members of this cluster. Similarly, other members of the cluster might have experienced community exposures to SARS-CoV-2, although these transmission events occurred before widespread community transmission of SARS-CoV-2 in Chicago. Finally, despite intensive epidemiologic investigation, not every confirmed or probable case related to this cluster might have been

## 7. Veterinary Services.

The veterinary work environment contains various hazards and job tasks which present “medium” (close contact), and “lower” risk exposures:

“The greatest risk of COVID-19 exposure to staff at veterinary clinics comes from person-to-person transmission through respiratory droplets from coughing, sneezing, or talking, which is the main way SARS-CoV-2 spreads.

....

We are still learning about this novel zoonotic virus, and it appears that in some rare situations, human to animal transmission can occur.

CDC is aware of a small number animals, including dogs and cats, to be infected with SARS-CoV-2 after close contact with people with COVID-19. The United States Department of Agriculture (USDA) and CDC recently reported confirmed infection with SARS-CoV-2 in two pet cats with mild respiratory illness in New York, which were the first confirmed cases of SARS-CoV-2 infections in companion animals in the United States. Both cats are expected to recover. The cats had close contact with people confirmed or suspected to have COVID-19, suggesting human-to-cat spread. Further studies are needed to understand if and how different animals could be affected by SARS-CoV-2.

Limited information is available to characterize the spectrum of clinical illness associated with SARS-CoV-2 infection in animals. Clinical signs thought to be compatible with SARS-CoV-2 infection in animals include fever, coughing, difficulty breathing or shortness of breath, lethargy, sneezing, nasal/ocular discharge, vomiting, and diarrhea.

....

If a pet owner currently has respiratory symptoms or is a suspected of or confirmed to have COVID-19, they should not visit the veterinary facility. Consider whether a telemedicine consult is appropriate. If possible, a healthy friend or family member from outside their household should bring the animal to the veterinary clinic. The clinic should use all appropriate precautions to minimize contact with the person bringing the animal to the clinic. If there is an emergency with the animal, the animal should not be denied care.

If a pet owner is suspected or confirmed to have COVID-19 and must bring their pet to the clinic, the following actions should be taken:

- Communicate via phone call or video chat to maintain social distancing.
- Retrieve the animal from the owner’s vehicle (also called curbside) to prevent the owner from having to enter the clinic or hospital.
- Maintain social distancing and PPE recommendations when interacting with clients.
- Request smaller animals be brought in a plastic carrier to facilitate disinfection of the carrier after use. Also advise the owner to leave all non-essential items at home to avoid unnecessary opportunities for additional exposure.<sup>333</sup>

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detected. Persons who did not display symptoms were not evaluated for COVID-19, which, given increasing evidence of substantial asymptomatic infection (9), means the size of this cluster might be underestimated.” *Id.*

<sup>333</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/veterinarians.html>

## Veterinary COVID-19 Reports and Statistics

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Avma.org*, May 29, 2020, “Remembering veterinarians who have died during the pandemic:”

“Wildlife, avian veterinarian honored. Dr. Peter Sakas (Illinois ’83), a staff veterinarian at the Animal Hospital and Bird Medical Center in Niles, Illinois, died on March 30 of COVID-19. In his work, he focused on wildlife veterinary medicine. Those who knew him say he was charismatic, had a big personality, and cared deeply for his clients and their animals.

....

‘There has been a lot of attention on human health care front-line workers, but I think people often forget that veterinarians are front-line health care workers too,’ Dr. Courtney Sakas said. ‘My father told us that he was never going to retire because he loved his job so much. I knew he was going to continue working as long as he possibly could to keep caring for the clients and animals he loved, even if it meant putting himself at risk.’<sup>334</sup>

“A community-focused veterinarian celebrated. Dr. Julie R. Butler (Cornell ’83), founder of 145th Street Animal Hospital in the Harlem neighborhood of New York City, died on April 4. In her personal life, Dr. Butler was an advocate of the arts who made an excellent lemon meringue pie.

....

In her professional life, Dr. Butler was the kind of veterinarian who never turned away an animal.

Dr. Butler was the co-founder of New York Save Animals in Veterinary Emergency, a nonprofit organization that provides financial assistance for pets who need emergency care. She also served as past president of the VMA of New York City. She spent over 30 years serving the Harlem community, and she used her experience to educate and mentor other veterinary professionals.

Kylie Lang, a veterinary technician, said Dr. Butler was a role model who made work enjoyable.<sup>335</sup>

### 8. Hand Labor Operations in Agriculture.

Hand labor operations in agriculture contain various hazards and job tasks which present “medium” (close contact), and “lower” risk exposures:

*Northcarolinahealthnews.org*, March 13, 2020, “For migrant workers in NC, coronavirus may be hard to avoid”

“As the growing season ramps up in North Carolina, agencies that care for and about migrant and seasonal farmworkers are hastily preparing to screen and

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<sup>334</sup> <https://www.avma.org/javma-news/2020-07-01/remembering-veterinarians-who-have-died-during-pandemic>

<sup>335</sup> *Id.*

educate them about coronavirus.

Migrant workers aren't especially susceptible to coronavirus, but their living conditions during the growing season — trailers and rooms that house many workers — could put them at greater risk of catching the virus, which spreads through droplets, close contact and surfaces.

....

'They all share the same bathroom, they all share the same kitchen, they're all usually within the same living area,' said Amy Elkins, an outreach worker at North Carolina Farmworkers' Project, a Benson-based organization that serves an average of 3,000 migrant and seasonal workers a year. 'So if we have one case inside a camp, it is most likely that everyone is going to be infected.'

....

Her colleague, Janeth Tapia, the organization's outreach coordinator, said that migrant farmworkers are used to working through illness and are reluctant to reveal that they are sick for fear of being sent to their home countries before the end of the growing season.

'That's something we see a lot,' Elkins said. 'We'll have someone who just gets pneumonia or hurts their foot and can't work. The farmer will give them one or two days and (if the employee does not recover) he's on a bus back to Mexico.'<sup>336</sup>

## Hand Labor Operations Reports and Statistics

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Bloomberg.com, May 29, 2020, "Every Single Worker Has Covid at One U.S. Farm on Eve of Harvest"*

"One farm in Tennessee distributed Covid-19 tests to all of its workers after an employee came down with the virus. It turned out that every single one of its roughly 200 employees had been infected.

In New Jersey, more than 50 workers had the virus at a farm in Gloucester County, adding to nearly 60 who fell ill in neighboring Salem County. Washington state's Yakima County, an agricultural area that produces apples, cherries, pears and most of the nation's hops, has the highest per capita infection rate of any county on the West Coast.

The outbreaks underscore the latest pandemic threat to food supply: Farm workers are getting sick and spreading the illness just as the U.S. heads into the peak of the summer produce season. In all likelihood, the cases will keep climbing as more than half a million seasonal employees crowd onto buses to move among farms across the country and get housed together in cramped bunkhouse-style dormitories.

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<sup>336</sup> <https://www.northcarolinahealthnews.org/2020/03/13/for-migrant-workers-in-nc-coronavirus-may-be-hard-to-avoid/>

....

The early outbreaks are already starting to draw comparisons to the infections that plunged the U.S. meat industry into crisis over the past few months. Analysts and experts are warning that thousands of farm workers are vulnerable to contracting the disease.

....

Unlike grain crops that rely on machinery, America's fruits and vegetables are mostly picked and packed by hand, in long shifts out in the open -- a typically undesirable job in major economies. So the position typically goes to immigrants, who make up about three quarters of U.S. farm workers.

A workforce of seasonal migrants travels across the nation, following harvest patterns. Most come from Mexico and Latin America through key entry points like southern California, and go further by bus, often for hours, sometimes for days.

There are as many as 2.7 million hired farm workers in the U.S., including migrant, seasonal, year-round and guest-program workers, according to the Migrant Clinicians Network. While many migrants have their permanent residence in the U.S., moving from location to location during the warmer months, others enter through the federal H2A visa program. Still, roughly half of hired crop farmworkers lack legal immigration status, according to the U.S. Department of Agriculture.

These are some of the most vulnerable populations in the U.S., subjected to tough working conditions for little pay and meager benefits. Most don't have access to adequate health care. Many don't speak English.

Without them, it would be nearly impossible to keep America's produce aisles filled. And yet, there's no one collecting national numbers on how many are falling sick.

"There is woefully inadequate surveillance of what's happening with Covid-19 and farm workers," said Erik Nicholson, a national vice president for the United Farm Workers. "There is no central reporting, which is crazy because these are essential businesses."<sup>337</sup> (Emphasis added).

*WBGO.org*, New Jersey, May 12, 2020, "Coronavirus update: Cases spike among farmworkers"

"More than half the seasonal workers at a South Jersey farm have tested positive for COVID-19, raising fears of an unchecked outbreak ahead of the blueberry and other harvests.

At least 59 migrant workers at a farm in Upper Pittsgrove, in rural Salem County, have been infected, NJ Spotlight reported Monday. The news came

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<sup>337</sup> <https://www.bloomberg.com/news/articles/2020-05-29/every-single-worker-has-covid-at-one-u-s-farm-on-eve-of-harvest>



just as the state Department of Health and local federally qualified health centers prepared to launch a testing program for all such workers.

Upper Pittsgrove Mayor Jack Cimprich said he didn't know how the farmer was isolating infected workers in camp dormitories, dining halls and fields. "I wouldn't be surprised, in fact, if it hasn't spread to the whole group," he told NJ Spotlight.

Several thousand migrant farmworkers — many from Mexico, Hati, Puerto Rico and Central America — come to the region for the spring and summer harvests. One immigrant advocate interviewed by the outlet called the rise in cases among workers "a potential crisis."<sup>338</sup>

## 9. Correctional and Detention Facilities.

The correctional and detention facilities work environments contain various hazards and job tasks which present, high, medium (close contact) to lower risk exposures:

NOTE: Virginia correctional facilities have clinics that provide certain medical services to inmates.

"Correctional and detention facilities face challenges in controlling the spread of infectious diseases because of crowded, shared environments and potential introductions by staff members and new intakes.

....

An estimated 2.1 million U.S. adults are housed within approximately 5,000 correctional and detention facilities on any given day (1). Many facilities face significant challenges in controlling the spread of highly infectious pathogens such as SARS-CoV-2, the virus that causes coronavirus disease 2019 (COVID-19).

Such challenges include crowded dormitories, shared lavatories, limited medical and isolation resources, daily entry and exit of staff members and visitors, continual introduction of newly incarcerated or detained persons, and transport of incarcerated or detained persons in multiperson vehicles for court-related, medical, or security reasons (2,3). During April 22–28, 2020, aggregate data on COVID-19 cases were reported to CDC by 37 of 54 state and territorial health department jurisdictions.

Thirty-two (86%) jurisdictions reported at least one laboratory-confirmed case from a total of 420 correctional and detention facilities. Among these facilities, COVID-19 was diagnosed in 4,893 incarcerated or detained persons and 2,778 facility staff members, resulting in 88 deaths in incarcerated or detained persons and 15 deaths among staff members. Prompt identification of COVID-19 cases and consistent application of prevention measures, such as symptom screening and quarantine, are critical to protecting incarcerated and detained persons and staff members.

....

Approximately one half of facilities with COVID-19 cases reported them among staff

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<sup>338</sup> <https://www.wbgo.org/post/coronavirus-update-cases-spike-among-farmworkers-nj-curbs-wave-parades#stream/0>

members but not among incarcerated persons.<sup>339</sup>

### Correctional Facility and Detention Center COVID-19 Reports and Statistics

The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.

The Virginia Department of Corrections website<sup>340</sup> as of Noon, May 29, 2020, Cases by location, reports that 132 staff and contractors (active cases), and 1,171 offenders have tested positive COVID-19. Seven (7) offenders have died:

LOCATION	OFFENDERS ON-SITE	OFFENDERS IN HOSPITALS	DEATH OF COVID-19 POSITIVE OFFENDER	TOTAL POSITIVE OFFENDERS onsite + hospital + deaths + releases + recovered + transfers in - transfers out	STAFF active cases including employees & contractors
Appalachian Men's CCAP	0	0	0	0	0
Augusta Correctional Center	0	0	0	0	1
Baskerville Correctional Center	0	0	0	0	1
Bland Correctional Center	0	0	0	0	0
Brunswick CCAP	0	0	0	0	0
Buckingham Correctional Center	44	2	3	113	8
Caroline Correctional Unit	0	0	0	0	0
Central Virginia Correctional Unit #13	1	0	0	57	2
Chesterfield Women's CCAP	0	0	0	0	0
Coffeewood Correctional Center	0	0	0	0	0
Cold Springs CCAP	0	0	0	0	0
Cold Springs Correctional Unit #10	0	0	0	0	0
Deerfield Correctional Center (includes Deerfield Work Centers)	20	1	1	78	3
Dillwyn Correctional Center	121	2	1	322	9
Fluvanna Correctional Center for Women	0	0	0	0	0
Green Rock Correctional Center	0	0	0	0	0
Greensville Correctional Center (includes Greensville Work Center)	190	2	0	193	53

<sup>339</sup> <https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e1.htm>

<sup>340</sup> <https://www.vadoc.virginia.gov/news-press-releases/2020/covid-19-updates/>

LOCATION	OFFENDERS ON-SITE	OFFENDERS IN HOSPITALS	DEATH OF COVID-19 POSITIVE OFFENDER	TOTAL POSITIVE OFFENDERS onsite + hospital + deaths + releases + recovered + transfers in - transfers out	STAFF active cases including employees & contractors
Halifax Correctional Unit	0	0	0	0	0
Harrisonburg Men's CCAP	5	0	0	26	1
Haynesville Correctional Center	114	3	0	246	9
Haynesville Correctional Unit #17	0	0	0	0	0
Indian Creek Correctional Center	0	0	0	0	1
Keen Mountain Correctional Center	0	0	0	0	0
Lawrenceville Correctional Center	0	0	0	0	0
Lunenburg Correctional Center	0	0	0	0	0
Marion Correctional Treatment Center	0	0	0	0	0
Nottoway Correctional Center (includes Nottoway Work Center)	0	0	0	0	4
Patrick Henry Correctional Unit	0	0	0	0	0
Pocahontas State Correctional Center	0	0	0	0	0
Red Onion State Prison	0	0	0	0	0
River North Correctional Center	0	0	0	0	1
Rustburg Correctional Unit	0	0	0	0	0
St. Brides Correctional Center	0	0	0	0	1
Stafford Men's CCAP	0	0	0	0	0
State Farm Correctional Complex	19	1	0	20	17
Sussex I State Prison	0	0	0	0	3
Sussex II State Prison	23	1	1	71	7
Virginia Correctional Center for Women (includes State Farm Work Center)	2	0	1	45	9
Wallens Ridge State Prison	0	0	0	0	2
Wise Correctional Unit	0	0	0	0	0
Probation & Parole — Eastern Region	n/a	n/a	n/a	n/a	0
Probation & Parole — Central Region	n/a	n/a	n/a	n/a	0

LOCATION	OFFENDERS ON-SITE	OFFENDERS IN HOSPITALS	DEATH OF COVID-19 POSITIVE OFFENDER	TOTAL POSITIVE OFFENDERS onsite + hospital + deaths + releases + recovered + transfers in - transfers out	STAFF active cases including employees & contractors
Probation & Parole — Western Region Administration & Operations	n/a	n/a	n/a	n/a	0
TOTALS	539	12	7	1171	132

*Rrjva.org*, Riverside Regional Jail, May 28, 2020, “COVID-19 Information as of May 28, 2020”

“Current Statistics:

Currently we have 45 positive cases of COVID-19 in the inmate population, We also have seven (7) staff members who have tested positive.

....

We have designated several living areas for quarantine. When inmates are initially booked in, they are placed in precautionary quarantine for 14 days. Once they are cleared, they are moved to general population.

Should an inmate test positive in general population, all inmates and staff that have been in contact are isolated and tested. If a significant number of inmates in that area were exposed, the entire living area is placed on isolation.

Staff that test positive are placed on leave until cleared by a physician.”<sup>341</sup>

*Usatoday.com*, April 27, 2020, “Isolated and scared: The plight of juveniles locked up during the coronavirus pandemic”

“Arjanae Avula talks to her younger brother twice a week. Phone calls last about three minutes before they’re cut off. During their last conversation, she said, he was crying.

....

Her 18-year-old brother is at Bon Air Juvenile Correctional Center, a coronavirus hot spot near Richmond, Virginia, where 27 youths and 10 employees have tested positive for COVID-19.”

<sup>341</sup> <https://rrjva.org/wp/covid-19/>



This photo shows the Bon Air Juvenile Correctional Center in Bon Air, Va., Tuesday, April 21, 2020. The Virginia Department of Corrections said Monday that it will dramatically increase testing of inmates as the state struggles to control the spread of the coronavirus in prisons across the state. *Steve Helber, AP*

## 10. Manufacturing

“The manufacturing work environment—production or assembly lines and other areas in busy plants where workers have close contact with coworkers and supervisors [medium risk exposure] — may contribute substantially to workers’ potential exposures. The risk of occupational transmission of SARS-CoV-2 depends on several factors. (Emphasis added).

....

Distinctive factors that affect workers’ risk for exposure to SARS-CoV-2 in manufacturing workplaces include:

- Distance between workers – Manufacturing workers often work close to one another on production or assembly lines. Workers may also be near one another at other times, such as when clocking in or out, during breaks, or in locker/changing rooms.
- Duration of contact – Manufacturing workers often have prolonged closeness to coworkers (e.g., for 8–12 hours per shift). Continued contact with potentially infectious individuals increases the risk of SARS-CoV-2 transmission.
- Type of contact – Manufacturing workers may be exposed to the infectious virus through respiratory droplets in the air—for example, when workers in a plant who have the virus cough or sneeze. It is also possible that exposure could occur from contact with contaminated surfaces or objects, such as tools, workstations, or break room tables. Shared spaces such as break rooms, locker rooms, and entrances/exits to the facility may contribute to their risk.
- Other distinctive factors that may increase risk among these workers include:
  - A common practice at some workplaces of sharing transportation such as ride-share vans or shuttle vehicles, car-pools, and public transportation

- Frequent contact with fellow workers in community settings in areas where there is ongoing community transmission”<sup>342</sup>

## Manufacturing COVID-19 Reports and Statistics

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*NBCnews.com*, May 16, 2020, “Midwest manufacturing workers sound alarm over COVID-19 outbreaks”

“But outbreaks at manufacturing facilities that make everything from wind turbine parts to soap have also sickened scores of workers while garnering far less attention.

....

TPI Composites, a manufacturer of wind blades, shut down its Newton, Iowa, facility after approximately 20 percent of employees tested positive for the coronavirus, according to a May 2 news release.<sup>343</sup> At least one worker has died.

....

Kyle Brown, 54, worked at TPI Composites for eight years, most recently in the maintenance department, his wife, Pamela Dennen, told NBC News in a phone interview. Brown died from COVID-19 on April 29.

....

Almost 500 miles away in Grand Forks, North Dakota, workers said they were ignored in March when they raised alarms about safety conditions at LM Wind Power, a General Electric-owned plant that produces wind turbine blades, according to the company’s website. Weeks later, 145 people tested positive for COVID-19, according to the North Dakota Department of Health. Fifteen of those employees live outside of North Dakota, while 130 are North Dakota residents, the department told NBC News. At least one employee from the plant has died, but GE did not confirm whether it was related to the coronavirus.

....

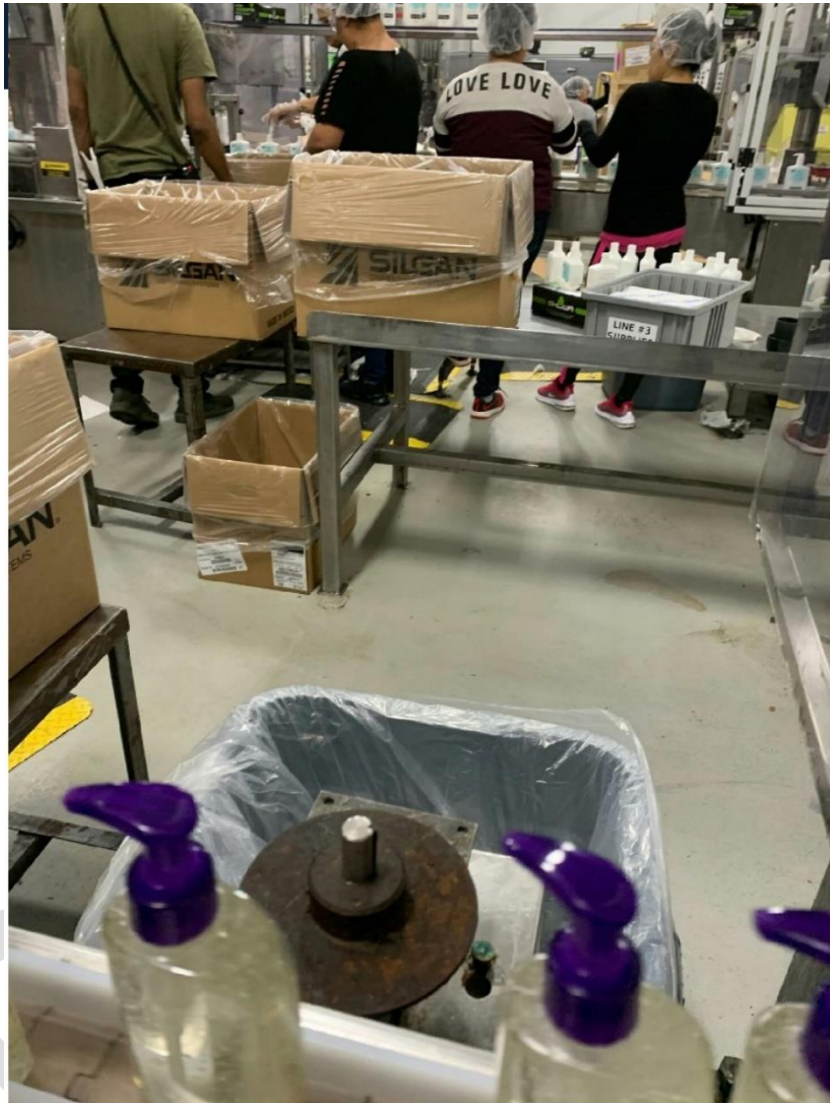
Three weeks after Boushee raised concerns, the outbreak at LM Wind Power

<sup>342</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-manufacturing-workers-employers.html>

<sup>343</sup> <https://www.nbcnews.com/news/us-news/midwest-manufacturing-workers-sound-alarm-over-covid-19-outbreaks-n1207391>

“TPI Composites, Inc. Provides Update on COVID-19 Testing Results of Its Newton, Iowa Associates May 2, 2020. SCOTTSDALE, Ariz., May 02, 2020 (GLOBE NEWSWIRE) -- TPI Composites, Inc. (Nasdaq: TPIC), the only independent manufacturer of composite wind blades with a global footprint, announced today that it has completed COVID-19 testing on nearly all of its Newton, Iowa associates. Following an increase in COVID-19 cases in Jasper, Marshall, and Polk counties, as well as a significant number of positive cases in our plant in Newton, Iowa, and in collaboration with the State of Iowa, TPI proactively conducted mandatory COVID-19 testing for nearly all of its associates at its Newton facility on April 25, 2020. During this time, TPI paused production and undertook another deep clean of the facility. TPI also provided all associates’ family members with surgical masks to help prevent further community spread, and offered hotel rooms to associates who tested negative to allow for isolation. TPI has received the majority of the test results and approximately 20% of its Newton associates have tested positive to date, which is representative of test results in the broader community.”

was so widespread that North Dakota’s Department of Health issued an executive order mandating all plant employees remain under quarantine for two weeks.”<sup>344</sup> (Emphasis added).



— Workers are shown on the manufacturing line at Voyant Beauty in late March. The company makes soaps, lotions and beauty products for major brands in Countryside, Illinois. One temporary worker from Voyant has died from COVID-19, and others said the company hasn't done enough to keep them safe. Chicago Workers Collaborative

Above photo: “Workers are shown on the manufacturing line at Voyant Beauty in late March. The company makes soaps, lotions and beauty products for major brands in Countryside, Illinois. One temporary worker from Voyant has died from COVID-19, and others said the company hasn’t done enough to keep them safe.” (Emphasis added).

## 11. Construction.

The construction work environment contains various hazards and job tasks which

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<sup>344</sup> <https://www.nbcnews.com/news/us-news/midwest-manufacturing-workers-sound-alarm-over-covid-19-outbreaks-n1207391>

present “medium” (close contact) to “lower” risk exposures:

“Potential sources of exposure include having close contact with a coworker or member of the public who is ill with COVID-19 and touching your nose, mouth, or eyes after touching surfaces contaminated with the virus or handling items that others infected with COVID-19 have touched.”<sup>345</sup> (Emphasis added).

[Excerpt from April 27, 2020 NABTU (North American Building Trades Unions) and CPWR (CPWR – The Center for Construction Research and Training) COVID-19 Standards for U.S. Construction Sites]

“Respiratory protection: If workers need to be near each other to perform tasks or when working in close quarters, such as confined space work, they should wear a NIOSH-approved respirator implemented under a full respiratory protection program. NIOSH-approved respirators include filtering facepiece and elastomeric negative or positive pressure half or full facepiece respirators equipped with N95, N99, N100, R95, P95, P99, or P100 filters. Cloth face coverings are not respirators and do not replace physical distancing or respirators required when workers are in close proximity. However, cloth face coverings should be provided in other circumstances when required or recommended by state or local governments.”<sup>346</sup>

[Excerpt from April 30, 2020 Associated General Contractors (AGC) response to “NABTU COVID-19 Standards for U.S. Construction Sites”]

#### “Required Use of Respirators

In accordance with recent guidance issued by the CDC and OSHA, AGC recognizes that requiring workers to cover their mouths and noses will help with preventing the spread of COVID-19. Both agencies have recommended face coverings and/or face masks and not necessarily respiratory protection when social distancing cannot be achieved. It is our concern that the requirement, or mandate, to use respiratory protection will significantly increase the number of contractors who will be required to implement and maintain a written respiratory protection program as nearly every construction worker will, at some point, be required to work within six feet of a coworker to complete an assigned task.

Based on our review of the OSHA Guidance for Preparing Workplaces for COVID-19, which was prepared in partnership with the Department of Health and Human Services, construction would be considered low risk for most operations/tasks. According to the guidance, additional PPE is not recommended for workers in the low exposure risk group. It advises that workers in low risk occupations should continue to use the PPE, if any, that they would ordinarily use for other job tasks. And while some operations/tasks may fall into the medium risk category, the recommended PPE for this category does not specifically state respiratory protection must be worn. In fact, the OSHA guidance states that only in rare situations would workers in this risk category be required to use respirators. It is our belief that this level of protection is

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<sup>345</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/construction-workers.html>

<sup>346</sup> [https://www.cpwr.com/sites/default/files/NABTU\\_CPWR\\_Standards\\_COVID-19.pdf](https://www.cpwr.com/sites/default/files/NABTU_CPWR_Standards_COVID-19.pdf)



unnecessary, and that contractors allowing the use of some form of face covering or face mask will provide adequate protection to affected workers.”<sup>347</sup> (Emphasis added).

### **Construction COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

NOTE: Reports are limited to Virginia and states contiguous to or near Virginia: North Carolina, Washington, DC, Maryland, West Virginia, Georgia, Pennsylvania, and Tennessee as construction contractors from those states are known to regularly conduct work in Virginia.

*Charlotte Observer*, May 22, 2020, “38 test positive for COVID-19 at uptown tower construction site, prompting a shutdown”

“Thirty-eight workers at the construction site for an uptown apartment tower have tested positive for the coronavirus and the project has shut down temporarily, the general contractor said Friday.

As a result of the spike in cases, most of which occurred in the past week, Hoar Construction decided to shut down the job site until June 1, Randall Curtis, the company’s executive vice president and chief operating officer, said in a statement.

While it is closed, Curtis said, Hoar will conduct a deep cleaning and sterilization of the site, which is along North College Street between 8th and 9th streets. Hoar will work with a third-party company to beef up screening on the site when it reopens, he said.”

....

It’s the latest outbreak at a Charlotte construction site, after the general contractor for the expansion of the Charlotte Convention Center confirmed four positive COVID-19 cases on that site earlier this week.

....

Curtis said up until now, Hoar has recommended the use of face coverings, but will now require it for all employees on the site. He said the company has taken a number of measures, including screening employees prior to entering the jobsite, adding handwashing and sanitation stations, and putting up social distancing markers.”<sup>348</sup>

*Newschannel5.com*, Nashville, TN, May 21, 2020, “Mass testing at construction site reveals 74 workers with COVID-19”

“Mass testing of workers at a Nashville construction site has revealed more than 70 cases of COVID-19. The Metro Health Department is monitoring the

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<sup>347</sup> <https://www.agc.org/sites/default/files/Files/Safety%20%26%20Health/NABTU%20Covid%204.30.20.pdf>

<sup>348</sup> <https://www.charlotteobserver.com/news/business/biz-columns-blogs/development/article242928141.html>

site on the campus of Montgomery Bell Academy, a prominent private school off West End Avenue. General Contractor Brasfield & Gorrie is overseeing construction of an athletic facility on the campus.

Emails obtained by News Channel 5 Investigates reveal the "first positive case" on the site was discovered earlier this month. In one email, General Contractor Brasfield & Gorrie "confirmed multiple positive cases of COVID-19 among our subcontractor employees."

The contractor then closed the site for five days for cleaning and testing of workers."<sup>349</sup>

*WataugaDemocrat.com*, Boone, NC, May 14, 2020, "16 App State construction workers test positive for COVID-19"

"Appalachian State announced on May 14 that 16 subcontracted workers for a campus construction project have tested positive for COVID-19. The workers are not Watauga County residents."<sup>350</sup>

*Baltimore Sun*, Baltimore, MD, "As construction in Maryland continues amid coronavirus, some are grateful for work while others worry about safety"

"They're staggering workers, trying to make sure there are fewer electricians, laborers and contractors on building sites at the same time. They're using video when possible to conduct meetings and site visits. But in the world of construction, workers don't always have masks, and they're almost all using the same portable toilets.

....

The state health department said it does not track the number of cases on construction sites, but the Department of General Services said five construction sites are shut down due to possible COVID-19 threats.

*WAMU.org*, Washington, DC, May 6, 2020, "Construction Stops In Parts of the Air and Space Museum After Workers Contract COVID-19"

"Four construction workers at the Smithsonian's National Air and Space Museum have tested positive for COVID-19, leading parts of the site to shutter for a "deep cleaning," the Huffington Post reports."<sup>351</sup>

*WLS.com*, Roanoke, VA, May 5, 2020, "25 COVID-19 cases connected to Cave Spring High School construction work"

"ROANOKE, Va. – More than two dozen coronavirus cases are connected to construction work at a local high school, according to Roanoke County Public

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<sup>349</sup> <https://www.newschannel5.com/news/newschannel-5-investigates/mass-testing-at-construction-site-reveals-74-workers-with-covid-19>

<sup>350</sup> [https://www.wataugademocrat.com/covid19/16-app-state-construction-workers-test-positive-for-covid-19/article\\_303494af-b54d-57f6-8b59-1d75b50b5843.html](https://www.wataugademocrat.com/covid19/16-app-state-construction-workers-test-positive-for-covid-19/article_303494af-b54d-57f6-8b59-1d75b50b5843.html)

<sup>351</sup> <https://wamu.org/story/20/05/04/coronavirus-latest-dc-maryland-virginia-week-of-may4/#smithsonian>

Schools officials.

The president of Avis Construction, Troy Smith, spoke to the Roanoke County school board on Tuesday and reported as many as 25 cases of COVID-19 that are related to construction work at Cave Spring High School.

Smith told school board members that not all 25 cases are construction workers, but rather, some are family members of workers.

**School officials told 10 News that most cases are in workers from different out-of-state subcontractors.**

All work was halted at the Cave Spring High School construction site on Monday, per recommendation from the health department.”<sup>352</sup>  
(Emphasis added).

*DCist.com*, Washington, DC, April 30, 2020, “More COVID-19 Cases Reported At D.C. Construction Sites”

“More than a dozen COVID-19 cases have been reported at a residential construction site in Navy Yard, and it’s not the only site with concerns. Fears over the virus spreading further at the renovation of a congressional office building could lead to a shorter workweek at the site to prevent the spread of the virus.

There have been between 14 and 18 positive COVID cases among construction workers at D.C. Crossing, an 818-unit residential building under construction in Navy Yard, a source tells DCist. (The source asked for anonymity to protect workers at the site who shared information.) A spokesperson for the Maryland-based Clark Construction Group, which is helming the project, confirmed that there had been positive cases in mid-April, but the infected workers had not been at the worksite since. The spokesperson did not confirm how many positive cases there had been.

‘In each instance, Clark quickly performed contact tracing to identify areas of the project and workers that may have been impacted. We have kept the subcontractors and the developer informed of each confirmed case. We have worked with leadership from our subcontracting partners to ensure that workers who may have had contact with the affected individuals have taken appropriate measures in accordance with guidance provided by the CDC, including self-quarantining,’ the spokesperson said.

‘Through our thorough contact tracing and investigation, we have not been able to confirm where the individuals contracted COVID-19,’ they added.

....

Over at the Cannon House Office Building, where Clark Construction is

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<sup>352</sup> <https://www.wsls.com/news/local/2020/05/06/25-covid-19-cases-connected-to-cave-spring-high-school-construction-work/>

conducting an extensive renovation of the 120-year-old building, the possibility of two new positive cases has forced the contractor to close the site from Thursday through Sunday.

....

At least 11 workers at the Cannon House Office Building project have tested positive for COVID-19 so far, as DCist reported last week.”<sup>353</sup>

*Newsbreak.com*, Baltimore, MD, “Worker at Havre de Grace school construction site dies from coronavirus; site shut down day prior when he tested positive”

“Harford County schools and the company managing construction of the new Havre de Grace Middle/High School building shut down the site earlier this week after learning a contracted worker tested positive for the novel coronavirus. The worker died the next day.”<sup>354</sup>

*WJBF.com*, April 16, 2020, “Plant Vogtle asking employees to voluntarily stay home amid COVID-19 outbreak”

“Augusta, Ga. (WJBF) – Representatives at Plant Vogtle tell WJBF they have seen an increase recently in positive COVID-19 cases among the workforce at Units 3 and 4 with over 40 positive test results so far. As a result, Georgia Power is asking for volunteers among the craft worker ranks to stay at home during this COVID crisis.”<sup>355</sup> (Emphasis added).

## 12. Air Transportation.

The air transportation work environment contains various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

“As a customer service representative or gate agent, potential sources of exposure could include assisting a person with COVID-19 in close contact or by touching your mouth, nose, or eyes; or handling passenger items, such as baggage, boarding passes, identification documents, credit cards, and mobile devices.”<sup>356</sup> (Emphasis added).

“For baggage or cargo handlers, while the general risk remains low, potential sources of exposure could include surfaces touched or handled by a person with COVID-19 or by touching your mouth, nose, or eyes.”<sup>357</sup> (Emphasis added).

“As an airport custodial staff, while the general risk remains low, potential sources of exposure could include handling solid waste or cleaning public facilities (such as waste bins, tables, chairs, basins, toilets) with which a person with COVID-19 has interacted or by touching your mouth, nose, or eyes.”<sup>358</sup> (Emphasis added).

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<sup>353</sup> <https://dcist.com/story/20/04/30/more-covid-19-cases-reported-at-d-c-construction-sites/>

<sup>354</sup> <https://www.baltimoresun.com/coronavirus/cng-ag-hdg-school-covid-death-20200410-tuzdevg2s5ghjhdqngy6bdkw3u-story.html>

<sup>355</sup> <https://www.wjbf.com/csra-news/plant-vogtle-asking-employees-to-voluntarily-stay-home-amid-covid-19-outbreak/>

<sup>356</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/airport-customer-factsheet.html>

<sup>357</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/airport-baggage-cargo-handlers.html>

<sup>358</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/airport-custodial-staff.html>

“As an airport passenger service worker, potential sources of exposure can occur from assisting, transporting, or escorting a person with COVID-19 and their belongings or by touching your mouth, nose, or eyes.”<sup>359</sup>

“As an aircraft maintenance worker, you could be exposed to COVID-19 in situations such as when you have close contact with someone with COVID-19, when you touch surfaces while repairing aircraft interiors and lavatories that have been touched or handled by a person with COVID-19, or by touching your mouth, nose, or eyes.”<sup>360</sup> (Emphasis added).

“As an airline catering kitchen worker, you could be exposed to COVID-19 in situations such as having close contact with someone with COVID-19 or touching your mouth, nose, or eyes after handling frequently touched items used by someone with COVID-19 such as catering or food service carts or solid waste.”<sup>361</sup> (Emphasis added).

“As an airline catering truck driver or helper, you could be exposed to COVID-19 in situations such as having close contact with someone with COVID-19 or touching your mouth, nose, or eyes after handling frequently touched items used by someone with COVID-19 such as catering and food service carts, used non-disposable food service items (e.g., utensils and serving trays), and solid waste.”<sup>362</sup> (Emphasis added).

“As an airport retail or food service worker, potential sources of exposure can occur while working in an airport store, bar, restaurant, or food concession stand if you are if in close contact with someone with COVID-19 or by touching your mouth, nose, or eyes after handling items used by someone with COVID-19.”<sup>363</sup> (Emphasis added).

### **Air Transportation COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Travelandleisure.com*, March 27, 2020, “American and United Airlines Both Lose Employees to Coronavirus in Same Week”

“Both American and United Airlines lost employees this week due to complications from the coronavirus. American Airlines flight attendants received the news of the death of their colleague — Paul Frishkorn — on Thursday evening in a joint letter from the airline’s senior VP of flight service and presidents of the Association of Professional Flight Attendants (APFA).

A spokesperson for United also confirmed the death of their employee — Carlos Consuegra, a United ramp worker at Newark Liberty Airport — to T+L.

<sup>359</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/airport-passenger-assistance-workers.html>

<sup>360</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/aircraft-maintenance-workers.html>

<sup>361</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/airline-catering-kitchen-workers.html>

<sup>362</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/airline-catering-truck-drivers.html>

<sup>363</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/airport-retail-factsheet.html>

Consuegra passed away earlier this week.<sup>364</sup>

The 65-year-old Philadelphia-based flight attendant had worked with American Airlines since 1997. He had been twice honored as one of the airline's Flight Service Champions for excellent customer service. He was also a union representative with the APFA.

*NBCnews.com*, April 29, 2020, "TSA says 500 of its employees have tested positive for COVID-19"

"Five hundred people who work for the Transportation Security Administration have tested positive for COVID-19, including four people who died from the disease, the agency said Wednesday.

Of the 500 who tested positive, 208 recovered from the illness caused by the coronavirus, the agency said in a statement.

Almost 40 percent of positive cases were found in employees working in the three major airports serving the greater New York City region."<sup>365</sup>

*USAToday.com*, May 3, 2020, "COVID-19 deaths among FedEx workers in Newark leave families, employees questioning company's response"

"Pamela Pope spent her days doing a mix of work at FedEx's Newark Liberty International Airport facility, from office work to deliveries and helping unload cargo from the dozens of planes flying in and out every day. It was a job she loved, and one the 56-year-old from Neptune, New Jersey, had done for more than half her life.

....

Pope died of coronavirus on April 25, her sister said.

The day prior, eight FedEx Express domestic workers' deaths were cited in an internal document obtained by the Memphis Commercial Appeal and Bergen Record.

At least five fatalities have occurred in Newark, according to family members who spoke with reporters from both newspapers. The death of a sixth person, identified as a FedEx Newark worker on her personal LinkedIn and Facebook accounts, was also attributed to COVID-19 complications in the social media posts of family members. Attempts to reach that family were unsuccessful."<sup>366</sup>

*Tsa.gov*, May 31, 2020, "TSA Confirmed COVID-19 Cases"

"Overall, TSA has had 621 federal employees test positive for COVID-19. 423

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<sup>364</sup> <https://www.travelandleisure.com/airlines-airports/american-united-airlines-confirm-employee-deaths-coronavirus>

<sup>365</sup> <https://www.nbcboston.com/news/national-international/tsa-says-500-of-its-employees-have-tested-positive-for-covid-19/2115915/>

<sup>366</sup> <https://www.usatoday.com/story/news/nation/2020/05/02/coronavirus-least-8-fatal-cases-fedex-workers-complaints-mount/3071150001/>

employees have recovered, and 6 have unfortunately died as a result of the virus. We have also been notified that one screening contractor has passed away due to the virus.”<sup>367</sup>

UPDATE: January 4, 2020<sup>368</sup>

“Since the beginning of the pandemic, TSA has cumulatively had 5,154 federal employees test positive for COVID-19. 4,303 employees have recovered, and 12 have unfortunately died after contracting the virus. We have also been notified that one screening contractor has passed away due to the virus.”

### 13. Ground Transportation.

The ground transportation work environment contains various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

Long-haul Truck Drivers – “As a long-haul truck driver, you spend many hours alone in the cab of your truck. However, there are times when you will be at increased risk of exposure to COVID-19. For long-haul truck drivers, potential sources of exposure include having close contact with truck stop attendants, store workers, dock workers, other truck drivers, or others with COVID-19, and touching your nose, mouth, or eyes after contacting surfaces touched or handled by a person with COVID-19.”<sup>369</sup> (Emphasis added).

Bus Transit Operators – “For bus transit operators, potential sources of exposure include having close contact with a bus passenger with COVID-19, by contacting surfaces touched or handled by a person with COVID-19, or by touching your mouth, nose, or eyes.”<sup>370</sup> (Emphasis added).

Rail Transit Operators – “For rail transit operators, potential sources of exposure include having close contact with a passenger with COVID-19, by contacting surfaces touched or handled by a person with COVID-19, or by touching your mouth, nose, or eyes.”<sup>371</sup> (Emphasis added).

Transit Maintenance Workers – “For transit maintenance workers, potential sources of exposure include close contact with a coworker with COVID-19, contacting surfaces touched or handled by a person with COVID-19, or by touching your mouth, nose, or eyes.”<sup>372</sup> (Emphasis added).

Transit Station Workers – “For transit station workers, potential sources of exposure include having close contact with a transit passenger with COVID-19, by touching surfaces contaminated with coronavirus, or by touching your mouth, nose, or eyes.”<sup>373</sup>

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<sup>367</sup> <https://www.tsa.gov/coronavirus>

<sup>368</sup> <https://www.tsa.gov/coronavirus>

<sup>369</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/long-haul-trucking.html>

<sup>370</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/bus-transit-operator.html>

<sup>371</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/rail-transit-operator.html>

<sup>372</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/transit-maintenance-worker.html>

<sup>373</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/transit-station-workers.html>

(Emphasis added).

Mail and Parcel Delivery Workers – “As a mail and parcel delivery driver, potential sources of exposure include having close contact with co-workers or delivery recipients, or when you touch surfaces touched or handled by a person who has COVID-19.”<sup>374</sup> (Emphasis added).

Rideshare, Taxi, Limo, and other Passenger Drivers-for-Hire – “As a driver-for-hire, potential sources of exposure include having close contact with passengers with COVID-19, or touching surfaces touched or handled by a person with COVID-19.”<sup>375</sup> (Emphasis added).

Food and Grocery Pick-up and Delivery Drivers – “Potential sources of exposure include having close contact with individuals with COVID-19 when picking up or delivering food or groceries, or by touching surfaces touched or handled by a person with COVID-19.”<sup>376</sup> (Emphasis added).

“Coronavirus in the United States—Considerations for Travelers

....

Travel increases your chances of getting and spreading COVID-19. We don’t know if one type of travel is safer than others; however, airports, bus stations, train stations, and rest stops are all places travelers can be exposed to the virus in the air and on surfaces. These are also places where it can be hard to social distance (keep 6 feet apart from other people)....

- Air travel: Air travel requires spending time in security lines and airport terminals, which can bring you in close contact with other people and frequently touched surfaces. Most viruses and other germs do not spread easily on flights because of how air circulates and is filtered on airplanes. However, social distancing is difficult on crowded flights, and you may have to sit near others (within 6 feet), sometimes for hours. This may increase your risk for exposure to the virus that causes COVID-19.
- Bus or train travel: Traveling on buses and trains for any length of time can involve sitting or standing within 6 feet of others....<sup>377</sup> (Emphasis added).

### **Ground Transportation COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Thecity.nyc*, New York City, April 7, 2020 “Bus Drivers Hardest Hit by Deaths as COVID-19 Devastates MTA”

“For 15 years, Ernesto Hernandez drove MTA buses around his home borough of Brooklyn, based out of the Jackie Gleason depot in Sunset Park.

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<sup>374</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/mail-parcel-drivers.html>

<sup>375</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/rideshare-drivers-for-hire.html>

<sup>376</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/food-grocery-drivers.html>

<sup>377</sup> <https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-in-the-us.html>



....

Hernandez, 57, kept that routine, his son said, until he started to feel lousy on March 20. ‘He thought it was allergies,’ Jimenez said. A little more than a week later, Hernandez became one of the MTA’s first COVID-19 fatalities during the pandemic — and one of seven bus operators, so far, to die from coronavirus.

Among the at least 33 subway and bus workers who have died from COVID-19, the MTA’s bus drivers have taken the biggest hit in an agency with more than 74,000 employees.

By comparison, the NYPD has lost 13 members to COVID-19 from a workforce of more than 55,000 people, while the FDNY has suffered two deaths among its more than 40,000 employees.”<sup>378</sup> (Emphasis added).

*Theguardian.com*, April 20, 2020, “Revealed: nearly 100 US transit workers have died of Covid-19 amid lack of basic protections”

“Interviews with union officials, workers and transit authorities in a dozen major cities reveal that:

- At least 94 transit workers have succumbed to coronavirus, according to two national transit unions, New York City transit officials, and workers in New Orleans. This number includes many kinds of workers who keep transit systems running, from mechanics and maintenance workers to bus and subway operators. The number of all transit workers who have died of coronavirus across the US is likely higher.
- The New York City area has seen the majority of American transit worker deaths, with 68 fatalities among employees of the Metropolitan Transportation Authority as of Friday afternoon. Nearly 2,500 MTA transit employees had tested positive, and more than 4,000 were in quarantine, a spokesman said.
- At least 24 more transit union members have died in other cities, according to two major transit unions. Bus drivers have died from coronavirus in Boston; Chicago; St Louis; Detroit; Seattle; Newark and Dover, New Jersey; Richmond, Virginia; and Washington DC, among others. In New Orleans, city bus drivers said they had lost three colleagues to coronavirus, only one of them a union member.”<sup>379</sup> (Emphasis added).

#### 14. Water Transportation.

The water transportation work environment contains various hazards and job tasks which present “high”, “medium” (close contact) and “lower” risk exposures:

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<sup>378</sup> <https://www.thecity.nyc/health/2020/4/7/21216831/bus-drivers-hardest-hit-by-deaths-as-covid-19-devastates-mta>

<sup>379</sup> <https://www.theguardian.com/world/2020/apr/20/us-bus-drivers-lack-life-saving-basic-protections-transit-worker-deaths-coronavirus>

NOTE: Cruise ships provide medical services for passengers, including known or suspected COVID-19 passengers and crew.

### **Water Transportation COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*ABCnews.go.com*, April 14, 2020, “Employees sue Celebrity Cruises over COVID-19 response”

“A class action lawsuit filed Tuesday on behalf of over a thousand Celebrity Cruises employees alleges the company failed to protect its crew members working aboard ships amid the novel coronavirus outbreak.

The suit comes less than two weeks after a crew member working on the Celebrity Infinity died after being medically evacuated by the U.S. Coast Guard. The USCG confirmed the employee had coronavirus-like symptoms.

....

According to the CDC, over the last two months outbreaks on three cruise ships have caused more than 800 confirmed cases of coronavirus in the United States among passengers and crew, including 10 deaths.”<sup>380</sup>

*Businessinsider.com*, April 12, 2020, “All the cruise ships that have had confirmed cases of COVID-19 onboard”

“...Here's a look at the cruise ships at the center of the coronavirus crisis on the high seas.”<sup>381</sup>

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<sup>380</sup> <https://abcnews.go.com/Business/cruise-employees-sue-celebrity-covid-19-response/story?id=70147214>

<sup>381</sup> <https://www.businessinsider.com/cruise-ships-with-confirmed-covid-19-cases-during-coronavirus-pandemic-2020-4>

## Cruise ships with COVID-19 outbreaks

SHIP	PARENT COMPANY	CONFIRMED COVID-19 CASES
<b>Diamond Princess</b>	Carnival Corp.	<b>712</b>
<b>Ruby Princess</b>	Carnival Corp.	<b>612</b>
<b>Oasis of the Seas</b>	Royal Caribbean Cruises	<b>157</b>
<b>Grand Princess</b>	Carnival Corp.	<b>78</b>
<b>Celebrity Eclipse</b>	Royal Caribbean Cruises	<b>76</b>
<b>MS A'Sara</b>	Gate 1 Travel	<b>45</b>
<b>Disney Wonder</b>	Walt Disney Company	<b>38</b>
<b>Costa Luminosa</b>	Carnival Corp.	<b>36</b>
<b>Symphony of the Seas</b>	Royal Caribbean Cruises	<b>31</b>
<b>Artania</b>	Phoenix Reisen	<b>27</b>
<b>Voyager of the Seas</b>	Royal Caribbean Cruises	<b>26</b>
<b>Ovation of the Seas</b>	Royal Caribbean Cruises	<b>23</b>
<b>Carnival Freedom</b>	Carnival Corp.	<b>14</b>
<b>Celebrity Solstice</b>	Royal Caribbean Cruises	<b>11</b>
<b>Zaandam</b>	Carnival Corp.	<b>9</b>
<b>World Dream</b>	Genting Hong Kong	<b>8</b>
<b>Silver Explorer</b>	Royal Caribbean Cruises	<b>6</b>
<b>Costa Favolosa</b>	Carnival Corp.	<b>6</b>
<b>MS Braemar</b>	Bonheur ASA	<b>5</b>
<b>Marella Explorer 2</b>	TUI Group	<b>5</b>
<b>Majesty of the Seas</b>	Royal Caribbean Cruises	<b>2</b>
<b>Costa Magica</b>	Carnival Corp.	<b>2</b>
<b>Celebrity Apex</b>	Royal Caribbean Cruises	<b>2</b>
<b>MSC Opera</b>	Mediterranean Shipping Company	<b>2</b>
<b>Jewel of the Seas</b>	Royal Caribbean Cruises	<b>2</b>
<b>Sun Princess</b>	Carnival Corp.	<b>1</b>
<b>Carnival Valor</b>	Carnival Corp.	<b>1</b>
<b>Celebrity Infinity</b>	Royal Caribbean Cruises	<b>1</b>
<b>Explorer of the Seas</b>	Royal Caribbean Cruises	<b>1</b>
<b>Norwegian Bliss</b>	Norwegian Cruise Line Holdings	<b>1</b>
<b>Norwegian Breakaway</b>	Norwegian Cruise Line Holdings	<b>1</b>
<b>Silver Shadow</b>	Royal Caribbean Cruises	<b>1</b>
<b>Costa Victoria</b>	Carnival Corp.	<b>1</b>
<b>Norwegian Encore</b>	Norwegian Cruise Line Holdings	<b>1</b>
<b>MSC Fantasia</b>	Mediterranean Shipping Company	<b>1</b>

Sources: CDC; The Guardian; KUSI; NBC News; CNN; Independent; Western Australia DOH; The New South Wales Ministry of Health; Australian Broadcasting Corporation; Holland America PR; Miami Herald; COVID-19 Cruise Tracker; NY Times; USA Today; Seatrade Cruise News; WKBN; South Florida Sun Sentinel; SILive.com; WESH; TUI Group; Cruise Law News; The Daily Mail; Axios

Updated as of April 9, 2020.

BUSINESS INSIDER

The post-secondary and higher education work environments contains various hazards and job tasks which present “high”, “medium” (close contact) and “lower” risk exposures:

NOTE: Many colleges and universities provide on campus medical services for suspected covid-19 students. College and university affiliated hospitals provide medical services for suspected COVID-19 and COVID-19 positive students and members of the general public.

“Considerations for Institutes of Higher Education (IHE)

....

The more an individual interacts with others, and the longer that interaction, the higher the risk of COVID-19 spread. The risk of COVID-19 spread increases in IHE non-residential and residential (i.e., on-campus housing) settings as follows:

- Lowest Risk: Faculty and students engage in virtual-only learning options, activities, and events.
- More Risk: Small in-person classes, activities, and events. Individuals remain spaced at least 6 feet apart and do not share objects (e.g., hybrid virtual and in-person class structures or staggered/rotated scheduling to accommodate smaller class sizes).
- Highest Risk: Full-sized in-person classes, activities, and events. Students are not spaced apart, share classroom materials or supplies, and mix between classes and activities.”<sup>382</sup>

### **Post-secondary and Higher Education COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

WBEZ.org, April 2, 2020, “A City Colleges Of Chicago Employee Has Died Of COVID-19. Staffers Say Conditions Are Unsafe.”

“Employees at Wright College, one of the City Colleges of Chicago, are mourning the death of a campus clerical worker, Carmelita Cristobal, who died of complications from COVID-19 on March 30. Employees remembered Cristobal as a beautiful person. ‘If you needed help, she helped you,’ said Audrey Butler, executive vice president of the clerical workers. Butler worked with Cristobal, who was 71, for years. She said Cristobal’s husband had contracted the virus as well.

Staffers are accusing City Colleges' leadership of failing to do enough to ensure employee safety. At least nine cases have been confirmed at multiple campuses so far. Union leaders representing faculty and staff painted a chaotic picture of safety protocols across the seven colleges during a virtual press

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<sup>382</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/colleges-universities/considerations.html>

conference Thursday.”<sup>383</sup>

*Clickondetroit.com*, Detroit, MI, “Wayne State University employee studying at college for degree in sociology dies from coronavirus”

“A Wayne State University employee who was also studying for a degree in sociology at the college died from complications related to the coronavirus, WSU president Roy Wilson announced Saturday.

Darrin Adams worked at WSU for almost six years as a custodian primarily in the Manoogian Hall.

‘This pandemic has hit Detroit hard, and we have all watched with great concern as the cases in our city have mounted. Unfortunately, our campus is not immune. We have had a number of cases, and now we mourn the loss of one of our employees.’<sup>384</sup>

16. Child Care Programs, Pre-school, Elementary, and Secondary Education.

The child care, pre-school, elementary, secondary education work environments contains various hazards and job tasks which present “high”, “medium” (close contact) and “lower” risk exposures:

NOTE: Some schools provide on campus medical/nursing services for suspected COVID-19 students.

School Nutrition Professionals – “For school nutrition professionals...working in meal preparation and/or distribution at a school/school district site or other public settings, potential sources of exposure include close contact with co-workers, students, and families with COVID-19 and touching your nose, mouth, or eyes after touching contaminated surfaces or handling items that others infected with COVID-19 have touched. Currently there is no evidence to support transmission of COVID-19 is spread through food.”<sup>385</sup> (Emphasis added).

US K-12 Schools and Child Care Programs – “Schools, working together with local health departments, have an important role in slowing the spread of diseases to help ensure students have safe and healthy learning environments. Schools serve students, staff, and visitors from throughout the community. All of these people may have close contact in the school setting, often sharing spaces, equipment, and supplies.

Information about COVID-19 in children is somewhat limited, but the information that is available suggests that children with confirmed COVID-19 generally had mild symptoms. Person-to-person spread from or to children, as among adults, is thought to occur mainly via respiratory droplets produced when an infected person coughs,

<sup>383</sup> <https://www.wbez.org/stories/a-city-colleges-of-chicago-employee-has-died-of-covid-19-staffers-say-conditions-are-unsafe/4e12e670-cd2b-4d32-9352-a4bbe9aa9708>

<sup>384</sup> <https://www.clickondetroit.com/news/local/2020/04/04/wayne-state-university-employee-studying-at-college-for-degree-in-sociology-dies-from-coronavirus/>

<sup>385</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/school-nutrition-professionals.html>

sneezes, or talks. Recent studies indicate that people who are infected but do not have symptoms likely also play a role in the spread of COVID-19.

However, a small percentage of children have been reported to have more severe illness. Older adults and people who have serious underlying medical conditions are at highest risk of severe illness from COVID-19. Despite lower risk of serious illness among most children, children with COVID-19-like symptoms should avoid contact with others who might be at high risk for severe illness from COVID-19.<sup>386</sup> (Emphasis added).

### **Child Care Programs, Pre-school, Elementary, and Secondary Education.COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*WTVR.com*, Richmond, VA, May 27, 2020, “Richmond principal diagnosed with COVID-19; his wife hospitalized”

“Parents and students who picked-up computers or supplies from Richmond’s Mary Munford Elementary School over the last two weeks have been asked to self-isolate for 14 days.

That’s because the school’s principal Greg Muzik was at those events and has since tested positive for COVID-19.

‘The only time that we’ve had any kind of event of any kind where I was around a lot of people was the computer distribution,’ Muzik told CBS 6 via Zoom on Wednesday. Muzik notified parents about his diagnosis on the school’s PTA website.

‘Both my wife and I have tested positive for COVID,’ he wrote. ‘So far I am doing just fine and just isolating at home.’

....

The school system indicated the employee was asymptomatic while attending events at the school.”<sup>387</sup>

*ABC7ny.com*, New York City, NY, May 11, 2020, “Coronavirus News: 30 teachers among 74 DOE employees to die of COVID-19”

The New York City Department of Education said it has now lost 74 employees to COVID-19. On Monday, official announced the two new deaths. All but four of the 74 DOE employees who died were based in schools across the city. The other 70 school-based employees include:

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<sup>386</sup> [https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/guidance-for-schools.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-for-schools.html](https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/guidance-for-schools.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-for-schools.html)

<sup>387</sup> <https://www.wtvr.com/news/local-news/richmond-principal-diagnosed-with-covid-19-families-told-to-self-isolate>

- 28 are paraprofessionals
- 30 are teachers
- 2 are food service staffers
- 2 are administrators
- 2 are facilities staff
- 2 are school aides
- 2 are guidance counselors
- 1 is a parent coordinator
- 1 is a School Computer Technology Specialist<sup>388</sup>

*Blog.edweek.org*, April 30, 2020, “A Third of Teachers Are at Higher Risk of Severe Illness From COVID-19”

“As states begin to consider what reopening schools might look like, a new analysis of federal data warns that teachers could be more susceptible to severe illness from COVID-19.

About 29 percent of teachers are aged 50 and older, federal data show. Older adults are at higher risk for severe illness from COVID-19—92 percent of deaths related to the disease in the United States were of people aged 55 and older, and that age group also has higher rates of coronavirus-related hospitalizations than younger adults. And as the brief report by the research group Child Trends points out, teachers have significantly more social contact than the average adult, since they're in close quarters with dozens of students every day.

Already, teachers' workplaces rank among the "germiest"—one study found that teachers have nearly 27 times more germs on their computer keyboards than other professions studied. Teachers report that they frequently come down with colds and other garden-variety illnesses over the course of the school year. After all, children are "effective transmitters of respiratory germs," Donna Mazyck, the executive director of the National Association of School Nurses, told Education Week earlier this year.

The immune system naturally deteriorates with age, the Child Trends report notes. Also, teachers are more likely to report being stressed at work than average people, and some research suggests that stress can weaken the immune system.”<sup>389</sup>

#### 17. Restaurants and Bars.

The restaurants and bars work environment contains various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

<sup>388</sup> <https://abc7ny.com/teacher-deaths-doe-department-of-education-schools/6173896/>

<sup>389</sup>

[https://blogs.edweek.org/teachers/teaching\\_now/2020/04/a\\_third\\_of\\_teachers\\_are\\_at\\_higher\\_risk\\_of\\_severe\\_illness\\_from\\_covid-19.html](https://blogs.edweek.org/teachers/teaching_now/2020/04/a_third_of_teachers_are_at_higher_risk_of_severe_illness_from_covid-19.html)

“The more an individual interacts with others, and the longer that interaction, the higher the risk of COVID-19 spread. The risk of COVID-19 spread increases in a restaurant or bar setting as follows:

- Lowest Risk: Food service limited to drive-through, delivery, take-out, and curbside pickup.
- More Risk: Drive-through, delivery, take-out, and curbside pickup emphasized. On-site dining limited to outdoor seating. Seating capacity reduced to allow tables to be spaced at least 6 feet apart.
- Even More Risk: On-site dining with both indoor and outdoor seating. Seating capacity reduced to allow tables to be spaced at least 6 feet apart.
- Highest Risk: On-site dining with both indoor and outdoor seating. Seating capacity not reduced and tables not spaced at least 6 feet apart.<sup>390</sup>

### **Restaurants and Bars COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*CNN.com, May 24, 2020, Ozarks, MI, “Pool party at Lake of the Ozarks in Missouri draws a packed crowd”*

“Video posted by a reporter shows partiers [at a bar] crowded together in a pool at the Lake of the Ozarks, Missouri, this Memorial Day weekend.

....

The gathering violates social distancing measures intended to limit the spread of Covid-19. As part of Missouri's reopening plan announced earlier this month, state officials said restaurants may offer dining-in services but must adhere to social distancing and other precautionary public health measures.



<sup>390</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/business-employers/bars-restaurants.html>



The bar posted on Facebook that this was its launch of a summer party called 'Zero Ducks Given Pool Party.' It advertised several DJs and bands performing throughout the event. The venue has worked with and taken the advice of government officials and management teams and will be following social distancing guidelines. Extra precautions and safety measures will be taken to provide a safe environment for you to enjoy the event,' the bar said.

*USAtoday.com*, May 29, 2020, "Lake of the Ozarks pool party tests positive for coronavirus"

"SPRINGFIELD, Missouri -- A week after images of Memorial Day weekend revelers jammed into a Lake of the Ozarks pool party at Backwater Jack's Bar & Grill in Osage Beach made international headlines, the Camden County Health Department announced that a Boone County resident tested positive for the novel coronavirus after visiting the Lake of the Ozarks area over the holiday weekend.

The Boone County subject arrived at the lake on Saturday, May 23, and "developed illness" on Sunday, according to a news release obtained by LakeNewsOnline.com, which like the News-Leader is part of the USA TODAY Network.

The infected person "was likely incubating illness and possibly infectious at the time of the visit," the health department said."<sup>391</sup>

*Ny.eater.com*, May 22, 2020, "Coronavirus, Those We've Lost"

"In NYC, where COVID-19 has hit harder than anywhere else in the country, the number of people dying in the restaurant industry is growing.

...

Only three weeks after COVID-19 cases were confirmed in New York City, the metropolis became the epicenter of the virus in the United States. Restaurants and bars completely shut down for dine-in service on March 16. And weeks later, the virus has shown a dramatic and tragic impact on people within the dining community.

Top chefs and restaurateurs like Floyd Cardoz, neighborhood stalwarts like butcher Moe Albanese, and lesser-known, behind-the-scene chefs like Jesus Roman Melendez from Jean-Georges Vongerichten's Nougatine have all died due to the virus. As of Thursday, May 21, in NYC, more than 200,000 people have tested positive for COVID-19 and 20,491 people have died.

....

Jimmy Glenn, 89, bar owner

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Lloyd Porter, 49, restaurateur

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<sup>391</sup> <https://www.usatoday.com/story/news/health/2020/05/29/lake-ozarks-pool-party-missouri-resident-coronavirus/5288079002/>

....  
Michael Halkias, 82, event space owner  
....  
Jonathan Adewumi, 57, restaurateur  
....  
Victor Morales, 33, bar assistant  
....  
Deodoro Monge Gutierrez, chef and restaurateur  
....  
Miguel Grande, 52, chef  
....  
Domingo Vega, 45, restaurateur and chef  
....  
Vincent Mesa, 76, chef  
....  
Vincent Cirelli Sabatino, 68, food vendor  
....  
Jose Torres, 73, chef and restaurateur  
....  
Miguel Torres, chef  
....  
Samuel Hargress, Jr., 84, bar owner  
....  
Panayiotis Peter Panayiotou, 65, restaurateur  
....  
Kathleen Elizabeth McNulty, 80, restaurateur  
....  
Joe Joyce, 74, bar owner  
....  
Moe Albanese, 95, butcher  
....  
Kamal Ahmed, 69, hotel banquet worker  
....  
Joseph Migliucci, 81, restaurateur  
....  
Kosta Kasimis, 84, restaurateur  
....  
Jesus Roman Melendez, 49, chef  
....  
Andreas Koutsoudakis, 59, restaurateur  
....  
Floyd Cardoz, 59, restaurateur and chef<sup>392</sup>

18. Grocery Store and Food Retail (Including General Retail).

The grocery store and food retail work environments contain various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

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<sup>392</sup> <https://ny.eater.com/2020/5/6/21229781/nyc-coronavirus-death-restaurant-workers-chefs>

“As a grocery or food retail worker, potential sources of exposures include close contact for prolonged periods of time with a customer with COVID-19 and touching your nose, mouth, or eyes after handling items, cash, or merchandise that customers with COVID-19 have touched.”<sup>393</sup>

### **Grocery Store and Food Retail COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Boston.com*, May 27, 2020, Quoting story from the *Washington Post*, “COVID-19 has killed 100 grocery store workers. Vitalina Williams was one of the first.”

“The couple [David and Vitalina Williams] worked at grocery stores near their Salem home: Vitalina Williams as a cashier at a Market Basket in Salem and security at a Walmart in Lynn, while David Williams stocked shelves at a Market Basket in Danvers. When the coronavirus pandemic hit the United States in March, they were concerned but needed to pick up extra hours to pay bills. Both were given gloves but no masks.”

By the end of March, both were sick with COVID-19, the disease the virus causes. He recovered quickly, but her condition continued to deteriorate. On March 28, she was hospitalized and put on a ventilator. A week later, she died. Vitalina Williams was 59.

“As somebody who shared everything with her, it rattles in the back of my head, ‘Did I give it to her?’ ” he said. “‘Did I get it first and give it to her, or did she give it to me?’ To be honest, I don’t know.”

The Williamses’ jobs were deemed essential — putting them at grave risk of infection. At least 5,500 grocery store employees have tested positive for the novel coronavirus since late March, according to a recent Washington Post investigation and 100 workers have died of the virus. Vitalina Williams was one of the first.

....

David Williams stocks shelves, constantly changing out of his latex gloves as he wears holes into them. He isn’t sure whether his wife regularly wore gloves or whether she caught the virus at work. But two other employees at the Market Basket location where Vitalina Williams worked tested positive around the time she died.”<sup>394</sup> (Emphasis added).

*Richmond.com*, Richmond, VA, May 15, 2020, “Half of people around Richmond aren't wearing masks to go to the store. We counted.”

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<sup>393</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/grocery-food-retail-workers.html>

<sup>394</sup> <https://www.boston.com/news/coronavirus/2020/05/27/covid-19-has-killed-100-grocery-store-workers-vitalina-williams-was-one-of-the-first>

“After weeks of saying that healthy people didn’t need to wear masks in public, elected leaders and health officials across the country in April reversed course and began recommending them in stores and places where it’s difficult to stay 6 feet apart. You can’t get on a plane or in an Uber without one. People are required to wear one when they leave home in New York.

But in Virginia, you can still get into a Walmart, or a Home Depot or an ABC store with an uncovered face.

Richmond Times-Dispatch reporters spent nearly 15 hours observing nearly 2,900 people entering stores for groceries and other supplies in the city and neighboring localities this week. More than half — 1,480 — didn’t wear a mask or other face covering. Two dozen more were doing it wrong: A woman walked into the Home Depot in Chester on Wednesday with a black headband wrapped behind her neck and over her mouth, with nothing covering her nose.

....

A recent study and computer model from the University of California, Berkeley’s International Computer Science Institute and Hong Kong University of Science and Technology suggested that if 80% of people would wear masks in public, the spread of the coronavirus would plummet. But the impact of masks falls dramatically in the model if the rate of people using them dips below 50%.

....

The message on masks has been jumbled since the coronavirus spread here in March: Officials with the U.S. Centers for Disease Control and Prevention and the World Health Organization initially said people shouldn’t wear them, as the world grappled with a shortage of specialized N95 masks for medical personnel and first responders.

The agencies reversed course last month, announcing that face coverings can help keep people from infecting others — even if they don’t protect the wearer.”<sup>395</sup> (Emphasis added).

*9news.com*, Colorado, May 16, 2020, “Costco & Walmart among grocery stores with COVID-19 outbreaks”

“There are now six grocery stores with COVID-19 outbreaks in Colorado.

Data released from the Colorado Department of Health and Environment (CDPHE) on Wednesday shows 67 confirmed COVID-19 staff cases in grocery stores throughout Colorado, four probable staff cases and three deaths.

....

These are the six grocery stores in Colorado with COVID-19 outbreaks:

King Soopers - 1155 E. 9th Ave., Denver, 8 confirmed staff cases  
Costco - 1470 South Havana St., Aurora, 6 confirmed staff cases

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<sup>395</sup> [https://www.richmond.com/special-report/coronavirus/half-of-people-around-richmond-arent-wearing-masks-to-go-to-the-store-we-counted/article\\_7cd4a541-986b-5a1e-b4e9-b0e7f99147d3.html](https://www.richmond.com/special-report/coronavirus/half-of-people-around-richmond-arent-wearing-masks-to-go-to-the-store-we-counted/article_7cd4a541-986b-5a1e-b4e9-b0e7f99147d3.html)

Walmart - 14000 E. Exposition Ave., Aurora, 14 confirmed staff cases and 3 deaths  
Mi Pueblo Market, 9171 Washington St., Thornton, 19 confirmed staff cases  
Carniceria Sonora, 347 N. 1st St., Montrose, 7 confirmed staff cases  
City Market, 400 N. Parkway, Breckenridge, 13 confirmed staff cases and 4 probable staff cases<sup>396</sup> (Emphasis added).

*Businessinsider.com*, April 13, 2020, “At least 30 grocery store workers have died from the coronavirus, and their colleagues are pleading for shoppers to wear masks and respect social distancing”

“ At least 30 grocery store workers have died from the coronavirus so far, and at least 3000 have stopped working because they've been exposed or gotten sick.

In a media call on Monday, the United Food and Commercial Workers International Union, or UFCW, told journalists that over 30 of its members had died from the coronavirus. UFCW, which represents about 1.3 million grocery store workers and food processing workers, is pushing for increased protection from the government for its members. The union is asking the CDC to classify grocery workers as first responders, and to give them priority for testing and protective equipment.

Those 30 deaths are only the ones the union has accounted for, said UFCW president Marc Perrone. There are many chains, such as Whole Foods and Trader Joe's, that aren't part of the union and aren't included in the data UFCW collects.

....

In a survey conducted by the UFCW of 5000 grocery store workers, 85% of respondents said they had seen customers violating social distancing guidelines.<sup>397</sup> (Emphasis added).

## **General Retail**

*Detroitnews.com*, May 15, 2020, “Michiganians flock to Ohio to enjoy state's reopening”

“Ohio Gov. Mike DeWine on Friday restarted parts of his state's economy, with selected businesses opening for the first time since he issued a stay-at-home order on March 22 in response to the coronavirus emergency.

Michiganians like Hamade of Temperance flocked across the border for goods and services still not available in their own state. Dozens of vehicles bearing Michigan license plates were parked outside Toledo businesses that reopened Friday.

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<sup>396</sup> <https://www.9news.com/article/news/health/coronavirus/costco-walmart-among-grocery-store-covid-19-outbreaks/73-bde0be4d-e1e3-41f1-a56d-8cf2356d6dde>

<sup>397</sup> <https://www.businessinsider.com/grocery-store-worker-deaths-from-coronavirus-at-least-30-nationwide-2020-4>

....

Hilary Wilcox said she understands that "Michigan is a little crazier" than Ohio as far as being impacted by the COVID-19 virus. Ohio has reported 26,954 COVID cases, with 1,581 deaths. That compares to 50,079 cases and 4,825 deaths in Michigan as of Friday.

"I'm just excited Ohio is opening up, and that I live close enough to drive here," said Wilcox, 31, who made the 75-mile trip from her Wixom home to enjoy her version of normal — an afternoon of lunch and shopping with her friend.

....

Rylee Rasmussen, 19, and her 14-year-old sister, Ragean Rasmussen, of Carleton in Monroe County said their shopping excursion Friday was their first since Whitmer imposed the original stay-at-home order March 24.

"It feels weird," Rylee Rasmussen said as she and her sister strolled through the Dick's Sporting Goods store in Franklin Park Mall. "We're not really looking for anything; we just wanted to get out."

Like most of the store's customers, the sisters did not wear masks.<sup>398</sup>



#### 19. Drug Stores and Pharmacies.

The drug store and pharmacy work environments contain various hazards and job tasks which present “high”, “medium” (close contact) and “lower” risk exposures:

“Reduce risk during COVID-19 testing and other close-contact pharmacy care services

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<sup>398</sup>Photo: Hilary Wilcox of Wixom spent Friday afternoon shopping at Franklin Park Mall in Toledo. (Photo: Max Ortiz, The Detroit News)” (Emphasis added).

Pharmacies that are participating in public health testing for COVID-19 should communicate with local and state public health staff to determine which persons meet the criteria for testing. State and local health departments will inform pharmacies about procedures to collect, store, and ship specimens appropriately, including during afterhours or on weekends/holidays. Some pharmacies are including self-collection options.

In the “CDC Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings,” there is guidance for collecting respiratory specimens.

Pharmacy staff conducting COVID-19 testing and other close-contact patient care procedures that will likely elicit coughs or sneezes (e.g., influenza and strep testing) should be provided with appropriate PPE. Staff who use respirators must be familiar with proper use and follow a complete respiratory protection program that complies with OSHA Respiratory Protection standard (29 CFR 1910.134). Staff should also have training in the appropriate donning and doffing of PPE. Cloth face coverings should NOT be worn by staff instead of a respirator or facemask if more than source control is required.”<sup>399</sup>

### **Drug Stores and Pharmacies COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Propublica.org*, April 9, 2020, “Pharmacy Workers Are Coming Down With COVID-19. But They Can’t Afford to Stop Working.”

“A few days later, during routine calls to customers about medication ready for pickup, Peralta learned that the customer whom he had helped had tested positive for COVID-19. Peralta notified his manager that he may have been exposed to the virus. The manager checked with headquarters and told him to keep working, Peralta said.

Toward the end of March, Peralta and two colleagues started to come down with telltale symptoms: A loss of smell and taste. Fatigue. Body aches. He realized that he might be laid up for weeks — far longer than his sick pay would last.

....

Without sufficient safeguards, pharmacies could become vectors for spreading the coronavirus within communities, according to Denis Nash, a professor of epidemiology at the CUNY School of Public Health. “This is not a hospital setting per se, but it is a busy place where sick people may be going at a time when transmission of SARS-CoV-2 is high,” he said.”<sup>400</sup>

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<sup>399</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/pharmacies.html>

<sup>400</sup> <https://www.propublica.org/article/pharmacy-workers-are-coming-down-with-covid-19-but-they-cant-afford-to-stop-working>

20. Personal Care, Personal Grooming, Salon, and Spa Services.

The personal care, personal grooming, salon, and spa services work environment contains various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

**Personal Care, Personal Grooming, Salon, and Spa Services COVID-19 Reports and Statistics**

The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.

CNN.com, Missouri, May 24, 2020, “A second hairstylist who worked while symptomatic potentially exposed 56 clients to Covid-19, officials say”

“The Springfield-Greene Health Department announced Saturday that a second hairstylist tested positive for coronavirus, and may have exposed 56 clients at the same Great Clips salon. A day earlier, officials had said another hairstylist with coronavirus at the same salon potentially exposed 84 customers and seven coworkers. Both stylists had symptoms while at work, officials said. They did not provide details on their conditions or when they tested positive.”<sup>401</sup> (Emphasis added).

CNN.com, Missouri, May 23, 2020, “A hairstylist worked while symptomatic and exposed 91 people to coronavirus”

“A hairstylist with coronavirus worked for eight days this month while symptomatic, exposing as many as 91 customers and coworkers in Missouri, health officials said.

‘In this instance, the 84 customers exposed got services from the hairstylist at Great Clips,’ said Clay Goddard, director of the Springfield-Greene County Health Department. In addition to the customers, seven coworkers were also notified of exposure.

It's unclear when the stylist tested positive but the infection is believed to have happened while traveling. The stylist worked May 12 through Wednesday, health officials said Friday. At the time, businesses such as barbershops and hair salons were allowed to operate in the state.

‘The individual and their clients were wearing face coverings. The 84 clients potentially directly exposed will be notified by the Health Department and be offered testing, as will seven coworkers,’ the Springfield-Greene County Health Department said in a statement.’ It is the hope of the department that because face coverings were worn throughout this exposure timeline, no additional cases will result.”<sup>402</sup>

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<sup>401</sup> <https://www.cnn.com/2020/05/24/us/missouri-hairstylists-coronavirus-clients-trnd/index.html>

<sup>402</sup> <https://www.cnn.com/2020/05/23/us/missouri-hairstylist-coronavirus-trnd/index.html>



(Emphasis added).

*ABC7News.com*, California, May 7, 2020, “Coronavirus: First case of COVID-19 community spread in California tracked to nail salon, Newsom reveals in press conference”

“The first case of community spread of novel coronavirus in California can be tracked back to a nail salon, Gov. Gavin Newsom revealed in a press conference Thursday.

The announcement wasn't part of the governor's prepared remarks; he mentioned it in only in response to a question about why churches and salons aren't being allowed to open in Stage 2 of the state's reopening.

‘This whole thing started in the state of California - the first community spread - in a nail salon. I just want to remind you, remind everybody, of that. I'm very worried about that.’

‘Community spread’ means the virus was locally contracted, not from traveling to a foreign country or by being in close proximity who recently traveled to a foreign country.

The first case of community spread in California was known to have occurred in Solano County in February. The county told ABC7 News, ‘Solano Public Health cannot confirm this information and we did not release this information when the first COVID-19 community spread occurred.’

Nail salons, spas, barbershops and the like are included in Stage 3 of reopening. They are considered higher risk environments because the business necessitates close proximity between people. Newsom pointed out that nail technicians typically wear face masks and even sometimes gloves, yet COVID-19 was apparently still transmitted. That makes the reopening of such businesses particularly challenging.”<sup>403</sup>

21. Sports and Entertainment, and Mass Gatherings.

The sports and entertainment venue work environments contain various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

“Large events and mass gatherings can contribute to the spread of COVID-19 in the United States via travelers who attend these events and introduce the virus to new communities. Examples of large events and mass gatherings include conferences, festivals, parades, concerts, sporting events, weddings, and other types of assemblies. These events can be planned not only by organizations and communities but also by individuals.

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<sup>403</sup> <https://abc7news.com/first-case-of-coronavirus-in-california-nail-salon-covid-nails/6161231/>

Larger gatherings (for example, more than 250 people) offer more opportunities for person-to-person contact and therefore pose greater risk of COVID-19 transmission.

....

Based on what is currently known about the virus, spread from person-to-person happens most frequently among close contacts (within 6 feet).”<sup>404</sup>

### **Sports and Entertainment, and Mass Gatherings COVID-19 Reports and Statistics**

The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.

*Bleacherreport.com*, “Timeline of Coronavirus' Impact on Sports”

“Saturday, March 14

10:44 p.m.: Cleveland State women's basketball head coach Chris Kielsmeier has tested positive for COVID-19, the school announced, per ESPN.

8:05 p.m.: ESPN's Adrian Wojnarowski and Stadium and The Athletic's Shams Charania reported that Detroit Pistons big man Christian Wood tested positive for the coronavirus. Per Charania, Wood "has shown no symptoms and is doing well." The 24-year-old played on March 7 against the Utah Jazz, who have two players (Rudy Gobert and Donovan Mitchell) who have tested positive for the coronavirus.

....

Tuesday, March 17

....

3:57 p.m.: The Brooklyn Nets announced four players tested positive for the coronavirus. Only one of the four is showing symptoms. The organization says it's currently notifying anyone who has had known contact with the players, including recent opponents.

....

Thursday, March 19

....

7:17 p.m.: Two Los Angeles Lakers players tested positive for COVID-19, per Shams Charania of Stadium and The Athletic. Mark Medina of USA Today reported Wednesday that "the majority" of Lakers players received tests that morning at the team's practice facility in El Segundo, California. Charania noted that the Lakers may test other players who did not take part in those tests.

6:11 p.m.: The Philadelphia 76ers announced three members of the organization have received positive tests for the coronavirus.”<sup>405</sup>

*Richmond Times Dispatch*, April 16, 2020, “Dozens protest social distancing orders as Virginia's death toll passes 200”

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<sup>404</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/large-events/mass-gatherings-ready-for-covid-19.html>

<sup>405</sup> <https://bleacherreport.com/articles/2880569-timeline-of-coronavirus-impact-on-sports>



A Virginia Capitol Police officer asked demonstrators to maintain social distancing guidelines during Thursday's protest at Capitol Square. Organizers plan to hold another protest May 1.

DANIEL SANGJIB MIN/RTD

“A Virginia Capitol Police officer asked demonstrators to maintain social distancing guidelines during Thursday’s protest at Capitol Square. Organizers plan to hold another protest May 1.”

## 22. Homeless Shelters.

The homeless shelter work environments contain various hazards and job tasks which present “high”, “medium” (close contact) and “lower” risk exposures:

“People experiencing homelessness are at risk for infection during community spread of COVID-19.

....

Continuing homeless services during community spread of COVID-19 is critical, and homeless shelters should not close or exclude people who are having symptoms or test positive for COVID-19 without a plan for where these clients can safely access services and stay.

Decisions about whether clients with mild illness due to suspected or confirmed COVID-19 should remain in a shelter, or be directed to alternative housing sites, should be made in coordination with local health authorities. Community coalitions should identify additional temporary housing and shelter sites that are able to provide appropriate services, supplies, and staffing. Ideally, these additional sites should include:

- Overflow sites to accommodate shelter decompression (to reduce crowding)

and higher shelter demands

- Isolation sites for people who are confirmed to be positive for COVID-19
- Quarantine sites for people who are waiting to be tested, or who know that they were exposed to COVID-19
- Protective housing for people who are at highest risk of severe COVID-19

Depending on resources and staff availability, non-group housing options (such as hotels/motels) that have individual rooms should be considered for the overflow, quarantine, and protective housing sites.”<sup>406</sup>

### **Homeless Shelter COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Voiceofoc.org, Orange County, CA, May 29, 2020, “Coronavirus Outbreak Hits Second Orange County Homeless Shelter”*

“The Fullerton Armory’s replacement shelter at Independence Park has become the second Orange County homeless shelter to have an outbreak of coronavirus cases, according to county officials.

....

The Fullerton outbreak was about a week ago, and people who tested positive were moved into the county’s motel sheltering program, county Chief Executive Officer Frank Kim said Friday in response to Voice of OC’s questions.

....

Late Friday, county spokeswoman Molly Nichelson said two people tested positive at one shelter in OC and 11 people at another, none of whom were hospitalized. She declined to say which shelter had two cases and which had 11, citing privacy.

The first known shelter outbreak was at the Salvation Army shelter in Anaheim, where two staff members tested positive for coronavirus in late March. It wasn’t clear if more people have since tested positive at the Anaheim shelter.”<sup>407</sup> (Emphasis added).

*KHOU.com, Houston, TX, May 25, 2020, “77 positive coronavirus cases reported at Houston homeless shelter”*

“Eichenbaum said 69 residents and eight staff members have now tested positive at one shelter. ‘I consider it a spike, it seems to be isolated right now,’ Eichenbaum said. The cases are all at the Men’s Development Center downtown. Right now, it’s not accepting new clients and the city is vowing to

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<sup>406</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/homeless-shelters/plan-prepare-respond.html>

<sup>407</sup> <https://voiceofoc.org/2020/05/coronavirus-outbreak-hits-second-orange-county-homeless-shelter/>

increase homeless testing.”<sup>408</sup> (Emphasis added).

### 23. Fitness, Gyms, and Exercise Facilities.

The fitness, gyms, and exercise facility work environments contain various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

“During 24 days in Cheonan, South Korea, 112 persons were infected with severe acute respiratory syndrome coronavirus 2 associated with fitness dance classes at 12 sports facilities. Intense physical exercise in densely populated sports facilities could increase risk for infection. Vigorous exercise in confined spaces should be minimized during outbreaks.

....

By March 9, we identified 112 COVID-19 cases associated with fitness dance classes in 12 different sports facilities in Cheonan (Figure). All cases were confirmed by RT-PCR; 82 (73.2%) were symptomatic and 30 (26.8%) were asymptomatic at the time of laboratory confirmation. Instructors with very mild symptoms, such as coughs, taught classes for  $\approx 1$  week after attending the workshop (Appendix). The instructors and students met only during classes, which lasted for 50 minutes 2 times per week, and did not have contact outside of class.

On average, students developed symptoms 3.5 days after participating in a fitness dance class (3). Most (50.9%) cases were the result of transmission from instructors to fitness class participants; 38 cases (33.9%) were in-family transmission from instructors and students; and 17 cases (15.2%) were from transmission during meetings with coworkers or acquaintances.

....

Characteristics that might have led to transmission from the instructors in Cheonan include large class sizes, small spaces, and intensity of the workouts. The moist, warm atmosphere in a sports facility coupled with turbulent air flow generated by intense physical exercise can cause more dense transmission of isolated droplets. Classes from which secondary COVID-19 cases were identified included 5–22 students in a room  $\approx 60$  m<sup>2</sup> during 50 minutes of intense exercise. We did not identify cases among classes with  $< 5$  participants in the same space.

Of note, instructor C taught Pilates and yoga for classes of 7–8 students in the same facility at the same time as instructor B (Figure; Appendix Table 2), but none of her students tested positive for the virus. We hypothesize that the lower intensity of Pilates and yoga did not cause the same transmission effects as those of the more intense fitness dance classes.”<sup>409</sup>, <sup>410</sup>

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<sup>408</sup> <https://www.khou.com/article/news/health/coronavirus/77-positive-covid-19-cases-at-houston-homeless-shelter/285-f8ad7306-cb8d-4471-b8bb-4ce310ebd3a7>

<sup>409</sup> [https://wwwnc.cdc.gov/eid/article/26/8/20-0633\\_article](https://wwwnc.cdc.gov/eid/article/26/8/20-0633_article)

<sup>410</sup> *Id.* “A limitation of our study is the unavailability of a complete roster of visitors to the sports facilities, which might have meant we missed infections among students during surveillance and investigation efforts. Discovery of outbreak cases centered on exercise facilities led to a survey of instructors who participated in a fitness dance workshop and provided clues to identifying additional cases among students. Early identification of asymptomatic persons with RT-PCR–confirmed infections helped block further transmissions. Because of the increased possibility of infection

## 24. Call Centers.

The call center work environments contain various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

“Coronavirus Disease Outbreak in Call Center, South Korea

....

We describe the epidemiology of a coronavirus disease (COVID-19) outbreak in a call center in South Korea. We obtained information on demographic characteristics by using standardized epidemiologic investigation forms. We performed descriptive analyses and reported the results as frequencies and proportions for categorical variables. Of 1,143 persons who were tested for COVID-19, a total of 97 (8.5%, 95% CI 7.0%–10.3%) had confirmed cases.

Of these, 94 were working in an 11th-floor call center with 216 employees, translating to an attack rate of 43.5% (95% CI 36.9%–50.4%). The household secondary attack rate among symptomatic case-patients was 16.2% (95% CI 11.6%–22.0%). Of the 97 persons with confirmed COVID-19, only 4 (1.9%) remained asymptomatic within 14 days of quarantine, and none of their household contacts acquired secondary infections.

....

However, if we restrict our results to the 11th floor, the attack rate was as high as 43.5%. This outbreak shows alarmingly that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) can be exceptionally contagious in crowded office settings such as a call center. The magnitude of the outbreak illustrates how a high-density work environment can become a high-risk site for the spread of COVID-19 and potentially a source of further transmission. Nearly all the case-patients were on one side of the building on 11th floor.

Severe acute respiratory syndrome coronavirus, the predecessor of SARS-CoV-2, exhibited multiple superspreading events in 2002 and 2003, in which a few persons infected others, resulting in many secondary cases. Despite considerable interaction between workers on different floors of building X in the elevators and lobby, spread of COVID-19 was limited almost exclusively to the 11th floor, which indicates that the duration of interaction (or contact) was likely the main facilitator for further spreading of SARS-CoV-2.

....

In summary, this outbreak exemplifies the threat posed by SARS-CoV-2 with its propensity to cause large outbreaks among persons in office workplaces.”<sup>411 412</sup>

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through droplets, vigorous exercise in closely confined spaces should be avoided during the current outbreak, as should public gatherings, even in small groups.”

<sup>411</sup> [https://wwwnc.cdc.gov/eid/article/26/8/20-1274\\_article](https://wwwnc.cdc.gov/eid/article/26/8/20-1274_article)

<sup>412</sup> *Id.* “This outbreak investigation has several limitations. First, we could not track these cases to another cluster, making it difficult to identify the actual index case-patient. Second, not all clinical information was available for all confirmed cases, prohibiting detailed description of clinical syndromes. Date of symptom onset by office seat would be informative in understanding SARS-CoV-2 transmission in close contact area. However, our findings demonstrate the power of screening all potentially exposed persons and show that early containment can be implemented and used in the middle of national COVID-19 outbreak. By testing all potentially exposed persons and their contacts to facilitate the isolation of symptomatic and asymptomatic COVID-19 case-patients, we might have helped interrupt transmission

## Call Center COVID-19 Reports and Statistics

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Martinsvillebulletin.com, Martinsville, VA, May 13, 2020, “Martinsville call center Young Williams sees outbreak of COVID-19, including one death”*

“An outbreak of COVID-19 has hit a Martinsville call center that has had six positive cases and one death among its employees.”

A spokesperson for the Virginia Department of Social Services confirmed via email that six employees of Young Williams Child Support Services, located in the Clocktower Building off Commonwealth Boulevard, have tested positive for the virus as of Wednesday morning.”<sup>413</sup>

### 25. Package Processing Facilities.

The package processing facility work environment contains various hazards and job tasks which present “medium” (close contact) to “lower” risk exposures:

“...production or assembly lines and other areas in busy plants where workers have close contact with coworkers and supervisors—may contribute substantially to workers’ potential exposures.”<sup>414</sup>

### **Package Processing Facilities COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*NBCnews.com, May 21, 2020,” Eighth Amazon warehouse worker dies from COVID-19”*

“Another Amazon warehouse worker has died from COVID-19, bringing the total known deaths to eight employees, the company said Thursday.

The female employee worked in packing at the fulfillment center outside Cleveland in North Randall, Ohio, known as CLE2, Amazon said. She had been with the company since November 2018.

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chains. In light of the shift to a global pandemic, we recommend that public health authorities conduct active surveillance and epidemiologic investigation in this rapidly evolving landscape of COVID-19.”

<sup>413</sup> [https://www.martinsvillebulletin.com/news/local/martinsville-call-center-young-williams-sees-outbreak-of-covid-19-including-one-death/article\\_4d116bb4-0dbd-58b4-bc21-984a9faa3053.html](https://www.martinsvillebulletin.com/news/local/martinsville-call-center-young-williams-sees-outbreak-of-covid-19-including-one-death/article_4d116bb4-0dbd-58b4-bc21-984a9faa3053.html)

<sup>414</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-manufacturing-workers-employers.html>, NOTE: The CDC guidance in this document is for manufacturing workers, but to the extent that work conditions at package processing facilities mirror the work activities described in the document, the same exposure risk level analysis can be reasonably applied to package processing facilities.

The employee last went to work on April 30, the same day she was diagnosed, said Amazon spokesperson Lisa Levandowski. The e-commerce giant learned of her positive test results on May 8 and was informed of her death by her sister-in-law on May 18.

....

NBC News has confirmed that seven other Amazon warehouse workers have died after testing positive for coronavirus in Staten Island, New York; Waukegan, Illinois; Hawthorne, California; Tracy, California; Bethpage, New York; Jeffersonville, Indiana; and Indianapolis, Indiana.”<sup>415</sup> (Emphasis added).

*Washingtonpost.com*, March 25, 2020, “Amazon workers test positive for covid-19 at 10 U.S. warehouses”

“The U.S. coronavirus outbreak has spread to at least 10 Amazon warehouses, infecting workers racing to deliver massive volumes of packages for consumers leery of leaving their homes to shop.

In the past few days, workers tested positive for covid-19 at Amazon warehouses and shipping facilities across the country, from New York to California and Michigan to Texas. In some cases, Amazon shut down facilities for cleaning, and some workers who were in close contact with their infected colleagues have been quarantined.

26. Emergency Responders Including Police, Fire, Emergency Medical Services.

The emergency responder work environment contains various hazards and job tasks which present “high”, “medium” (close contact) to “lower” risk exposures:

“Emergency medical services (EMS) play a vital role in responding to requests for assistance, triaging patients, and providing emergency medical treatment and transport for ill persons. However, unlike patient care in the controlled environment of a healthcare facility, care and transports by EMS present unique challenges because of the nature of the setting, enclosed space during transport, frequent need for rapid medical decision-making, interventions with limited information, and a varying range of patient acuity and jurisdictional healthcare resources.”<sup>416</sup> (Emphasis added).

**Emergency Responder COVID-19 Reports and Statistics**

*The following is not intended to be an exhaustive list of COVID-19 outbreaks in this industry.*

*Thecity.nyc*, New York City, April 7, 2020 “Bus Drivers Hardest Hit by Deaths as COVID-19 Devastates MTA”

“By comparison, the NYPD has lost 13 members to COVID-19 from a

<sup>415</sup> <https://www.yahoo.com/lifestyle/eighth-amazon-warehouse-worker-dies-003500221.html>

<sup>416</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>



workforce of more than 55,000 people, while the FDNY has suffered two deaths among its more than 40,000 employees.”<sup>417</sup> (Emphasis added).

*Pressherald.com*, “Seven state public health and emergency workers report COVID-19 symptoms”

“Seven employees who work at the Maine Emergency Management Agency experienced symptoms similar to COVID-19 and called in sick Thursday, forcing the state to shift its daily media briefing to a virtual event.”<sup>418</sup>

*Ems1.com*, May 4, 2020, “COVID-19: EMS Deaths, Tracking the coronavirus-related deaths of EMTs and paramedics”

“As COVID-19 continues to spread around the country, the first responders on the front lines are increasingly vulnerable of contracting the virus. As was feared, the death toll now includes a growing number of EMS personnel.

What follows is a compilation of the reports, by state, of EMS personnel who have died of coronavirus-related complications. For cities with multiple diagnoses, the links are ordered chronologically, with the top being the most recent.

Note: Not all of these deaths have been confirmed as line-of-duty deaths. Deputy Chief Billy Goldfeder shared an update from the Public Safety Officers’ Benefits program as to how COVID-19 deaths will be classified.

#### COLORADO

Denver — Colo. paramedic, Paul Cary, 66, dies from COVID-19

#### MICHIGAN

Huron Township — Mich. paramedic and former fire Lt., Paul Novicki, 51, dies from COVID-19

#### MISSISSIPPI

Natchez — Miss. AMR paramedic, David Martin, dies from COVID-19 complications

#### MISSOURI

Kansas City — Mo. EMT, Billy Birmingham, dies from COVID-19

#### NEW JERSEY

Passaic — City of Passaic firefighter-EMT, Israel Tolentino, 33, has died from COVID-19

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<sup>417</sup> <https://www.thecity.nyc/health/2020/4/7/21216831/bus-drivers-hardest-hit-by-deaths-as-covid-19-devastates-mta>

<sup>418</sup> <https://www.pressherald.com/2020/05/28/maine-reports-3-more-deaths-52-additional-covid-19-cases/>

Hackensack — Past Hackensack Volunteer Ambulance Corps captain and life member, Reuven Maroth, dies from COVID-19

Newark — EMT Liana Sá, of Monmouth-Ocean Hospital Service Corporation and Watchung Rescue Squad, dies from COVID-19

Pompton Lakes — North Bergen and Saint Clare's Hospital EMT Kevin Leiva, 24, dies from COVID-19 complications

Bergen County — Physician and NJSEA EMS member, Dr. Frank Molinari, has died from COVID-19

Monmouth County — NJ firefighter-EMT, Robert Weber, dies from COVID-19 complications

West Orange — RWJBarnabas Health EMS educator, Robert Tarrant, has died from COVID-19

Elizabeth — Trinitas Regional Medical Center EMT, Solomon Donald, dies from COVID-19

Chatham — Atlantic Health EMS educator, former Chatham police captain, Bill Nauta, 72, dies from COVID-19

Morristown — Atlantic Mobile Health EMT, Scott Geiger, dies due to COVID-19 complications

Bergen County — Firefighter, EMS instructor and NJSEA EMT, John Ferrarella, dies from COVID-19

Woodbridge — NJ volunteer EMS chief, John Careccia, 74, dies from COVID-19

Bergen County — NJ EMT, former fire chief, David Pinto, 70, dies from COVID-19 complications

## NEW YORK

New York City — FDNY ambulance mechanic, James Villecco, 55, dies from COVID-19

New York City — FDNY EMT and 9/11 responder, Gregory Hodge, 59, dies from COVID-19

New York City — NYU Langone Hospital paramedic, former FDNY EMS member, Tony Thomas, dies from COVID-19

Valley Stream — LODD: NY firefighter-EMT and 9/11 responder, Mike Field, dies from COVID-19

New York City — FDNY EMT, John Redd, 63, dies due to COVID-19

New York City — FDNY EMT, Idris Bey, 60, dies due to COVID-19

New York City — FDNY EMT, 30-year EMS veteran, Richard Seaberry, 63, dies due to COVID-19

Blooming Grove — NY ambulance volunteer, Sal Mancuso, 66, dies from COVID-19

#### PENNSYLVANIA

Delaware County — Pa. first responders, healthcare professionals mourn paramedic, Kevin Bundy, who died from COVID-19

Robesonia — Pa. assistant fire chief and EMT, Robert Zerman, 49, dies from COVID-19<sup>419</sup>

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<sup>419</sup> <https://www.ems1.com/coronavirus-covid-19/articles/covid-19-ems-deaths-jk5zWFziwYVYUaM4/>

## ATTACHMENT B: CURRENT LAWS AND REGULATIONS

### RECOGNIZED MITIGATION STRATEGIES FOR COVID-19 NOT COVERED BY VOSH REGULATIONS OR STANDARDS

#### VA. CODE §40.1-51(A), THE “GENERAL DUTY CLAUSE”

Neither OSHA nor VOSH has a regulation specific to SARS-CoV-2 or COVID-19 or infectious diseases generally.<sup>420</sup>

Certain VOSH regulations (identical to OSHA counterparts unless otherwise noted) can be used to address some SARS-CoV-2 or COVID-19 hazards.

#### 1. VOSH Regulations

##### a. General Industry.

General requirements to provide personal protective equipment to employees in General Industry are contained in:

1910.132 (Personal Protective Equipment)<sup>421</sup>,

1910.133 (Eye and Face Protection)<sup>422</sup>, however, the scope of the regulation is limited to exposure “to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.” It does not reference exposure to airborne biological hazards.

1910.134 (Respiratory Protection)<sup>423</sup>,

1910.138 (Hand Protection)<sup>424</sup>

1910.141 (Sanitation)<sup>425</sup>

1910.142 (Temporary Labor Camps)<sup>426</sup>

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<sup>420</sup> Following the H1N1 virus outbreak in 2009, the AFL-CIO petitioned OSHA on May 28, 2009 for an infectious disease standard to be promulgated. In 2010, OSHA published a Request for Information toward developing an infectious disease standard, held stakeholder meetings, and conducted site visits. A regulatory framework document was created. In Spring 2017, on OSHA’s Regulatory Agenda an infectious disease standard was placed under long term action. No subsequent actions have been taken by OSHA toward this standard during the current administration. <https://www.osha.gov/dsg/id/>. The AFL-CIO has again recently petitioned OSHA for a standard covering COVID-19 exposure risks, and on May 18, 2020 filed a petition in the U.S. Circuit Court of Appeals for the District of Columbia asking the court to order OSHA to promulgate such a rule. *In re: AFL-CIO*, dkt. no. 20-1158 (D.C. Cir. 2020).

<sup>421</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132>

<sup>422</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.133>

<sup>423</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134>

<sup>424</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.138>

<sup>425</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.141>

<sup>426</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.142>

1910.1200 (Hazard Communication)<sup>427</sup> (i.e., regulatory requirements for employee use of certain cleaning chemicals)

1910.1045 (Occupational Exposure to Hazardous Chemicals in Laboratories)<sup>428</sup>

b. Construction Industry.

1926.21(b)(2)<sup>429</sup> (Safety Training and Education)

1926.59 (Hazard Communication)<sup>430</sup> (i.e., regulatory requirements for employee use of certain cleaning chemicals)

1926.28<sup>431</sup> and 1926.95<sup>432</sup>, (Personal Protective Equipment)

NOTE: The Construction Industry does not have a requirement comparable to 1910.132(d) which requires General Industry employers to conduct a written workplace assessment to “determine if hazards are present, or are likely to be present, which necessitate the use of” PPE.<sup>433</sup>

1926.102 (Eye and Face Protection)<sup>434</sup>; however, the scope of the regulation is limited to exposure “to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.” It does not reference exposure to airborne biological hazards.

1926.103 (Respiratory Protection)<sup>435</sup>

NOTE: The Construction Industry Standards do not have a “Hand Protection” regulation similar to 1910.138.

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<sup>427</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1200>

<sup>428</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1450>

<sup>429</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.21>

<sup>430</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.59>

<sup>431</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.28>

<sup>432</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.95>

<sup>433</sup> 1910.132(d), Hazard assessment and equipment selection.

1910.132(d)(1), The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall:

1910.132(d)(1)(i), Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;

1910.132(d)(1)(ii), Communicate selection decisions to each affected employee; and,

1910.132(d)(1)(iii), Select PPE that properly fits each affected employee.

Note: Non-mandatory appendix B contains an example of procedures that would comply with the requirement for a hazard assessment.

1910.132(d)(2)

The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.

<sup>434</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.102>

<sup>435</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.103>

16VAC25-160<sup>436</sup> (Construction Industry Sanitation Standard – Virginia unique regulation that is the functional equivalent of 1926.51 for Construction), sanitation requirements are limited to “Toilet facilities shall be operational and maintained in a clean and sanitary condition.”

c. Agriculture Industry.

1928.21(a)(1)<sup>437</sup> (Temporary Labor Camps, 1910.142 applies to agricultural operations)

1928.21(a)(5)<sup>438</sup> (Hazard Communication, 1910.1200 applies to agricultural operations) (i.e., regulatory requirements for employee use of certain cleaning chemicals)

1910.142 (Temporary Labor Camps)<sup>439</sup> applies to the Agriculture Industry

16VAC25-180<sup>440</sup> (Field Sanitation - Virginia unique regulation that is the functional equivalent of 1928.110 for Agriculture), sanitation requirements are limited to “(3) Maintenance. Potable drinking water and toilet and handwashing facilities shall be maintained in accordance with appropriate public health sanitation practices, including the following:

(i) Drinking water containers shall be constructed of materials that maintain water quality, shall be refilled daily or more often as necessary, shall be kept covered and shall be regularly cleaned.

(ii) Toilet facilities shall be operational and maintained in clean and sanitary condition.

(iii) Handwashing facilities shall be refilled with potable water as necessary to ensure an adequate supply and shall be maintained in a clean and sanitary condition; and

(iv) Disposal of wastes from facilities shall not cause unsanitary conditions.

NOTE: There are no regulatory requirements in the Agriculture Industry for PPE, including respiratory protection.

d. Maritime Industry.

NOTE: VOSH has jurisdiction of state and local government maritime related activities only. OSHA retains jurisdiction over private sector maritime activities in Virginia.

1915.88<sup>441</sup>, Shipyard Employment (Sanitation)

<sup>436</sup> <https://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+16VAC25-160-10>

<sup>437</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1928/1928.21>

<sup>438</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1928/1928.21>

<sup>439</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.142>

<sup>440</sup> <https://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+16VAC25-180-10>

<sup>441</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1915/1915.88>

1915.152<sup>442</sup>, Shipyard Employment (Personal Protective Equipment)

1915.153<sup>443</sup>, Shipyard Employment (Eye and Face Protection); however, the scope of the regulation is limited to exposure “to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.” It does not reference exposure to airborne biological hazards.

1915.154<sup>444</sup>, Shipyard Employment (Respiratory Protection)

1915.157<sup>445</sup>, Shipyard Employment (Hand and Body Protection)

1917.127<sup>446</sup>, Marine Terminal Operations (Sanitation)

1917.1(a)(2)(vi)<sup>447</sup>, Marine Terminal Operations (Hazard Communication, 1910.1200)

1917.92 and 1917.1(a)(2)(x)<sup>448</sup>, Marine Terminal Operations (Respiratory Protection, 1910.134)

1917.91<sup>449</sup>, Marine Terminal Operations (Eye and Face Protection)

1917.95<sup>450</sup>, Marine Terminal Operations (PPE, Other Protective Measures)

1918.95<sup>451</sup>, Longshoring (Sanitation)

1918.90<sup>452</sup>, Longshoring (Hazard Communication)

1918.102<sup>453</sup> Longshoring (Respiratory Protection)

1918.101<sup>454</sup> Longshoring (Eye and Face Protection)

## 2. Recognized Mitigation Strategies for COVID-19 Not Covered by VOSH Regulations or Standards.

There are no VOSH or OSHA regulations or standards that would require:

Physical distancing of at least six feet where feasible (also known as Social Distancing)

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<sup>442</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1915/1915.152>

<sup>443</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1915/1915.153>

<sup>444</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1915/1915.154>

<sup>445</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1915/1915.157>

<sup>446</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1917/1917.127>

<sup>447</sup> [https://www.osha.gov/laws-regs/regulations/standardnumber/1917/1917.1#1917.1\(a\)\(2\)\(ix\)](https://www.osha.gov/laws-regs/regulations/standardnumber/1917/1917.1#1917.1(a)(2)(ix))

<sup>448</sup> *Id.*

<sup>449</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1917/1917.91>

<sup>450</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1917/1917.95>

<sup>451</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1918/1918.95>

<sup>452</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1918/1918.90>

<sup>453</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1918/1918.102>

<sup>454</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1918/1918.101>

Disinfection of work areas where known or suspected COVID-19 employees or other persons accessed or worked<sup>455</sup>

Employers to develop policies and procedures for employees to report when they are sick or experiencing symptoms consistent with COVID-19

Employers to, prior to the commencement of each work shift, prescreen of employees and other persons to verify each employee or person is not COVID-19 symptomatic

Employers to prohibit known and suspected COVID-19 employees and other persons from reporting to or being allowed to remain at work or on a job site until cleared for return

Employers to develop and implement policies and procedures for known COVID-19 or suspected COVID-19 employees to return to work using either a symptom-based or test-based strategy depending on local healthcare and testing circumstances

Employers to prohibit COVID-19 positive employees from reporting to or being allowed to remain at work or on a job site until cleared for return to work

Employers to provide employees assigned to work stations and in frequent contact with other persons inside six feet with alcohol based hand sanitizers at their workstations

Employers with hazards or job tasks classified at very high, high, or medium exposure risk to develop a written Infectious Disease Preparedness and Response Plan

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<sup>455</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.141>

1910.141(a)(3)(i) provides that “All places of employment shall be kept **clean** to the extent that the nature of the work allows.” (Emphasis added). The term “sanitary” is not used, although it is used in reference to “washing facilities”, “waste disposal”, “food storage”, “sweepings”, and “drinking water”.

1910.141(a)(4)(i) provides that “Any receptacle used for putrescible solid or liquid waste or refuse shall be so constructed that it does not leak and may be thoroughly cleaned and maintained in a **sanitary** condition. Such a receptacle shall be equipped with a solid tight-fitting cover, unless it can be maintained in a **sanitary** condition without a cover. This requirement does not prohibit the use of receptacles which are designed to permit the maintenance of a **sanitary** condition without regard to the aforementioned requirements.” (Emphasis added).

1910.141(a)(4)(ii) provides that “All sweepings, solid or liquid wastes, refuse, and garbage shall be removed in such a manner as to avoid creating a menace to health and as often as necessary or appropriate to maintain the place of employment in a **sanitary** condition.” (Emphasis added).

1910.141(b)(1)(iii) provides that “Portable drinking water dispensers shall be designed, constructed, and serviced so that **sanitary** conditions are maintained, shall be capable of being closed, and shall be equipped with a tap.” (Emphasis added).

1910.141(d)(1) provides that “Washing facilities shall be maintained in a **sanitary** condition.” (Emphasis added).

1910.141(g)(3) provides that “Waste disposal containers. Receptacles constructed of smooth, corrosion resistant, easily cleanable, or disposable materials, shall be provided and used for the disposal of waste food. The number, size, and location of such receptacles shall encourage their use and not result in overfilling. They shall be emptied not less frequently than once each working day, unless unused, and shall be maintained in a **clean and sanitary** condition. Receptacles shall be provided with a solid tight-fitting cover unless **sanitary** conditions can be maintained without use of a cover.” (Emphasis added).

1910.141(g)(4) provides that “**Sanitary** storage. No food or beverages shall be stored in toilet rooms or in an area exposed to a toxic material.” (Emphasis added).



Employee training on SARS-CoV-2 and COVID-19 hazards, with the exception of 1926.21(b)(2) referenced above for the Construction Industry

NOTE: Employers that provide training to employees will be able to avail themselves of an affirmative defense to VOSH citations and penalties known as the “Employee Misconduct Defense,” which is codified in VOSH regulation 16 VAC 25-60-260.B:<sup>456</sup>

B. A citation issued under subsection A of this section to an employer who violates any VOSH law, standard, rule, or regulation shall be vacated if such employer demonstrates that:

1. Employees of such employer have been provided with the proper training and equipment to prevent such a violation;
2. Work rules designed to prevent such a violation have been established and adequately communicated to employees by such employer and have been effectively enforced when such a violation has been discovered;
3. The failure of employees to observe work rules led to the violation; and
4. Reasonable steps have been taken by such employer to discover any such violation. (Emphasis added)

In order for an employer to avail themselves of the above affirmative defense, which can result in dismissal of COVID-19 citations and penalties, they have to be able to demonstrate that employees were trained on hazards regulated by and the requirements of the ETS/ER. Including a training requirement in the ETS/ER will assure that employers have preserved an important legal right.

3. Va. Code §40.1-51(a), the “General Duty Clause”.

While neither OSHA nor VOSH has a regulation specific to SARS-CoV-2 or COVID-19, Va. Code §40.1-51(a), otherwise known as the “general duty clause” (the Virginia equivalent to §5(a)(1))<sup>457</sup> of the OSH Act of 1970), provides that:

“It shall be the duty of every employer to furnish to each of his employees safe employment and a place of employment which is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees....”

While Congress intended that the primary method of compliance and enforcement under the

<sup>456</sup> <https://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+16VAC25-60-260>

<sup>457</sup> [https://www.osha.gov/laws-regs/oshact/section\\_5](https://www.osha.gov/laws-regs/oshact/section_5), 29 U.S.C. § 654(a)(1).

OSH Act of 1970 would be through the adoption of occupational safety and health standards<sup>458</sup>, it also provided the general duty clause as an enforcement tool that could be used in the absence of an OSHA (or VOSH) regulation.

As is evident from the wording of the general duty statute, it does not directly address the issue of SARS-CoV-2 or COVID-19 related hazards. While preferable to no enforcement tool at all, the general duty clause does not provide either the regulated community, employees, or the VOSH Program with substantive and consistent requirements on how to reduce or eliminate SARS-CoV-2 or COVID-19 related hazards.

Federal case law has established that the general duty clause can be used to address “serious” recognized hazards to which employees of the cited employer are exposed through reference to such things as national consensus standards, manufacturer’s requirements, requirements of the Centers for Disease Control (CDC), or an employer’s safety and health rules.

However, there are limitations to use of the general duty clause that make it problematic to enforce and result in its infrequent use. The recent 2019 decision of the Occupational Safety and Health Review Commission’s (OSHRC) in *Secretary of Labor v. A. H. Sturgill Roofing, Inc.*,<sup>459</sup> demonstrates the complexities and difficulties of establishing a heat-related illness general duty “recognized hazard” and accompanying violation in a case where an employee of a roofing contractor collapsed and later died with a diagnosis of heat stroke where the employee’s core body temperature was determined to be 105.4°F.<sup>460</sup>

One limitation of use of the general duty clause can result in unfortunate outcomes in at a worksite with multiple employers. For instance, a general duty clause violation can only be issued to an employer whose own employees were exposed to the alleged hazardous condition.<sup>461</sup> In the context of a COVID-19 situation, consider a subcontractor who sends one employee to a multi-employer worksite who is COVID-19 positive and knowingly allows that employee to work around disease free employees of a second subcontractor, which results in the transmission of the disease to one or more of the second contractors’ employees.

In such a situation, because no uninfected employees of the first contractor were exposed to the disease at the worksite, the contractor who created the hazard could not be issued a general duty violation or accompanying monetary penalty.

There is no ability to cite “other-than-serious” general duty violations (“other than serious” violations normally do not carry a monetary penalty) because the statutory language specifies that the hazard be one that is “causing or likely to cause death or serious physical harm.”

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<sup>458</sup> *The Law of Occupational Safety and Health*, Nothstein, 1981, page 259.

<sup>459</sup> OSHRC Docket No. 13-0224, <https://www.oshrc.gov/assets/1/18/A.H. Sturgill Roofing Inc.%5E13-0224%5EComplete Decision signed%5E022819%5EFINAL.pdf?8324>

<sup>460</sup> *Id.* at pages 2-3, Contributing factors included that the worker had some preexisting medical conditions, it was his first day on the job, and the outside temperature at the time of collapse was estimated to be 82°F with 51 percent relative humidity. The work took place on a flat roof with periods of direct sun alternating with clouds; and involved removing a single-ply sheet rubber membrane and Styrofoam insulation so that a new roof could be installed.

<sup>461</sup>

[https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\181\GDoc\\_DOLI\\_5354\\_v6.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\181\GDoc_DOLI_5354_v6.pdf), VOSH Field Operations Manual (FOM), Chapter 10, page 18)

In the context of the COVID-19 pandemic, the primary problem with the use of the general duty clause is the inability to use it to enforce any national consensus standard, manufacturer's requirements, CDC recommendations, or employer safety and health rules which use "should," "may," "it is recommended," and similar non-mandatory language.<sup>462</sup>

a. Use of the General Duty Clause to Enforce OSHA and CDC Guidelines.

All of the "Guidelines" published by OSHA, both of general application and directed to specific industries are by their own wording, unenforceable under the General Duty Clause:

"This guidance is not a standard or regulation, and it creates no new legal obligations. It contains recommendations as well as descriptions of mandatory safety and health standards. The recommendations are advisory in nature, informational in content, and are intended to assist employers in providing a safe and healthful workplace."<sup>463</sup>

With regard to CDC guidelines generally, as an example, its "Meat and Poultry Processing Workers and Employers, Interim Guidance from CDC and the Occupational Safety and Health Administration (OSHA)"<sup>464</sup> states that:

"All meat and poultry processing facilities developing plans for continuing operations in the setting of COVID-19 occurring among workers or in the surrounding community should (1) work directly with appropriate state and local public health officials and occupational safety and health professionals; (2) incorporate relevant aspects of CDC guidance, including but not limited to this document and the CDC's Critical Infrastructure Guidance; and (3) incorporate guidance from other authoritative sources or regulatory bodies as needed."<sup>465</sup> (Emphasis added).

The above-referenced CDC Interim Guidance document contains very little "mandatory" language:

- "shall" is never used
- "much" is used 8 times but mostly with regard to OSHA regulatory requirements
- "should" is used 56 times
- "may" is used 39 times
- "recommend" or "recommendation" is used 7 times

In addition, the large majority of CDC's documents providing employers with mitigation strategies for COVID-19 identify them as "recommendations" rather than mandatory requirements, which makes use of the General Duty Clause to enforce them very problematic.

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<sup>462</sup> Courts and the [Occupational Safety and Health Review] Commission have held that OSHA must define an alleged hazard in such a way as to give the employer fair notice of its obligations under the OSH Act. In *Ruhlin Co.* [*Ruhlin Co.*, 21 OSH Cases 1779], the Commission held that the employer 'lacked fair notice that it could have an obligation under section 5(a)(1) to require its employees to wear high visibility vests.' The Commission found that a May 2004 interpretive letter by OSHA refers to a provision of the Federal Highway Administration manual which contained optional, not mandatory language."

<sup>463</sup> <https://www.osha.gov/Publications/OSHA3990.pdf>, at page 2.

<sup>464</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/meat-poultry-processing-workers-employers.html>

<sup>465</sup> *Id.*

For instance, the CDC’s “Interim Guidance for Restaurants and Bars”<sup>466</sup> appears unenforceable under the General Duty Clause, even though the body of the document lists what read like “requirements” without any qualifying “should” or “may” language, because the opening paragraph says the following:

“This guidance provides considerations for businesses in the food service industry (e.g., restaurants and bars) on ways to maintain healthy business operations and a safe and healthy work environment for employees, while reducing the risk of COVID-19 spread for both employees and customers. Employers should follow applicable Occupational Safety and Health Administration (OSHA) and CDC guidance for businesses to plan and respond to COVID-19. All decisions about implementing these recommendations should be made in collaboration with local health officials and other State and local authorities who can help assess the current level of mitigation needed based on levels of COVID-19 community transmission and the capacities of the local public health and healthcare systems. CDC is releasing this interim guidance, laid out in a series of three steps, to inform a gradual scale up of activities towards pre-COVID-19 operating practices. The scope and nature of community mitigation suggested decreases from Step 1 to Step 3. Some amount of community mitigation is necessary across all steps until a vaccine or therapeutic drug becomes widely available.” (Emphasis added).

b. Use of the General Duty Clause to Enforce “Mandatory” Requirements in Virginia Executive Orders.

Where Virginia Executive Order 61<sup>467</sup> provides for mandatory measures to be taken by an employer to protect employees (e.g., wearing of “face covering” or “physical distancing” of 6 feet), the Department believes that it would be able to use the General Duty Clause to enforce such requirements. However, only those mitigation measures that contain “mandatory” language that result in protection for employees can be enforced using the General Duty Clause.

4. Va. Code §18.2-422, Prohibition of wearing of masks in certain places; exceptions.<sup>468</sup>

Section 18.2-422 provides as follows:

“It shall be unlawful for any person over 16 years of age to, with the intent to conceal his identity, wear any mask, hood or other device whereby a substantial portion of the face is hidden or covered so as to conceal the identity of the wearer, to be or appear in any public place, or upon any private property in this Commonwealth without first having obtained from the owner or tenant thereof consent to do so in writing. However, the provisions of this section shall not apply to persons (i) wearing traditional holiday costumes; (ii) engaged in professions, trades, employment or other activities and

<sup>466</sup> <https://www.cdc.gov/coronavirus/2019-ncov/downloads/php/CDC-Activities-Initiatives-for-COVID-19-Response.pdf#page=53>

<sup>467</sup> [https://www.governor.virginia.gov/media/governorviriniagov/executive-actions/EO-61-and-Order-of-Public-Health-Emergency-Three---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorviriniagov/executive-actions/EO-61-and-Order-of-Public-Health-Emergency-Three---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-(COVID-19).pdf)

<sup>468</sup> <https://law.lis.virginia.gov/vacode/18.2-422/>

wearing protective masks which are deemed necessary for the physical safety of the wearer or other persons; (iii) engaged in any bona fide theatrical production or masquerade ball; or (iv) wearing a mask, hood or other device for bona fide medical reasons upon (a) the advice of a licensed physician or osteopath and carrying on his person an affidavit from the physician or osteopath specifying the medical necessity for wearing the device and the date on which the wearing of the device will no longer be necessary and providing a brief description of the device, or (b) the declaration of a disaster or state of emergency by the Governor in response to a public health emergency where the emergency declaration expressly waives this section, defines the mask appropriate for the emergency, and provides for the duration of the waiver. The violation of any provisions of this section is a Class 6 felony.” (Emphasis added).

Virginia Executive Order 62 continues the waiver of Va. Code §18.2-422 of the Code of Virginia so as to allow the wearing of a medical mask, respirator, or any other protective face covering for the purpose of facilitating the protection of one’s personal health in response to the COVID-19 public health emergency declared by the State Health Commissioner on February 7, 2020, and reflected in Executive Order 51 declaring a state of emergency in the Commonwealth. Executive Order 51 is so further amended. This waiver is effective as of March 12, 2020.

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## ATTACHMENT C: OTHER STATE COVID-19 LAWS, STANDARDS AND REGULATIONS

### Washington.

The State of Washington’s Division of Occupational Safety and Health (DOSH) just enacted Emergency COVID-19 Safety Rules<sup>469</sup> on “Prohibited Business Activities and Conditions for Operations.”<sup>470</sup>

DOSH enacted an emergency rule that, on its face, allows the agency to cite Washington employers who fail to follow the patchwork of rules and guidance related to COVID-19, as set out by the State of Washington and associated safety and health authorities.

### Oregon.

Effective November 16, 2020, adopted a Temporary Rule Addressing COVID-19 Workplace Risks,<sup>471</sup> which applies to all employees working in places of employment subject to Oregon OSHA’s jurisdiction.

On May 11, 2020, Oregon adopted a Temporary Rule addressing the COVID-19 emergency in employer-provided housing, labor-intensive agricultural operations, and agricultural transportation.

The Oregon Occupational Safety and Health Administration (Oregon OSHA) adopted a temporary rule<sup>472</sup> addressing the COVID-19 emergency in employer-provided housing, labor-intensive agricultural operations, and agricultural transportation with an effective date of May 11, 2020 and end date of October 23, 2020.<sup>473</sup> The temporary rule provides for:

- enhanced sanitation requirements for toilet and handwashing facilities in the field;
- procedures to identify and isolate suspect COVID-19 cases “with sleeping, eating, and bathroom accommodations that are separate from others” (“Sick people should be isolated from others, have adequate hygiene facilities, and be taken care of by only one person in the household. If such isolation is not possible, follow guidance provided by the Oregon Health Authority or the local public health authority to make appropriate arrangements”.);
- procedures for isolating confirmed COVID-19 cases and only housing them with other confirmed cases with separate bathroom, cooking and eating facilities separate from people who have not been diagnosed with COVID-19. (“Sick people should be isolated from others, have adequate hygiene facilities, and be taken care of by only one person in the household. If such isolation is not possible, follow guidance provided by the Oregon Health Authority or the local public health authority to make appropriate arrangements.”); and
- “Affected employers must post a notice describing the requirements of these rules, including their application to COVID-19 risks, and advising where workers may file complaints regarding field sanitation matters. It must be in the language of the majority of the workers.”

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<sup>469</sup> [https://www.lni.wa.gov/rulemaking-activity/AO20-10/2010CR103E.pdf?utm\\_medium=email&utm\\_source=govdelivery](https://www.lni.wa.gov/rulemaking-activity/AO20-10/2010CR103E.pdf?utm_medium=email&utm_source=govdelivery)

<sup>470</sup> <https://www.environmentalsafetyupdate.com/states/washington/wa-dosh-issues-emergency-covid-19-safety-rule-mandating-compliance-with-emergency-proclamation-and-safe-start-reopening-guidance/>

<sup>471</sup> <https://osha.oregon.gov/OSHARules/div1/437-001-0744.pdf>

<sup>472</sup> <https://osha.oregon.gov/OSHARules/adopted/2020/ao2-2020-text-emergency-rules-ag-covid.pdf>

<sup>473</sup> *Id.*

NOTE: The Virginia Department of Health is responsible for conducting pre-occupancy inspections of temporary labor camps under 1910.142, and has issued “Interim Guidance for Migrant Labor Camp Operators and Employees Regarding COVID-19.”<sup>474</sup>

### California.

The California Division of Occupational Safety and Health (Cal/OSHA) Aerosol Transmissible Diseases (ATD) standard<sup>475</sup> is aimed at preventing worker illness from infectious diseases that can be transmitted by inhaling air that contains viruses (including SARS-CoV-2), bacteria or other disease-causing organisms. The Cal/OSHA ATD standard is only mandatory for certain healthcare employers in California.

Cal/OSHA also adopted COVID-19 Prevention Emergency Temporary Standards<sup>476</sup> on December 1, 2020. These new temporary standards apply to most workers in California not covered by Cal/OSHA’s AT D standard.

### South Carolina

Safetyandhealthmagazine.com, Columbia, SC, August 5, 2021, *South Carolina OSHA plans to adopt an infectious disease standard*<sup>477</sup>

"South Carolina OSHA has announced its plan to adopt a standard on infectious diseases in the workplace, including COVID-19.

The standard will be “an alternative” to federal OSHA’s emergency temporary standard on COVID-19 focused on health care workers, which went into effect June 21.

SC OSHA operates under OSHA’s State Plan program, so its standards must be “at least as effective as” federal standards, meaning they can be more stringent but not less stringent.

“SC OSHA made the decision to create an alternative standard following input from South Carolina stakeholders, a review of SC OSHA’s COVID-19 compliance data (i.e., health industry-related fatalities, hospitalizations, complaints and inspections), and data received from the SC Department of Health and Environmental Control and the Centers for Disease Control and Prevention,” a July 20 press release states.

SC OSHA says it will notify employers and others on its website and social media platforms when the standard is adopted. It also will provide compliance assistance through its Standards Office, along with consultation and training services.

“This approach acknowledges the issues previously seen during the pandemic; recognizes the progress made during this time; and anticipates the growing need for stability among employers, employees and the public when dealing with similar situations,” SC OSHA Deputy Director Kristina Baker said in the release. “This alternative approach will place

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<sup>474</sup> <https://www.vdh.virginia.gov/environmental-health/environmental-health-services/migrant-labor-camps/9505-2/>

<sup>475</sup> <https://www.cdph.ca.gov/Programs/CCDC/DEODC/OHB/Pages/ATDStd.aspx>

<sup>476</sup> <https://www.dir.ca.gov/dosh/coronavirus/ETS.html>

<sup>477</sup> <https://www.safetyandhealthmagazine.com/articles/21549-south-carolina-osh-a-plans-to-adopt-an-infectious-disease-standard>

significant focus on employer assessment and allow flexibility as the pandemic has proven to be both fluid and unpredictable. SC OSHA continues to monitor the ongoing situation involving COVID-19 and its effects on the employers and employees of the state of South Carolina and vows to make and communicate appropriate changes to this current course of action.”

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ATTACHMENT D: FINDING OF “GRAVE DANGER” TO SUPPORT THE ADOPTION OF THE EMERGENCY TEMPORARY STANDARD (ETS) AND VIRGINIA STANDARD FOR INFECTIOUS DISEASE PREVENTION OF THE SARS-COV-2 VIRUS THAT CAUSES COVID-19, 16VAC25-220, EFFECTIVE JULY 27, 2020 AND JANUARY 27, 2021, RESPECTIVELY

Workplace exposures to SARS-CoV-2 and COVID-19 constitute a grave danger to employees and employers in Virginia necessitating the adoption of an emergency temporary standard [and final Virginia Standard] pursuant to Va. Code §40.1-22(6a).

1. Statutory Construction of Va. Code §40.1-22(6a).

Va. Code §40.1-22(6), is specific to the Board and provides procedures for adopting an Emergency Temporary Standard:

§ 40.1-22. Safety and Health Codes Commission continued as Safety and Health Codes Board.

....

(6) Chapter 40 (§ 2.2-4000 et seq.) of Title 2.2 shall apply to the adoption of rules and regulations under this section and to proceedings before the Board.

(6a) The Board shall provide, without regard to the requirements of Chapter 40 (§ 2.2-4000 et seq.) of Title 2.2, for an emergency temporary standard to take immediate effect upon publication in a newspaper of general circulation, published in the City of Richmond, Virginia, if it determines that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and that such emergency standard is necessary to protect employees from such danger. The publication mentioned herein shall constitute notice that the Board intends to adopt such standard within a period of six months. The Board by similar publication shall prior to the expiration of six months give notice of the time and date of, and conduct a hearing on, the adoption of a permanent standard. The emergency temporary standard shall expire within six months or when superseded by a permanent standard, whichever occurs first, or when repealed by the Board.

(Emphasis added).

The terms “grave danger” and “necessity” are not defined in the statute, but have been addressed in federal court cases surrounding federal OSHA’s similar statutory requirement in the OSH Act, §6(c) (identical language underlined):

“(1) The Secretary shall provide, without regard to the requirements of chapter 5, title 5, Unites States Code, for an emergency temporary standard to take immediate effect upon publication in the Federal Register if he determines –

(A) that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and  
(B) that such emergency standard is necessary to protect employees from such danger. (Emphasis added).

29 U.S.C. § 655(c).

From *Asbestos Information Ass'n/North America v. OSHA*, 727 F.2d 415 (5th Cir. 1984) – review of OSHA’s Emergency Temporary Standard (ETS) lowering the PEL for asbestos under Section 6(c) of the OSH Act (29 U.S.C. § 655(c):

“As the Supreme Court has noted, the determination of what constitutes a risk worthy of Agency action is a policy consideration that belongs, in the first instance to the Agency. [citation omitted] The Secretary determined that eighty lives at risk is a grave danger. We are not prepared to say it is not. The Agency need not support its conclusion ‘with anything approaching scientific certainty. [citation omitted] ... so long as the Agency supports its conclusion with ‘a body of reputable scientific thought,’ it may ‘use conservative assumptions’ to support that conclusion. The Agency also has prerogative to choose between conflicting evidence of equivalent quality, and a court will consider a finding consistent with one authority or another to be supported by substantial evidence.”

From *Florida Peach Growers Ass'n v. Dept. of Labor*, 489 F.2d 120 (5th Cir. 1974) – review of OSHA ETS regarding protecting farmworkers from exposure to certain pesticides during cultivation of various crops:

“The Act requires determination of danger from exposure to harmful substances, not just a danger of exposure; and, not exposure to just a danger, but to a grave danger; and, not the necessity of just a temporary standard, but that an emergency standard is necessary.

OSHA relied on a report finding that 800 persons are killed annually from the improper use of pesticides, and 80,000 injured. The court found this did not support a conclusion that the per se use of the pesticides presents a “grave danger.” *Id.* at 131. There was not enough data in the record on deaths from use of pesticide in the workplace (as opposed to ingestion by children, etc.).

The court looked at petitioner’s evidence “detailing the generally mild nature of the relatively few cases of illness reported by crop workers exposed solely to residues. ... from time to time a group of workers will experience nausea, excessive salivation and perspiration, blurred vision, abdominal cramps, vomiting, and diarrhea, in approximately that sequence....these are not grave illnesses, however, and do not support a determination of a grave danger....no deaths have been conclusively attributed to exposure to residues.” *Id.* at 131.

The court said “We reject any suggestion that deaths must occur before health and safety standards may be adopted. Nevertheless, the danger of incurable, permanent, or fatal consequences to workers, as opposed to easily curable and fleeting effects on their health, becomes important in the consideration of the necessity for emergency measures to meet a grave danger.” *Id.* at 132.

From *International Union, United Auto., Aerospace, and Agr. Implement Workers of America, UAW v. Donovan*, 590 F. Supp. 747 (D.D.C. 1984), where OSHA declined to promulgate an ETS on formaldehyde in the workplace. The court action was brought in district court challenging decision under the federal APA:

“The ‘grave danger’ and ‘necessity’ findings must be based on evidence of actual, prevailing industrial conditions, i.e., current levels of employee exposure to the substance in question.” *Id.* at 751.

From *Dry Color Mfrs. Ass’n, Inc. v. Brennan*, 486 F.2d 98 (3d Cir. 1973), a review of OSHA’s emergency regulations regarding 14 carcinogenic substances under Section 6(c) of the OSH Act (29 U.S.C. § 655(c)):

“...the most that can be said is that DCB and EI pose a ‘potential’ cancer hazard to men. Although the danger to cancer is surely “grave,” subsection 6(c)(1) of the Act requires a grave danger of exposure to substances ‘determined to be toxic or physically harmful.’ 486 F.2d 98, 104.

“While the Act does not require an absolute certainty as to the deleterious effect of a substance on man, an emergency temporary standard must be supported by evidence that shows more than some possibility that a substance may cause cancer in man. On this record, the evidence supplies no more than some possibility that DCB and EI may cause cancer in man.” *Id.* at 104-5.

Finding that SARS-CoV-2 and COVID-19 constitute a grave danger to employees in Virginia that necessitates the adoption of an emergency temporary standard [and final Virginia Standard] to protect Virginia employees from such danger.

The staff of the Department of Labor and Industry recommends that the Board find that SARS-CoV-2 and COVID-19 related hazard and job task employee exposures constitute a grave danger to employees in Virginia that necessitate the adoption of an emergency temporary standard to protect Virginia employees from the spread of the SARS-CoV-2 virus that causes COVID-19 under Va. Code §40.1-22(6a).

As is supported by the information presented below and in the administrative record presented to the Board, there currently exists in the Commonwealth of Virginia an emergency situation due to the ongoing spread of the potentially deadly SARS-CoV-2 virus that causes COVID-19.

A state of emergency has been declared by Governor Northam, due to the presence of COVID-19, a communicable disease which poses a public health threat as declared by the State Health Commissioner.

In the context of the Board’s authority to regulate occupational safety and health hazards in Virginia, COVID-19 poses a threat of “material impairment of health or functional capacity” to employees. The threat is new, immediate, dangerous, and potentially life threatening to employees and presents a grave danger to employees that necessitates the adoption of an emergency temporary standard.

The onslaught of the SARS-CoV-2 virus and COVID-19 disease are by their own definitions new and “novel,” involving a sudden, unforeseen, and fast spreading epidemic which evolved into a worldwide pandemic in a matter of months. In the U.S. it quickly spread to all 50 states and territories and became one of the leading causes of death in the country in just four months at over 112,000 deaths so far. As of June 11, 2020, thirty-seven

(37) U.S. jurisdictions report more than 10,000 COVID-19 cases,<sup>478</sup> including the Virginia border states of Maryland (over 60,100 cases, and 2,875 deaths), North Carolina (over 38,100, and 1,053 deaths), Kentucky (over 11,800, and 484 deaths), Tennessee (over 28,000, and 456 deaths). The District of Columbia has over 9,500 cases, and 499 deaths.<sup>479</sup>

Virginia now has 52,647 cases, 5,306 people hospitalizations, and 1,520 deaths as of June 11, 2020. The COVID-19 impact on Virginia's employees and employers has been widespread, significant and devastating. Employee deaths under VOSH investigation now total 11 in a span of four months (which would represent 30% of the average number of deaths investigated by VOSH on a calendar year basis), with at least four employee hospitalizations under VOSH investigation. Both are expected to increase over the coming months.

According to Virginia Workers' Compensation Commission statistics, over 3,150 claims have been submitted in a four month period across a wide range of industries and job classifications. On May 11, 2020, VWCC was reporting 2,182 workers' compensation claims; and by May 31, 2020 the total had increased by 972 claims to 3,154, a 44.5% increase in a 20 day time period. For a number of reasons, these numbers significantly underrepresent the number of actual workers' compensation claims and COVID-19 illnesses suffered by Virginia employees on the job. In addition, over 40 claims have been submitted for Virginia state employees from a wide variety of agencies during the same period.

According to a CDC study, among U.S. COVID-19 cases with known disposition, the proportion of persons who were hospitalized was 19%. The proportion of persons with COVID-19 admitted to the intensive care unit (ICU) was 6%.<sup>480</sup>

The federal and state governments have almost universally acknowledged the emergency presented by the disease with declarations of emergencies around the country and implementation of a combination of voluntary and mandatory mitigation efforts to attempt to slow the progress of the disease. The effectiveness of those efforts remain an open question. Statistics, studies, and news reports demonstrate that employees are becoming infected, seriously ill, and dying from COVID-19 because of workplace exposures in a wide variety of industries.

Complications can include pneumonia and trouble breathing, organ failure in several organs, heart problems, a severe lung condition that causes a low amount of oxygen to go through your bloodstream to your organs (acute respiratory distress syndrome), blood clots, acute kidney injury, additional viral and bacterial infections, permanent long term injury to the body, and death.

Early studies indicate that COVID-19's "infection fatality rate" may be substantially higher than the seasonal influenza – potentially resulting in death ten or more times frequently than the seasonal flu.

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<sup>478</sup> <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>

<sup>479</sup> <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>

<sup>480</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

Susceptibility to COVID-19 is near universal in the workplace as there is no pre-existing immunity to this novel virus among humans. There is currently no specific treatment for or vaccine to prevent COVID-19. The best way to prevent workplace related illness is to prevent workplace exposure to the SARS-CoV-2 virus.

SARS-CoV-2 is easily transmitted through the air from person-to-person through respiratory aerosols created by coughing, sneezing, talking, and even singing. Epidemiologic studies have documented SARS-CoV-2 transmission during the pre-symptomatic incubation period, and asymptomatic transmission has been suggested in other reports. SARS-CoV-2 aerosols can settle and deposit on environmental surfaces where they can remain viable for days, although it is thought that transmission of the virus in this manner is not thought to be the primary mode of transmission.

The CDC's current best estimate of the percentage of persons with positive COVID-19 infections that are asymptomatic is 35%. The CDC's current best estimate of the percentage of COVID-19 disease transmission occurring prior to symptom onset is 40%. This means that until an effective vaccine is developed and deployed, healthy employees will run a continuing risk of exposure to COVID-19 despite an employer's best efforts to conduct pre-shift screening of employees, customers, and other persons to identify suspected COVID-19 carriers of the disease.

Researchers think that the reproduction number for COVID-19 is between 2 and 3, which means that one person can infect two to three other people. There are also documented cases in the U.S. of "superspreader" events where, one person has been shown to have infected dozens of people at a single mass gathering event.

"The threshold for combined [COVID-19] vaccine efficacy, once one is developed and herd immunity needed for disease extinction" is estimated between 55% and 82% "(i.e., >82% of the population has to be immune, through either vaccination or prior infection, to achieve herd immunity to stop transmission)." Development and deployment of a vaccine in the United States remains at least six months away and perhaps many more months beyond that.

CDC's current "best guess" is that — in a scenario without any further social distancing or other efforts to control the spread of the virus — roughly 4 million patients would be hospitalized in the U.S. with COVID-19 and 500,000 would die over the course of the pandemic.

Although all employees are potentially susceptible to serious health complications from exposure to the SARS-CoV-2 virus and COVID-19 disease, there are sound reasons to be significantly concerned about workplace exposures to employees in high risk categories (age and medical condition). A substantial portion of the workforce are individuals of 65 years or older, or suffering from chronic medical conditions such as diabetes, obesity, hypertension, high cholesterol, or underlying respiratory conditions.

Continued spread of the virus in the general population and the workplace is anticipated for months to come. The disease is spread through "very, very casual interpersonal contact." Despite all the efforts of national, state, and local government leaders, there are currently (as of June 4, 2020) 19 states that have averaged more new cases over the past week than the prior week, while 13 are holding steady and 18 are seeing a downward trend. In addition, it

is still widely expected that a late fall or early winter second wave of COVID-19 could be even more deadly in the U. S., as it would coincide with the flu season, which already puts a strain on hospitals.

There is ample evidence to support the conclusion that spread of the SARS-CoV-2 virus and the potentially deadly COVID-19 disease will persist in Virginia's workplaces for many months to come. It is well documented that employers will be confronted with employees who work despite being symptomatic for fear of job loss, and customers who will refuse to observe physical distancing or face covering requirements, even in the face of Governor's executive orders, thereby exposing employees to a continuing risk of exposure unless mandatory mitigation efforts are implemented through an emergency regulation.

In addition, as contractors from other states cross borders into and out of Virginia, combined with the loosening of travel restrictions and opening of state economies, more people from other states and localities with ongoing high rates of community transmission will potentially bring the SARS-CoV-2 virus and COVID-19 disease to Virginia's workplaces and communities.

As previously noted, there is currently no vaccine for COVID-19. While officials are hopeful a vaccine to prevent COVID-19 will be ready in the first half of 2021, it's far from guaranteed. Producing and deploying a vaccine to a sufficient number of the U. S. population (over 329,000,000 people) to achieve a minimum of 50% of the population with effective COVID-19 antibodies will take some time to accomplish. In addition the fact that the vaccine may have an effectiveness rate below 100%, successful deployment of a vaccine will depend on the willingness of the U.S. population to actually take the vaccine. There is evidence to support a conclusion that a not insignificant portion of the population may refuse to take the vaccine.

The need for an emergency temporary standard is demonstrated by the rapid and overwhelmingly widespread onslaught of the SARS-CoV-2 virus and COVID-19 disease in the country, to states surrounding Virginia, and to Virginia itself and its places of employment. The deadly virus is both new and "novel," involving a sudden, unforeseen, and fast spreading epidemic which evolved into a worldwide pandemic in a matter of months.

A significant number of employee deaths and workers' compensation claims have been reported in Virginia in just a four month period. Virginia employees are becoming infected, seriously ill, and dying from COVID-19 because of workplace exposures in a wide variety of industries.

Susceptibility to COVID-19 is near universal in the workplace as there is no pre-existing immunity to this novel virus among humans. There is currently no specific treatment for or vaccine to prevent COVID-19. Development and deployment of a vaccine in the United States remains at least six months away and perhaps many more months beyond that.

Due to the high potential for pre-symptomatic and asymptomatic persons to unknowingly spread the SARS-CoV-2 virus in a public or workplace setting, until an effective vaccine is developed and deployed, healthy employees will run a continuing risk of exposure to COVID-19 despite an employer's best efforts to conduct pre-shift screening of employees, customers, and other persons to identify suspected COVID-19 carriers of the disease.

The most effective way to ensure that no Virginia “employee will suffer material impairment of health or functional capacity” is to prevent the spread of workplace related COVID-19 infections through the adoption of mandatory employee protection and virus mitigation requirements.

There currently is no occupational law, standard, or regulation that specifically addresses infectious diseases such as the SARS-CoV-2 virus that causes the COVID-19 disease. While there are some VOSH regulations that can be applied toward some mitigation efforts (i.e., personal protective equipment, respiratory protection equipment), those regulations are not universal across all Virginia industries, and none would require:

- Physical distancing of at least six feet where feasible
- Disinfection of work areas where known or suspected COVID-19 employees or other persons accessed or worked<sup>481</sup>
- Employers to develop policies and procedures for employees to report when they are sick or experiencing symptoms consistent with COVID-19
- Employers to, prior to the commencement of each work shift, prescreen of employees to verify each employee is not COVID-19 symptomatic
- Employers to prohibit known and suspected COVID-19 employees from reporting to or being allowed to remain at work or on a job site until cleared for return to work
- Employers to develop and implement policies and procedures for known COVID-19 or suspected COVID-19 employees to return to work using either a symptom-based or test-based strategy depending on local healthcare and testing circumstances
- Employers to prohibit COVID-19 positive employees from reporting to or being allowed

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<sup>481</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.141>

1910.141(a)(3)(i) provides that “All places of employment shall be kept **clean** to the extent that the nature of the work allows.” (Emphasis added). The term “sanitary” is not used, although it is used in reference to “washing facilities”, “waste disposal”, “food storage”, “sweepings”, and “drinking water”.

1910.141(a)(4)(i) provides that “Any receptacle used for putrescible solid or liquid waste or refuse shall be so constructed that it does not leak and may be thoroughly cleaned and maintained in a **sanitary** condition. Such a receptacle shall be equipped with a solid tight-fitting cover, unless it can be maintained in a **sanitary** condition without a cover. This requirement does not prohibit the use of receptacles which are designed to permit the maintenance of a **sanitary** condition without regard to the aforementioned requirements.” (Emphasis added).

1910.141(a)(4)(ii) provides that “All sweepings, solid or liquid wastes, refuse, and garbage shall be removed in such a manner as to avoid creating a menace to health and as often as necessary or appropriate to maintain the place of employment in a **sanitary** condition.” (Emphasis added).

1910.141(b)(1)(iii) provides that “Portable drinking water dispensers shall be designed, constructed, and serviced so that **sanitary** conditions are maintained, shall be capable of being closed, and shall be equipped with a tap.” (Emphasis added).

1910.141(d)(1) provides that “Washing facilities shall be maintained in a **sanitary** condition.” (Emphasis added).

1910.141(g)(3) provides that “Waste disposal containers. Receptacles constructed of smooth, corrosion resistant, easily cleanable, or disposable materials, shall be provided and used for the disposal of waste food. The number, size, and location of such receptacles shall encourage their use and not result in overfilling. They shall be emptied not less frequently than once each working day, unless unused, and shall be maintained in a **clean and sanitary** condition. Receptacles shall be provided with a solid tight-fitting cover unless **sanitary** conditions can be maintained without use of a cover.” (Emphasis added).

1910.141(g)(4) provides that “**Sanitary** storage. No food or beverages shall be stored in toilet rooms or in an area exposed to a toxic material.” (Emphasis added).

to remain at work or on a job site until cleared for return to work

- Employers to provide employees assigned to work stations and in frequent contact with other persons inside six feet with alcohol based hand sanitizers at their workstations
- Employers with hazards or job tasks classified at very high, high, or medium exposure risk to develop a written Infectious Disease Preparedness and Response Plan
- Employee training on SARS-CoV-2 and COVID-19 hazards, with the exception of 1926.21(b)(2) requirements for the Construction Industry<sup>482</sup>

The current patchwork of VOSH and OSHA standards and regulations do not ensure that similarly situated employees and employers exposed to the same SARS-CoV-2 and COVID-19 related hazards and job tasks in similar exposure settings are provided the same level of occupational safety and health protections. Examples include but are not limited to:

- Construction Industry employers would be required to provide training to employees on an emergency temporary standard/emergency regulation, but no other employers covered by VOSH jurisdiction would be required to do so. Section 1926.21(b)(2)<sup>483</sup> (Safety Training and Education).
- The Agricultural Industry has no standards or regulations to provide respiratory or personal protective equipment to employees.
- Sanitation requirements in the Construction Industry are limited to “Toilet facilities shall be operational and maintained in a clean and sanitary condition.”
- Neither the Construction Industry nor the Agricultural Industry have a requirement comparable to 1910.132(d) which requires General Industry employers to conduct a written workplace assessment to “determine if hazards are present, or are likely to be present, which necessitate the use of” PPE.<sup>484</sup>

The Board’s statutory mandate in Va. Code §40.1-22(5) to:

“... adopt, alter, amend, or repeal rules and regulations to further, protect and promote the safety and health of employees in places of employment over which it has jurisdiction and to effect compliance with the federal OSH Act of 1970...as may

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<sup>482</sup>With the exception of the Construction Industry regulation at 1926.21(b)(2) (Safety Training and Education)

<sup>483</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.21>

<sup>484</sup> 1910.132(d), Hazard assessment and equipment selection.

1910.132(d)(1), The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall:

1910.132(d)(1)(i), Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;

1910.132(d)(1)(ii), Communicate selection decisions to each affected employee; and,

1910.132(d)(1)(iii), Select PPE that properly fits each affected employee.

Note: Non-mandatory appendix B contains an example of procedures that would comply with the requirement for a hazard assessment.

1910.132(d)(2)

The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.



be necessary to carry out its functions established under this title. The Commissioner shall enforce such rules and regulations. All such rules and regulations shall be designed to protect and promote the safety and health of such employees. In making such rules and regulations to protect the occupational safety and health of employees, the Board shall adopt the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity. However, such standards shall be at least as stringent as the standards promulgated by the Federal Occupational Safety and Health Act of 1970 (P.L. 91-596). In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws....” (Emphasis added).

As is discussed in greater detail in section above, while the General Duty Clause, Va. Code §40.1-51(a), can be used in certain limited circumstances to enforce mandatory requirements in Governor Northam’s Executive Orders, there are severe limitations to its use that make it problematic to enforce and results in its infrequent use. As is evident from the wording of the statute, it does not directly address the issue of SARS-CoV-2 or COVID-19 related hazards.

While preferable to no enforcement tool at all, the general duty clause does not provide either the regulated community, employees, or the VOSH Program with substantive and consistent requirements on how to reduce or eliminate SARS-CoV-2 or COVID-19 related hazards, serious illnesses and deaths, that can otherwise be clearly and uniformly established in an emergency temporary standard. It cannot be used to enforce OSHA Guidelines at all, and can only be used to enforce CDC guidelines that use “mandatory” language such as “shall” and “will” as opposed to language that “suggests” or “recommends” employer action through words such as “should” or “may”. Of the specific mitigation efforts listed above only the physical distancing and enhanced sanitation requirements are addressed in Governor Northam’s Executive Orders and therefore enforceable through the General Duty Clause.

Further, federal OSHA has taken the position that it will not be promulgating an emergency temporary standard pursuant to its authority under the OSH Act of 1970,<sup>485</sup>, instead opting to rely upon many voluntary guidelines for various business sectors. These guidelines, while useful for employers with the intention of complying with health and safety standards, will be irrelevant for businesses who choose not to take steps to protect employees from the grave danger posed by COVID-19.

Many of the guidelines are explicit that they are voluntary, and may not be used to impose legal obligations upon employers. Employers’ voluntary compliance with relevant guidelines, which has also been asserted by OSHA as a reason a standard is unnecessary, is antithetical to the goal of protecting all employees, particularly in those workplaces with recalcitrant employers.

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<sup>485</sup> [https://www.osha.gov/laws-regs/oshact/section\\_6](https://www.osha.gov/laws-regs/oshact/section_6)

An emergency regulation is also necessary to establish clear baseline standards employers can rely upon as to how to protect employees, rather than having them rely upon ad hoc "interim" guidance documents from various agencies. In a similar case where federal OSHA relied solely upon voluntary guidance and employers' voluntary compliance instead of an emergency temporary standard, the D.C. Circuit Court of Appeals found OSHA had "embarked upon the least responsive course short of inaction" and ordered OSHA to expedite rulemaking for an ethylene oxide standard. *Public Citizen Health Research Group v. Auchter*, 702 F.2d 1150, 1153 (D.C. Cir. 1983).

The following items are intended to support and supplement the above finding, but the Board reserves the right to rely on other evidence presented in the administrative record to support the finding and its decision to adopt an emergency temporary standard [and final Virginia Standard], should it decide to do so.

- On February 7, 2020, the State Health Commissioner declared COVID-19 a communicable disease of public health threat<sup>486</sup> as defined in Va. Code §44-146.16 in part as "an illness of public health significance....caused by a specific or suspected infectious agent that may be reasonably expected or is known to be readily transmitted directly or indirectly from one individual to another and has been found to create a risk of death or significant injury or impairment...."
- In the context of VOSH's jurisdiction over places of employment and the Safety and Health Codes Board's authority to regulate occupational safety and health hazards in Virginia, COVID-19 poses a threat of "material impairment of health or functional capacity" to employees. Va. Code §40.1-22(5).
- Infectious respiratory diseases can spread in a workplace setting when a healthy person comes in contact with virus particles expelled by someone who is sick — usually through a cough or sneeze.<sup>487</sup> SARS-CoV-2 is easily transmitted through the air from person-to-person through respiratory aerosols, and the aerosols can settle and deposit on environmental surfaces where they can remain viable for days.<sup>488</sup>
- Susceptibility to COVID-19 will be universal in the workplace as there is no pre-existing immunity to this novel virus among humans. "The virus is spread through very, very casual interpersonal contact." W. David Hardy, a professor of infectious disease at Johns Hopkins University School of Medicine, told STAT.<sup>489</sup>
- "Although most people with COVID-19 have mild to moderate symptoms, the [COVID-19] disease can cause severe medical complications and lead to death in some people. Older adults or people with existing chronic medical conditions are at greater risk of becoming seriously ill with COVID-19."<sup>490</sup> "Younger adults are also being hospitalized

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<sup>486</sup> <https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/Order-of-the-Governor-and-State-Health-Commissioner-Declaration-of-Public-Health-Emergency.pdf>

<sup>487</sup> <https://www.statnews.com/2020/04/14/how-much-of-the-coronavirus-does-it-take-to-make-you-sick/>

<sup>488</sup> <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/coronavirus-disease-2019-covid-19-frequently-asked-questions>

<sup>489</sup> <https://www.statnews.com/2020/04/14/how-much-of-the-coronavirus-does-it-take-to-make-you-sick/>

<sup>490</sup> <https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963>

in the U.S. Adults 20–44 account for 20% of hospitalizations, 12% of ICU admissions.”<sup>491</sup> Some research indicates that SARS-CoV-2 infection can cause significant morbidity in relatively young persons without severe underlying medical conditions.<sup>492</sup>

- “Those most at risk are ‘people 65 years and older, people who live in a nursing home or long-term care facility, people with chronic lung, heart, kidney and liver disease,’ said Dr. Gary Weinstein, pulmonologist/critical care medicine specialist at Texas Health Presbyterian Hospital Dallas (Texas Health Dallas). Additionally, he said others who could be at risk are those with compromised immune systems and people with morbid obesity or diabetes. “Finally, when patients have lung failure, they frequently have failure or dysfunction of their other organs, such as the kidney, heart, and brain,.”<sup>493</sup> (Emphasis added).
- In all 50 states and the District of Columbia, at least 20 percent of adults ages 65 to 74 are in the workforce. In seven states, more than 30 percent are working. Since 2013, 46 of 51 had seen increases in workforce participation of 75-and-older residents. Seniors represent significant portions of the workforce for many professions that require close contact with others, including bus drivers, ushers, ticket takers, taxi drivers, street vendors, chiropractors, dentists, barbers and many more.<sup>494</sup>
- The CDC conducted a study of “Selected health conditions and risk factors, by age: United States, selected years 1988–1994 through 2015–2016”<sup>495</sup> of the general population. Although the working population of the country is only a subset of the totals for the table, the data nonetheless demonstrates the significant risk that SARS-CoV-2 and COVID-19 related hazards pose to the U.S. and Virginia workers. Using the age adjusted statistical totals:
  - 14.7% of the population suffer from diabetes
    - 12.2% from high cholesterol
    - 30.2% suffer from hypertension
    - 39.7% suffer from obesity

NOTE: Virginia’s Adult Diabetes Rate in 2019 was 10.5%.<sup>496</sup>

Virginia’s Hypertension Rate in 2015 was 33.2%<sup>497</sup>

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[https://www.hopkinsguides.com/hopkins/view/Johns\\_Hopkins\\_ABX\\_Guide/540747/all/Coronavirus\\_COVID\\_19\\_SARS\\_CoV\\_2](https://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540747/all/Coronavirus_COVID_19_SARS_CoV_2)

492 <https://www.cdc.gov/mmwr/volumes/69/wr/mm6918e1.htm>

493 <https://www.healthline.com/health-news/what-we-know-about-the-long-term-effects-of-covid-19#COVID-19-might-affect-the-brain-stem>

494 <https://www.seniorliving.org/research/senior-employment-outlook-covid/>

495 <https://www.cdc.gov/nchs/data/hus/2018/021.pdf>

496 [https://www.americashealthrankings.org/explore/annual/measure/High\\_Chol/state/VA](https://www.americashealthrankings.org/explore/annual/measure/High_Chol/state/VA)

497 <https://www.vdh.virginia.gov/content/uploads/sites/65/2018/05/VA-Heart-Disease-FactSheetFINAL.pdf>

Virginia's Adult High Cholesterol Rate<sup>498</sup> in 2019 was 33%.<sup>499</sup>

Virginia's Adult Obesity Rate<sup>500</sup> in 2019 was 30.3%.<sup>501</sup>

- The largest cohort of >44,000 persons with COVID-19 from China showed that illness severity can range from mild to critical:
  - Mild to moderate (mild symptoms up to mild pneumonia): **81%**
  - Severe (dyspnea, hypoxia, or >50% lung involvement on imaging): **14%**
  - Critical (respiratory failure, shock, or multi-organ system dysfunction): **5%**
- “In this study, all deaths occurred among patients with critical illness and the overall case fatality rate was 2.3%. The case fatality rate among patients with critical disease was 49%. Among children in China, illness severity was lower with 94% having asymptomatic, mild or moderate disease, 5% having severe disease, and <1% having critical disease. Among U.S. COVID-19 cases with known disposition, the proportion of persons who were hospitalized was 19%. The proportion of persons with COVID-19 admitted to the intensive care unit (ICU) was 6%.”<sup>502</sup> (Emphasis added).
- Asymptomatic and Pre-Symptomatic Transmission. Epidemiologic studies have documented SARS-CoV-2 transmission during the pre-symptomatic incubation period, and asymptomatic transmission has been suggested in other reports. Virologic studies have also detected SARS-CoV-2 with RT-PCR low cycle thresholds, indicating larger quantities of viral RNA, and cultured viable virus among persons with asymptomatic and pre-symptomatic SARS-CoV-2 infection. The exact degree of SARS-CoV-2 viral RNA shedding that confers risk of transmission is not yet clear. Risk of transmission is thought to be greatest when patients are symptomatic since viral shedding is greatest at the time of symptom onset and declines over the course of several days to weeks. However, the proportion of SARS-CoV-2 transmission in the population due to asymptomatic or pre-symptomatic infection compared to symptomatic infection is unclear.<sup>503</sup>
- “Complications can include pneumonia and trouble breathing, organ failure in several organs, heart problems, a severe lung condition that causes a low amount of oxygen to go through your bloodstream to your organs (acute respiratory distress syndrome), blood clots, acute kidney injury, additional viral and bacterial infections.”<sup>504</sup>
- There is significant evidence of workplace exposures for employees to COVID-19 in many different industries in Virginia and around the country (see section IV.O.1 to .26).

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<sup>498</sup> Percentage of adults who reported having their cholesterol checked and were told by a health professional that it was high.

<sup>499</sup> [https://www.americashealthrankings.org/explore/annual/measure/High\\_Chol/state/VA](https://www.americashealthrankings.org/explore/annual/measure/High_Chol/state/VA)

<sup>500</sup> Percentage of adults with a body mass index of 30.0 or higher based on reported height and weight (pre-2011 BRFSS methodology).

<sup>501</sup> <https://www.americashealthrankings.org/learn/reports/2019-annual-report/state-summaries-virginia>

<sup>502</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

<sup>503</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

<sup>504</sup> *Id.*

- Early studies indicate that COVID-19 “infection fatality rate” may be substantially higher than the seasonal influenza. The generally accepted approximate IFR-S of seasonal influenza is 0.1%.<sup>505</sup> A study by the University of Washington using data through April 20, 2020, calculated the U.S. “infection mortality rate” among symptomatic cases (IFR-S) to be 1.3%<sup>506</sup> [13 times the seasonal influenza rate]. Another study calculated a global IFR of 1.04%<sup>507</sup> [10.4 times the seasonal influenza rate]. A study by the London School of Hygiene and Tropical Medicine estimated the infection fatality rate on the Diamond Princess Cruise Ship to be 1.2%<sup>508</sup> [12 times the seasonal influenza rate] Nearly the entire cruise ships 3,711 passengers and crew were tested.
- The CDC’s current best estimate of the percentage of persons with positive COVID-19 infections that are asymptomatic is 35%.<sup>509</sup> The CDC’s current best estimate of the percentage of COVID-19 disease transmission occurring prior to symptom onset is 40%.<sup>510</sup> This means that until an effective vaccine is developed and deployed, healthy employees will run a continuing risk of exposure to COVID-19 despite an employer’s best efforts to conduct pre-shift screening of employees.
- The CDC has documented multiple “superspreaders” of the virus at mass gathering events involving a choir practice,<sup>511</sup> a church service,<sup>512</sup> a funeral,<sup>513</sup> and a birthday party<sup>514</sup> where dozens of persons were infected by a single “superemitter” of the virus.
- Since February, 2020, the Virginia Workers’ Compensation Commission has received 3,154 COVID-19 related claims as of May 31, 2020 in a wide variety of occupational

<sup>505</sup> *Id.* referencing <https://www.cdc.gov/flu/about/burden/2018-2019.html>

<sup>506</sup> <https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2020.00455>; Study assumptions: We make three assumptions for our analysis: (1) Errors in the numerator and the denominator lead to underreporting of true COVID-19 deaths and cases, respectively; error is smaller for deaths than for cases. (2) Both the errors are declining over time. (3) The errors in the denominator are declining at a faster rate than the error in the numerator.

Assumption #1 is self-evident; both the deaths and the actual cases are undercounted during the initial phase of the epidemic. Because deaths are much more visible events than infections, which, in the case of COVID-19, can go asymptomatic during the first few days of infection, we posit that, at any point in time, the errors in the denominator are larger than the errors in the numerator. Hence, this assumption leads to CFR estimates being larger than the IFR-S, which is typically believed to be true based on observed data.

Assumption #2 is our central assumption, which states that under some stationary processes of care delivery, health care supply, and reporting, which are all believed to be improving over time, the errors in both the numerator and the denominator are declining. It implies that we are improving in the measurement of both the numerator and denominator over time, albeit at different rates in different jurisdictions.

Assumption #3 posits that the error in the denominator is declining faster than the error in the numerator. This assumption indicates that the CFR rates, based on the number of cumulative COVID-19 deaths and the cumulative reported COVID-19 cases, are declining over time and are confirmed based on our observed data (described in detail below).

<sup>507</sup> <https://www.medrxiv.org/content/10.1101/2020.05.11.20098780v1>

<sup>508</sup> <https://www.medrxiv.org/content/10.1101/2020.03.05.20031773v2>

<sup>509</sup> <https://www.cnn.com/2020/05/22/health/cdc-coronavirus-estimates-symptoms-deaths/index.html>

<sup>510</sup> *Id.*

<sup>511</sup> <https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e6.htm>

<sup>512</sup> [https://www.cdc.gov/mmwr/volumes/69/wr/mm6920e2.htm?s\\_cid=mm6920e2\\_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm6920e2.htm?s_cid=mm6920e2_w)

<sup>513</sup> [https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e1.htm?s\\_cid=mm6915e1\\_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e1.htm?s_cid=mm6915e1_w)

<sup>514</sup> *Id.*

settings, representing a nearly 44.5% increase in claims over a 20 day period since May 11, 2020 (2,182 claims).

- Since February, 2020, the Virginia Department of Human Resources Workers' Compensation Statistics has received 42 COVID-19 related claims for state employees in a wide variety of occupational settings (see section IV.A.2).
- Pursuant to Va. Code §40.1-51.1.D<sup>515</sup>, eight (8) COVID-19 related employee deaths have been reported by employers to the Department. An additional three (3) employee deaths have been reported to the Department by the Virginia Workers' Compensation Commission.
- The VOSH Program has investigated an average of 37 annual work-related employee deaths over the last five calendar years. The eleven (11) COVID-19 death notifications so far in 2020 would represent 30% of the deaths investigated by VOSH in an average year. It is not unreasonable to assume that had no mitigation efforts been undertaken by state and local governments beginning in mid-March (e.g., stay at home requests and orders, business shutdowns, physical distancing requirements, face covering recommendations and requirements, etc.), that the number of COVID-19 death notifications would be even higher than the 11 reported to date. It is anticipated that VOSH will be receiving more notifications of employee deaths in the coming weeks and months.
- “[As of May 20, 2020] The CDC's current "best guess" is that — in a scenario without any further social distancing or other efforts to control the spread of the virus — roughly 4 million patients would be hospitalized in the U.S. with COVID-19 and 500,000 would die over the course of the pandemic. That's according to the agency's new parameters that the Center for Public Integrity plugged into a simple epidemiological model.”<sup>516</sup>
- Researchers think that the  $R_0$  [reproduction number] for COVID-19 is between 2 and 3. This means that one person can infect two to three other people.<sup>517</sup> Depending on the level of contagiousness of COVID-19 expressed in the  $R_0$ <sup>518</sup> value, “the threshold for combined [COVID-19] vaccine efficacy and herd immunity needed for disease extinction” is estimated between 55% and 82% “(i.e., >82% of the population has to be immune, through

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<sup>515</sup> <https://law.lis.virginia.gov/vacode/40.1-51.1/>

<sup>516</sup> <https://www.npr.org/sections/health-shots/2020/05/22/860981956/scientists-say-new-lower-cdc-estimates-for-severity-of-covid-19-are-optimistic>

<sup>517</sup> <https://www.webmd.com/lung/what-is-herd-immunity#1>

<sup>518</sup> “The basic reproduction number ( $R_0$ ), pronounced “R naught,” is intended to be an indicator of the contagiousness or transmissibility of infectious and parasitic agents....  $R_0$  has been described as being one of the fundamental and most often used metrics for the study of infectious disease dynamics (7–12). An  $R_0$  for an infectious disease event is generally reported as a single numeric value or low–high range, and the interpretation is typically presented as straightforward; an outbreak is expected to continue if  $R_0$  has a value >1 and to end if  $R_0$  is <1 (13). The potential size of an outbreak or epidemic often is based on the magnitude of the  $R_0$  value for that event (10), and  $R_0$  can be used to estimate the proportion of the population that must be vaccinated to eliminate an infection from that population (14,15).  $R_0$  values have been published for measles, polio, influenza, Ebola virus disease, HIV disease, a diversity of vectorborne infectious diseases, and many other communicable diseases (14,16–18).

[https://wwwnc.cdc.gov/eid/article/25/1/17-1901\\_article](https://wwwnc.cdc.gov/eid/article/25/1/17-1901_article)

either vaccination or prior infection, to achieve herd immunity to stop transmission).”<sup>519</sup>

- There is anecdotal evidence to support the conclusion that employers will be confronted with employees who work despite being symptomatic and customers who will refuse to observe physical distancing or face covering requirements, even in the face of Governor’s executive orders (see section IV.O.17, Restaurants and Bars; section IV.O.18, Grocery Retail and Food Retail; section IV.O.20, Personal Care, Personal Grooming, Salon, and Spa Services; section IV.O.21, Sports and Entertainment, and Mass Gatherings).
- “As U.S. states push forward with reopening plans, nearly as many are seeing coronavirus caseloads trending upward as those where case numbers are declining, an analysis of Johns Hopkins data shows. Nineteen states have averaged more new cases over the past week than the prior week, while 13 are holding steady and 18 are seeing a downward trend. Louisiana is one of those downward-trending states and is set to begin Phase 2 of its plan to reopen the economy Friday, allowing businesses to open at 50% capacity, according to Gov. John Bel Edwards....Texas and Florida are still recording increasing weekly averages of new cases as they take steps toward reopening.”<sup>520</sup>
- “It is not yet known whether weather and temperature affect the spread of COVID-19. Some other viruses, like those that cause the common cold and flu, spread more during cold weather months but that does not mean it is impossible to become sick with these viruses during other months. There is much more to learn about the transmissibility, severity, and other features associated with COVID-19 and investigations are ongoing.”<sup>521</sup>
- “Robert Redfield, MD, the director of the Centers for Disease Control and Prevention (CDC), warned yesterday [April 21, 2020] that a late fall or early winter wave of COVID-19 could be even more deadly in the United States, as it would coincide with the flu season, which already puts a strain on hospitals.”<sup>522</sup>
- There is currently no vaccine for COVID-19. “U.S. officials and scientists are hopeful a vaccine to prevent Covid-19 will be ready in the first half of 2021 - 12 to 18 months since Chinese scientists first identified the coronavirus and mapped its genetic sequence. It’s far from guaranteed. Even the most optimistic epidemiologists hedge their bets when they say it could be ready that quickly. And a lot can go wrong that could delay their progress, scientists and infectious disease experts warn.”<sup>523</sup>
- Producing and deploying a vaccine to a sufficient number of the U. S. population (over 329,000,000 people) to achieve a minimum of 50% of the populations with effective COVID-19 antibodies will take some time to accomplish. The U.S. Census estimates that Virginia’s population as of July 1, 2019 was 8,535,519, and that 15.4% (1,314,469) of Virginia’s population was 65 years or older.<sup>524</sup>

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<sup>519</sup> [https://wwwnc.cdc.gov/eid/article/26/7/20-0282\\_article#suggestedcitation](https://wwwnc.cdc.gov/eid/article/26/7/20-0282_article#suggestedcitation)

<sup>520</sup> <https://www.cnn.com/2020/06/04/health/us-coronavirus-thursday/index.html>

<sup>521</sup> <https://www.cdc.gov/coronavirus/2019-ncov/faq.html#Coronavirus-Disease-2019-Basics>

<sup>522</sup> <https://www.cidrap.umn.edu/news-perspective/2020/04/coroner-first-us-covid-19-death-occurred-early-february>

<sup>523</sup> <https://www.cnbc.com/2020/05/21/coronavirus-vaccine-why-it-may-be-ready-early-next-year-and-what-could-go-wrong.html>

<sup>524</sup> <https://www.census.gov/quickfacts/fact/table/VA#>

- Successful deployment of a COVID-19 vaccine will depend on the willingness of the U.S. population to actually take the vaccine. In a Reuters' survey<sup>525</sup> of 4,428 U.S. adults taken between May 13 and May 19: "Fourteen percent of respondents said they were not at all interested in taking a vaccine, and 10% said they were not very interested. Another 11% were unsure."
- The SARS-CoV-2 virus and COVID-19 disease continue to constitute a grave danger to unvaccinated, not fully vaccinated, and otherwise at risk employees in the same manner that it did prior to the wide scale availability of vaccines. Currently, three vaccines are authorized and recommended to prevent COVID-19 in the U.S.<sup>526</sup>

There are over 332,000,000 people living in the United States.<sup>527</sup>

While fully vaccinated rates are improving, they have not reached a range that could be considered able to achieve population or herd immunity. Here are fully vaccinated rates for some surrounding states as of August 17, 2021<sup>528</sup>:

6. Maryland	60.04%
13. District of Columbia	56.27%
14. Virginia	55.79%
29. Kentucky	46.82%
38. North Carolina	44.82%
43. Tennessee	40.19%
45. West Virginia	39.31%

NOTE: As of August 17, 2021, 74.4% of Virginia's adult population has been fully vaccinated (approximately 15.9% of Virginia's population is 65 years and over.<sup>529</sup>

- On July 9, 2021, the CDC has estimated that ""Preliminary data from several states over the last few months suggest that 99.5% of deaths from COVID-19 in the United States were in unvaccinated people."<sup>530</sup>

"CDC Director Rochelle Walensky said that cases, hospitalizations and deaths from the coronavirus are increasing nationwide, adding that over 97% of new hospitalizations are in patients who are unvaccinated."<sup>531</sup>

- On August 16, 2021, after consultation with the Virginia Department of Health (VDH),

<sup>525</sup> <https://www.reuters.com/article/us-health-coronavirus-vaccine-poll-exclu/exclusive-a-quarter-of-americans-are-hesitant-about-a-coronavirus-vaccine-reuters-ipsos-poll-idUSKBN22X19G>

<sup>526</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines.html>

<sup>527</sup> <https://www.census.gov/popclock/>

<sup>528</sup> <https://www.beckershospitalreview.com/public-health/states-ranked-by-percentage-of-population-vaccinated-march-15.html>

<sup>529</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/covid-19-vaccine-summary/>

<sup>530</sup> <https://www.businessinsider.com/us-coronavirus-deaths-nearly-all-among-unvaccinated-cdc-head-2021-7>

<sup>531</sup> <https://www.usnews.com/news/national-news/articles/2021-07-16/cdc-head-covid-19-becoming-pandemic-of-the-unvaccinated>



DOLI decided to recommend revisions<sup>532</sup> to the Board’s Proposed Amendments to the Virginia Standard originally adopted on June 29, 2021, in response to the CDC’s Updated Guidance for Fully Vaccinated People issued on July 27, 2021<sup>533</sup> (requirement in certain situations for fully vaccinated employees to wear face coverings in areas of substantial or high transmission).

The CDC July 27, 2021 updated guidance was based in part on new research. Following is a summary of CDC’s Morbidity and Mortality Weekly Report (MMWR) of July 30, 2021<sup>534</sup> titled *Outbreak of SARS-CoV-2 Infections, Including COVID-19 Vaccine Breakthrough Infections, Associated with Large Public Gatherings — Barnstable County, Massachusetts, July 2021*, which resulted in the CDC update:

Summary of MMWR: “During July 2021, 469 cases of COVID-19 associated with multiple summer events and large public gatherings in a town in Barnstable County, Massachusetts, were identified among Massachusetts residents; vaccination coverage among eligible Massachusetts residents was 69%. Approximately three quarters (346; 74%) of cases occurred in fully vaccinated persons.... Overall, 274 (79%) vaccinated patients with breakthrough infection were symptomatic. Among five COVID-19 patients who were hospitalized, four were fully vaccinated; no deaths were reported....[Certain data] might mean that the viral load of vaccinated and unvaccinated persons infected with SARS-CoV-2 is also similar. However, microbiological studies are required to confirm these findings.”

- The jury is still out as to whether the United States will reach herd immunity levels (generally considered to be in the 70-85% range). Even if the country does reach herd/population immunity, it is possible to lose the immunity in the future, or go in and out of herd/population immunity depending on the season. Herd/population immunity is not immediately possible because “No one younger than 12 can get a Covid-19 vaccine in the US right now. The Pfizer/BioNTech vaccine is authorized for those age 12 and older, and the Moderna and Johnson & Johnson vaccines are authorized for adults 18 and older.”<sup>535</sup>

In addition, surveys continue to indicate that a certain percentage of the population will refuse to get vaccinated (“about 20% of people surveyed said they definitely would not get vaccinated or would only get vaccinated if their job or school required it, according to the Kaiser Family Foundation COVID-19 Vaccine Monitor.”).<sup>536</sup>

Also, it is not currently known how long immunity from a natural infection lasts in a person, or how long it will last for fully vaccinated or partially vaccinated people. The virus has shown a propensity for mutations, some of which appear to be more infectious and therefore more easily spread. Increased travel in state, around the country and from other countries could make the U.S. fall out of herd/population immunity even after it is

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<sup>532</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/08/Revisions-to-Proposed-Amendments-to-the-FPS-for-COVID-19-16VAC25-220-Adopted-06.29.2021.pdf>

<sup>533</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

<sup>534</sup> <https://www.cdc.gov/mmwr/volumes/70/wr/mm7031e2.htm>

<sup>535</sup> <https://www.cnn.com/2021/03/30/health/herd-immunity-covid-shifts/index.html>

<sup>536</sup> <https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-march-2021/>

reached.

“The Delta variant is on its way to becoming the dominant strain of coronavirus in the US, raising concerns that outbreaks could hit unvaccinated people this fall.<sup>537</sup>

And a new study shows the Delta variant is associated with almost double the risk of hospitalization compared to the Alpha variant.

The Alpha (B.1.1.7) variant, which is "stickier" and more contagious than the original strain of novel coronavirus, became the dominant strain in the US this spring.

But health experts worry the Alpha variant could be trumped by the Delta variant, which appears to be even more transmissible and may cause more severe illness for those not vaccinated.

As of June 14, 2021, about 10% of Covid-19 cases in the US can be attributed to the Delta variant. But that proportion is doubling every two weeks, Scott Gottlieb, a former commissioner of the US Food and Drug Administration, said in a CBS interview Sunday. He said the Delta variant will probably take over as the dominant strain of coronavirus in the US.

As of June 22, 2021, the Delta variant now makes up about 20% of all new COVID-19 cases in the U.S.<sup>538</sup>

- Multiple variants of the virus that causes COVID-19 are circulating globally, including within the United States. Currently, four variants are classified as a variant of concern (VOC). Nowcast estimates\* of COVID-19 cases caused by these VOCs for the week ending August 7 are summarized here. Nationally, the combined proportion of cases attributed to Delta (B.1.617.2, AY.1, AY.2, AY.3) is estimated to increase to 97.4%; Alpha (B.1.1.7) proportion is estimated to decrease to 0.9%; Gamma (P.1) proportion is estimated to decrease to 0.5%; and Beta (B.1.351) is estimated to be less than 0.1%. Nowcast estimates that Delta (B.1.617.2, AY.1, AY.2, and AY.3) will continue to be the predominant variant circulating in all 10 HHS regions. Alpha (B.1.1.7) is estimated to be 1.6% or less in all HHS regions. Gamma (P.1) is estimated to be 1.2% or less in all HHS regions; and Beta (B.1.351) is estimated to be less than 0.1% in all HHS regions.

### Reported Cases

The current 7-day moving average of daily new cases (114,190) increased 18.4% compared with the previous 7-day moving average (96,454). The current 7-day moving average is 66.3% higher compared to the peak observed on July 20, 2020 (68,685). The current 7-day moving average is 65.0% lower than the peak observed on January 10, 2021 (254,023) and is 882.8% higher than the lowest value observed on June 19, 2021 (11,619). A total of 36,268,057 COVID-19 cases have been reported as of August 11.

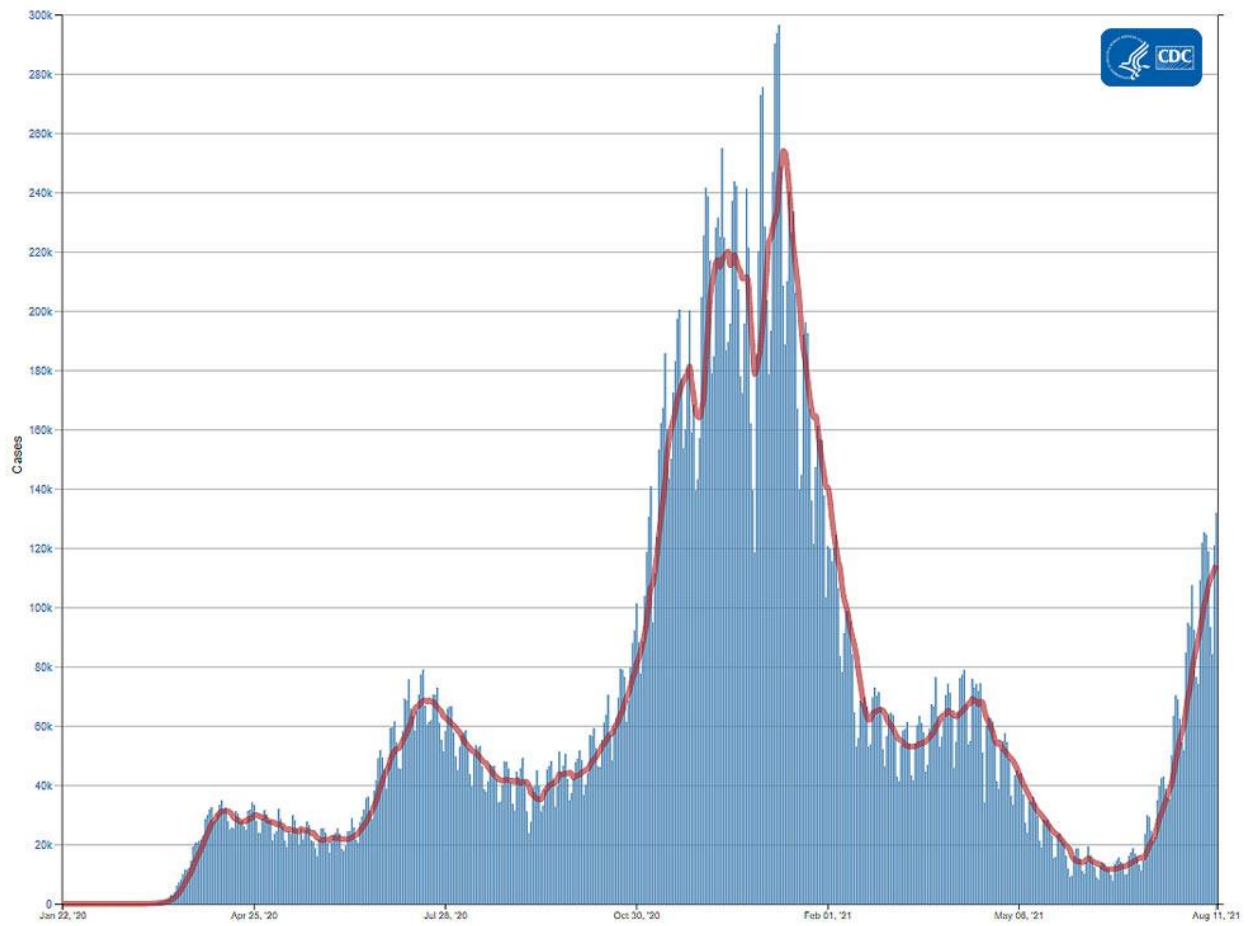
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<sup>537</sup> <https://www.cnn.com/2021/06/14/health/us-coronavirus-monday/index.html>

<sup>538</sup> <https://www.cnbc.com/2021/06/22/fauci-declares-delta-variant-greatest-threat-to-the-nations-efforts-to-eliminate-covid.html>

# Daily Trends in COVID-19 Cases in the United States Reported to CDC

7-Day moving average

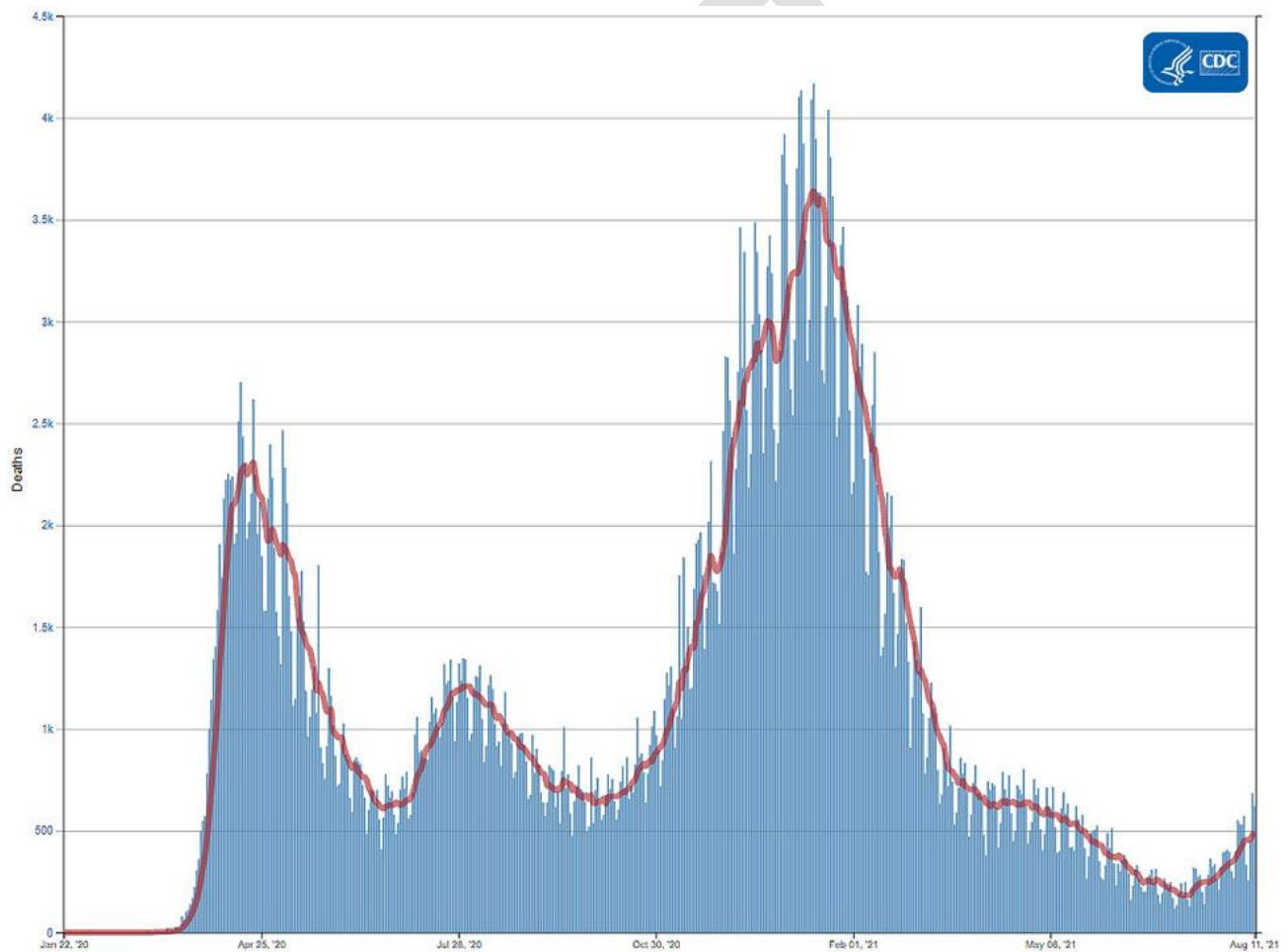


## Deaths

The current 7-day moving average of new deaths (492) has increased 21.0% compared with the previous 7-day moving average (407). The current 7-day moving average is 59.3% lower compared to the peak observed on August 2, 2020 (1,210). The current 7-day moving average is 86.5% lower than the peak observed on January 13, 2021 (3,640) and is 170.4% higher than the lowest value observed on July 10, 2021 (182). As of August 11, a total of 617,096 COVID-19 deaths have been reported in the United States.

### Daily Trends in Number of COVID-19 Deaths in the United States Reported to CDC

■ 7-Day moving average

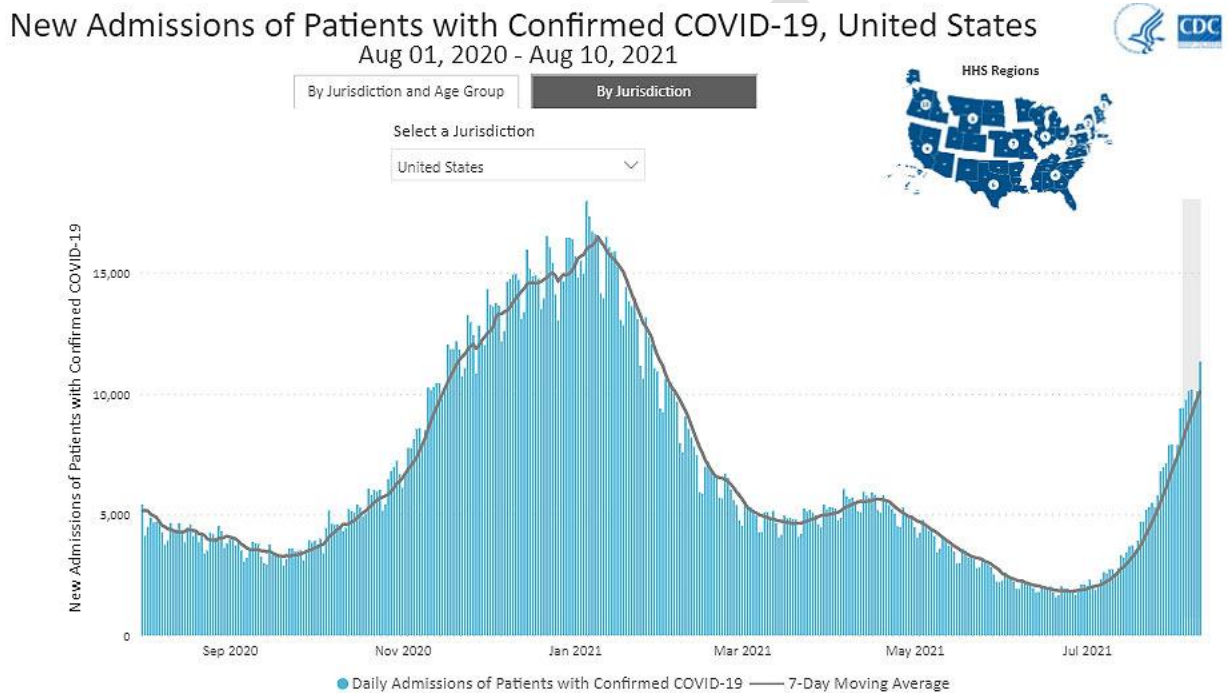


## Hospitalizations

### New Hospital Admissions

The current 7-day average for August 4–August 10 was 10,072. This is a 29.6% increase from the prior 7-day average (7,771) from July 28–August 3. The 7-day moving average for new admissions has consistently increased since June 25, 2021. New admissions of patients with confirmed COVID-19 are currently at their highest levels since the start of the pandemic in Florida, Louisiana, and Oregon.

### Daily Trends in Number of New COVID-19 Hospital Admissions in the United States



## Vaccinations

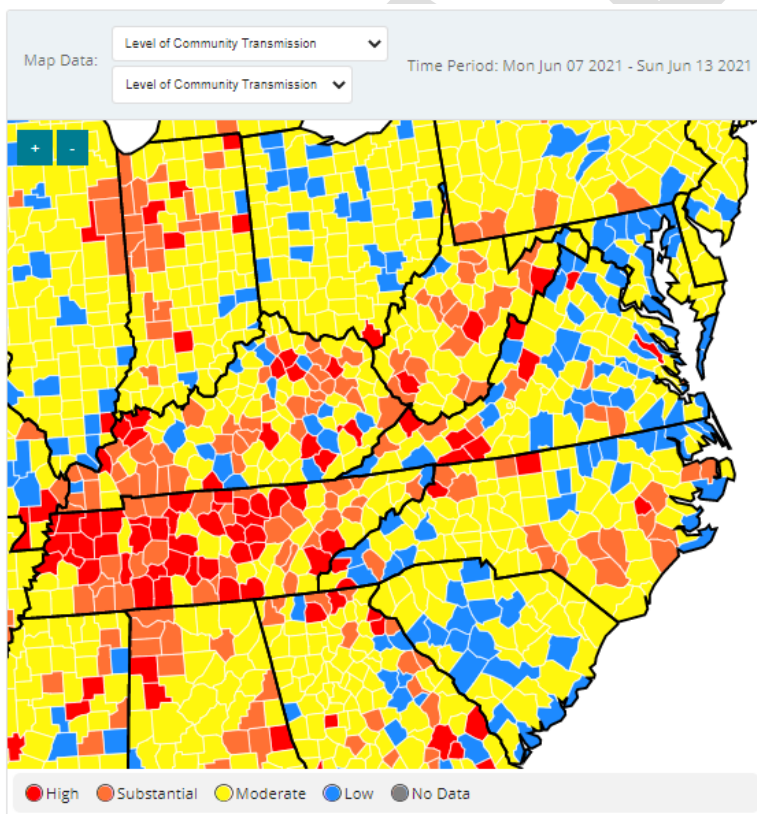
The U.S. COVID-19 Vaccination Program began December 14, 2020. As of August 12, 353.9 million vaccine doses have been administered. Overall, about 196.5 million people, or 59.2% of the total U.S. population, have received at least one dose of vaccine. About 167.4 million people, or 50.4% of the total U.S. population, have been fully vaccinated.\* As of August 12, the 7-day average number of administered vaccine doses reported (by date of CDC report) to CDC per day was 699,068, a 0.03% decrease from the previous week.

CDC's COVID Data Tracker Vaccination Demographic Trends tab shows vaccination trends by age group. As of August 12, 90.6% of people ages 65 or older have received at least one dose of vaccine and 80.6% are fully vaccinated. Over two-thirds (71.5%) of people ages 18 or older have received at least one dose of vaccine and 61.3% are fully vaccinated. For people ages 12 or older, 69.2% have received at least one dose of vaccine and 59% are fully vaccinated.

- Since February, 2020, the Virginia Workers' Compensation Commission received 15,770 COVID-19 related claims as of June 15, 2021.
- During the course of the pandemic, VOSH has inspected 53 workplace deaths. The June 15, 2021 report from the VWCC contains data on 23 employee deaths not currently included in VOSH COVID-19 Employee Death Statistics. VOSH is actively investigating this data issue to determine if these employee deaths fall within VOSH jurisdiction. If so, VOSH will open inspections for each case. If confirmed, 23 additional deaths would result in a 52% increase in employee deaths attributed to COVID-19 since February 1, 2020.
- Virginia community transmission rates<sup>539</sup> can be found on a county-by-county basis at: <https://covid.cdc.gov/covid-data-tracker/#county-view>

You can see the following from the screenshot below (June 13, 2021):

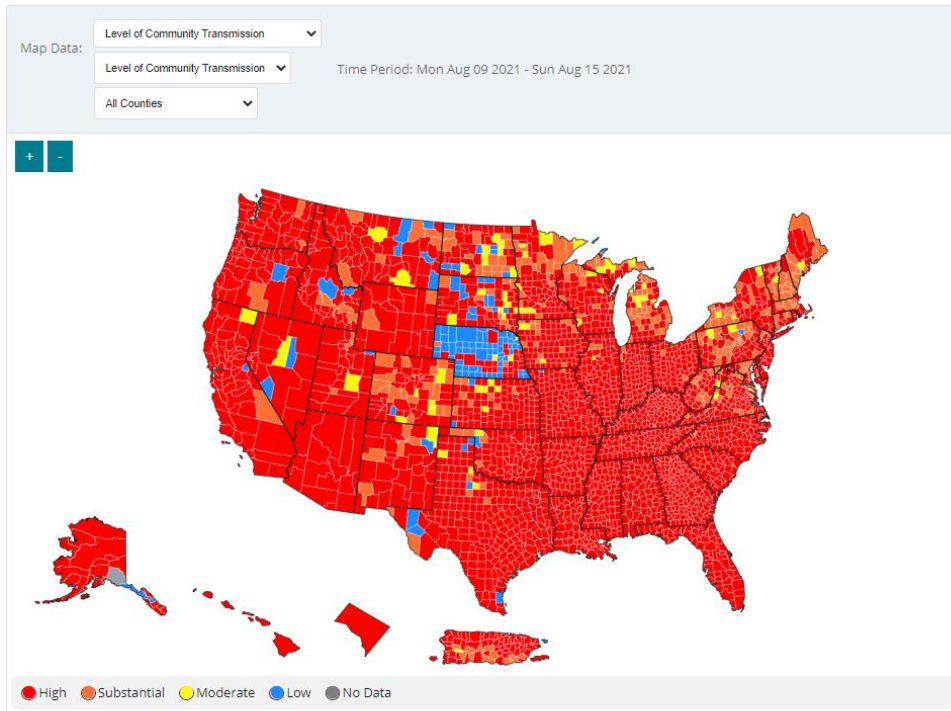
- about 25-30% of Virginia counties have a low community transmission rate
- about 8% of Virginia counties have a high transmission rate,
- about 7% of Virginia counties having a substantial transmission rate
- the remaining 55-60% of Virginia counties have a moderate transmission rate



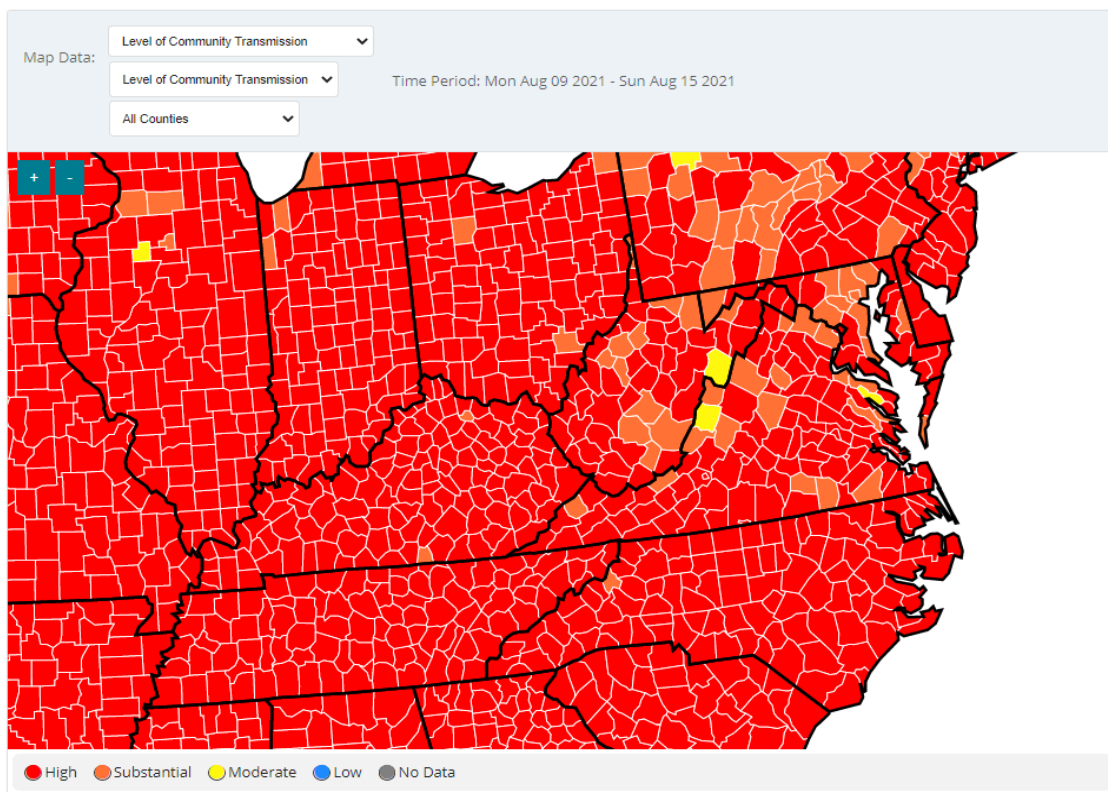
Current 7-days is Mon Jun 07 2021 - Sun Jun 13 2021 for case rate and Sun Jun 06 2021 - Sat Jun 12 2021 for percent positivity. The percent change in counties at each level of transmission is the absolute change compared to the previous 7-day period.

<sup>539</sup> <https://covid.cdc.gov/covid-data-tracker/#county-view>

As of August 15, 2021, the overwhelming majority of US and Virginia counties and cities have high or substantial levels of community transmission.<sup>540</sup>



Current 7-days is Mon Aug 09 2021 - Sun Aug 15 2021 for case rate and Fri Aug 06 2021 - Thu Aug 12 2021 for percent positivity. The percent change in counties at each level of transmission is the absolute change compared to the previous 7-day period.



Current 7-days is Mon Aug 09 2021 - Sun Aug 15 2021 for case rate and Fri Aug 06 2021 - Thu Aug 12 2021 for percent positivity. The percent change in counties at each level of transmission is the absolute change compared to the previous 7-day period.

<sup>540</sup> <https://covid.cdc.gov/covid-data-tracker/#county-view>

- National Trends

**As of June 11, 2021**, in the U. S. there were 33,246,578 total cases (current 7-day average of 13,997 cases), 2,243,371 hospitalizations (current 7-day average of 2,239), and 596,059 total deaths (current 7-day moving average of 347 deaths).<sup>541</sup>

**As of August 11, 2021**, in the U. S. there were 36,268,057 total cases (current 7-day average of 114,190 cases), 2,507,105 hospitalizations (current 7-day average of 10,072), and 617,096 total deaths (current 7-day moving average of 407 deaths).<sup>542</sup>

**Since June 11, 2021**, the 7 day average of cases in the US has increased approximately 815%.

**Since June 11, 2021**, the 7 day average of hospitalizations in the US has approximately increased 450%. (NOTE: Hospitalization rates typically lag behind illness indicators<sup>543</sup>).

**Since June 11, 2021**, the 7 day average of deaths in the US has increased approximately 17%.

Virginia Trends

**As of June 14, 2021**, cases in Virginia totaled 677,812<sup>544</sup> (7-day average 140 cases), 30,182 hospitalizations (7-day average of 10 hospitalizations),<sup>545</sup> with 11,318 deaths (7-day average of 3 deaths).<sup>546</sup>

**As of August 10, 2021**, cases in Virginia totaled 725,971<sup>547</sup> (7-day average 1,700 cases), 32,399 hospitalizations (7-day average of 37 hospitalizations),<sup>548</sup> with 11,625 deaths (7-day average of 5 deaths).<sup>549</sup>

**Since June 14, 2021**, the 7 day average of cases in Virginia has increased approximately 1,114%.

**Since June 14, 2021**, the 7 day average of hospitalizations in Virginia has increased approximately 270%. (NOTE: Hospitalization rates typically lag behind illness indicators<sup>550</sup>).

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<sup>541</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>542</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>543</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/pdf/covidview-07-17-2020.pdf>

<sup>544</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>545</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>546</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>547</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>548</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>549</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>550</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/pdf/covidview-07-17-2020.pdf>



Since June 14, 2021, the 7 day average of death in Virginia has increased approximately 67%.

Fortunately, employee deaths, hospitalizations and outbreaks in Virginia are down substantially from the height of the pandemic. However, there is a concerning trend in the number of outbreaks of 3 or more cases occurring since the beginning of July, 2021.

- Weekly VOSH COVID-19 Response report for August 13, 2021:

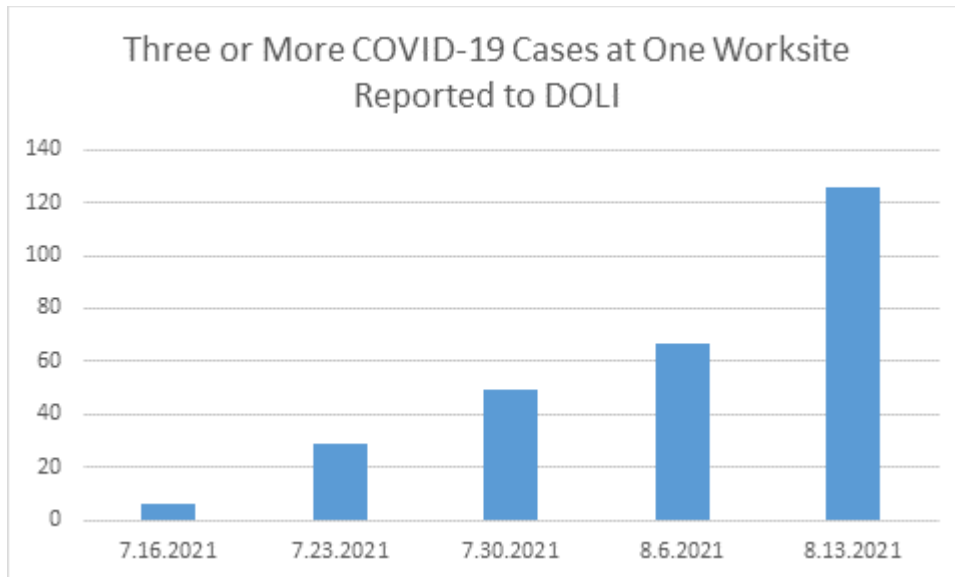
SUMMARY   VOSH COVID-19 RESPONSE								
Dates	7/9/21	7/16/21	7/23/21	7/30/21	8/6/21	8/13/21	Total	
<b>Phone Calls</b>								
Total Phone Calls	41	35	46	48	55	59	13383	
UPAs Complaints   OIS Statewide	0	3	2	7	3	14	2057 *	
# Inspections	1	0	0	0	0	0	212 **	
<i>Complaints, Referrals, Hospitalizations &amp; Fatalities</i>								
Inspections w/ Violations	75	79	80	88	89	90	90	
Inspections Closed	143	145	147	151	152	179	179	
# of Violations Issued - Final Order Cases (Willful, Serious, OTS)	250	238	269	291	292	295	295	
#EEs Exposed	13018	13234	13481	13868	13900	14701	14701	
Current Penalty (\$)			\$ 573,303	\$ 647,351	\$ 651,201	\$ 735,175	\$ 735,175	
# Hospitalizations	0	0	0	1	0	0	84 ***	
Fatalities/Workplace deaths	0	0	0	0	0	0	44	
# of Emails forwarded to Regional/Field Offices from MF COVID-19 positive Cases Reports (ETS)   Complaints (does not include reports submitted by phone in the Regional Offices).	0	2	0	0	1	0	676	
# REDCAP Notifications (Launched 09/28/20)	39	55	114	170	246	415	26975	
# REDCAP Notifications (3 or more cases reported)	8	6	29	49	67	126	7009	
* Time Range: 01/01/2020 to 08/13/2021   UPA numbers may change as Regions update the system.								
**Inspections opened (Total: 212 - Draft + Final)								
% of COVID-19 Inspections closed - 84% (179)								
% of COVID-19 Inspections with violations - 42% (90)								
***There are Employers submitting multiple notifications. Some of the hospitalizations reported to VOSH later resulted in fatalities.								

Fatalities - Calendar Year	2020	2021	% [2021]
Total	57	26	31
COVID-19	31	13	50%
Fall	8	6	23%
Struck-By	12	5	19%
Caught-in	5	1	4%
Asphyxiation	0	1	4%
Electrocution	1		0%

- Increase in Outbreak Reports to DOLI

The Standard requires employers to report to DOLI outbreaks of three or more employees at one worksite being infected with COVID-19 within a 14 day period. For all of June and the first two weeks in July, those report numbers had been averaging 5 per week (the lowest averages since early in the pandemic).

For the third week in July the number increased to 29 and in succeeding weeks it has now reached 126 reports during the week ending August 13, 2021 – a level not seen since February 26, 2021.



- APNews.com, June 24, 2021, " Nearly all COVID deaths in US are now among unvaccinated."<sup>551</sup>

" Nearly all COVID-19 deaths in the U.S. now are in people who weren't vaccinated, a staggering demonstration of how effective the shots have been and an indication that deaths per day — now down to under 300 — could be practically zero if everyone eligible got the vaccine.

An Associated Press analysis of available government data from May shows that "breakthrough" infections in fully vaccinated people accounted for fewer than 1,200 of more than 853,000 COVID-19 hospitalizations. That's about 0.1%.

And only about 150 of the more than 18,000 COVID-19 deaths in May were in fully vaccinated people. That translates to about 0.8%, or five deaths per day on average.

The AP analyzed figures provided by the Centers for Disease Control and Prevention. The CDC itself has not estimated what percentage of hospitalizations and deaths are in fully vaccinated people, citing limitations in the data.

Among them: Only about 45 states report breakthrough infections, and some are more aggressive than others in looking for such cases. So the data probably understates such infections, CDC officials said.

<sup>551</sup> <https://apnews.com/article/coronavirus-pandemic-health-941fcf43d9731c76c16e7354f5d5e187>

Still, the overall trend that emerges from the data echoes what many health care authorities are seeing around the country and what top experts are saying.

Earlier this month, Andy Slavitt, a former adviser to the Biden administration on COVID-19, suggested that 98% to 99% of the Americans dying of the coronavirus are unvaccinated.

And CDC Director Dr. Rochelle Walensky said on Tuesday that the vaccine is so effective that “nearly every death, especially among adults, due to COVID-19, is, at this point, entirely preventable.” She called such deaths 'particularly tragic.'"

- WRIC.com, Richmond, Virginia, June 23, 2021, "State's vaccine coordinator: Delta variant is spreading, gives look into what school may look like in the fall"<sup>552</sup>

"Virginia hit the benchmark for vaccinations earlier this week, but the state's vaccine coordinator, Dr. Danny Avula, says there is still more work to be done.

On Monday, Governor Ralph Northam reported 70% of adults in Virginia have received at least one dose of the vaccine, but there are segments of the Commonwealth still reporting a 30% or 40% vaccination rate. It comes as the delta variant is already starting to spread.

'At the end of May the Delta variant was about 2% of our new infections and as of last week it was 10% and I think it's going to be much more than that,' Avula told our sister station, WAVY.

The good news is that those fully vaccinated don't need to worry. Luckily, he said the vaccine appears to be working against that variant and others that have emerged so far. 'So far, I think we've been lucky,' Avula said. 'These variants like the U-K variant, the alpha the delta, that have really emerged in different countries – our vaccines have been incredibly effective against them.'

So, what about the rest of the population who hasn't gotten the shot? 'What that means is that kids who are not vaccinated will likely at some point be vectors – the will spread this new variant widely,' Avula stated. The concern then becomes spreading the virus to unvaccinated adults.

'So, for segments in our community like in Southern or Southwest Virginia where the adult vaccination rate is about 40% that means that kids will contribute to the spread of disease – if we're not careful,' he said.'"

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<sup>552</sup> <https://www.wric.com/health/coronavirus/states-vaccine-coordinator-delta-variant-is-spreading-gives-look-into-what-school-may-look-like-in-the-fall/>

## ATTACHMENT E: OSHA RECORDKEEPING GUIDELINES FOR RECORDING COVID-19 OCCUPATIONALLY RELATED CASES

OSHA's changing guidance in April and May, 2020, concerning employer responsibilities to record COVID-19 occupationally related illnesses has over the short term resulted in reduced access to accurate workplace exposure and illness data related to COVID-19.

On **April 10, 2020**, OSHA issued a memorandum on "Enforcement Guidance for Recording Cases of Coronavirus Disease 2019 (COVID-19)"<sup>553</sup> to provide "interim guidance to Compliance Safety and Health Officers (CSHOs) for enforcing the requirements of 29 CFR Part 1904 with respect to the recording of occupational illnesses, specifically cases of Coronavirus Disease 2019 (COVID-19)....This guidance is intended to be time-limited to the current public health crisis:

Under OSHA's recordkeeping requirements, COVID-19 is a recordable illness, and employers are responsible for recording cases of COVID-19, if: (1) the case is a confirmed case of COVID-19, as defined by Centers for Disease Control and Prevention (CDC);[1] (2) the case is work-related as defined by 29 CFR § 1904.5;[2] and (3) the case involves one or more of the general recording criteria set forth in 29 CFR § 1904.7.[3] On March 11, the World Health Organization (WHO) declared COVID-19 a global pandemic, and the extent of transmission is a rapidly evolving issue.

In areas where there is ongoing community transmission, employers other than those in the healthcare industry, emergency response organizations (e.g., emergency medical, firefighting, and law enforcement services), and correctional institutions may have difficulty making determinations about whether workers who contracted COVID-19 did so due to exposures at work. In light of those difficulties, OSHA is exercising its enforcement discretion in order to provide certainty to the regulated community.

Employers of workers in the healthcare industry, emergency response organizations (e.g., emergency medical, firefighting, and law enforcement services), and correctional institutions must continue to make work-relatedness determinations pursuant to 29 CFR § 1904. Until further notice, however, OSHA will not enforce 29 CFR § 1904 to require other employers to make the same work-relatedness determinations, except where:

1. There is objective evidence that a COVID-19 case may be work-related. This could include, for example, a number of cases developing among workers who work closely together without an alternative explanation; and
2. The evidence was reasonably available to the employer. For purposes of this memorandum, examples of reasonably available evidence include information given to the employer by employees, as well as information that an employer learns regarding its employees' health and safety in the ordinary course of managing its business and employees.

This enforcement policy will help employers focus their response efforts on implementing good hygiene practices in their workplaces, and otherwise mitigating

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<sup>553</sup> <https://www.osha.gov/memos/2020-04-10/enforcement-guidance-recording-cases-coronavirus-disease-2019-covid-19>

COVID-19's effects, rather than on making difficult work-relatedness decisions in circumstances where there is community transmission. (Emphasis added).

On **May 19, 2020**<sup>554</sup>, OSHA revised its April 10, 2020 guidance as follows:

“Confirmed cases of COVID-19 have now been found in nearly all parts of the country, and outbreaks among workers in industries other than healthcare, emergency response, or correctional institutions have been identified. As transmission and prevention of infection have become better understood, both the government and the private sector have taken rapid and evolving steps to slow the virus's spread, protect employees, and adapt to new ways of doing business. As the virus's spread now slows in certain areas of the country, states are taking steps to reopen their economies and workers are returning to their workplaces. All these facts—incidence, adaptation, and the return of the workforce—indicate that employers should be taking action to determine whether employee COVID-19 illnesses are work-related and thus recordable. Given the nature of the disease and ubiquity of community spread, however, in many instances it remains difficult to determine whether a COVID-19 illness is work-related, especially when an employee has experienced potential exposure both in and out of the workplace.

In light of these considerations, OSHA is exercising its enforcement discretion in order to provide certainty to employers and workers. Accordingly, until further notice, OSHA will enforce the recordkeeping requirements of 29 CFR 1904 for employee COVID-19 illnesses for all employers according to the guidelines below.

....

Because of the difficulty with determining work-relatedness, OSHA is exercising enforcement discretion to assess employers' efforts in making work-related determinations. In determining whether an employer has complied with this obligation and made a reasonable determination of work-relatedness, CSHOs should apply the following considerations:

- The reasonableness of the employer's investigation into work-relatedness. Employers, especially small employers, should not be expected to undertake extensive medical inquiries, given employee privacy concerns and most employers' lack of expertise in this area. It is sufficient in most circumstances for the employer, when it learns of an employee's COVID-19 illness, (1) to ask the employee how he believes he contracted the COVID-19 illness; (2) while respecting employee privacy, discuss with the employee his work and out-of-work activities that may have led to the COVID-19 illness; and (3) review the employee's work environment for potential SARS-CoV-2 exposure. The review in (3) should be informed by any other instances of workers in that environment contracting COVID-19 illness.
- The evidence available to the employer. The evidence that a COVID-19 illness was work-related should be considered based on the information reasonably available to the employer at the time it made its work-relatedness determination. If the employer later learns more information related to an employee's COVID-19 illness, then that information should be taken into account as well in determining whether an employer made a reasonable work-relatedness determination.

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<sup>554</sup> <https://www.osha.gov/memos/2020-05-19/revised-enforcement-guidance-recording-cases-coronavirus-disease-2019-covid-19>

- The evidence that a COVID-19 illness was contracted at work. CSHOs should take into account all reasonably available evidence, in the manner described above, to determine whether an employer has complied with its recording obligation. This cannot be reduced to a ready formula, but certain types of evidence may weigh in favor of or against work-relatedness. For instance:
  - COVID-19 illnesses are likely work-related when several cases develop among workers who work closely together and there is no alternative explanation.
  - An employee's COVID-19 illness is likely work-related if it is contracted shortly after lengthy, close exposure to a particular customer or coworker who has a confirmed case of COVID-19 and there is no alternative explanation.
  - An employee's COVID-19 illness is likely work-related if his job duties include having frequent, close exposure to the general public in a locality with ongoing community transmission and there is no alternative explanation.
  - An employee's COVID-19 illness is likely not work-related if she is the only worker to contract COVID-19 in her vicinity and her job duties do not include having frequent contact with the general public, regardless of the rate of community spread.
  - An employee's COVID-19 illness is likely not work-related if he, outside the workplace, closely and frequently associates with someone (e.g., a family member, significant other, or close friend) who (1) has COVID-19; (2) is not a coworker, and (3) exposes the employee during the period in which the individual is likely infectious.
  - CSHOs should give due weight to any evidence of causation, pertaining to the employee illness, at issue provided by medical providers, public health authorities, or the employee herself.

If, after the reasonable and good faith inquiry described above, the employer cannot determine whether it is more likely than not that exposure in the workplace played a causal role with respect to a particular case of COVID-19, the employer does not need to record that COVID-19 illness.” (Emphasis added).

## ATTACHMENT F: VOSH INVESTIGATION AND INSPECTION PROCEDURES

### 1. VOSH Inspection Priority Categories.

<u>Priority</u>	<u>Category</u>
First	Imminent Danger as defined in the VOSH <u>Administrative Regulation Manual</u> (ARM).
Second	Fatality Inspections (regardless of whether our inspection is in response to specific evidence of hazardous conditions or not).
Third	Accident / First Report of Accident Inspections.
Fourth	Complaints / Referrals.
Fifth	Follow-up / Monitoring.
Sixth	Programmed Inspections, i.e., General Schedule, Construction Schedule, National & Local Emphasis Programs AND unprogrammed inspections in response to alleged hazardous working conditions that would normally be classified as Other-Than-Serious.

### 2. VOSH Informal Investigation and Inspection Procedures.

#### COVID-19 “Investigations”

- Informal investigations (phone/fax/email/letter) are often conducted in response to employee complaints (with the permission of the employee); and referrals from the Virginia Department of Health
- The employer is provided the opportunity to provide a response to the complaint/referral items with a short turnaround time
- If no response or an unsatisfactory response is received, an inspection will be conducted
- If the response is considered satisfactory, it is provided to the Complainant for review and comment. If the Complainant provides reasonable information challenging the validity of the response provided, an inspection will be conducted.

## **Summary of How VOSH Initially Handled COVID-19 Related Complaints Early in the Pandemic:**

COVID-19 related employee complaints received by the VOSH program that are within VOSH's jurisdiction are being addressed with employers. In an abundance of caution, at the beginning of the COVID-19 outbreak in Virginia the Department decided to modify its normal complaint processing procedures for both the safety and health of the employees at the work sites and its VOSH compliance officers by trying to limit exposure to the virus as much as possible while carrying out statutory enforcement mandates.

Rather than conducting a combination of onsite inspections and informal investigations as is the case under normal situations, COVID-19 complaints were initially handled through the VOSH program's complaint investigation process, which involves contacting the employer by phone, fax, email, or letter.

VOSH informed the employer of the complaint allegation and required a written response concerning the validity of the complaint allegation, any safety and health measures taken to date to protect employees against potential COVID-19 related hazards, and any measures to be taken in response to valid complaint allegations.

Employers were required to post a copy of VOSH's correspondence where it would be readily accessible for review by employees; and provide a copy of the correspondence and the employer's response to a representative of any recognized union or safety committee at the facility. Complainants were provided a copy of the employer's response.

Depending on the specific facts of the employee's alleged complaint, an employer's failure to respond or inadequate response could result in additional contact by the VOSH program with the employer, a referral to local law enforcement officials, an onsite VOSH inspection, or other enforcement options available to the VOSH program.

### **COVID-19 "Inspections"**

- Can result in violations and substantial penalties
- Inspections are opened for COVID-19 related employee deaths
- Inspections may be opened for COVID-19 related hospitalizations or handled through an investigation
- Inspection files with proposed violations will be reviewed by Headquarters and receive a legal review before a decision to issue or not issue is made

### **3. Violation and Penalty Structure.**

The emergency temporary standard/emergency regulation would be enforced in the same manner as all other VOSH laws, standards, and regulations. The types of civil violations that VOSH can cite are "serious", "other than serious", "repeat", "willful," and "failure to abate. Maximum penalties for each type are:

Serious and Other-than-serious      \$13,277



Willful and Repeat	\$132,764
Failure-to-Abate	\$13,277 per day

In calculating penalties, Va. Code §40.1-49.4.A.4 .a provides:

In determining the amount of any proposed penalty [the Commissioner] shall give due consideration to the appropriateness of the penalty with respect to the size of the business of the employer being charged, the gravity of the violation, the good faith of the employer, and the history of previous violations. (Emphasis added).

Chapter 11 of the VOSH FOM explains how penalties are calculated:

[https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\181\GDoc\\_DOLI\\_5354\\_v6.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\181\GDoc_DOLI_5354_v6.pdf)

Employers can receive penalty reductions for “size” based on the number of employees as follows:

1 - 25	70%
26-100	40%
101-250	20%
251 or more	zero

A penalty reduction of up to 25 percent is permitted in recognition of an employer’s “good faith” in increments of 0%, 5%, 10%, 15%, 20% and 25%.

History. A reduction of 10% shall be given to employers who have not been cited by VOSH for any serious, willful or repeated violations in the past three years.

The minimum penalty for a serious violation is \$600.00.

4. Employee Misconduct Defense.

The “Employee Misconduct” affirmative defense to VOSH citations and penalties is codified in VOSH regulation 16 VAC 25-60-260.B:

B. A citation issued under subsection A of this section to an employer who violates any VOSH law, standard, rule, or regulation shall be vacated if such employer demonstrates that:

1. Employees of such employer have been provided with the proper training and equipment to prevent such a violation;
2. Work rules designed to prevent such a violation have been established and adequately communicated to employees by such employer and have been **effectively enforced** when such a violation has been discovered;

3. The failure of employees to observe work rules led to the violation; and

4. Reasonable steps have been taken by such employer to discover any such violation. (Emphasis added)

5. De Minimis Violation Policy.

Va. Code §40.1-49.4.A.2<sup>555</sup> provides “The Commissioner may prescribe procedures for calling to the employer's attention *de minimis* violations which have no direct or immediate relationship to safety and health.” (Emphasis added).

The Virginia Occupational Safety and Health (VOSH) Field Operations Manual (FOM)<sup>556</sup> describes the Commissioner’s procedures for *de minimis* violations in Chapter 10, pp. 38-39:

*De minimis* violations are violations of standards which have no direct or immediate relationship to safety or health. Compliance Officers identifying *de minimis* violations of a VOSH standard shall not issue a citation for that violation, but should verbally notify the employer and make a note of the situation in the inspection case file. The criteria for classifying a violation as *de minimis* are as follows:

1. Employer Complies with Clear Intent of Standard.

An employer complies with the clear intent of the standard but deviates from its particular requirements in a manner that has no direct or immediate relationship to employee safety or health. These deviations may involve distance specifications, construction material requirements, use of incorrect color, minor variations from recordkeeping, testing, or inspection regulations, or the like.

....

2. Employer Complies with Proposed Standard.

An employer complies with a proposed standard or amendment or a consensus standard rather than with the standard in effect at the time of the inspection and the employer’s action clearly provides equal or greater employee protection or the employer complies with a written interpretation issued by OSHA or VOSH.

3. Employer Technically Exceeds Standard.

An employer’s workplace is at the “state of the art” which is technically beyond the requirements of the applicable standard and provides equivalent or more effective employee safety or health protection.

Note: Maximum professional discretion must be exercised in determining the point at which noncompliance with a standard constitutes a *de minimis* violation.

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<sup>555</sup> <https://law.lis.virginia.gov/vacode/40.1-49.4/>

<sup>556</sup>

[https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\181\GDoc\\_DOLI\\_5354\\_v6.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\181\GDoc_DOLI_5354_v6.pdf)

The FOM<sup>557</sup> further provides:

The Compliance Officer shall discuss all conditions noted during the walkaround considered to be *de minimis*, indicating that such conditions are subject to review by the Regional Safety or Health Director in the same manner as apparent violations but, if finally classified as *de minimis*, will not be included on the citation. (Emphasis added).

6. Multi-employer Worksite Regulation and Defense.

Section 16VAC25-60-260.F contains requirements for employers:

“F. On multi-employer worksites for all covered industries, citations shall normally be issued to an employer whose employee is exposed to an occupational hazard (the exposing employer). Additionally, the following employers shall normally be cited, whether or not their own employees are exposed:

1. The employer who actually creates the hazard (the creating employer);
2. The employer who is either:
  - a. Responsible, by contract or through actual practice for safety and health conditions on the entire worksite, and has the authority for ensuring that the hazardous condition is corrected (the controlling employer); or
  - b. Responsible, by contract or through actual practice for safety and health conditions for a specific area of the worksite or specific work practice or specific phase of a construction project, and has the authority for ensuring that the hazardous condition is corrected (the controlling employer); or
3. The employer who has the responsibility for actually correcting the hazard (the correcting employer).

Section 16VAC25-60-260.G contains the multi-employer worksite defense:

“G. A citation issued under subsection F of this section to an exposing employer who violates any VOSH law, standard, rule, or regulation shall be vacated if such employer demonstrates that:

1. The employer did not create the hazard;
2. The employer did not have the responsibility or the authority to have the hazard corrected;
3. The employer did not have the ability to correct or remove the hazard;

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<sup>557</sup> *Id.* at Chapter 5, p. 76.

4. The employer can demonstrate that the creating, the controlling, or the correcting employers, as appropriate, have been specifically notified of the hazards to which the employer's employees were exposed;
5. The employer has instructed his employees to recognize the hazard and, where necessary, informed them how to avoid the dangers associated with it;
6. Where feasible, an exposing employer must have taken appropriate alternative means of protecting employees from the hazard; and
7. When extreme circumstances justify it, the exposing employer shall have removed the employer's employees from the job.

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## ATTACHMENT G: DETERMINING CAUSE OF DEATH (CDC)

### Report on “How COVID-19 Deaths Are Counted”.<sup>558</sup>

“As coronavirus has swept through the United States, finding the true number of people who have been infected has been stymied due to lack of testing. Now, official counts of coronavirus deaths are being challenged, too.

....

The reality is that assigning a cause of death is not always straightforward, even pre-pandemic, and a patchwork of local rules and regulations makes getting valid national data challenging. However, data on excess deaths in the United States over the past several months suggest that COVID-19 deaths are probably being undercounted rather than over counted.

....

Death certificates can be signed by a physician who was responsible for a patient who died in a hospital, which accounts for many COVID-19 deaths. They can also be signed by medical examiners or coroners, who are independent officials who work for individual counties or cities. ‘Many COVID-19 death certificates are being handled by physicians unless the death occurred outside of the hospital, in which case a medical examiner or coroner would step in’, said Dr. Sally Aiken, the president of the National Association of Medical Examiners (NAME).

....

For COVID-19, the immediate cause of death might be listed as respiratory distress, with the second line reading “due to COVID-19.” Contributing factors such as heart disease, diabetes or high blood pressure would then be listed further down. This has led to some confusion by people arguing that the “real” cause of death was heart disease or diabetes, Aiken said, but that’s not the case.

‘Without the COVID19 being the last straw or the thing that led to the chain of events that led to death, they probably wouldn’t have died,’ she said.

....

‘Most COVID-19 deaths seen at Mount Sinai Health System in New York are in people who have comorbid (or co-occurring) conditions such as coronary artery disease or kidney disease’, said Dr. Mary Fowkes, the chief of autopsy services at Mount Sinai. But it’s not typically difficult to tell what killed them.

‘Most of the cases are pretty straightforward,’ Fowkes told Live Science. ‘The lungs are usually so severely involved with pathology, so they are two to three times or more the normal weight of a normal lung.’

(The excess weight is due to fluid and cell detritus from damaged lung tissues.)

....

Another complication for assigning a cause of death for COVID-19 is that some younger people have died of strokes and heart attacks and then tested positive for COVID-19 without any history of respiratory symptoms. The virus is now known to cause blood clots, suggesting that COVID-19 was the killer in these cases, too. Fowkes and her colleagues conducted a microscopic inspection of the brains of 20 COVID-19 victims in her hospital system and found that six of them contained tiny blood clots that had caused small strokes before death.

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<sup>558</sup> <https://www.scientificamerican.com/article/how-covid-19-deaths-are-counted/>

‘We’re seeing it in younger patients than you would expect, and we’re seeing it in a distribution that you wouldn’t expect, so we think it’s related to the COVID,’ Fowkes said.

The Centers for Disease Control and Prevention (CDC) has issued guidelines<sup>559</sup> for how to attribute a death to COVID-19. The guidelines urge using information from COVID-19 testing, where possible, but also allow for deaths to be listed as “presumed” or “probable” COVID-19 based on symptoms and the best clinical judgment of the person filling out the death certificate. A medical examiner trying to determine a cause of death in the absence of testing would comb medical records and query family and loved ones about the person’s symptoms before they died, Aiken said. Postmortem COVID-19 tests may be possible, depending on the jurisdiction.”<sup>560</sup>

DRAFT

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<sup>559</sup> <https://www.cdc.gov/nchs/covid19/coding-and-reporting.htm>

<sup>560</sup> *Id.*

**ATTACHMENT H: VOSH Violations Issued in COVID-19 Cases Opened From January 1, 2020 to January 21, 2022**

Time run: 01/24/2022 8:51:03 AM  
Source: OSHA Information System (OIS), Violation Detail Data Report

<b>VOSH Violations Issued in COVID-19 Cases Opened From January 1, 2020 to January 21, 2022</b>			
<b>Standard</b>	<b>Violation Issued</b>	<b>Current Violation Type</b>	<b>Issuance Date</b>
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.1	Serious	03/19/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.1	Other-than-Serious	04/19/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.1	Serious	04/21/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.1	Serious	06/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.1	Serious	07/09/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.4	Serious	04/21/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.5	Serious	12/14/2020
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.5	Serious	03/18/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.a	Serious	06/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.a	Serious	06/30/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.b	Other-than-Serious	04/19/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	01/14/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	01/29/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	03/05/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Serious	03/23/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	04/22/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	05/18/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	05/18/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	06/09/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	06/30/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	07/09/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.B.8.e	Other-than-Serious	07/14/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.D.2	Other-than-Serious	06/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.D.2	Willful - Serious	07/30/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.E	Serious	04/21/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.E.1.b	Serious	04/08/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.E.1.b	Serious	06/30/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.F	Serious	01/29/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.F	Other-than-Serious	02/02/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.G	Serious	11/16/2020
COVID-10 Emergency Temporary Standard	16VAC25-220-40.K.5	Other-than-Serious	10/01/2020
COVID-10 Emergency Temporary Standard	16VAC25-220-40.K.5	Other-than-Serious	04/22/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-40.K.6	Other-than-Serious	04/19/2021

COVID-10 Emergency Temporary Standard	16VAC25-220-50.D.2	Serious	03/19/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-50.D.5	Serious	03/18/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.a	Other-than-Serious	03/05/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.a	Serious	03/23/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.a	Serious	06/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.a	Serious	06/07/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.e	Serious	11/30/2020
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.g	Serious	01/05/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.g	Serious	02/11/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.g	Serious	03/24/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.g	Serious	05/14/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.g	Serious	06/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	11/30/2020
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	03/02/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Other-than-Serious	03/09/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	03/10/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	03/18/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	03/23/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	04/08/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	04/21/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	06/07/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.k	Serious	07/14/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.l	Willful - Serious	01/05/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.l	Willful - Serious	02/11/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.l	Serious	02/17/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.l	Willful - Serious	02/22/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.l	Serious	05/14/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.C.1.l	Willful - Serious	06/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.D.2	Other-than-Serious	01/29/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.D.2	Other-than-Serious	03/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.D.2	Serious	03/19/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-60.D.2	Serious	04/21/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Other-than-Serious	02/17/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Other-than-Serious	03/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Other-than-Serious	03/23/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Serious	04/21/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Serious	04/23/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Serious	05/14/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Other-than-Serious	05/26/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Serious	06/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Other-than-Serious	07/09/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.A.2	Other-than-Serious	07/16/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.C.1	Other-than-Serious	01/29/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.C.3	Serious	03/19/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-70.C.3.b	Serious	03/19/2021



COVID-10 Emergency Temporary Standard	16VAC25-220-70.C.3.c	Serious	03/19/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-80.A	Serious	04/21/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-80.A	Serious	04/23/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-80.A	Serious	05/14/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-80.A	Serious	06/04/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-80.A	Other-than-Serious	06/30/2021
COVID-10 Emergency Temporary Standard	16VAC25-220-80.B.8	Serious	03/19/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.1	Serious	07/06/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.1	Serious	07/21/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.1	Serious	07/29/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.1	Serious	07/30/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.1	Serious	10/04/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.1	Serious	10/08/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.1	Other-than-Serious	11/05/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.a	Serious	07/21/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.a	Serious	07/30/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.a	Serious	09/23/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.b	Serious	07/30/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.d	Other-than-Serious	10/04/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.e	Other-than-Serious	03/10/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.e	Other-than-Serious	07/21/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.e	Other-than-Serious	07/29/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.e	Other-than-Serious	08/12/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.e	Serious	09/23/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.e	Other-than-Serious	10/04/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.B.7.e	Other-than-Serious	10/19/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.C	Other-than-Serious	08/12/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.D	Serious	10/08/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.D.1	Serious	07/06/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.D.1	Serious	07/29/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.D.1	Other-than-Serious	07/30/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.D.1	Other-than-Serious	09/09/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.D.1	Serious	10/04/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.E	Serious	07/29/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.E.1	Serious	06/24/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.E.1	Serious	09/23/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.E.1	Other-than-Serious	10/19/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.E.2	Serious	09/27/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.F.5	Serious	07/21/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.I	Serious	06/24/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.I	Serious	07/29/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.I	Serious	07/30/2021

COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.J.1	Serious	07/06/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.J.1	Other-than-Serious	07/30/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.J.1	Other-than-Serious	09/09/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.L.4	Serious	09/23/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.L.5	Serious	07/21/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-40.L.7	Serious	09/23/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-50.D.4	Serious	11/05/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.B.2	Serious	07/06/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.B.2	Serious	07/30/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.B.2	Other-than-Serious	09/09/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.1	Serious	07/21/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.1	Serious	09/27/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.1	Serious	10/04/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.1	Serious	10/08/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.10	Willful - Serious	07/06/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.10	Serious	07/29/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.10	Serious	07/30/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.10	Serious	08/02/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.10	Serious	09/27/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.10	Serious	09/27/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.10	Serious	09/27/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.11	Willful - Serious	07/06/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.11	Other-than-Serious	07/29/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.11	Other-than-Serious	09/09/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.11	Serious	10/04/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.11	Serious	10/08/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.C.5	Serious	07/29/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.D.1	Serious	07/21/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.D.2	Other-than-Serious	07/21/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-60.D.2	Other-than-Serious	10/28/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-70.A.2	Serious	09/27/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-70.A.2	Serious	10/04/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-70.A.2	Serious	10/08/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-70.A.2	Other-than-Serious	11/05/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-80.A	Other-than-Serious	07/06/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-80.A	Serious	09/27/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-80.A	Serious	10/04/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-80.A	Serious	10/08/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-80.C.1	Other-than-Serious	10/28/2021
COVID-19 Final Permanent Standard	FPS 16VAC25-220-80.C.1	Other-than-Serious	11/05/2021
Posting	16VAC25-60-40	Other-than-Serious	06/04/2021
Recordkeeping	1904.29(a)	Other-than-Serious	11/09/2020
Recordkeeping	1904.29(a)	Other-than-Serious	03/19/2021
Recordkeeping	1904.29(b)(3)	Other-than-Serious	11/05/2020
Recordkeeping	1904.29(b)(3)	Other-than-Serious	05/27/2021
Recordkeeping	1904.29(b)(3)	Other-than-Serious	08/23/2021

Recordkeeping	1904.30(a)	Other-than-Serious	09/28/2020
Recordkeeping	1904.33(a)	Other-than-Serious	10/27/2020
Recordkeeping	1904.4(a)	Other-than-Serious	06/30/2021
Recordkeeping	1904.40(a)	Other-than-Serious	12/15/2020
Recordkeeping	1904.5(a)	Other-than-Serious	11/09/2020
Recordkeeping	1904.5(b)(3)	Other-than-Serious	03/05/2021
Recordkeeping	1904.5(b)(3)	Other-than-Serious	03/11/2021
Recordkeeping	1904.5(b)(3)	Other-than-Serious	03/19/2021
Recordkeeping	1904.5(b)(3)	Other-than-Serious	09/23/2021
Bloodborne Pathogens	1910.1030(c)(1)(i)	Serious	09/30/2021
Bloodborne Pathogens	1910.1030(c)(1)(ii)	Serious	11/06/2020
Bloodborne Pathogens	1910.1030(c)(1)(ii)	Serious	11/09/2020
Bloodborne Pathogens	1910.1030(c)(2)(i)	Serious	11/04/2020
Bloodborne Pathogens	1910.1030(c)(2)(i)	Serious	09/30/2021
Bloodborne Pathogens	1910.1030(f)(1)(i)	Other-than-Serious	11/13/2020
Bloodborne Pathogens	1910.1030(f)(1)(i)	Serious	09/30/2021
Bloodborne Pathogens	1910.1030(g)(2)(ii)(B)	Other-than-Serious	11/06/2020
Bloodborne Pathogens	1910.1030(g)(2)(ii)(B)	Other-than-Serious	11/13/2020
Bloodborne Pathogens	1910.1030(g)(2)(ii)(B)	Serious	09/30/2021
Bloodborne Pathogens	1910.1030(h)(3)(ii)	Other-than-Serious	11/04/2020
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	09/08/2020
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	11/04/2020
Hazard Communication	1910.1200(e)(1)	Serious	11/09/2020
Hazard Communication	1910.1200(e)(1)	Serious	11/16/2020
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	12/18/2020
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	12/22/2020
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	01/05/2021
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	01/29/2021
Hazard Communication	1910.1200(e)(1)	Serious	03/10/2021
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	06/07/2021
Hazard Communication	1910.1200(e)(1)	Serious	06/15/2021
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	07/21/2021
Hazard Communication	1910.1200(e)(1)	Serious	07/29/2021
Hazard Communication	1910.1200(e)(1)	Serious	09/30/2021
Hazard Communication	1910.1200(e)(1)	Other-than-Serious	10/04/2021
Hazard Communication	1910.1200(e)(1)(i)	Serious	06/15/2021
Hazard Communication	1910.1200(f)(6)	Serious	09/23/2020
Hazard Communication	1910.1200(f)(6)	Serious	07/29/2021
Hazard Communication	1910.1200(f)(6)	Serious	09/30/2021
Hazard Communication	1910.1200(f)(6)(ii)	Serious	11/16/2020
Hazard Communication	1910.1200(f)(6)(ii)	Other-than-Serious	01/12/2022
Hazard Communication	1910.1200(g)(11)	Other-than-Serious	09/23/2020
Hazard Communication	1910.1200(g)(8)	Other-than-Serious	09/02/2020
Hazard Communication	1910.1200(g)(8)	Serious	09/23/2020
Hazard Communication	1910.1200(g)(8)	Serious	11/16/2020

Hazard Communication	1910.1200(g)(8)	Other-than-Serious	12/14/2020
Hazard Communication	1910.1200(g)(8)	Other-than-Serious	12/22/2020
Hazard Communication	1910.1200(g)(8)	Serious	06/15/2021
Hazard Communication	1910.1200(g)(8)	Other-than-Serious	07/21/2021
Hazard Communication	1910.1200(g)(8)	Serious	07/29/2021
Hazard Communication	1910.1200(g)(8)	Other-than-Serious	10/04/2021
Hazard Communication	1910.1200(h)(1)	Other-than-Serious	09/08/2020
Hazard Communication	1910.1200(h)(1)	Serious	09/23/2020
Hazard Communication	1910.1200(h)(1)	Other-than-Serious	11/04/2020
Hazard Communication	1910.1200(h)(1)	Serious	11/09/2020
Hazard Communication	1910.1200(h)(1)	Other-than-Serious	12/22/2020
Hazard Communication	1910.1200(h)(1)	Other-than-Serious	03/30/2021
Hazard Communication	1910.1200(h)(1)	Serious	06/15/2021
Hazard Communication	1910.1200(h)(1)	Other-than-Serious	07/21/2021
Hazard Communication	1910.1200(h)(1)	Serious	07/29/2021
Hazard Communication	1910.1200(h)(1)	Serious	09/30/2021
Hazard Communication	1910.1200(h)(1)	Other-than-Serious	10/04/2021
Personal Protective Equipment	1910.132(d)(1)	Serious	09/28/2020
Personal Protective Equipment	1910.132(d)(1)	Serious	11/09/2020
Personal Protective Equipment	1910.132(d)(1)	Other-than-Serious	09/30/2021
Personal Protective Equipment	1910.132(d)(1)(i)	Other-than-Serious	08/13/2020
Personal Protective Equipment	1910.132(d)(1)(i)	Serious	09/30/2020
Personal Protective Equipment	1910.132(d)(2)	Serious	08/13/2020
Personal Protective Equipment	1910.132(d)(2)	Other-than-Serious	10/26/2020
Personal Protective Equipment	1910.132(d)(2)	Other-than-Serious	10/27/2020
Personal Protective Equipment	1910.132(d)(2)	Other-than-Serious	10/29/2020
Personal Protective Equipment	1910.132(d)(2)	Other-than-Serious	10/29/2020
Personal Protective Equipment	1910.132(d)(2)	Other-than-Serious	11/04/2020
Personal Protective Equipment	1910.132(d)(2)	Serious	11/09/2020
Personal Protective Equipment	1910.132(d)(2)	Other-than-Serious	12/18/2020
Personal Protective Equipment	1910.132(d)(2)	Other-than-Serious	03/02/2021
Personal Protective Equipment	1910.132(f)(1)	Serious	09/28/2020
Eye and Face Protection	1910.133(a)(1)	Other-than-Serious	09/23/2020
Respiratory Protection	1910.134(c)(1)	Other-than-Serious	07/21/2020
Respiratory Protection	1910.134(c)(1)	Other-than-Serious	10/26/2020
Respiratory Protection	1910.134(c)(1)	Serious	10/27/2020
Respiratory Protection	1910.134(c)(1)	Other-than-Serious	10/29/2020
Respiratory Protection	1910.134(c)(1)	Serious	10/29/2020
Respiratory Protection	1910.134(c)(1)	Other-than-Serious	11/04/2020
Respiratory Protection	1910.134(c)(1)	Other-than-Serious	11/06/2020
Respiratory Protection	1910.134(c)(1)	Serious	11/06/2020
Respiratory Protection	1910.134(c)(1)	Serious	11/09/2020
Respiratory Protection	1910.134(c)(1)	Serious	03/10/2021
Respiratory Protection	1910.134(c)(1)	Serious	03/19/2021
Respiratory Protection	1910.134(c)(1)	Other-than-Serious	05/18/2021

Respiratory Protection	1910.134(c)(2)(i)	Other-than-Serious	09/30/2021
Respiratory Protection	1910.134(c)(2)(ii)	Serious	09/30/2021
Respiratory Protection	1910.134(d)(1)(i)	Serious	09/28/2020
Respiratory Protection	1910.134(d)(1)(ii)	Serious	06/29/2020
Respiratory Protection	1910.134(e)(1)	Other-than-Serious	07/21/2020
Respiratory Protection	1910.134(e)(1)	Serious	10/27/2020
Respiratory Protection	1910.134(e)(1)	Other-than-Serious	10/29/2020
Respiratory Protection	1910.134(e)(1)	Serious	10/29/2020
Respiratory Protection	1910.134(e)(1)	Other-than-Serious	11/04/2020
Respiratory Protection	1910.134(e)(1)	Serious	11/06/2020
Respiratory Protection	1910.134(e)(1)	Serious	11/09/2020
Respiratory Protection	1910.134(e)(1)	Serious	12/18/2020
Respiratory Protection	1910.134(e)(1)	Serious	03/10/2021
Respiratory Protection	1910.134(e)(1)	Serious	03/19/2021
Respiratory Protection	1910.134(e)(1)	Serious	06/09/2021
Respiratory Protection	1910.134(e)(6)(i)	Other-than-Serious	08/13/2020
Respiratory Protection	1910.134(e)(6)(i)	Other-than-Serious	09/03/2020
Respiratory Protection	1910.134(e)(6)(i)	Other-than-Serious	05/18/2021
Respiratory Protection	1910.134(e)(7)(iv)	Serious	03/19/2021
Respiratory Protection	1910.134(f)(1)	Serious	10/27/2020
Respiratory Protection	1910.134(f)(1)	Serious	11/06/2020
Respiratory Protection	1910.134(f)(1)	Other-than-Serious	08/12/2021
Respiratory Protection	1910.134(f)(2)	Other-than-Serious	07/21/2020
Respiratory Protection	1910.134(f)(2)	Serious	10/29/2020
Respiratory Protection	1910.134(f)(2)	Serious	10/29/2020
Respiratory Protection	1910.134(f)(2)	Other-than-Serious	11/04/2020
Respiratory Protection	1910.134(f)(2)	Serious	11/09/2020
Respiratory Protection	1910.134(f)(2)	Serious	12/18/2020
Respiratory Protection	1910.134(f)(2)	Serious	03/10/2021
Respiratory Protection	1910.134(f)(2)	Serious	03/19/2021
Respiratory Protection	1910.134(f)(2)	Serious	06/04/2021
Respiratory Protection	1910.134(h)(1)	Other-than-Serious	09/03/2020
Respiratory Protection	1910.134(m)(1)	Other-than-Serious	10/26/2020
Respiratory Protection	1910.134(m)(1)	Serious	10/29/2020
Respiratory Protection	1910.134(m)(2)(i)	Other-than-Serious	10/26/2020
Respiratory Protection	1910.134(m)(2)(i)	Serious	10/29/2020
Respiratory Protection	1910.134(m)(2)(i)	Other-than-Serious	11/06/2020
Respiratory Protection	1910.134(m)(2)(i)	Other-than-Serious	05/18/2021
Respiratory Protection	1910.134(m)(2)(i)(B)	Other-than-Serious	08/13/2020
Respiratory Protection	1910.134(m)(2)(i)(B)	Other-than-Serious	09/03/2020
Respiratory Protection	1910.134(m)(2)(i)(B)	Serious	06/09/2021
Respiratory Protection	1910.134(m)(2)(i)(C)	Other-than-Serious	09/03/2020
Respiratory Protection	1910.134(m)(2)(i)(E)	Other-than-Serious	08/13/2020
Respiratory Protection	1910.134(m)(2)(i)(E)	Other-than-Serious	09/03/2020
Respiratory Protection	1910.134(m)(4)	Serious	10/26/2020

Sanitation	1910.141(a)(3)(i)	Other-than-Serious	09/23/2020
Sanitation	1910.141(d)(2)(ii)	Serious	03/02/2021
Temporary Labor Camps	1910.142(l)(1)	Other-than-Serious	01/29/2021
First Aid	1910.151(b)	Other-than-Serious	11/16/2020
First Aid	1910.151(c)	Serious	04/02/2021
First Aid	1910.151(c)	Other-than-Serious	09/30/2021
Ventilation	1910.94(a)(3)(i)(a)	Serious	01/12/2022
General Duty Clause Violation	40.1-51.1.A	Serious	10/29/2020
General Duty Clause Violation	40.1-51.1.A	Serious	10/29/2020
General Duty Clause Violation	40.1-51.1.A	Serious	11/05/2020
General Duty Clause Violation	40.1-51.1.A	Serious	04/22/2021
Failure to Notify (Fatality, Hospitalization)	40.1-51.1.D	Other-than-Serious	11/05/2020
Failure to Notify (Fatality, Hospitalization)	40.1-51.1.D	Other-than-Serious	03/02/2021
Failure to Notify (Fatality, Hospitalization)	40.1-51.1.D	Other-than-Serious	05/27/2021
Failure to Notify (Fatality, Hospitalization)	40.1-51.1.D	Other-than-Serious	07/08/2021
Failure to Notify (Fatality, Hospitalization)	40.1-51.1.D	Other-than-Serious	08/25/2021
Failure to Notify (Fatality, Hospitalization)	40.1-51.1.D	Other-than-Serious	09/30/2021
Failure to Notify (Fatality, Hospitalization)	40.1-51.1.D	Other-than-Serious	11/05/2021
Failure to Notify (Fatality, Hospitalization)	40.1-51.1.D	Other-than-Serious	11/05/2021

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ATTACHMENT I: January 11, 2021, Economic Impact Proposed Standard for Infectious Disease Prevention of The Sars-Cov-2 Virus That Causes Covid-19, Prepared by Chmura Economics and Analytics

DRAFT



PREPARED FOR

Virginia Department of Labor and Industry



January 11, 2021

**ECONOMIC IMPACT**  
**PROPOSED STANDARD FOR**  
**INFECTIOUS DISEASE**  
**PREVENTION OF THE SARS-**



**COV-2 VIRUS THAT CAUSES  
COVID-19**

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## Background

During the COVID-19 pandemic, the Commonwealth of Virginia was the first state to issue a mandatory COVID-19 Emergency Temporary Standard (ETS) establishing workplace safety and health requirements. The ETS, 16VAC25-220, was first published by the Virginia Safety and Health Codes Board (“Board”) and the Virginia Department of Labor and Industry (DOLI) with an effective date of July 27, 2020 and applied to all Virginia employers under the jurisdiction of the Virginia Occupational Safety and Health (VOSH) program. The ETS lapses on January 26, 2021.

The Board and DOLI are in the process of considering replacing the ETS with a permanent standard (16VAC25-220) which, if adopted, would be effective on or after January 27, 2021. This standard is designed to supplement and enhance existing Virginia Occupational Safety and Health (VOSH) laws, rules, regulations, and standards applicable directly or indirectly to SARS-CoV-2 virus or COVID-19 disease-related hazards.

Chmura Economics & Analytics (Chmura) was commissioned to conduct the economic impact analysis for the standard 16VAC25-220. Chmura understands there are several components to the economic impact analysis of the proposed regulation. The analysis will include the following elements:

- Number of businesses and other entities impacted, including the number of small businesses impacted
- Localities disproportionately impacted
- Projected number of persons and employment positions to be affected
- Projected costs to affected businesses, localities, or entities of implementing or complying with the standard, including training costs, costs for personal protective equipment, costs for installing physical barriers, etc.

Information from DOLI indicates that some items listed in this standard overlap with existing federal or state regulations, or governor’s executive orders issued during the COVID-19

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pandemic. This economic impact analysis only assesses incremental cost to Virginia businesses.

As noted in this document, a number of the requirements with associated costs related to the Commonwealth's response to the COVID-19 pandemic are contained in various Governor's executive orders, including, most recently, Executive Order 72. To the extent that a requirement is included in both executive orders and the standard, DOL does not consider the standard to impose any new cost burden on a covered locality or employer.

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In addition, many of the costs associated with dealing with workplace hazards associated with COVID-19 are the result of requirements contained in current federal OSHA or VOSH unique standards and regulations already applicable to local governments, and therefore DOLI does not consider them to be new costs associated with adoption of the standard.

The following are federal OSHA identical and state unique standards and regulations applicable in the construction industry, agriculture industry, public sector maritime industry,<sup>1</sup> and general industry (“general industry” covers all employers not otherwise classified as construction, agriculture, or maritime) that can be used in certain situations to address COVID-19 hazards in the workplace:

### **General Industry**

- 1910.132, Personal Protective Equipment in General Industry (including Workplace Assessment)
- 1910.133, Eye and Face Protection in General Industry
- 1910.134, Respiratory Protection in General Industry
- 1910.138, Hand Protection
- 1910.141, Sanitation in General Industry (including Handwashing Facilities)
- 1910.1030, Bloodborne Pathogens in General Industry
- 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories in General Industry

### **Construction Industry**

- 1926.95, Criteria for Personal Protective Equipment in Construction
- 1926.102, Eye and Face Protection in Construction
- 1926.103, Respiratory Protection in Construction
- 16VAC25-160, Sanitation in Construction (including Handwashing Facilities)

### **Agriculture**

- 16VAC25-190, Field Sanitation (including Handwashing Facilities) in Agriculture

### **Public Sector Maritime**

- 1915.152, Shipyard Employment (Personal Protective Equipment)
- 1915.153, Shipyard Employment (Eye and Face Protection)
- 1915.154, Shipyard Employment (Respiratory Protection)
- 1915.157, Shipyard Employment (Hand and Body Protection)
- 1917.127, Marine Terminal Operations (Sanitation)
- 1917.92 and 1917.1(a)(2)(x), Marine Terminal Operations (Respiratory Protection, 1910.134)
- 1917.91, Marine Terminal Operations (Eye and Face Protection)
- 1917.95, Marine Terminal Operations (PPE, Other Protective Measures)

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- 1918.95, Longshoring (Sanitation)
- 1918.102, Longshoring (Respiratory Protection)
- 1918.101, Longshoring (Eye and Face Protection)

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<sup>1</sup> VOSH standards and regulations only apply to public sector maritime employers and employees. OSHA retains jurisdiction over private sector maritime employers and employees in Virginia.

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## Multiple Industries

- 16VAC25-220, Emergency Temporary Standard in General Industry, Construction, Agriculture and Public Sector Maritime
- 1904, Recording and Reporting Occupational Injuries and Illness in General Industry, Construction, Agriculture and Public Sector Maritime
- 1910.142, Temporary Labor Camps (including Handwashing Facilities) in Agriculture and General Industry
- 1910.1020, Access to Employee Exposure and Medical Records in General Industry, Construction, and Public Sector Maritime (excludes Agriculture)
- 1910.1200, Hazard Communication in General Industry, Construction, Agriculture and Public Sector Maritime
- 16VAC25-60-120 (General Industry), 16VAC25-60-130 (Construction Industry), 16VAC25-60-140 (Agriculture), and 16VAC25-60-150 (Public Sector Maritime),
  - The above standards provide that manufacturer's specifications and limitations are applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment, which can be used to apply to operation and maintenance of air handling systems in accordance with manufacturer's instructions.

In addition, Va. Code §40.1-51.1.A, provides that:

“ A. It shall be the duty of every employer to furnish to each employee safe employment and a place of employment that is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees and to comply with all applicable occupational safety and health rules and regulations promulgated under this title.”

Otherwise known as the “general duty clause” (the Virginia equivalent to §5(a)(1)) of the OSH Act of 1970), Va. Code §40.1-

51.1.A can be used to address “serious” recognized hazards to which employees of the cited employer are exposed through reference to such things as national consensus standards, manufacturer's requirements, requirements of the Centers for Disease Control (CDC), or an employer's safety and health rules.

To the extent that the general duty clause could be used by DOLI to address COVID-19 workplace hazards to the same extent as and in the same manner as the standard were the standard not in effect, DOLI does not consider any of the costs associated with such use of the clause to be new costs associated with adoption of the standard.

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## 2 Business Categorization

In the standard 16VAC25-220, different requirements apply to different businesses based on the “exposure risk level,” which is defined as an assessment of the possibility that an employee could be exposed to hazards or job tasks associated with the SARS-CoV-2 virus and the COVID-19 disease. In this standard, hazard and job tasks are divided into four risk exposure levels: very high, high, medium, and lower. However, since workplace standards for businesses with jobs having very high or high risks are the same (16VA25-220-50 applies to both risk levels), these two risk levels are grouped together in this study.

Very high exposure risk hazards or job tasks are those in places of employment with high potential for employee exposure to known or suspected sources of the SARS-CoV-2 virus (e.g., laboratory samples) or persons known or suspected to be infected with the SARS-CoV-2 virus, including, but not limited to, during specific medical, postmortem, or laboratory procedures.

High exposure risk hazards or job tasks are those in places of employment with high potential for employee exposure inside six feet with known or suspected sources of SARS-CoV-2, or with persons known or suspected to be infected with the SARS-CoV-2 virus that are not otherwise classified as very high exposure risk. Those businesses with such hazards and job tasks may include, but are not limited to, many healthcare delivery and support services, first responder services, medical transport services, and mortuary services.

Medium exposure risk hazards or job tasks are those not otherwise classified as very high or high exposure risk in places of employment that require more than minimal occupational contact inside six feet with other employees, other persons, or the general public who may be infected with SARS-CoV-2, but who are not known or suspected to be infected with the SARS-CoV-2 virus. Those businesses with such hazards and job tasks may include, but are not limited to, food processing, agriculture, manufacturing, education, retail, entertainment, food services, passenger transportation, and lodging.

Lower exposure risk hazards or job tasks are those not otherwise classified as very high, high, or medium exposure risk that do not require contact inside six feet with persons known to be, or suspected of being, or who may be infected with SARS-CoV-2. Employees in this category have minimal occupational contact with other employees, other persons, or the general public, such as in an office building setting; or are able to achieve minimal occupational contact with others through the implementation of engineering, administrative and work practice controls.<sup>2</sup>

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As the standard notes, “It is recognized that various hazards or job tasks at the same place of employment can be designated as very high, high, medium, or lower exposure risk for purposes of application of the requirements of this standard. It is further recognized that various required job tasks prohibit an employee from being able to observe physical distancing from other persons.”

While the technical categorization of exposure risk is based on job tasks or job functions, Chmura uses the same category of risk levels to define business as well. In this study, any businesses with high-risk job tasks are classified as high-risk businesses, even if some job tasks in those businesses are of medium or lower risk. Other businesses are defined accordingly. In addition, to estimate the number of business and jobs impacted by 16VAC25-220, Chmura worked with

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<sup>2</sup> Above definitions are from the document: 16VAC25-220, Revised Proposed Permanent Standard for Infectious Disease Prevention of the SARS-Cov-2Virus that Causes COVID-19, DOLI, December 10, 2020.

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DOLI to classify different industries into the above four risk levels based on the North America Industry Classification System (NAICS) code.

Chmura uses the latest employment and establishment data to estimate number of businesses that may be affected by the regulation. The latest establishment data were for the year 2019, while the latest employment data were for the four quarters ending with the second quarter of 2020.<sup>3</sup> This economic impact analysis also estimates the number of small businesses—defined as those with fewer than 500 employees or six million dollars of annual revenues. The business firm size data were from U.S. Census Business Survey for 2018.<sup>4</sup>

Table 2.1 presents the estimated number of Virginia business establishments and employment. In 2019, there were an estimated 285,486 establishments in Virginia, with 13,522 being categorized as very high or high risk, 122,753 establishments classified as being medium risk, and the rest classified as being lower risk. The latest employment data show that there were 4.1 million workers in Virginia as of the second quarter of 2020, with 361,408 working in very-high- or high-risk businesses, 2.0 million in medium-risk business, and 1.8 million in lower-risk businesses. Almost all Virginia establishments (99.6%) have fewer than 500 employees, and 74.4% of jobs in Virginia are in small businesses.

**Table 2.1: Estimated Virginia Business Establishments and Employment**

Exposure Risk Level	All Businesses		Small Businesses		Percent of Small Business	
	Establishment (2019)	Employment (Q2-2020)	Establishment (2019)	Employment (Q2-2020)	Establishment (2019)	Employment (Q2-2020)
Very High or High	13,522	361,408	13,474	266,627	99.6%	73.8%
Medium	122,753	2,019,672	122,243	1,579,407	99.6%	78.2%
Lower	149,211	1,750,265	148,698	1,228,249	99.7%	70.2%
<b>Total</b>	<b>285,486</b>	<b>4,131,345</b>	<b>284,415</b>	<b>3,074,283</b>	<b>99.6%</b>	<b>74.4%</b>

Source: U.S. Census and JobsEQ by Chmura

In estimating the economic impact of 16VAC25-220, Chmura focuses on the incremental cost due to this standard. For example, if certain stipulations of this standard overlap with existing federal or state regulations or governor's executive orders, this standard will not cause additional cost for affected businesses. With regard to the issue of face coverings, for instance, Governor Northam issued Executive Order 72 on December 10, 2020, which requires all employees of all businesses in certain industries—including retail and food services, and entertainment—to wear a face covering while working at their place of employment.<sup>5</sup> While the above requirement is in place, there would be no incremental cost associated with wearing a face covering applicable to DOLI's standard. Chmura

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worked with DOLI to identify the standards that exceed existing federal and state regulations, thus resulting in incremental costs for Virginia businesses.

The standard 16VAC25-220 has nine sections, numbered 16VAC25-220-10 to 16VAC25-220-90. The section of 16VAC25-220-10 outlines the purpose, scope, and applicability; 16VAC25-220-20 stipulates the effective date of the standard; and 16VAC25-220-30 defines terminologies used in the standard. Furthermore, 16VAC25-220-90 states that discrimination

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<sup>3</sup> The affected businesses presented in this report are measured by the number business establishments, not the number of firms. For example, a bank can have many branches in Virginia, and each branch is a separate establishment. The employment number will be simply referred as the second quarter of 2020.

<sup>4</sup> In this analysis, Chmura only used the number of employees to classify establishments into small business, as revenue information is not available.

<sup>5</sup> Source: [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-72-and-Order-of-Public-Health-Emergency-Nine-Common-Sense-Surge-Restrictions-Certain-Temporary-Restrictions-Due-to-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-72-and-Order-of-Public-Health-Emergency-Nine-Common-Sense-Surge-Restrictions-Certain-Temporary-Restrictions-Due-to-Novel-Coronavirus-(COVID-19).pdf)

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against an employee for exercising rights under this standard is prohibited. Those four sections do not result in incremental costs for businesses in Virginia and are excluded from this analysis. As a result, the rest of the report will evaluate the economic impact of the five sections, 16VAC25-220-40 to 16VAC25-220-80.

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### 3. Impact of 16VAC25-220-40

#### a. Economic Impact

16VAC25-220-40 outlines the mandatory requirements for all employers in Virginia. There are 13 sections lettered A to M. Under each section, there are additional sub-sections. Some of these sections do not result in additional costs for businesses. For example, Section A states “employers shall ensure compliance with the requirements in this section to protect employees in all exposure risk levels from workplace exposure to the SARS-CoV-2 virus that causes the COVID-19 disease”. This requirement itself does not incur additional cost for businesses.<sup>6</sup>

Some requirements overlap with existing regulations and executive orders. Section B is related to exposure assessment, notification requirements, and employee access to exposure and medical records. The current regulations by the federal Occupation Safety and Health Administration (OSHA) have required employers in general industry (excluding construction, agriculture, and maritime industries) to assess workplace hazards.<sup>7</sup> Thus, Section B will not incur additional costs for Virginia businesses except for businesses in construction, agriculture, and maritime industries. For businesses in those three industries, it is estimated that risk assessment, discussion with sub-contractors, notifying employees, and having a system to report positive COVID-19 cases may take approximately four to five hours of staff time to perform.

Section C is related to the return-to-work policies all businesses need to have regarding infected employees, or those suspected to be infected by the SARS-CoV-2 virus. The key component of Section C is that those infected or suspected to be infected are not allowed to return to work. While those stipulations may cause businesses to lose potential revenues, those requirements are already in effect under Virginia Department of Health requirements for isolation of infected employees and quarantine of people who were in close contact with an infected person.<sup>8</sup> The only cost for a business is to develop policies and procedures related to employees. It is estimated that approximately seven to ten hours may be needed to develop such policies. The Virginia Department of Health provides guidelines for this, which could reduce the time needed to develop this plan.<sup>9</sup>

Section D concerns the establishment and implementation of policies and procedures that “ensure employees observe physical distancing while on the job and during paid breaks on the employer’s property”. There is no incremental cost for Virginia businesses, as similar stipulations have been in effect since the Executive Order 72 was issued by Virginia Governor Northam on December 10, 2020;<sup>10</sup> while some restrictions were also in place under previous executive orders, including Amended Executive Order 63 issued on November 13, 2020.<sup>11</sup>

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Section E is related to the access to common areas and breakrooms in the workplace, requiring businesses to limit occupancy of such areas, provide hand-washing facilities or supplies, post signage, and to clean and sanitize such areas. There is no incremental cost for businesses from this requirement, as stipulations related to signage, cleaning, and

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<sup>6</sup> All direct quotes in this document are from: 16VAC25-220, Revised Proposed Permanent Standard for Infectious Disease Prevention of the SARS-Cov-2 Virus that Causes COVID-19, DOLI, December 10, 2020, unless noted otherwise. The Appendix includes the itemized list of cost estimates.

<sup>7</sup> Source: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132>

<sup>8</sup> Source: [https://www.vdh.virginia.gov/coronavirus/frequently-asked-questions/virginia-questions/#\\_heading=h.3rdcrjn](https://www.vdh.virginia.gov/coronavirus/frequently-asked-questions/virginia-questions/#_heading=h.3rdcrjn)

<sup>9</sup> Source: <https://www.vdh.virginia.gov/coronavirus/vdh-interim-guidance-for-implementing-safety-practices-for-critical-infrastructure-workers-non-healthcare-during-widespread-community-transmission-in-virginia/>

<sup>10</sup> Source: <https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/Forward-Virginia-Phase-Three-Guidelines-December-2020.pdf>

<sup>11</sup> Source: <https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-63-AMENDED-and-Order-Of-Public-Health-Emergency-Five---Requirement-To-Wear-Face-Covering-While-Inside-Buildings.pdf>

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disinfecting common areas have been in effect due to the Executive Order 72 issued by Virginia Governor Northam. The requirement of a hand-washing facilities is covered in existing OSHA and DOLI standards and regulations.

Section F is associated with multiple employees occupying a vehicle for work purposes. Businesses are required to develop a procedure when maintaining social distance is not feasible while traveling for work, and need to provide face coverings for employees. It is estimated that approximately one to two staff hours may be needed to develop such policies. The face-covering requirement results in no incremental cost for businesses, as similar stipulations have been in effect due to Executive Order 72; while some restrictions were also in place under previous executive orders, including Amended Executive Order 63.

Section G, H, and I are regulations related to wearing face covering in workplaces when social distancing is not feasible. Those requirements generate no incremental cost for businesses, as similar stipulations have been in effect due to the Executive Order 72, and the previous Executive Order 63.

Section J is related to the use of face shields when the use of face coverings would be “contrary to the employee's health or safety because of a medical condition.” The current OSHA regulation 1910.132 has required employers in general industry (excluding construction, agriculture, and maritime industries) to provide personal protective equipment (PPE) for their employees.<sup>12</sup> Thus, Section J stipulations will not incur additional costs for businesses except for businesses in construction, agriculture, and maritime industries. For businesses in those three industries, face shields can be acquired for a price ranging from \$1.00 to \$7.00 per piece.<sup>13</sup> The cost of face shields is lower if purchased directly from overseas producers, but additional shipping costs will apply, which could be approximately half of the unit price.<sup>14</sup>

Section K concerns the process to apply for a waiver related to face coverings, and does not generate incremental cost for Virginia businesses.

Section L involves sanitation and disinfection standards at the workplace. Section M requires employers to provide PPE for employees in situations when “engineering, work practice, and administrative controls are not feasible or do not provide sufficient protection.” These requirements generate no incremental cost for businesses, as similar stipulations have been in effect due to the Executive Order 72; while some restrictions were also in place under previous executive orders, including Amended Executive Order 61 issued on May 8, 2020.<sup>15</sup>

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**In summary, 16VAC25-220-40 generates limited incremental costs for businesses in Virginia, as most of the regulations specific to SARS-CoV-2 virus overlap with existing regulations businesses are required to follow. The only additional costs are staff hours to develop policies and procedures related to return-to-work and travel policies. For businesses in construction, agriculture, and maritime industries not covered by existing rules, there are additional costs to conduct a risk assessment and provide face shields.**

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<sup>12</sup> Source: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132>

<sup>13</sup> Source: <https://www.qualitylogoproducts.com/bulk-face-shields.htm>

<sup>14</sup> Source: [https://www.made-in-china.com/products-search/hot-china-products/Wholesale\\_Face\\_Shield.html](https://www.made-in-china.com/products-search/hot-china-products/Wholesale_Face_Shield.html)

<sup>15</sup> Source: [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-61-and-Order-of-Public-Health-Emergency-Three---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-61-and-Order-of-Public-Health-Emergency-Three---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-(COVID-19).pdf)

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b. Businesses and Entities Affected

16VAC25-220-40 will affect all businesses in Virginia, estimated at 285,456 establishments in 2019, with employment of 4.1 million as of the second quarter of 2020. For establishments in construction, agriculture, and maritime industries, it is estimated that there were 23,654 Virginia businesses in these industries in 2019, with total employment being 279,636 as of the second quarter of 2020.

c. Localities Particularly Affected

Since 16VAC25-220-40 applies to all businesses, no locality will be particularly affected by this proposed regulatory action.

For some stipulations that will incur additional costs for construction, agriculture, and maritime industries, some localities in Virginia will be disproportionately affected. As

Table 3.1 shows, many of those are rural counties with a large number of workers in the agriculture industry.

d. Projected Impact on Employment

The proposed regulations will have minimal impact on the overall employment of the state, since the estimated incremental monetary costs are limited and only apply to businesses in construction, agriculture, and maritime industries. Other costs are staff hours, and can be accommodated by existing staff without the need to hire additional workers.

e. Small Businesses Impact

It is estimated that the number of small businesses impacted was 284,415, based on 2019 figures, with an associated employment of 3.1 million as of the second quarter of 2020. For businesses in construction, agriculture,

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**Table 3.1 Top Ten Localities with Highest Percentage of Employment in Construction, Agriculture and Maritime Industries**

Locality	Percent of Employment
Manassas Park City, Virginia	36.9%
Highland County, Virginia	30.8%
Charles City County, Virginia	30.1%
Amelia County, Virginia	26.9%
Cumberland County, Virginia	26.4%
Northampton County, Virginia	23.3%
Powhatan County, Virginia	22.3%
King and Queen County, Virginia	22.1%
Floyd County, Virginia	21.8%
Rappahannock County, Virginia	21.5%
<b>Virginia State Average</b>	<b>6.8%</b>

*Source: JobsEQ by Chmura*



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and maritime industries, it is estimated that 23,632 small businesses were impacted based on 2019 figures, with a total employment of 259,719 as of the second quarter of 2020.

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## 4 Impact of 16VAC25-220-50

### a Economic Impact

16VAC25-220-50 outlines the mandatory requirements for employers in Virginia categorized as having very high or high exposure risks. There are four sections lettered A to D under this standard, with additional subsections under each section. Some of those sections or subsections do not result in additional costs for businesses. For example, Section A defines the businesses this standard should apply to and does not incur additional cost for businesses.

As the standard notes, “It is recognized that various hazards or job tasks at the same place of employment can be designated as very high, high, medium, or lower exposure risk for purposes of application of the requirements of this standard. It is further recognized that various required job tasks prohibit an employee from being able to observe physical distancing from other persons.”

- **Section B**

Section B is related to the engineering controls for very-high-risk or high-risk businesses. Specifically, subsection B.1 and

B.2 state that air-handling systems under the control of these businesses need to meet manufacturing instructions and additional operating instructions specific for SARS-CoV-2 virus. Pre-existing Virginia Occupational Safety and Health Administration (VOSH) regulations already require that employers to comply with "the manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment".<sup>16</sup> It is estimated that the subsections B1 and B2 will not generate incremental costs for Virginia businesses with very high or high exposure risks.

Subsection B.3 states that “hospitalized patients known or suspected to be infected with the SARS-CoV-2 virus, where feasible and available, shall be placed in airborne infection isolation room (AIIRs)”. Subsection B.4 states that employers “shall use AIIRs when available for performing aerosol-generating procedures on patients with known or suspected to be infected with the SARS-CoV-2 virus”. The Virginia Department of Health has existing regulations regarding hospitals and AIIRs, and the utilization of AIIRs is dependent on the availability. It is thus estimated that subsections B3 and B4 will not generate incremental costs for Virginia businesses with very high or high exposure risks.

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Subsection B.5 regulates postmortem activities, “employers shall use autopsy suites or other similar isolation facilities when performing aerosol-generating procedures on the bodies of persons known or suspected to be infected with the SARS-CoV-2 virus at the time of their death.” For businesses involved in postmortem activities without such a facility, the cost of construction for a new unit can be substantial in the range of tens of thousand dollars.<sup>17</sup> Rental is an option during the pandemic. It is estimated that rental rate of a cold storage facility with fan-filter unit, based on CDC recommendations, may range from \$2,000 to \$3,000 a month.<sup>18</sup>

Subsection B.6 is related to the handling of specimens from patients or persons known or suspected to be infected with the SARS-CoV-2 virus, and it needs to follow precautions associated with Biosafety Level 3 (BSL-3). All laboratories licensed

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<sup>16</sup> Source: 16VAC25-60-120 [General Industry], <https://law.lis.virginia.gov/admincode/title16/agency25/chapter60/section120/>

<sup>17</sup> Source: <https://massfatalityresponse.com/decident-refrigeration/morgue-trailer-systems/>

<sup>18</sup> Source: <https://www.kwipped.com/rentals/restaurant/walkin-cold-storage-trailers-and-containers/1022>

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by Virginia Department of Health are required to meet BSL-2 or BSL-3 standards. It is estimated that Subsection B6 will not generate incremental costs for businesses.

Subsection B.7 states that “to the extent feasible, employers shall install physical barriers, (e.g., clear plastic sneeze guards, etc.), where such barriers will aid in mitigating the spread of SARS-CoV-2 and COVID-19 virus transmission.” The cost of a physical barrier ranges from \$50 to \$300, depending on the size of such barriers.<sup>19</sup> The cost of physical barriers is lower if purchased directly from overseas producers, but substantial additional shipping costs will apply.<sup>20</sup> In addition, this requirement is optional for businesses and may not result in incremental costs if other mitigation strategies are implemented.

- **Section C**

Section C is related to administrative and work practice control of employers categorized as having very high and high risk exposures.

Subsection C.1 requires pre-screening or surveying of employees before the commencement of each work shift. Affected businesses will develop a certain screening method and devote staff hours to perform the screening. Guidelines from the Virginia Department of Health for screening include temperature checks and asking several screening questions.<sup>21</sup> It is estimated that the cost of a digital non-contact thermometer ranges from \$20 to \$80.<sup>22</sup> The cost is lower if purchased directly from overseas producers, but additional shipping costs will apply.<sup>23</sup> However, please note that although it is a generally accepted practice, the standard does not specifically require that employers check the temperatures of employees. Businesses need to have dedicated staff to perform screening. It is estimated that screening of each employee may take two to five minutes.

Subsections C.2 and C.3 require employers to follow existing guidelines and limit or restrict access to work areas, and they do not result in incremental costs for businesses.

Subsection C.4 requires employers to post signs “requesting patients and family members to immediately report signs and/or symptoms of respiratory illness on arrival at the healthcare facility and use disposable face coverings.” The cost of plastic signs ranges from \$6.10 to \$9.40, for workplace uses, depending on the size of signs.<sup>24</sup>

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Subsection C.5 requires employers to “offer enhanced medical monitoring of employees during COVID-19 outbreaks.” This section does not provide details regarding what constitutes the enhanced medical monitoring. It is assumed that the enhanced medical monitoring may involve checking temperatures and other vital signs of employees such as blood oxygen levels and asking various screening questions. The overall costs involve the purchasing of medical devices as well as assigning employees to perform monitoring. It is estimated that the cost of a digital non-contact thermometers ranges from

\$20 to \$80, while cost of blood oxygen monitors range from \$20 to \$50 per unit.<sup>25</sup> It is assumed that since monitoring is an

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<sup>19</sup> Source: <https://www.zumaoffice.com/search.aspx?keyword=physical+barriers>; <https://www.dgsretail.com/P1711/Portable-Freestanding-Sneeze-Guard-Desk-Countertops-Acrylic-W/Base-24x24H>

<sup>20</sup> Source: [https://www.alibaba.com/showroom/plastic+shield+for+countertop.html?fsb=y&IndexArea=product\\_en&CatId=&SearchText=plastic+shield+for+countertop&isGalleryList=G](https://www.alibaba.com/showroom/plastic+shield+for+countertop.html?fsb=y&IndexArea=product_en&CatId=&SearchText=plastic+shield+for+countertop&isGalleryList=G)

<sup>21</sup> Source: <https://www.vdh.virginia.gov/coronavirus/vdh-interim-guidance-for-implementing-safety-practices-for-critical-infrastructure-workers-non-healthcare-during-widespread-community-transmission-in-virginia/>

<sup>22</sup> <https://www.zumaoffice.com/search.aspx?keyword=thermometer>

<sup>23</sup> [https://www.alibaba.com/showroom/thermometer.html?fsb=y&IndexArea=product\\_en&CatId=100009295&SearchText=thermometer&isGalleryList=G](https://www.alibaba.com/showroom/thermometer.html?fsb=y&IndexArea=product_en&CatId=100009295&SearchText=thermometer&isGalleryList=G)

<sup>24</sup> Source: <https://www.zumaoffice.com/search.aspx?keyword=social+distancing+sign>

<sup>25</sup> <https://www.4mdmedical.com/ssearch?q=pulse+oximeter>

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ongoing process, dedicated employees are needed for businesses with a larger number of workers, such as hospitals. A study done by Vanderbilt University Medical Center shows that one full-time monitoring worker is needed for 800 employees.<sup>26</sup>

Subsection C.6 states that business shall offer psychological and behavioral support when feasible. Since this is not a required mandate, it is estimated that it does not generate incremental costs for businesses.

Subsection C.7 requires that in healthcare settings, employers shall provide alcohol-based hand sanitizers containing at least 60% ethanol or 70% isopropanol to employees, emergency responders, and other personnel. The cost of hand sanitizer is estimated to be around \$5.00 for bottles around 12 to 17 ounces, or \$35 per gallon.<sup>27</sup>

Subsection C.8 requires that “employers shall provide face coverings to non-employees suspected to be infected with SARS-CoV-2 virus to contain respiratory secretions until the non-employees are able to leave the site.” The cost of face coverings, such as a standard disposable face covering, is about \$0.10 per piece, when purchased in bulk.<sup>28</sup>

While some Subsections from C.1 to C.8 necessitate that businesses with very high or high risk exposure incur incremental costs to meet those requirements, Subsection C.9 states that employers shall implement flexible worksites, flexible work hours, and flexible meeting and travel options, when feasible. Those options can provide significant cost savings for businesses. For employers that can work from home or conduct meetings remotely, businesses do not need to comply with the regulations related to the workplace. Other provisions under Subsection C.9, including increasing social distances and delivering services remotely, do not generate additional costs for businesses as they are optional mitigation strategies.

- **Section D**

Section D is related to the personal protection equipment (PPE) in the workplace. It requires employers to assess hazardous risks, complete a written certification, and implement respiratory protection programs. Those requirements are similar to those in 16VAC25-220-40, Section B. The current regulations by Occupational Safety and Health Administration (OSHA) have required employers in general industry (excluding construction, agriculture, and maritime industries) to assess workplace hazards.<sup>29</sup> Since none of the businesses with very high or high risk exposure are in the above three industries, Section D will not incur additional costs for all businesses.

**In summary, 16VAC25-220-50 will incur additional costs for employers with very high or high exposure risk. Most**

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**of those costs are related to administrative control, such as conducting screening, installing physical barriers, posting signs, having hand sanitizers, and providing face coverings for non-employees. Only businesses with postmortem activities may need to invest in special facilities if they do not currently have one, which can have a substantial price tag. Large employers may need to have dedicated staff to perform enhanced medical screening. However, those employers can mitigate those costs by adopting more flexible work-site and work-hours arrangements.<sup>30</sup>**

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<sup>26</sup> Source: <https://www.vumc.org/coronavirus/latest-news/medical-surveillance-key-covid-19-response-vumc>

<sup>27</sup> Source: [https://www.bulkofficesupply.com/search.aspx?keyword=hand+sanitizer&onatalp=4024471056375168968&fph=0\\_41bfd98c84e3ed86d3746ed1a8c10870](https://www.bulkofficesupply.com/search.aspx?keyword=hand+sanitizer&onatalp=4024471056375168968&fph=0_41bfd98c84e3ed86d3746ed1a8c10870)

<sup>28</sup> Source: <https://www.turmerry.com/pages/wholesale-face-mask-usa-suppliers>

<sup>29</sup> Source: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132>

<sup>30</sup> The Appendix has an itemized list of the estimated economic impact.

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b. Businesses and Entities Affected

16VAC25-220-50 will affect very high and high-risk businesses in Virginia, estimated at 13,522 establishments in 2019, with employment of 361,408 as of the second quarter of 2020.

c. Localities Particularly Affected

In Virginia, an estimated 8.7% of all jobs are in very high or high-risk businesses. However, in some localities, those percentages are significantly higher. Many of them are locations with a high concentration of healthcare or nursing home facilities, such as Northern City, Emporia City, and Charlottesville City.

**Table 4.1 Localities with High Percentage of Very-High and High Risk Employment**

Locality	Percent of Total Employment
Norton City, Virginia	26.2%
Emporia City, Virginia	24.6%
Charlottesville City, Virginia	24.5%
Petersburg City, Virginia	23.4%
Winchester City, Virginia	22.5%
Franklin City, Virginia	21.0%
Lancaster County, Virginia	20.6%
Salem City, Virginia	18.9%
Alleghany County, Virginia	17.6%
Fredericksburg City, Virginia	17.6%
<b>Virginia State Average</b>	<b>8.7%</b>

*Source: JobsEQ by Chmura*

d. Projected Impact on Employment

The proposed regulations will have a limited impact on the overall employment of the state. Since the estimated incremental costs are not substantial, it is unlikely that any of the affected businesses will need to reduce costs elsewhere or even employment payroll to

meet those requirements. Some large employers may need to hire additional workers to perform enhanced medical monitoring for their employees, which may increase costs to businesses, but will create jobs for the state. In addition, 16VAC25-220-50 will have some positive effects on state businesses engaging in supplying products such as face masks, sanitizers, and other PPE. It will increase opportunities for businesses supplying or installing physical barriers as well.

e. Small Businesses Impact

It is estimated that the number of small businesses impacted is 13,474, based on 2019 data. with associated employment of 266,627 as of the second quarter of 2020.

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## 5. Impact of 16VAC25-220-60

### a. Economic Impact

16VAC25-220-60 outlines the mandatory requirements for employers in Virginia with medium exposure risks. There are four sections lettered A to D. Some of those requirements are similar to those applicable to very high or high-risk businesses. Section A defines the businesses 16VAC25-220-60 should apply to and does not incur additional costs for businesses.

As the standard notes, “It is recognized that various hazards or job tasks at the same place of employment can be designated as very high, high, medium, or lower exposure risk for purposes of application of the requirements of this standard. It is further recognized that various required job tasks prohibit an employee from being able to observe physical distancing from other persons.”

- **Section B**

Section B.1 is related to the engineering controls for businesses with medium risks. Specifically, subsection B.1 states that air-handling systems under the control of those businesses need to meet manufacturing instructions and additional operating instructions specific to the SARS-CoV-2 virus. Preexisting Virginia Occupational Safety and Health Administration (VOSH) regulations already require that employers comply with "the manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment.”<sup>31</sup> It is estimated the subsection B1 will not generate incremental costs for businesses.

Subsection B.2 states that where feasible, “employers shall install physical barriers, (e.g., clear plastic sneeze guards, etc.), where such barriers will aid in mitigating the spread of SARS-CoV-2 and COVID-19 virus transmission.” The cost of a physical barrier ranges from \$50 to \$300, depending on the size of such barriers.<sup>32</sup> The cost of physical barriers is lower if purchased directly from overseas producers, but additional shipping costs will apply.<sup>33</sup> In addition, this requirement is optional for businesses and may not result in incremental costs if other mitigation strategies are implemented.

- **Section C**

Section C concerns administrative and work practice control of employers with medium exposure risk. Subsection C.1.a requires pre-screening or surveying of employees before the commencement of each work shift. Affected businesses will develop certain screening methods and devote staff hours to perform the screening. Guidelines

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from Virginia Department of Health for screening includes temperature checks and asking several screening questions.<sup>34</sup> It is estimated that the cost of digital non-contact thermometer ranges from \$20 to \$80.<sup>35</sup> The cost is lower if purchased directly from overseas producers, but additional shipping costs will apply.<sup>36</sup> However, please note that although it is a generally accepted practice,

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<sup>31</sup> Source: 16VAC25-60-120 [General Industry], <https://law.lis.virginia.gov/admincode/title16/agency25/chapter60/section120/>

<sup>32</sup> Source: <https://www.zumaooffice.com/search.aspx?keyword=physical+barriers>; <https://www.dgsretail.com/P1711/Portable-Freestanding-Sneeze-Guard-Desk-Countertops-Acrylic-W/Base-24x24H>

<sup>33</sup> Source: [https://www.alibaba.com/showroom/plastic+shield+for+countertop.html?fsb=y&IndexArea=product\\_en&CategoryId=&SearchText=plastic+shield+for+countertop&isGalleryList=G](https://www.alibaba.com/showroom/plastic+shield+for+countertop.html?fsb=y&IndexArea=product_en&CategoryId=&SearchText=plastic+shield+for+countertop&isGalleryList=G)

<sup>34</sup> Source: <https://www.vdh.virginia.gov/coronavirus/vdh-interim-guidance-for-implementing-safety-practices-for-critical-infrastructure-workers-non-healthcare-during-widespread-community-transmission-in-virginia/>

<sup>35</sup> <https://www.zumaooffice.com/search.aspx?keyword=thermometer>

<sup>36</sup> [https://www.alibaba.com/showroom/thermometer.html?fsb=y&IndexArea=product\\_en&CategoryId=100009295&SearchText=thermometer&isGalleryList=G](https://www.alibaba.com/showroom/thermometer.html?fsb=y&IndexArea=product_en&CategoryId=100009295&SearchText=thermometer&isGalleryList=G)

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the standard does not specifically require that employers check the temperatures of employees. Business needs to have dedicated staff to perform screenings. It is estimated that screening of each employee may take a two to five minutes.

Subsection C.1.b requires that “employers shall provide face coverings to non-employees suspected to be infected with SARS-CoV-2 virus to contain respiratory secretions until the non-employees are able to leave the site.” The cost of face coverings, such as standard disposable face coverings, is about \$0.10 piece, when purchased in bulk.<sup>37</sup>

Subsection C.2.a to C.2.i states that employers shall implement flexible worksites, flexible work hours, and flexible meeting and travel options, when feasible. Those options can provide significant cost savings for businesses. For employers that can work from home, or conduct meetings remotely, businesses do not need to comply with workplace regulations. In addition, some provisions, including increasing social distances and delivering services remotely, do not generate additional costs for businesses as they are optional mitigation strategies.

Subsection C.2.j and C.2.k require that employers provide face coverings for employees who cannot maintain social distance, or in customer-facing or other personal-facing roles. There is no additional cost to businesses as similar stipulations have been in effect due to Executive Order 72 issued by Virginia Governor Northam; while some restrictions were also in place under previous executive orders, including Amended Executive Order 63.

- **Section D**

Section D is related to the personal protection equipment (PPE) in the workplace. It requires employers to assess hazardous risks, complete a written certification, and implement respiratory protection programs. Those requirements are similar to those in 16VAC25-220-40, Section B. The current regulations by Occupational Safety and Health Administration (OSHA) have required employers in general industry (excluding construction, agriculture, and maritime industries) to assess workplace hazards.<sup>38</sup> For businesses in those three industries, it is estimated that risk assessment, discussion with sub- contractors, notifying employees, and having a system to report positive COVID-19 cases may take approximately four to five staff hours.

**In summary, 16VAC25-220-60 will incur limited additional costs for employers with medium exposure risk. Most of those costs are related to administrative controls, such as conducting screenings, installing physical barriers, and supplying face coverings for non-employees. However, businesses can mitigate these costs by adopting more flexible work-site and work-hours arrangements.<sup>39</sup>**

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b. Businesses and Entities Affected

These proposed regulations will affect medium-risk businesses in Virginia, estimated at 122,753 establishments in 2019, with an employment of 2.0 million as of the second quarter of 2020.

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<sup>37</sup> Source: <https://www.turmerry.com/pages/wholesale-face-mask-usa-suppliers>

<sup>38</sup> Source: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132>

<sup>39</sup> The Appendix has an itemized list of the estimated economic impact.

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c. Localities Particularly Affected

In Virginia, an estimated 48.9% of all jobs are in medium-risk businesses. But in some localities, higher percentages of employees work for medium-risk businesses. As Table 5.1 shows, examples of those localities are Covington City, Greensville County, and Madison County.

**Table 5.1: Top Ten Localities with Highest Percentage of Medium Risk Employment**

Locality	Percent in Total Employment
Covington City, Virginia	73.0%
Greensville County, Virginia	72.8%
Madison County, Virginia	72.8%
Pulaski County, Virginia	72.0%
New Kent County, Virginia	71.8%
Dinwiddie County, Virginia	71.1%
Montgomery County, Virginia	71.0%
Henry County, Virginia	70.8%
Campbell County, Virginia	70.3%
Northampton County, Virginia	70.3%
<b>Virginia State Average</b>	<b>48.9%</b>

Source: JobsEQ by Chmura

d. Projected Impact on Employment

The proposed standard will have limited impact on the overall employment of the state. Since the estimated incremental costs are not substantial, it is unlikely that any of affected businesses will need to reduce staff size to meet those requirements. However, it will have some positive effect on state businesses engaging in supplying products such as face masks and physical barriers.

e. Small Businesses Impact

It is estimated that number of small businesses impacted was 122,243, based on 2019 establishment estimate, with associated employment of 1.6 million, as of the second quarter of 2020.

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## 6 Impacts of 16VAC25-220-70

### a. Economic Impact

16VAC25-220-70 is related to the development of a written Infectious Disease Preparedness and Response Plan. It only applies to very high and high-risk employers, as well as medium-risk employers with 11 or more employees. It is estimated that risk assessment and implementation of respiratory protection programs may take approximately 10 to 20 hours of staff time to develop. To mitigate such costs to businesses, Virginia Occupational Safety and Health Administration has provided a free online, editable WORD version of an infectious disease preparedness and response plan that can be used by employers to satisfy the requirements of 16VAC25-220-70. This template can reduce the costs for businesses significantly.<sup>40</sup>

### b. Businesses and Entities Affected

The proposed regulation will affect very high and high-risk businesses, and medium-risk businesses with 11 or more employees. It is estimated that the number of establishments in those categories was 54,960 in 2019, with an employment of 2.2 million as of the second quarter of 2020.

### c. Localities Particularly Affected

In Virginia, an estimated 52.3% of all employees are in the affected business categories. Some localities have higher percentages of employees in affected businesses. As Table 6.1 shows, examples of those localities are Galax City, Emporia City, and Williamsburg City.

It is estimated that number of small businesses impacted was 54,402, based on 2019 establishment

### d. Projected Impact on Employment

The proposed regulations will have no impact on the overall employment of the state. The estimated incremental costs are only staff hours, and can be accommodated by existing staff of the businesses without the need to hire additional workers.

### e. Small Businesses Impacts

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Colonial Heights City, Virginia	72.4%
Pulaski County, Virginia	71.4%
Montgomery County, Virginia	71.2%
Floyd County, Virginia	70.9%
Hopewell City, Virginia	70.6%
Amherst County, Virginia	70.4%
Greensville County, Virginia	70.3%
<b>Virginia State Average</b>	<b>52.3%</b>

**Table 6.1: Top Ten Localities with Highest Percentage of Employment in Affected Businesses**

Locality	Percent in Total Employment
Galax City, Virginia	74.8%
Emporia City, Virginia	74.6%
Williamsburg City, Virginia	73.2%

Source: JobsEQ by Chmura

estimate, with associated employment of 1.6 million as of the second quarter of 2020.

<sup>40</sup> Source: <https://www.doli.virginia.gov/covid-19-outreach-education-and-training/>

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## 7. Impact of 16VAC25-220-80

### a. Economic Impact

16VAC25-220-80 is related to providing employees with training on the hazards and characteristics of the SARS-CoV-2 and COVID-19 disease. The training requirement only applies to employers with employees exposed to very high, high, and medium exposure risk. For employers with lower exposure risk, they need to provide information sheets to employees exposed to such hazards.

Typically, developing a training material may take about 40 hours of staff time for training lasting one hour.<sup>41</sup> Delivering the training and maintaining training certifications will also take some staff hours in human resources or management. To mitigate such costs to businesses, VOSH has provided the free online training materials that satisfy training materials requirements of 16VAC25-220-80. In addition, VOSH has provided a free online training certification form for employers to use.<sup>42</sup> As a result, employers may not need to develop new training materials, and all the business costs are related to training delivery to each employee (about an hour) and staff time to maintain the certifications.

For businesses categorized as having lower exposure risk, preparing information sheets for employees may take a few hours. VOSH has provided a free online two-page document that satisfies the requirements.<sup>43</sup> As a result, the cost for lower-risk businesses is minimal.

### b. Businesses and Entities Affected

Overall, 16VAC25-220-80 will affect all businesses in Virginia, estimated at 285,456 establishments in 2019, with an employment of 4.1 million as of the second quarter of 2020. The training requirements only apply to businesses with very high, high and medium risks. The total number of businesses establishments is estimated to be 136,275 in 2019, with 2.4 million employees as of the second quarter of 2020. The total number of businesses establishments with lower risk is estimated to be 149,211 in 2019, with 1.8 million employees as of the second quarter of 2020.

### c. Localities Particularly Affected

Since 16VAC25-220-80 applies to all businesses, no locality will be particularly affected by this proposed regulatory action. However, for training requirements, some localities affected the most include Galax City, Williamsburg City, and Emporia City. For lower-risk businesses, localities with high percentages of employment



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are King George County, Goochland County, and Arlington County. Those are localities with a large number of jobs in financial services, professional services, or government.

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<sup>41</sup> Source: <https://trainlikeachampion.blog/why-does-it-matter-how-long-it-takes-to-design-a-presentation/>

<sup>42</sup> Source: <https://www.doli.virginia.gov/wp-content/uploads/2020/08/ETS-Full-Training-Presentation.pdf> <https://www.doli.virginia.gov/wp-content/uploads/2020/08/ETS-Abbreviated-Training-Presentation.pdf> <https://www.doli.virginia.gov/wp-content/uploads/2020/07/Infographic.pdf> and <http://www.doli.virginia.gov/wp-content/uploads/2020/07/Training-Certification.xlsx>

<sup>43</sup> Source: <https://www.doli.virginia.gov/wp-content/uploads/2020/07/Lower-Risk-Training-1.pdf>

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**Table 7.1 Top Ten Localities with Highest Percentage of Affected Businesses**

Locality	Percent of Employment in Very High, High, and Medium-Risk Businesses	Locality	Percent of Employment in Lower-Risk Businesses
Galax City	82.0%	King George County	72.6%
Williamsburg City	80.9%	Goochland County	70.2%
Emporia City	80.7%	Arlington County	64.9%
Colonial Heights City	79.6%	Surry County	62.1%
Pulaski County	79.3%	Alexandria City	59.9%
Montgomery County	79.0%	Fairfax County	58.1%
Floyd County	78.6%	Dickenson County	51.3%
Greensville County	78.3%	Stafford County	48.6%
Amherst County	77.9%	Buchanan County	48.2%
Madison County	77.8%	Henrico County	46.9%
<b>Virginia State Average</b>	<b>57.6%</b>	<b>Virginia State Average</b>	<b>42.4%</b>

Source: JobsEQ by Chmura

d. Projected Impact on Employment

The proposed regulations will have no impact on the overall employment of the state. Since the estimated incremental costs are minimal, those efforts can be accommodated by existing staff of the businesses without the need to hire additional workers.

e. Small Businesses Impacts

It is estimated that number of small businesses impacted was 284,415, based on 2019 establishment estimate, with associated employment of 3.1 million as of the second quarter of 2020. Training requirements apply to businesses with very high, high, and medium risks. The total number of small businesses establishments in those categories is estimated to be 137,717, based on 2019 establishment estimate, with 1.8 million employees as of the second quarter of 2020. The total number of small business establishments with lower risk is estimated to be 148,498 in 2019, with 1.2 million employees as of the second quarter of 2020.

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## Appendix: Summary Table of Impact

**Table A1: Economic Impact Summary**

Standard	Description	Include in the Study	Estimated Cost
<b>16VAC2 5-220-40</b>	<b>All Businesses</b>		
A	Ensure Compliance	N/A	
B	Exposure assessment (9 items)	Overlap with current regulations, with exception of construction, agriculture and maritime industries	4-5 hours for construction, agriculture and maritime businesses
C	Develop return to work policy	Staff Hours	7-10 hours
	Not allow infected individuals to work (10-20 days)	Overlap with current regulations	
	Medical examination	Overlap with current regulations	
D	Develop social distance policies	Overlap with current regulations	
E	Common space	Overlap with current regulations	
	Clean and disinfect	Overlap with current regulations	
	Handwashing facilities and suppliers	Overlap with current regulations	
F	Wear face covering	Overlap with current regulations	
	Develop procedure during travel	Staff Hours	1-2 hours
G	Provide face covering	Overlap with current regulations	
H	Provide face covering	Overlap with current regulations	
I	Provide face covering	Overlap with current regulations	
J	Provide face shields	Overlap with current regulations, with exception of construction, agriculture and maritime industries	\$1.0-\$8.0 per unit for construction, agriculture, and maritime businesses
K	Waiver to face covering requirement	N/A	
L	Clean and disinfection	Overlap with current regulations	
M	Provide PPE	Overlap with current regulations	
<b>16VAC2 5-220-50</b>	<b>Very high and high-risk businesses</b>		
A	Definition	N/A	
B	Air handling system (B.1 and B.2)	Overlap with current regulations	
	Hospitalized patients & AIIR (B.3 and B.4)	Overlap with current regulations	
	Postmortem activities (B.5)	isolation facilities similar to AIIR	\$2,000-\$3,000 rental per month
	Install physical barriers (B.7)	Cost of physical barriers	\$50-\$300 per unit, optional
C	Screening employees for symptoms before work shift (C.1)	Cost of screening methods	\$20-80 for thermometer, plus staff hours of 2-5 minutes per employee
	Post signs (C.4)	Cost of signs	\$6.1-\$9.4 per sign
	Enhanced medical monitoring (C.5)	Cost of monitoring	\$20-80 for thermometer, \$20-\$50 for blood oximeter, one full-time staff for 800 employees
	Psychological and behavior support (C.6)	Optional requirement	
	Alcohol-based hand sanitizer (C.7)	Cost of hand sanitizer	\$5 per bottle (12-17 ounce), \$35 per gallon
	Face cover (C.8)	Cost of face covering	\$0.8-\$0.9 per unit of disposable mask

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	Flexible worksite, work hours (C.9)	Provide cost savings for business	Benefit can offset costs
D	PPE	Overlap with current regulations	

**Table A1: Economic Impact Summary**

Standard	Description	Include in the Study	Estimated Cost
<b>16VAC2 5-220-60</b>	<b>Medium-risk businesses</b>		
A	Definition	N/A	
B	Air handling system (B.1)	Overlap with current regulations	
	Install physical barriers (B.2)	Cost of physical barriers	\$50-\$300 per unit, optional
C	Screening employees for symptoms (C.1)	Cost of screening methods	
	Face cover to non-employees (C.1)	Cost of face covering	\$0.8-\$0.9 per unit of disposable mask
	Flexible worksite, work hours (C.2)	Provide cost savings for business	Benefits can offset costs
	Face cover to employees when social distance is not feasible	Overlap with current regulations	
D	Respiratory protection program	Overlap with current regulations	
	written certification	Staff Hours	
	implement respiratory protection program	Staff Hours	
	PPE	Overlap with current regulations, with exception of construction, agriculture and maritime industries	4-5 hours for construction, agriculture and maritime businesses
<b>16VAC2 5-220-70</b>	Develop Preparedness and response plan	Staff Hours	10-20 hours
<b>16VAC2 5-220-80</b>	Training	Staff Hours	About one hour to each employee,
	Information sheet	Staff Hours	Minimal

Source: Chmura

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ATTACHMENT J: DOLI ADDENDUM to January 11, 2021, Economic Impact Proposed Standard for Infectious Disease Prevention of the Sars-Cov-2 Virus That Causes Covid-19, Prepared by Chmura Economics and Analytics

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**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF LABOR AND INDUSTRY**

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**January 11, 2021**

**DEPARTMENT OF LABOR AND INDUSTRY (DOLI)**  
**VIRGINIA OCCUPATIONAL SAFETY AND HEALTH (VOSH) PROGRAM**

DOLI ADDENDUM

To January 11, 2021, Economic Impact Proposed Standard For Infectious Disease Prevention Of The Sars-Cov-2 Virus That Causes Covid-19,<sup>561</sup> Prepared by Chmura Economics and Analytics.

BACKGROUND

The Virginia Safety and Health Codes Board (“Board”) adopted 16 VAC 25-220, Emergency Temporary Standard (ETS), Infectious Disease Prevention: SARS-CoV-2 Virus That Causes COVID-19, with an effective date of July 27, 2020. The ETS was limited by statute to be in effect for no more than six months, and expires on January 26, 2021. Va. Code §40.1-22(6a) under which the ETS was adopted does not permit the ETS to be extended beyond 6 months.

A permanent replacement standard for the ETS is being considered by the Board, and in accordance with §40.1-22(6a):

“The Board by similar publication shall prior to the expiration of six months give notice of the time and date of, and conduct a hearing on, the adoption of a permanent standard.”

The Board published a proposed permanent standard to replace the ETS on July 27, 2020. During the adoption process for the ETS, the Board made clear that during any process to adopt a permanent replacement standard it would attempt to substantially comply with the core requirements in the APA within the six month time constraint of Va. Code §40.1-22(6a) by holding

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<sup>561</sup> It is the position of the Department based on consultation with the Attorney General that by virtue of Va. Code §40.1-22(6a), the Administrative Process Act does not apply to adoption of either an ETS or permanent replacement standard adopted under the specific procedures outlined in that statute. As noted on page 180 of the June 23, 2020 Briefing Package to the Board regarding proposed adoption of an ETS/emergency regulation, the OAG noted: The clear intent of 40.1-22(6a) and 29 USC Section 655(c) in the OSH Act – is to create an alternative path to a temporary and permanent standard outside of the rigors and processes of the APA.”

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a sixty day written comment period<sup>562</sup> and a public hearing<sup>563</sup> along with obtaining an Economic Impact Analysis and holding a meeting to consider a final standard.<sup>564</sup>

Although not required by Va. Code §40.1-22(6a) DOLI contracted on behalf of the Board with Chmura Economics and Analytics (“Chmura”) to conduct an economic impact analysis of the standard that would attempt to address elements contained in Va. Code §2.2-4007.04.A.1,<sup>565</sup> with the exception of three issues: costs associated with property value, fiscal impact on localities and potential funds to implement this standard. The purpose of this Addendum is to address those three issues.

For comparison purposes please see the EIA for VOSH’s Tree Trimming Operations Standard at:

[https://townhall.virginia.gov/L/GetFile.cfm?File=92\2513\4713\EIA\\_DOLI\\_4713\\_v2.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=92\2513\4713\EIA_DOLI_4713_v2.pdf),

and the EIA for VOSH’s Reverse Signal Procedures - General Industry - Vehicles/Equipment Not Covered by Existing Standards at:

[https://townhall.virginia.gov/L/GetFile.cfm?File=92\2040\4053\EIA\\_DOLI\\_4053\\_v1.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=92\2040\4053\EIA_DOLI_4053_v1.pdf)

## DEPARTMENT RESPONSE

1. The Department is not aware of the standard resulting in any additional costs related to impact of the standard on the use and value of private property, including additional costs related to the development of real estate for commercial or residential purposes. While Governor’s Executive Orders (EO) (see the most recent EO 72<sup>566</sup>) have contained restrictions on the use of and operating hours, including closings, of private businesses, the standard contains no such restrictions.
2. Since the standard would apply to all businesses, including state and local government employers, no locality will be particularly affected differently than any other local government entity by adoption of the standard. Any fiscal impact on a locality will be determined by the extent to which individual worksites contain hazards or job tasks which expose employees to risks classified as very high, high, medium or lower.

Those projected costs by risk category and cost item (e.g., cost of face coverings, physical barriers, employee training, etc.) are delineated on a per employee or per item basis in the

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<sup>562</sup> The sixty day comment period was held from August 27, 2020 to September 25, 2020.

<sup>563</sup> The initial public hearing was held September 30, 2020.

<sup>564</sup> The Board held a thirty day comment period on a draft revised proposed standard from December 10, 2020 to January 9, 2021, and a second public hearing on January 5, 2021.

<sup>565</sup> Va. Code §2.2-4007.04.A.1: The economic impact analysis shall include but need not be limited to the projected number of businesses or other entities to which the regulation would apply; the identity of any localities and types of businesses or other entities particularly affected by the regulation; the projected number of persons and employment positions to be affected; the impact of the regulation on the use and value of private property, including additional costs related to the development of real estate for commercial or residential purposes; and the projected costs to affected businesses, localities, or entities of implementing or complying with the regulations, including the estimated fiscal impact on such localities and sources of potential funds to implement and comply with such regulation.

<sup>566</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-72-and-Order-of-Public-Health-Emergency-Nine-Common-Sense-Surge-Restrictions-Certain-Temporary-Restrictions-Due-to-Novel-Coronavirus-\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-72-and-Order-of-Public-Health-Emergency-Nine-Common-Sense-Surge-Restrictions-Certain-Temporary-Restrictions-Due-to-Novel-Coronavirus-(COVID-19).pdf)

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Economic Impact Analysis (EIA) prepared by Chmura, and in the view of the Department would be applicable in a local government setting.

Those localities that incur costs uniquely attributable to compliance with the standard will likely use revenue they generate from their own taxes and fees. As noted in the EIA, a number of the requirements with associated costs related to the Commonwealth's response to the COVID-19 pandemic are contained in various Governor's Executive Orders, including most recently Executive Order 72. To the extent that a requirement is included in both Executive Orders and the standard, the Department does not consider the standard to impose any new cost burden on a covered locality.

In addition, many of the costs associated with dealing with workplace hazards associated with COVID-19 are the result of requirements contained in current federal OSHA or VOSH unique standards and regulations already applicable to local governments, and therefore DOLI does not consider them to be new costs associated with adoption of the standard.

Following are federal OSHA identical and state unique standards and regulations applicable in the Construction Industry, Agriculture Industry, Maritime Industry (public sector employment only as OSHA retains jurisdiction over private sector employment in Virginia), and General Industry ("General Industry" covers all employers not otherwise classified as Construction, Agriculture, or Maritime) that can be used in certain situations to address COVID-19 hazards in the workplace:

#### General Industry

- 1910.132, Personal Protective Equipment in General Industry (including workplace assessment)
- 1910.133, Eye and Face Protection in General Industry
- 1910.134, Respiratory Protection in General Industry
- 1910.138, Hand Protection
- 1910.141, Sanitation in General Industry (including handwashing facilities)
- 1910.1030, Bloodborne pathogens in General Industry
- 1910.1450, Occupational exposure to hazardous chemicals in laboratories in General Industry

#### Construction Industry

- 1926.95, Criteria for personal protective equipment in Construction
- 1926.102, Eye and Face Protection in Construction
- 1926.103, Respiratory Protection in Construction
- 16VAC25-160, Sanitation in Construction (including handwashing facilities)

#### Agriculture

- 16VAC25-190, Field Sanitation (including handwashing facilities) in Agriculture

#### Public Sector Maritime

- 1915.152, Shipyard Employment (Personal Protective Equipment)

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- 1915.153, Shipyard Employment (Eye and Face Protection)
- 1915.154, Shipyard Employment (Respiratory Protection)
- 1915.157, Shipyard Employment (Hand and Body Protection)
- 1917.127, Marine Terminal Operations (Sanitation)
- 1917.92 and 1917.1(a)(2)(x), Marine Terminal Operations (Respiratory Protection, 1910.134)
- 1917.91, Marine Terminal Operations (Eye and Face Protection)
- 1917.95, Marine Terminal Operations (PPE, Other Protective Measures)
- 1918.95, Longshoring (Sanitation)
- 1918.102, Longshoring (Respiratory Protection)
- 1918.101, Longshoring (Eye and Face Protection)

#### Multiple Industries

- 16VAC25-220, Emergency Temporary Standard in General Industry, Construction, Agriculture and Public Sector Maritime
- 1904, Recording and Reporting Occupational Injuries and Illness in General Industry, Construction, Agriculture and Public Sector Maritime
- 1910.142, Temporary Labor Camps (including handwashing facilities) in Agriculture and General Industry
- 1910.1020, Access to employee exposure and medical records in General Industry, Construction, and Public Sector Maritime (excludes Agriculture)
- 1910.1200, Hazard Communication in General Industry, Construction, Agriculture and Public Sector Maritime
- 16VAC25-60-120 (General Industry), 16VAC25-60-130 (Construction Industry), 16VAC25-60-140 (Agriculture), and 16VAC25-60-150 (Public Sector Maritime), Manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment (can be used to apply to operation and maintenance of air handling systems in accordance with manufacturer's instructions)

#### General Duty Clause

In addition, Va. Code §40.1-51.1.A, provides that:

A. It shall be the duty of every employer to furnish to each of his employees safe employment and a place of employment that is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees and to comply with all applicable occupational safety and health rules and regulations promulgated under this title.

Otherwise known as the “general duty clause” (the Virginia equivalent to §5(a)(1)) of the OSH Act of 1970), Va. Code §40.1-51.1.A can be used to address “serious” recognized hazards to which employees of the cited employer are exposed through reference to such things as national consensus standards, manufacturer’s requirements, requirements of the Centers for Disease Control (CDC), or an employer’s safety and health rules.

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To the extent that the general duty clause could be used by the Department to address COVID-19 workplace hazards to the same extent as and in the same manner as the standard were the standard not in effect, the Department does not consider any of the costs associated with such use of the clause to be new costs associated with adoption of the standard.

Potential Cost Centers for Localities on a Per Hour or Per Item Basis by Standard Section

16VAC25-220-40.B

Some requirements overlap with existing regulations and executive orders. Section B is related to exposure assessment, notification requirements, and employee access to exposure and medical records. The current regulations by the federal Occupation Safety and Health Administration (OSHA) have required employers in general industry (excluding construction, agriculture, and maritime industries) to assess workplace hazards. Thus, Section B will not incur additional costs for Virginia businesses except for businesses in construction, agriculture, and maritime industries. For businesses in those three industries, it is estimated that risk assessment, discussion with sub-contractors, notifying employees, and having a system to report positive COVID-19 cases may take approximately four to five hours of staff time to perform.

16VAC25-220-40.C

Section C is related to the return-to-work policies all businesses need to have regarding infected employees, or those suspected to be infected by the SARS-CoV-2 virus. The key component of Section C is that those infected or suspected to be infected are not allowed to return to work. While those stipulations may cause businesses to lose potential revenues, those requirements are already in effect under Virginia Department of Health requirements for isolation of infected employees and quarantine of people who were in close contact with an infected person. The only cost for a business is to develop policies and procedures related to employees. It is estimated that approximately seven to ten hours may be needed to develop such policies. The Virginia Department of Health provides guidelines for this, which could reduce the time needed to develop this plan.

16VAC25-220-40.F

Section F is associated with multiple employees occupying a vehicle for work purposes. Businesses are required to develop a procedure when maintaining social distance is not feasible while traveling for work, and need to provide face coverings for employees. It is estimated that approximately one to two staff hours may be needed to develop such policies. The face covering requirement results in no incremental cost for businesses, as similar stipulations have been in effect due to Executive Order 72; while some restrictions were also in place under previous executive orders, including Amended Executive Order 63.

16VAC25-220-40.J

Section J is related to the use of face shields when the use of face coverings would be “contrary to the employee's health or safety because of a medical condition.” The current

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OSHA regulation 1910.132 has required employers in general industry (excluding construction, agriculture, and maritime industries) to provide personal protective equipment (PPE) for their employees. Thus, Section J stipulations will not incur additional costs for businesses except for businesses in construction, agriculture, and maritime industries. For businesses in those three industries, face shields can be acquired for a price ranging from \$1.00 to \$7.00 per piece. The cost of face shields is lower if purchased directly from overseas producers, but additional shipping costs will apply, which could be approximately half of the unit price.

#### 16VAC25-220-50.B.5

Subsection B.5 regulates postmortem activities, “employers shall use autopsy suites or other similar isolation facilities when performing aerosol-generating procedures on the bodies of persons known or suspected to be infected with the SARS-CoV-2 virus at the time of their death.” For businesses involved in postmortem activities without such a facility, the cost of construction for a new unit can be substantial in the range of tens of thousand dollars. Rental is an option during the pandemic. It is estimated that rental rate of a cold storage facility with fan-filter unit, based on CDC recommendations, may range from \$2,000 to \$3,000 a month.

#### 16VAC25-220-50.B.7

Subsection B.7 states that “to the extent feasible, employers shall install physical barriers, (e.g., clear plastic sneeze guards, etc.), where such barriers will aid in mitigating the spread of SARS-CoV-2 and COVID-19 virus transmission.” The cost of a physical barrier ranges from \$50 to \$300, depending on the size of such barriers. The cost of physical barriers is lower if purchased directly from overseas producers, but substantial additional shipping costs will apply. In addition, this requirement is optional for businesses and may not result in incremental costs if other mitigation strategies are implemented.

#### 16VAC25-220-50.C.1

Subsection C.1 requires pre-screening or surveying of employees before the commencement of each work shift. Affected businesses will develop a certain screening method and devote staff hours to perform the screening. Guidelines from the Virginia Department of Health for screening include temperature checks and asking several screening questions. It is estimated that the cost of a digital non-contact thermometer ranges from \$20 to \$80. The cost is lower if purchased directly from overseas producers, but additional shipping costs will apply. However, please note that although it is a generally accepted practice, the standard does not specifically require that employers check the temperatures of employees. Businesses need to have dedicated staff to perform screening. It is estimated that screening of each employee may take two to five minutes.

#### 16VAC25-220-50.C.4

Subsection C.4 requires employers to post signs “requesting patients and family members to immediately report signs and/or symptoms of respiratory illness on arrival at the healthcare

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facility and use disposable face coverings.” The cost of plastic signs ranges from \$6.10 to \$9.40, for workplace uses, depending on the size of signs.

#### 16VAC25-220-50.C.5

Subsection C.5 requires employers to “offer enhanced medical monitoring of employees during COVID-19 outbreaks.” This section does not provide details regarding what constitutes the enhanced medical monitoring. It is assumed that the enhanced medical monitoring may involve checking temperatures and other vital signs of employees such as blood oxygen levels and asking various screening questions. The overall costs involve the purchasing of medical devices as well as assigning employees to perform monitoring. It is estimated that the cost of a digital non-contact thermometers ranges from \$20 to \$80, while cost of blood oxygen monitors range from \$20 to \$50 per unit. It is assumed that since monitoring is an ongoing process, dedicated employees are needed for businesses with a larger number of workers, such as hospitals. A study done by Vanderbilt University Medical Center shows that one full-time monitoring worker is needed for 800 employees.

#### 16VAC25-220-50.C.8

Subsection C.8 requires that “employers shall provide face coverings to non-employees suspected to be infected with SARS-CoV-2 virus to contain respiratory secretions until the non-employees are able to leave the site.” The cost of face coverings, such as a standard disposable face covering, is about \$0.10 per piece, when purchased in bulk.

#### 16VAC25-220-60.B.2

Subsection B.2 states that where feasible, “employers shall install physical barriers, (e.g., clear plastic sneeze guards, etc.), where such barriers will aid in mitigating the spread of SARS-CoV-2 and COVID-19 virus transmission.” The cost of a physical barrier ranges from \$50 to \$300, depending on the size of such barriers. The cost of physical barriers is lower if purchased directly from overseas producers, but additional shipping costs will apply. In addition, this requirement is optional for businesses and may not result in incremental costs if other mitigation strategies are implemented.

#### 16VAC25-220-60.C

Section C concerns administrative and work practice control of employers with medium exposure risk. Subsection C.1.a requires pre-screening or surveying of employees before the commencement of each work shift. Affected businesses will develop certain screening methods and devote staff hours to perform the screening. Guidelines from Virginia Department of Health for screening includes temperature checks and asking several screening questions. It is estimated that the cost of digital non-contact thermometer ranges from \$20 to \$80. The cost is lower if purchased directly from overseas producers, but additional shipping costs will apply. However, please note that although it is a generally accepted practice, the standard does not specifically require that employers check the temperatures of employees. Business needs to have dedicated staff to perform screenings. It is estimated that screening of each employee may take two to five minutes.

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Subsection C.1.b requires that “employers shall provide face coverings to non-employees suspected to be infected with SARS-CoV-2 virus to contain respiratory secretions until the non-employees are able to leave the site.” The cost of face coverings, such as standard disposable face coverings, is about \$0.10 piece, when purchased in bulk.

#### 16VAC25-220-60.D

Section D is related to the personal protection equipment (PPE) in the workplace. It requires employers to assess hazardous risks, complete a written certification, and implement respiratory protection programs. Those requirements are similar to those in 16VAC25-220-40, Section B. The current regulations by Occupational Safety and Health Administration (OSHA) have required employers in general industry (excluding construction, agriculture, and maritime industries) to assess workplace hazards. For businesses in those three industries, it is estimated that risk assessment, discussion with subcontractors, notifying employees, and having a system to report positive COVID-19 cases may take approximately four to five staff hours.

#### 16VAC25-220-70

16VAC25-220-70 is related to the development of a written Infectious Disease Preparedness and Response Plan. It only applies to very high and high-risk employers, as well as medium-risk employers with 11 or more employees. It is estimated that risk assessment and implementation of respiratory protection programs may take approximately 10 to 20 hours of staff time to develop. To mitigate such costs to businesses, Virginia Occupational Safety and Health Administration has provided a free online, editable WORD version of an infectious disease preparedness and response plan that can be used by employers to satisfy the requirements of 16VAC25-220-70. This template can reduce the costs for businesses significantly.

#### 16VAC25-220-80

16VAC25-220-80 is related to providing employees with training on the hazards and characteristics of the SARS-CoV-2 and COVID-19 disease. The training requirement only applies to employers with employees exposed to very high, high, and medium exposure risk. For employers with lower exposure risk, they need to provide information sheets to employees exposed to such hazards.

Typically, developing a training material may take about 40 hours of staff time for training lasting one hour. Delivering the training and maintaining training certifications will also take some staff hours in human resources or management. To mitigate such costs to businesses, VOSH has provided the free online training materials that satisfy training materials requirements of 16VAC25-220-80. In addition, VOSH has provided a free online training certification form for employers to use. As a result, employers may not need to develop new training materials, and all the business costs are related to training delivery to each employee (about an hour) and staff time to maintain the certifications.

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For businesses categorized as having lower exposure risk, preparing information sheets for employees may take a few hours. VOSH has provided a free online two-page document that satisfies the requirements. As a result, the cost for lower-risk businesses is minimal.

#### DOLI RESOURCES AVAILABLE TO LOCAL GOVERNMENT EMPLOYERS

The Department strongly encourages Virginia's local government employers to take advantage of free and confidential occupational safety and health onsite and virtual consultation and training services to address COVID-19 compliance issues. More information about the VOSH Consultation Services can be found at:

<https://www.doli.virginia.gov/vosh-programs/consultation/>

In addition, free Outreach, Training, and Educational materials to assure compliance with COVID-19 requirements can be found at: <https://www.doli.virginia.gov/covid-19-outreach-education-and-training/>

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ATTACHMENT K: Summary of Final Amendments to the Virginia Standard Adopted by the Virginia Safety and Health Codes Board on August 26, 2021

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## SUMMARY OF FINAL AMENDMENTS

The primary purpose of DOLI's recommended revisions to the Board's Proposed Amendments to the Virginia Standard is to address the Governor's proposed amendment to 16VAC25-220-10.E and the CDC's updated guidance for fully vaccinated people issued on July 27, 2021<sup>567</sup> (requirement in certain situations for fully vaccinated employees to wear face coverings in areas of substantial or high transmission).

Please note there were a few other relatively minor changes and some non-substantive error corrections included as well.

In reference to the recommended revisions document,<sup>568</sup> the Governor's amendment is located on page 5. The other revisions can be found on pages 9-10, 24-30, 32, 36-39, 43, and 46.

### 10 Purpose, scope, and applicability.

The purpose of the proposed amendments is to change the focus of the Virginia Standard from the very high/high/medium/lower risk exposure level approach to one that focuses on mitigation strategies directed at protecting employees who are unvaccinated, not fully vaccinated or are otherwise at risk from the grave danger presented by the SARS-C-oV-2 virus (and its variants) and the COVID-19 disease. In doing so the Department and the Virginia Department of Health (VDH) reviewed and identified requirements from:

- OSHA's "Protecting Workers: Guidance on Mitigating and Preventing the Spread of COVID-19 in the Workplace," and
- OSHA's COVID-19 ETS (requirements of general application, not dependent on or specific to the healthcare industry).
- 16VAC25-220-10.B is amended as follows:
  1. Should the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to settings where any employee provides healthcare services or healthcare support services, be adopted by the Virginia Safety and Health Codes Board and take effect, application of Virginia's 16VAC-25-220, except for 16VAC-25-220-40 B.7.d and e, and 16VAC25-220-90, to such covered employers and employees subject to the standard shall be suspended while the federal COVID-19 Emergency Temporary Standard remains in effect.
  2. Should the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to settings where any employee provides healthcare services or healthcare support services, be adopted by the Virginia Safety and Health Codes Board but later be stayed or invalidated by a state or federal court, the provisions of Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, including 16VAC25-220-50, shall

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<sup>567</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

<sup>568</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/08/Revisions-to-Proposed-Amendments-to-the-FPS-for-COVID-19-16VAC25-220-Adopted-06.29.2021.pdf>

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immediately apply to such employers and employees in its place with no further action of the Board required.

3. Should the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to all settings where any employee provides healthcare services or healthcare support services, be adopted by the Virginia Safety and Health Codes Board but later be stayed by federal OSHA, or otherwise revoked, repealed, declared unenforceable, or permitted to expire, the provisions of Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, including 16VAC25-220-50, shall immediately apply to such employers and employees in its place with no further action of the Board required. In addition, the Virginia Safety and Health Codes Board shall within 30 days notice a regular, special, or emergency meeting/conduct a regular, special, or emergency meeting to determine whether there is a continued need for Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, or whether it should be revoked.

- 16VAC25-220-10.E is amended as follows: [Governor's amendment]

[LANGUAGE HIGHLIGHTED IN BLUE ADDED BY THE ADMINISTRATION ON AUGUST 25, 2021]

E. To the extent that an employer actually complies with a recommendation contained in current CDC guidelines, whether mandatory or non-mandatory, to mitigate SARS-CoV-2 virus and COVID-19 disease related hazards or job tasks addressed by this standard, ~~and provided that the CDC recommendation provides equivalent or greater protection than provided by a provision of this standard,~~ the employer's actions shall be considered in compliance with the related provisions of this standard. An employer's actual compliance with a recommendation contained in current CDC guidelines, whether mandatory or non-mandatory, to mitigate SARS-CoV-2 and COVID-19 related hazards or job tasks addressed by a provision of this standard shall be considered evidence of good faith in any enforcement proceeding related to this standard. The Commissioner of Labor and Industry shall consult with the State Health Commissioner for advice and technical aid before making a determination related to compliance with current CDC guidelines.

NOTE 1: Description of how DOLI and VDH apply 16VAC25-220-10.E.  
16VAC25-220-10.E currently provides:

E. To the extent that an employer actually complies with a recommendation contained in CDC guidelines, whether mandatory or non-mandatory, to mitigate SARS-CoV-2 virus and COVID19 disease related hazards or job tasks addressed by this standard, and provided that the CDC recommendation provides equivalent or greater protection than provided by a provision of this standard, the employer's actions shall be considered in compliance with this standard. An employer's actual compliance with a recommendation contained in CDC guidelines, whether mandatory or non-mandatory, to mitigate SARS-CoV-2 and

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COVID-19 related hazards or job tasks addressed by a provision of this standard shall be considered evidence of good faith in any enforcement proceeding related to this standard. **The Commissioner of Labor and Industry shall consult with the State Health Commissioner for advice and technical aid before making a determination related to compliance with CDC guidelines.** (Emphasis added).

The intent of 10.E is to give employers the option to either comply with the requirements of the FPS or demonstrate as an alternative that they have complied with recommendations in a CDC publication addressing hazards, issues, requirements, etc., that are also addressed in a specific provision of the FPS.

In order for an employer to take advantage of 10.E, it has to demonstrate that it is complying with language in CDC publications that could be considered both “mandatory” (e.g., “shall”, “will”, etc.) and “non-mandatory” (“it is recommended that”, “should”, “may”, “encouraged”, etc.). In other words, an employer would have to comply with a CDC “recommended” practice even if the CDC publication doesn’t “require” it.

The Department’s interpretation of 10.E and language in CDC publications will otherwise follow normal rules of regulatory/statutory construction. For instance, if the CDC publication language offers options for an employer to address a hazard, issue, etc., that is also addressed by the FPS (e.g., the employer “should” do “this”, or “that”, or “the other”), then the employer is required to implement at least one of the options in order for §10.E to apply.

An employer will not be subject to citation or penalty if they comply with the requirements of the FPS, even if a CDC publication were to include a more stringent requirement or “recommendation” than is provided for in the FPS.

The FPS does not require employers to comply with any CDC publication language that is solely directed at assuring the safety and health of the general public. The focus of the FPS is employee safety and health, and the focus of §10.E is only CDC publications’ language that addresses employee safety and health, and occupationally-related hazards, issues, mitigation efforts, etc.

Here is an example of application of 10.E to language in Section 3 of the current CDC Guidance<sup>569</sup> for Institutions of Higher Education (IHEs):

"Administrators should encourage people who are not fully vaccinated and those who might need to take extra precautions to wear a mask consistently and correctly:

Indoors. Mask use is recommended for people who are not fully vaccinated including children.

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<sup>569</sup> <https://www.cdc.gov/coronavirus/2019-ncov/community/colleges-universities/considerations.html>

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Answer: The Department considers use of the phrases "Administrators should encourage" and "Mask use is recommended" to be non-mandatory language that must be actually complied with under 10.E to be considered to provide employees equivalent protection to a provision in the FPS. This means the phrases will be read as "Administrators shall require" and "Mask use is required."

Accordingly, IHE employees who are not fully vaccinated must wear face coverings when so required under the FPS. IHE compliance with the CDC Guidance as interpreted by the Department above would provide employees equivalent protection to the FPS provisions regarding the wearing of face coverings in 16VAC25-220-40.F, -40.G, -40.H, -60.C.10, and -60.C.11.

NOTE 2: VOSH is required by the OSH Act of 1970<sup>570</sup> and OSHA regulations<sup>571</sup> to be "at least as effective as" federal OSHA; and standards and regulations adopted by VOSH must be "as stringent as" those adopted by federal OSHA in accordance with Va. Code §40.1-22(5). VOSH generally follows OSHA interpretations of federal identical standards and regulations.

## 20 Dates.

- Provides a process for gubernatorial review of proposed and final changes to the final standard prior to the standard becoming effective.
- Requirements for training would take effect 30 days after the effective date of the Virginia Standard, and the requirement to develop an infectious disease prevention and response plans would take effect 60 days after the effective date of the Virginia Standard.

## 30 Definitions.

- The definition of "Community transmission" is amended as follows:

"Community transmission," also called "community spread," means people have been infected with SARS-CoV-2 in an area, including some who are not sure how or where they became infected. The level of community transmission may be obtained from the VDH website and is assessed using, at a minimum, two metrics: new COVID-19 cases per 100,000 persons in the last 7 days and percentage of positive SARS-CoV-2 diagnostic nucleic acid amplification tests in the last 7 days. For each of these metrics, CDC classifies transmission values as low, moderate, substantial, or high. If the values for each of these two metrics differ (e.g., one indicates moderate and the other low), then the higher of the two should be used for decision-making.

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<sup>570</sup> [https://www.osha.gov/laws-regs/oshact/section\\_18](https://www.osha.gov/laws-regs/oshact/section_18)

<sup>571</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1902/1902.4>

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CDC core indicators of and thresholds for community transmission levels of SARS-CoV-2:

<b><u>Indicator Level</u></b>	<b><u>Low</u></b>	<b><u>Moderate</u></b>	<b><u>Substantial</u></b>	<b><u>High</u></b>
<u>New COVID-19 cases per 100,000 persons in the last 7 days</u>	<u>0–9.99</u>	<u>10.00–49.99</u>	<u>50.00–99.99</u>	<u>≥100.00</u>
<u>Percentage of positive SARS-CoV-2 diagnostic nucleic acid amplification tests in the last 7 days</u>	<u>&lt;5.00</u>	<u>5.00–7.99</u>	<u>8.00–9.99</u>	<u>≥10.00</u>

- New or revised definitions are provided for the following terms: "Aerosol-generating procedure," "Airborne infection isolation room" or "AIIR," "Ambulatory care," "ASTM," "Cleaning," "Community Transmission," "Confirmed COVID-19" [formerly "know to be infected with the SARS-CoV-2 virus"], "COVID-19 positive and confirmed COVID-19," "COVID-19 test," "Elastomeric respirator," "Face covering," "Face mask," "Face shield," "Fully vaccinated," "Healthcare services," "Healthcare support services," "Otherwise at risk," "Personal Protective Equipment," "Powered air-purifying respirator (PAPR)," "Respirator," "Signs of COVID-19," "Surgical mask," "Suspected COVID-19" [formerly "Suspected to be infected with SARS-CoV-2 virus"], and "Symptoms of COVID-19," and "Vaccine."
- Definitions are deleted for the following terms: "Exposure risk level [including "Very high," "High," "Medium," and "Lower"], "May be infected with SARS-CoV-2 virus," "Minimal occupational contact," "Surgical/medical procedure mask."

#### 40 Mandatory requirements for employers in all exposure risk levels.

- Changes are made throughout 16VAC25-220-40 to reflect revised requirements for employees who are fully vaccinated and for those employees who are not fully vaccinated or otherwise at risk.
- Changes are made throughout 16VAC25-220-40 to reflect revised CDC procedures for cleaning and/or disinfecting surfaces.
- 16VAC25-220-40.A is amended as follows:

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A. Employers shall have a policy in place to ensure compliance with the requirements in this section to protect employees from workplace exposure to the SARS-CoV-2 virus that causes the COVID-19 disease. Such policy shall have a method to receive anonymous complaints of violations. An employer that enforces its policy in good faith and resolves filed complaints shall be considered in compliance with this subsection

- References to exposure risk hazards of very high, high, medium and lower are removed and the focus of requirements is shifted to addressing hazards faced by employees who are not fully vaccinated or are otherwise at risk.
- Employers may rely on an employee's representation of being fully vaccinated, as defined herein, without requiring proof of vaccination; however, nothing in this standard shall be construed to preclude an employer from requiring proof that an employee is fully vaccinated.
- The requirement for employers to notify DOLI of three or more cases within a 14 day period is changed to two or more cases to be consistent with a similar requirement to report such cases to the Virginia Department of Health. Such reports can be filed online at:

<https://www.doli.virginia.gov/report-a-workplace-fatality-or-severe-injury-or-covid-19-case/>

- 16VAC25-220-40.C is amended to reflect the return to work requirements from the OSHA COVID-19 ETS:

C. Return to work. Employers shall develop and implement policies and procedures for suspected or confirmed COVID-19 employees to return to work.

1. If the employer knows an employee is COVID-19 positive, then the employer must immediately remove that employee from the worksite and keep the employee removed until they meet the return to work criteria in 16VAC25-220-40 C 3.

2. If the employer knows an employee is suspected COVID-19, then the employer must immediately remove that employee from the worksite and either:

a. Keep the employee removed until they meet the return to work criteria in 16VAC25-220-40 C 3; or

b. Keep the employee removed and provide a COVID-19 polymerase chain reaction (PCR) test at no cost to the employee.

(1) If the test results are negative, the employee may return to work immediately.

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(2) If the test results are positive, the employer must comply with 16VAC25-220-40 C 1.

(3) If the employee refuses to take the test, the employer must continue to keep the employee removed from the workplace consistent with 16VAC25-220-40 C 1. Absent undue hardship, employers must make reasonable accommodations for employees who cannot take the test for religious or disability-related medical reasons. If an employee has a known exposure to someone with COVID-19, the employee must follow any testing or quarantine guidance provided by a VDH public health professional.

3. The employer must make decisions regarding an employee's return to work after a COVID-19-related workplace removal in accordance with guidance from a licensed healthcare provider, a VDH public health professional, or CDC's "Isolation Guidance"<sup>572</sup> (hereby incorporated by reference); and CDC's "Return to Work Healthcare Guidance"<sup>573</sup> (hereby incorporated by reference).

- 16VAC25-220-40.F is amended as follows:

F. When ~~multiple employees are~~ an employee is occupying a vehicle or other form of transportation with one or more employees or other persons for work purposes, employers shall use the hierarchy of hazard controls to mitigate the hazards associated with SARS-CoV-2 and COVID-19 to prevent employee exposures in the following order (NOTE: This subsection does not apply to fully vaccinated employees in areas of low to moderate community transmission, and except as otherwise noted):

1. Eliminate the need for employees to share work vehicles or other transportation and arrange for alternative means for additional employees to travel to work sites.
2. Provide access to fresh air ventilation (e.g., windows). Do not recirculate cabin air.
3. When physical distancing cannot be maintained, establish procedures to maximize separation between employees as well as other persons during travel (e.g., setting occupancy limits, sitting in alternate seats, etc.).
4. When an employees employee who is not fully vaccinated must share a work vehicles or other transportation with one or more employees or other persons because no other alternatives are available, such employees shall be provided with and wear respiratory protection, such as an N95 filtering face piece respirator, or a face covering at the option of the employee. When an employee who is fully vaccinated must share work vehicles or other transportation with one or more employees or other persons in areas of substantial or high community transmission because no other alternatives are available, such employees shall be provided with and wear face coverings.

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<sup>572</sup> <https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/isolation.html>

<sup>573</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/return-to-work.html>

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- 16VAC25-220-40.G is amended as follows:
  - G. Employers shall provide and require employees that are not fully vaccinated, fully vaccinated employees in areas of substantial or high community transmission, and otherwise at-risk employees (because of a prior transplant or other medical condition), to wear face coverings or surgical masks while indoors, unless their work task requires a respirator or other PPE. Such employees shall wear a face covering or surgical mask that covers the nose and mouth to contain the wearer's respiratory droplets and help protect others and potentially themselves. ~~Where the nature of an employee's work or the work area does not allow the employee to observe physical distancing requirements, employers shall ensure compliance with respiratory protection and personal protective equipment standards applicable to its industry.~~ This subsection does not apply to fully vaccinated employees in areas of low to moderate community transmission, and except as otherwise noted.
    1. The following are exceptions to the requirements for face coverings, facemasks or surgical masks for employees that are not fully vaccinated and fully vaccinated employees in areas of substantial or high community transmission:

....

    - b. While an employee is eating and drinking at the workplace, provided each employee who is not fully vaccinated is at least 6 feet away from any other person, or separated from other people by a physical barrier.

Exceptions to the requirements for face coverings or surgical masks for employees that are not fully vaccinated are noted (e.g., when an employee is alone in a room; While an employee is eating and drinking at the workplace, provided each employee is at least 6 feet away from any other person, or separated from other people by a physical barrier, etc.).

Requirements related to the wearing of face shields in certain circumstances are provided.

Certain requirements related to cleaning and/or disinfecting are revised to reflect DOLI Frequently Asked Questions and updated in CDC guidance.

NOTE: HIPAA does not apply to apply to VOSH or OSHA.<sup>574</sup>

50 Requirements for healthcare services and healthcare support services.

- A Scope and Application section is added which provides:

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<sup>574</sup> <https://www.osha.gov/Publications/OSHA-factsheet-HIPPA-whistle.pdf>

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1. Should the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to settings where any employee provides healthcare services or healthcare support services, be adopted by the Virginia Safety and Health Codes Board and take effect, application of Virginia's 16VAC-25-220, except for 16VAC-25-220-40 B.7.d and e, and 16VAC25-220-90, to such covered employers and employees subject to the standard shall be suspended while the federal COVID-19 Emergency Temporary Standard remains in effect.

2. Should the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to settings where any employee provides healthcare services or healthcare support services, be adopted by the Virginia Safety and Health Codes Board but later be stayed or invalidated by a state or federal court, the provisions of Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, including 16VAC25-220-50, shall immediately apply to such employers and employees in its place with no further action of the Board required.

3. Should the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to all settings where any employee provides healthcare services or healthcare support services, be adopted by the Virginia Safety and Health Codes Board but later be stayed by federal OSHA, or otherwise revoked, repealed, declared unenforceable, or permitted to expire, the provisions of Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, including 16VAC25-220-50, shall immediately apply to such employers and employees in its place with no further action of the Board required. In addition, the Virginia Safety and Health Codes Board shall within 30 days notice a regular, special, or emergency meeting/conduct a regular, special, or emergency meeting to determine whether there is a continued need for Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, or whether it should be revoked.

- Coverage of correctional facilities, jails, detention centers, and juvenile detention centers was moved from 16VAC25-220-50 to 16VAC25-220-60, because 16VAC25-220-50 is now limited to coverage of healthcare services and healthcare support services.
- A list of activities that the section does not apply to is included (e.g., the provision of first aid by an employee who is not a licensed healthcare provider; the dispensing of prescriptions by pharmacists in retail setting; etc.)

60 Requirements for higher-risk workplaces with mixed-vaccination status employees.

- 16VAC25-220-60 is amended to mitigate the spread of COVID-19 for employees who are not fully vaccinated, and otherwise at-risk employees in workplaces (which include, but are not limited to, manufacturing, meat and poultry processing, high-volume retail and grocery, transit, seafood processing, correctional facilities, jails, detention centers, and juvenile detention centers) where there is heightened risk due to the following types of factors:

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16VAC25-220-60.A.

1. Where employees who are not fully vaccinated, employees who are fully vaccinated but work in a place of employment with substantial or high community transmission, or otherwise at-risk employees are working close to one another, for example, on production or assembly lines. Such workers may also be near one another at other times, such as when clocking in or out, during breaks, or in locker/changing rooms.
2. Where employees who are not fully vaccinated or otherwise at-risk workers often have prolonged closeness to coworkers (e.g., for 8–12 hours per shift).
3. Employees who are not fully vaccinated or otherwise at-risk employees who may be exposed to the infectious virus through respiratory droplets or aerosols in the air—for example, when employees who are not fully vaccinated or otherwise at-risk employees in a manufacturing or factory setting who have the virus cough or sneeze. It is also possible that exposure could occur from contact with contaminated surfaces or objects, such as tools, workstations, or break room tables. Shared spaces such as break rooms, locker rooms, and entrances/exits to the facility may contribute to their risk.
4. Other distinctive factors that may increase risk among these employees who are not fully vaccinated or otherwise at-risk employees include:
  - a. A common practice at some workplaces of sharing employer-provided transportation such as ride-share vans or shuttle vehicles; and
  - b. Communal housing, or living quarters onboard vessels with other unvaccinated or otherwise at-risk individuals.

16VAC25-220-60.C.7 is amended as follows:

7. In retail workplaces (or well-defined work areas within retail) where there are employees who are not fully vaccinated, fully vaccinated employees in areas of substantial or high community transmission, or otherwise at-risk employees:
  - a. Post signage ~~requesting~~ requiring face coverings for employees who are not fully vaccinated (or unknown-status) and fully vaccinated employees in areas of substantial or high community transmission; and requesting face coverings for customers and other visitors.

70 Infectious disease preparedness and response plan.

- 16VAC25-220-70 is amended to apply to employers covered by 16VAC25-220-50 and 16VAC25-220-60.
- For employers covered by 16VAC25-220-60, the plan requirements do not apply to employees who are fully vaccinated.

80 Training.

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- 16VAC25-220-80 is amended to apply to employers covered by 16VAC25-220-50 and 16VAC25-220-60.
- For employer covered by 16VAC25-220-60 employers may provide fully vaccinated employees with written information meeting the requirements of subsection 16VAC25-220-80 F in lieu of training.

NOTE: Construction employers, regardless of risk category, will be required to provide SARS-COV-2 and COVID-19 related training, and training on the Virginia Standard in accordance with the federal identical OSHA/VOSH regulation at 1926.21(b)(2), which provides:

“The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.” (Emphasis added).

90 Discrimination against an employee for exercising rights under this emergency temporary standard/emergency regulation is prohibited.

No amendments proposed.

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**ATTACHMENT L: Basis, Purpose and Impact of the Final Amendments to the Virginia Standard Adopted by the Virginia Safety and Health Codes Board August 26, 2021.**

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**Basis, Purpose and Impact of the Final Amendments to the Virginia Standard Adopted August 26, 2021.**

A. Basis.

1. Applicable Statutes.

The Safety and Health Codes Board is authorized by Title 40.1-22(5)<sup>575</sup> to:

“... adopt, alter, amend, or repeal rules and regulations to further, protect and promote the safety and health of employees in places of employment over which it has jurisdiction and to effect compliance with the federal OSH Act of 1970...as may be necessary to carry out its functions established under this title....All such rules and regulations shall be designed to protect and promote the safety and health of such employees. In making such rules and regulations to protect the occupational safety and health of employees, the Board shall adopt the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity. However, such standards shall be at least as stringent as the standards promulgated by the Federal Occupational Safety and Health Act of 1970 (P.L. 91-596). In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws. Whenever practicable, the standard promulgated shall be expressed in terms of objective criteria and of the performance desired. Such standards when applicable to products which are distributed in interstate commerce shall be the same as federal standards unless deviations are required by compelling local conditions and do not unduly burden interstate commerce.”

Va. Code §40.1-22(6a)<sup>576</sup> provides that:

....

(6a) The Board shall provide, without regard to the requirements of Chapter 40 (§ 2.2-4000 et seq.) of Title 2.2, for an emergency temporary standard to take immediate effect upon publication in a newspaper of general circulation, published in the City of Richmond, Virginia, if it determines that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and that such emergency standard is necessary to protect employees from such danger. The publication mentioned herein shall constitute notice that the Board intends to adopt such standard within a period of six months. The Board by similar publication shall prior to the expiration of six months give notice of the time and date of, and conduct a hearing on, the adoption of a permanent standard. The emergency temporary standard shall expire within

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<sup>575</sup> <https://law.lis.virginia.gov/vacode/40.1-22/>

<sup>576</sup> *Id.*

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six months or when superseded by a permanent standard, whichever occurs first, or when repealed by the Board.  
(Emphasis added).

The Department consulted with the OAG concerning the meaning and proper application of Va. Code §40.1-22(6a), and DOLI concludes:

Virginia Code § 40.1-22(6a) states that the Board shall provide — without regard to the requirements of the APA — for an emergency temporary or permanent standard if the Board determines that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards and that such standard is necessary to protect employees from such danger. Section 40.1-22(6a) creates a path to a temporary and/or permanent standard outside of the APA. This creates a separate procedure for emergency temporary and/or permanent standards — without regard to the regular processes of the APA. It is incumbent on the Board to make findings and a record sufficient to support those findings of a grave danger and the necessity of the standard to protect employees from that grave danger. (Emphasis added).

The purpose of the proposed amendments is to change the focus of the Virginia Standard from the very high/high/medium/lower risk exposure level approach to one that focuses on mitigation strategies directed at protecting employees who are unvaccinated, not fully vaccinated or are otherwise at risk from the grave danger presented by the SARS-C-oV-2 virus (and its variants) and the COVID-19 disease. In doing so the Department and the Virginia Department of Health (VDH) reviewed and pulled requirements from:

- OSHA’s “Protecting Workers: Guidance on Mitigating and Preventing the Spread of COVID-19 in the Workplace,” and
- OSHA's COVID-19 ETS of general application.

The purpose of DOLI's recommended revisions to the Board's Proposed Amendments to the Virginia Standard is to address the Governor's proposed amendment to 16VAC25-220-10.E and the CDC's updated guidance for fully vaccinated people issued on July 27, 2021 (requirement in certain situations for fully vaccinated employees to wear face coverings in areas of substantial or high transmission).

Please note there were a few other relatively minor changes and some non-substantive error corrections included as well.

## 2. Requirements More Restrictive than Federal.<sup>577</sup>

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<sup>577</sup> Identify and describe any requirement of the regulatory change which is more restrictive than applicable federal requirements. Include a specific citation for each applicable federal requirement, and a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements, or no requirements that exceed applicable federal requirements, include a specific statement to that effect. Based on Townhall Agency Background Document, From TH-02.

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On June 21, 2021, federal OSHA adopted a COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to the healthcare industry<sup>578</sup> (COVID-19 ETS) (employees engaged in healthcare services and healthcare support services), but does not have a specific regulation or standard that addresses the SARS-CoV-2 virus that causes COVID-19 for employers in non-healthcare settings.<sup>579</sup>

On June 29, 2021, the Board adopted federal OSHA's COVID-19 ETS for Virginia with an effective date of August 2, 2021.<sup>580</sup> The COVID-19 ETS will expire within six months or when repealed by the Board, whichever occurs first. During the pendency of the COVID-19 ETS, application of the Virginia Standard to healthcare services and healthcare support services is suspended and will reapply after the COVID-19 ETS is no longer in effect.

### 3. Agencies, Localities, and Other Entities Particularly Affected.<sup>581</sup>

The Department is not aware of any agency, locality or entity that is likely to bear a disproportionate material impact which would not be experienced by other agencies, localities, or entities.

### 4. Alternatives to Standard.<sup>582</sup>

See ATTACHMENT B, CURRENT LAWS AND REGULATIONS RECOGNIZED MITIGATION STRATEGIES FOR COVID-19 NOT COVERED BY VOSH REGULATIONS OR STANDARDS.

As previously referenced, on June 21, 2021, federal OSHA adopted a COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to the healthcare industry (COVID-19 ETS) but does not have a specific regulation or standard that addresses the SARS-CoV-2 virus that causes COVID-19 for employers in non-healthcare settings.

On June 29, 2021, the Board adopted federal OSHA's COVID-19 ETS for Virginia with an effective date of August 2, 2021.<sup>583</sup> The COVID-19 ETS will expire within six months or when repealed by the Board, whichever occurs first. During the pendency of the COVID-19 ETS, application of the Virginia Standard to healthcare

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<sup>578</sup> <https://www.osha.gov/sites/default/files/covid-19-healthcare-ets-reg-text.pdf>  
<https://www.govinfo.gov/content/pkg/FR-2021-06-21/pdf/2021-12428.pdf>

<sup>579</sup> <https://www.osha.gov/coronavirus/ets>

<sup>580</sup> <https://www.doli.virginia.gov/emergency-temporary-standard-interim-final-rule/>

<sup>581</sup> Identify any other state agencies, localities, or other entities particularly affected by the regulatory change.

“Particularly affected” are those that are likely to bear any identified disproportionate material impact which would not be experienced by other agencies, localities, or entities. “Locality” can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulation or regulatory change are most likely to occur. If no agency, locality, or entity is particularly affected, include a specific statement to that effect. Based on Townhall Agency Background Document, From TH-02.

<sup>582</sup> Describe any viable alternatives to the regulatory change that were considered, and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the regulatory change. Also, include discussion of less intrusive or less costly alternatives for small businesses of achieving the purpose of the regulatory change. Based on Townhall Agency Background Document, From TH-02.

<sup>583</sup> <https://www.doli.virginia.gov/emergency-temporary-standard-interim-final-rule/>

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services and healthcare support services is suspended and will reapply after the COVID-19 ETS is no longer in effect.

Certain VOSH regulations (identical to OSHA counterparts unless otherwise noted) can be used to address some SARS-CoV-2 or COVID-19 hazards (see ATTACHMENT B), but other hazards and mitigation efforts cannot be so addressed (see list below).

There are no VOSH or OSHA regulations (with the exception of the COVID-19 ETS referenced above) or standards that would require:

Physical distancing of unvaccinated or not fully vaccinated employees at least six feet where feasible (also known as Social Distancing)

Require unvaccinated, not fully vaccinated, fully vaccinated employees in areas of substantial or high community transmission, or otherwise at risk employees to wear face coverings

Disinfection of work areas where confirmed or suspected COVID-19 employees or other persons accessed or worked

Employers to develop policies and procedures for employees to report when they are confirmed COVID-19 or experiencing symptoms consistent with COVID-19

Employers to, prior to the commencement of each work shift, prescreen of employees and other persons to verify each employee or person is not COVID-19 symptomatic

Employers to prohibit known and suspected COVID-19 employees and other persons from reporting to or being allowed to remain at work or on a job site until cleared for return

Employers to develop and implement policies and procedures for known COVID-19 or suspected COVID-19 employees to return to work using either a symptom-based or test-based strategy depending on local healthcare and testing circumstances

Employers to prohibit COVID-19 positive employees from reporting to or being allowed to remain at work or on a job site until cleared for return to work

Employers to provide employees assigned to work stations and in frequent contact with other persons inside six feet with alcohol based hand sanitizers at their workstations

Employers in certain high risk industries to develop a written Infectious Disease Preparedness and Response Plan

Employee training on SARS-CoV-2 and COVID-19 hazards, with the exception

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of 1926.21(b)(2) referenced above for the Construction Industry

Va. Code §40.1-51(a), otherwise known as the “general duty clause” (the Virginia equivalent to §5(a)(1)<sup>584</sup> of the OSH Act of 1970), can be used to address some SARS-CoV-2 or COVID-19 hazards, but other hazards and mitigation efforts cannot be so addressed (see below). Va. Code §40.1-51(a) provides that:

“It shall be the duty of every employer to furnish to each of his employees safe employment and a place of employment which is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees....”

While Congress intended that the primary method of compliance and enforcement under the OSH Act of 1970 would be through the adoption of occupational safety and health standards<sup>585</sup>, it also provided the general duty clause as an enforcement tool that could be used in the absence of an OSHA (or VOSH) regulation.

As is evident from the wording of the general duty statute, it does not directly address the issue of SARS-CoV-2 or COVID-19 related hazards. While preferable to no enforcement tool at all, the general duty clause does not provide either the regulated community, employees, or the VOSH Program with substantive and consistent requirements on how to reduce or eliminate SARS-CoV-2 or COVID-19 related hazards.

Federal case law has established that the general duty clause can only be used to address “serious” recognized hazards to which employees of the cited employer are exposed through reference to such things as national consensus standards, manufacturer’s requirements, requirements of the Centers for Disease Control (CDC), or an employer’s safety and health rules. Other than serious hazards cannot be addressed by the general duty clause.

One limitation on the use of the general duty clause can result in unfortunate outcomes worksites with multiple employers. For instance, a general duty clause violation can only be issued to an employer whose own employees were exposed to the alleged hazard.<sup>586</sup> In the context of a COVID-19 situation, consider a subcontractor (“subcontractor one”) who sends one employee to a multi-employer worksite who is COVID-19 positive and knowingly allows that employee to work around disease free employees of another subcontractor (“subcontractor two”), which results in the transmission of the disease to one or more of the second contractors’ employees.

In such a situation, because no uninfected employees of subcontractor one were exposed to the disease at the worksite, the contractor who created the hazard could

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<sup>584</sup> [https://www.osha.gov/laws-regs/oshact/section\\_5](https://www.osha.gov/laws-regs/oshact/section_5), 29 U.S.C. § 654(a)(1).

<sup>585</sup> *The Law of Occupational Safety and Health*, Nothstein, 1981, page 259.

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[https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\181\GDoc\\_DOLI\\_5354\\_v6.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\181\GDoc_DOLI_5354_v6.pdf), VOSH Field Operations Manual (FOM), Chapter 10, page 18)

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not be issued a general duty violation or accompanying monetary penalty.

Finally, in the context of the COVID-19 pandemic, the primary problem with the use of the general duty clause is the inability to use it to enforce any national consensus standard, manufacturer's requirements, CDC recommendations, or employer safety and health rules which use "should," "may," "it is recommended," and similar non-mandatory language.<sup>587</sup>

#### 5. Regulatory Flexibility Analysis.<sup>588</sup>

The standard contains alternative regulatory methods in the form of options for employers to reduce the burden of compliance:

- At its core the Standard is a risk management system to prevent or limit the spread in the workplace of the SARS-CoV-2 virus that causes COVID-19. It is designed to provide basic protections for all employees and employers within the jurisdiction of the VOSH program.
- It provides certain mandatory requirements for all employers and specific additional requirements in 16VAC25-220-50 for healthcare services or healthcare support services, and 16VAC25-220-60 for higher-risk workplaces with mixed-vaccination status employees centered around mitigation of hazards.

Proposed amendments are recommended to reduce the compliance burden for employers whose employees are fully vaccinated.

- On June 29, 2021, the Board adopted federal OSHA's COVID-19 ETS for Virginia with an effective date of August 2, 2021. The COVID-19 ETS will expire within six months or when repealed by the Board, whichever occurs first. During the pendency of the COVID-19 ETS, application of the Virginia Standard to healthcare services and healthcare support services is suspended and will reapply after the COVID-19 ETS is no longer in effect.
- DOLI's recommended revisions to the Board's Proposed Amendments to the

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<sup>587</sup> Courts and the [Occupational Safety and Health Review] Commission have held that OSHA must define an alleged hazard in such a way as to give the employer fair notice of its obligations under the OSH Act. In *Ruhlin Co.* [*Ruhlin Co.*, 21 OSH Cases 1779], the Commission held that the employer 'lacked fair notice that it could have an obligation under section 5(a)(1) to require its employees to wear high visibility vests.' The Commission found that a May 2004 interpretive letter by OSHA refers to a provision of the Federal Highway Administration manual which contained optional, not mandatory language."

<sup>588</sup> Describe the agency's analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) establishing less stringent compliance or reporting requirements; 2) establishing less stringent schedules or deadlines for compliance or reporting requirements; 3) consolidation or simplification of compliance or reporting requirements; 4) establishing performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the regulatory change. Based on Townhall Agency Background Document, From TH-02.

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Virginia Standard address the Governor's proposed amendment to 16VAC25-220-10.E and the CDC's updated guidance for fully vaccinated people issued on July 27, 2021 (requirement in certain situations for fully vaccinated employees to wear face coverings in areas of substantial or high transmission).

- 16VAC25-220-60 is amended to apply to higher-risk workplaces (which include manufacturing, meat and poultry processing, high-volume retail and grocery, seafood processing, transit, correctional facilities, jails, detention centers, and juvenile detention centers) with mixed-vaccination status employees (employees who are not fully vaccinated and other at risk employees).
- Employers covered by 16VAC25-220-50 or -60 would be provided 30 days to train employees and 60 days to develop and implement an Infectious disease preparedness and response plan. All other employers are exempted from training and plan requirements, with the exception that employees must be provided information about COVID-19 hazards (an information document satisfying this requirement is provided free of charge by the Department). Small employers covered by 16VAC25-220-50 or -60 with 10 or fewer employees would be exempted from the Infectious disease preparedness and response plan requirements.
- The standard provides flexibility to businesses through 16VAC25-220-10.E which provides that: “To the extent that an employer actually complies with a recommendation contained in CDC guidelines, whether mandatory or non-mandatory, to mitigate SARS-CoV-2 virus and COVID-19 disease related hazards or job tasks addressed by a provision of this standard, the employer's actions shall be considered in compliance with this standard. An employer's actual compliance with a recommendation contained in CDC guidelines, whether mandatory or non-mandatory, to mitigate SARS-COV-2 and COVID19 related hazards or job tasks addressed by this standard shall be considered evidence of good faith in any enforcement proceeding related to this standard. The Commissioner of Labor and Industry shall consult with the State Health Commissioner for advice and technical aid before making a determination related to compliance with CDC guidelines.”

B. Purpose.

The purpose of the proposed amendments is to take into account the latest recommendations of the CDC to mitigate the spread of the SARS-CoV-2 virus for unvaccinated, not fully vaccinated and otherwise at risk employees, and reduce the compliance burden for employers whose employees are fully vaccinated. The recommended changes support the overall purpose of the standard to reduce/eliminate employee injuries, illnesses, and fatalities from SARS-CoV-2 and COVID-19 related hazards and job tasks in all industries under the jurisdiction of the Virginia State Plan.

The purpose of DOLI's recommended revisions to the Board's Proposed Amendments to the Virginia Standard is to address the Governor's proposed amendment to

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16VAC25-220-10.E and the CDC's updated guidance for fully vaccinated people issued on July 27, 2021 (requirement in certain situations for fully vaccinated employees to wear face coverings in areas of substantial or high transmission).

NOTE: On June 29, 2021, the Board adopted federal OSHA's COVID-19 ETS for Virginia with an effective date of August 2, 2021. The COVID-19 ETS will expire within six months or when repealed by the Board, whichever occurs first. During the pendency of the COVID-19 ETS, application of the Virginia Standard to healthcare services and healthcare support services is suspended and will reapply after the COVID-19 ETS is no longer in effect.

C. Background.

1. SARS-CoV-2 Virus That Causes the COVID-19 Disease.

SARS-CoV-2 is a betacoronavirus, like MERS-CoV (Middle East Respiratory Syndrome Coronavirus) and SARS-CoV (Severe Acute Respiratory Syndrome Coronavirus). Coronaviruses are named for crown-like spikes on their surface. SARS-CoV-2 causes the Coronavirus Disease 2019 (COVID-19).

SARS-CoV-2 is easily transmitted through the air from person-to-person through respiratory droplets, aerosols, and other forms of airborne transmission, and the virus can settle and deposit on environmental surfaces where it can remain viable for days.

"Signs of COVID-19" are abnormalities that can be objectively observed, and may include fever, trouble breathing or shortness of breath, cough, vomiting, new confusion, bluish lips or face, etc.

"Symptoms of COVID-19" are abnormalities that are subjective to the person and not observable to others, and may include chills, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, nausea, congestion or runny nose, diarrhea, etc.

**COVID-19 Medical Complications.**

"Although most people with COVID-19 have mild to moderate symptoms, the disease can cause severe medical complications and lead to death in some people. Older adults or people with existing chronic medical conditions are at greater risk of becoming seriously ill with COVID-19."<sup>589</sup>:

In one study, younger adults 20–44 account for 20% of hospitalizations, 12% of ICU admissions."<sup>590</sup>

"Complications can include:

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<sup>589</sup> <https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963>

<sup>590</sup> <https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e2.htm>

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- Pneumonia and trouble breathing
- Organ failure in several organs
- Heart problems
- A severe lung condition that causes a low amount of oxygen to go through your bloodstream to your organs (acute respiratory distress syndrome)
- Blood clots
- Acute kidney injury
- Additional viral and bacterial infections”<sup>591</sup>

### “Illness Severity [CDC]

The largest cohort of >44,000 persons with COVID-19 from China showed that illness severity can range from mild to critical:

- Mild to moderate (mild symptoms up to mild pneumonia): 81%
- Severe (dyspnea, hypoxia, or >50% lung involvement on imaging): 14%
- Critical (respiratory failure, shock, or multi-organ system dysfunction): 5%

In this study, all deaths occurred among patients with critical illness and the overall case fatality rate was 2.3%. The case fatality rate among patients with critical disease was 49%. Among children in China, illness severity was lower with 94% having asymptomatic, mild or moderate disease, 5% having severe disease, and <1% having critical disease.

In a study of U.S. COVID-19 cases with known disposition, the proportion of persons who were hospitalized was 14%. The proportion of persons with COVID-19 admitted to the intensive care unit (ICU) was 2%, and overall 5% of patients died.<sup>592</sup>

### Long-term Effects of COVID-19

“People with moderate-to-severe or uncontrolled asthma are more likely to be hospitalized from COVID-19.”<sup>593</sup>

‘Patients with acute respiratory distress syndrome (ARDS), seen often in severe COVID-19 illness, sometimes develop permanent lung damage or fibrosis as well,’ Dr. Andrew Martin, chair, pulmonary medicine at Deborah Heart and Lung Center in Browns Mills, New Jersey, told Healthline.

....

‘Viral respiratory infections can lead to anything from a simple cough that lasts for a few weeks or months to full-blown chronic wheezing or asthma,’ Martin said. He added that when a respiratory infection is severe, recovery can be prolonged with a

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[https://www.hopkinsguides.com/hopkins/view/Johns\\_Hopkins\\_ABX\\_Guide/540747/all/Coronavirus\\_COVID\\_19\\_SA\\_RS\\_CoV\\_2](https://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540747/all/Coronavirus_COVID_19_SA_RS_CoV_2)

<sup>592</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

<sup>593</sup> <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/asthma.html>

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general increase in shortness of breath — even after lung function returns to normal.

Also, patients with COVID-19 who developed ARDS, a potentially life threatening lung injury that could require treatment in an intensive care unit (ICU), have a greater risk of long-term health issues.

....

Those most at risk are ‘people 65 years and older, people who live in a nursing home or long-term care facility, people with chronic lung, heart, kidney and liver disease.’ said Dr. Gary Weinstein, pulmonologist/critical care medicine specialist at Texas Health Presbyterian Hospital Dallas (Texas Health Dallas). Additionally, he said others who could be at risk are those with compromised immune systems and people with morbid obesity or diabetes.

Weinstein added that there are particular health issues that patients with severe COVID-19 illness may face. He said some patients will need to recover from pneumonia or acute ARDS and that many may require oxygen. Additionally, depending on the duration of the illness, many will be severely debilitated, deconditioned, weak, and could require aggressive rehabilitation.

‘Finally, when patients have lung failure, they frequently have failure or dysfunction of their other organs, such as the kidney, heart, and brain,’ emphasized Weinstein. However, ‘Patients with mild symptoms will recover faster and be less likely to need oxygen but will likely have weakness and fatigue.’<sup>594</sup> (Emphasis added).

#### **A CDC report on “Characteristics and Clinical Outcomes of Adult Patients Hospitalized with COVID-19 — Georgia, March 2020”:<sup>595</sup>**

“In a cohort of 305 hospitalized adults with COVID-19 in Georgia (primarily metropolitan Atlanta)...One in four hospitalized patients had no recognized risk factors for severe COVID-19.

....

Although a larger proportion of older patients had worse outcomes (IMV [invasive mechanical ventilation] or death), a considerable proportion of patients aged 18–64 years who lacked high-risk conditions received ICU-level care and died (23% and 5%, respectively). Estimated case fatality among patients who received ICU care was high (37%–49%) but comparable with that observed in a smaller case series of COVID-19 patients in the state of Washington. Among hospitalized patients, 26% lacked high-risk factors for severe COVID-19, and few patients (7%) lived in institutional settings before admission, suggesting that SARS-CoV-2 infection can cause significant morbidity in relatively young persons without severe underlying medical conditions. Community mitigation recommendations (e.g., social distancing) should be widely instituted, not only to protect older adults and those with underlying medical conditions, but also to prevent the spread of SARS-CoV-2 among persons in the general population who might not consider themselves

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<sup>594</sup> <https://www.healthline.com/health-news/what-we-know-about-the-long-term-effects-of-covid-19#COVID-19-might-affect-the-brain-stem>

<sup>595</sup> <https://www.cdc.gov/mmwr/volumes/69/wr/mm6918e1.htm>

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to be at risk for severe illness.

**Report on “What factors did people who died with COVID-19 have in common?”<sup>596</sup>**

“A team of investigators hailing from eight institutions in China and the United States — including the Chinese People’s Liberation Army General Hospital in Beijing, and the University of California – Davis — recently looked at the data of 85 patients who died of multiple organ failure after having received care for severe COVID-19.

....

‘The greatest number of deaths in our cohort were in males over 50 with noncommunicable chronic diseases,’ the investigators note.

‘We hope that this study conveys the seriousness of COVID-19 and emphasizes the risk groups of males over 50 with chronic comorbid conditions, including hypertension (high blood pressure), coronary heart disease, and diabetes,’ they have commented.

The team also notes that, among the 85 patients whose records they analyzed, the most common COVID-19 symptoms were fever, shortness of breath, and fatigue.

....

Among the complications that the patients experienced while hospitalized with COVID-19, some of the most common were respiratory failure, shock, acute respiratory distress syndrome, and cardiac arrhythmia, or irregular heartbeat.

....

‘Perhaps our most significant observation is that while respiratory symptoms may not develop until a week after presentation, once they do there can be a rapid decline, as indicated by the short duration between time of admission and death (6.35 days on average) in our study,’ they write.”

**Report on “Irish Study: Blood Clotting a Significant Cause of Death in Patients With COVID-19.”**

“A study led by clinician scientists at RCSI University of Medicine and Health Sciences has found that Irish patients admitted to hospital with severe COVID-19 infection are experiencing abnormal blood clotting that contributes to death in some patients.

The study, carried out by the Irish Centre for Vascular Biology, RCSI and St James' Hospital, Dublin, is published in current edition of the British Journal of Hematology.

The authors found that abnormal blood clotting occurs in Irish patients with

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<sup>596</sup> <https://www.medicalnewstoday.com/articles/what-factors-did-people-who-died-with-covid-19-have-in-common#The-majority-were-older-males>

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severe COVID-19 infection, causing micro-clots within the lungs. They also found that Irish patients with higher levels of blood clotting activity had a significantly worse prognosis and were more likely to require ICU admission.

‘Our novel findings demonstrate that COVID-19 is associated with a unique type of blood clotting disorder that is primarily focused within the lungs and which undoubtedly contributes to the high levels of mortality being seen in patients with COVID-19,’ said Professor James O'Donnell, Director of the Irish Centre for Vascular Biology, RCSI and Consultant Hematologist in the National Coagulation Centre in St James's Hospital, Dublin.

‘In addition to pneumonia affecting the small air sacs within the lungs, we are also finding hundreds of small blood clots throughout the lungs. This scenario is not seen with other types of lung infection, and explains why blood oxygen levels fall dramatically in severe COVID-19 infection.’<sup>597</sup>

## 2. National and State COVID-19 Case, Death and Hospitalization Statistics.

### Centers for Disease Control (CDC): U.S. and Virginia Statistics

**As of June 21, 2020**, in the U. S. there were 1,248,029 total cases (32,411 new cases compared to June 20, 2020) of COVID-19 and 119,615 deaths (560 new deaths compared to June 20, 2020).<sup>598</sup> Confirmed COVID-19 cases in Virginia totaled 57,994 with 1,611 deaths.

**As of December 26, 2020**, in the U. S. there were 18,730,806 total cases (146,512 new cases compared to December 25, 2020) and 329,592 deaths (1,692 new deaths compared to December 25, 2020). Confirmed COVID-19 cases in Virginia totaled 333,576 with 4,854 deaths.<sup>599</sup>

**As of June 11, 2021**, in the U. S. there were 33,246,578 total cases (current 7-day average of 13,997 cases), 2,243,371 hospitalizations (current 7-day average of 2,239), and 596,059 total deaths (current 7-day moving average of 347 deaths).<sup>600</sup>

**As of June 14, 2021**, cases in Virginia totaled 677,812<sup>601</sup> (7-day average 140 cases), 30,182 hospitalizations (7-day average of 10 hospitalizations),<sup>602</sup> with 11,318 deaths (7-day average of 3 deaths).<sup>603</sup>

**As of August 11, 2021**, in the U. S. there were 36,268,057 total cases (current 7-day average of 114,190 cases), 2,507,105 hospitalizations (current 7-day average of

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<sup>597</sup> <https://www.invasivecardiology.com/news/irish-study-blood-clotting-significant-cause-death-patients-covid-19>

<sup>598</sup> <https://www.doh.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

<sup>599</sup> *Id.*

<sup>600</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>601</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>602</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>603</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

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10,072), and 617,096 total deaths (current 7-day moving average of 407 deaths).<sup>604</sup>

**As of August 10, 2021**, cases in Virginia totaled 725,971<sup>605</sup> (7-day average 1,700 cases), 32,399 hospitalizations (7-day average of 37 hospitalizations),<sup>606</sup> with 11,625 deaths (7-day average of 5 deaths).<sup>607</sup>

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<sup>604</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>605</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>606</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>607</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

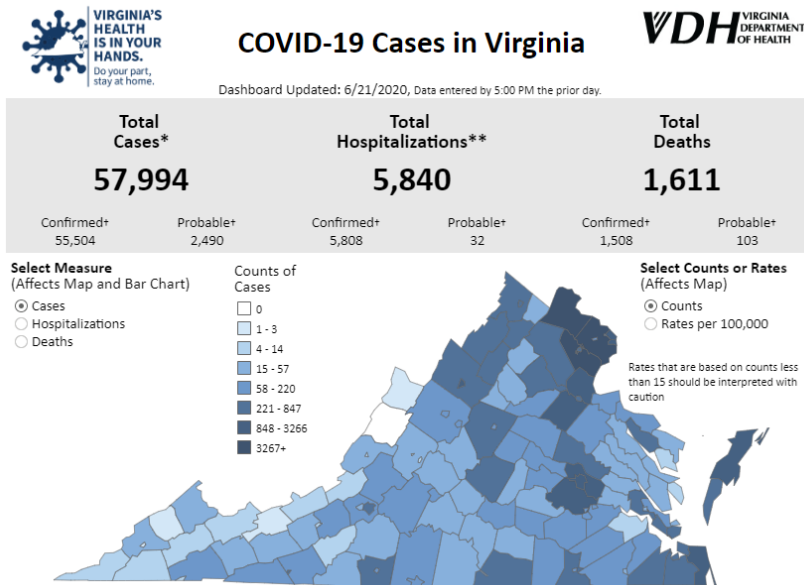
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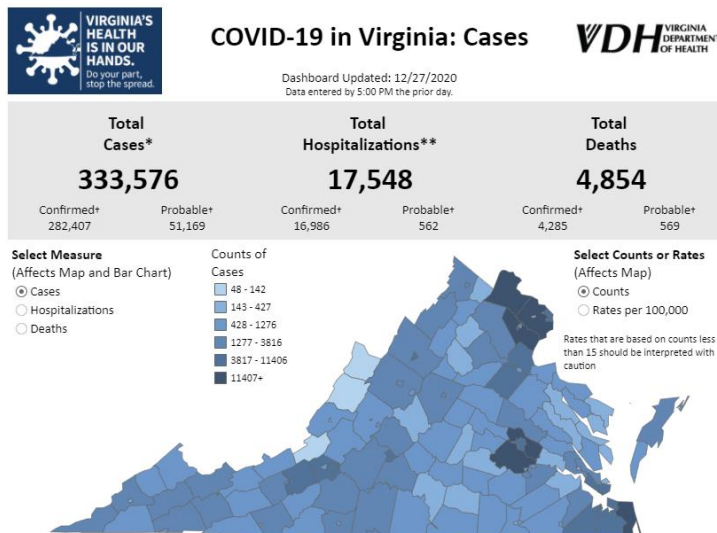
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## National and Virginia Charts

### Virginia Cases by County as of June 21, 2020.<sup>608</sup>



### Virginia Cases by County as of December 26, 2020.<sup>609</sup>



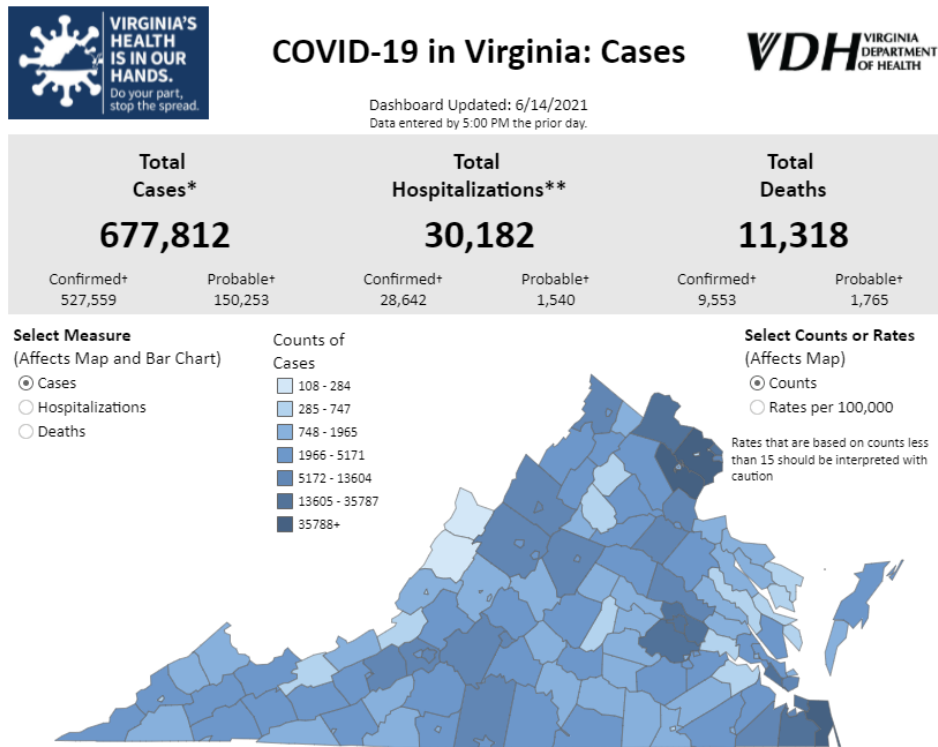
<sup>608</sup> <https://www.vdh.virginia.gov/coronavirus/>

<sup>609</sup> *Id.*

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Virginia Cases by County as of June 14, 2021.<sup>610</sup>



Virginia Cases by County as of August 17, 2021.<sup>611</sup>

<sup>610</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>611</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

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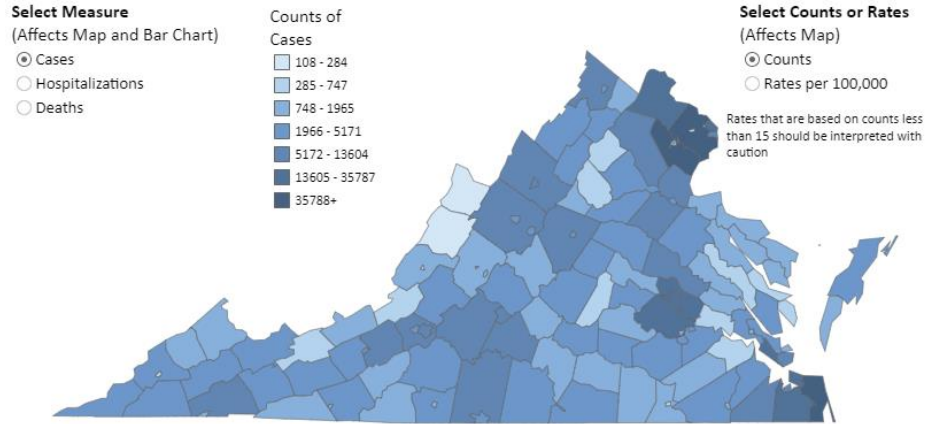


# COVID-19 in Virginia: Cases



Dashboard Updated: 8/17/2021  
Data entered by 5:00 PM the prior day.

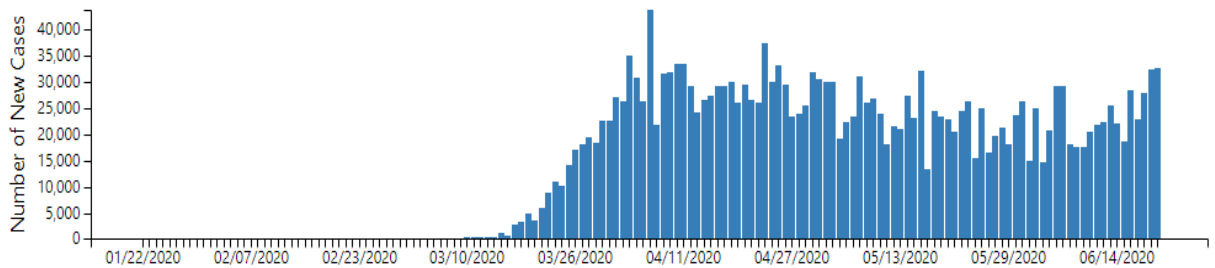
Total Cases*		Total Hospitalizations**		Total Deaths	
<b>725,971</b>		<b>32,399</b>		<b>11,625</b>	
Confirmed+	Probable+	Confirmed+	Probable+	Confirmed+	Probable+
557,789	168,182	30,686	1,713	9,819	1,806



## National COVID-19 Cases as of June 21, 2020<sup>612</sup>

### New Cases by Day

The following chart shows the number of new COVID-19 cases reported each day in the U.S. since the beginning of the outbreak. Hover over the bars to see the number of new cases by day.



## National COVID-19 Cases as of December 26, 2020.<sup>613</sup>

<sup>612</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

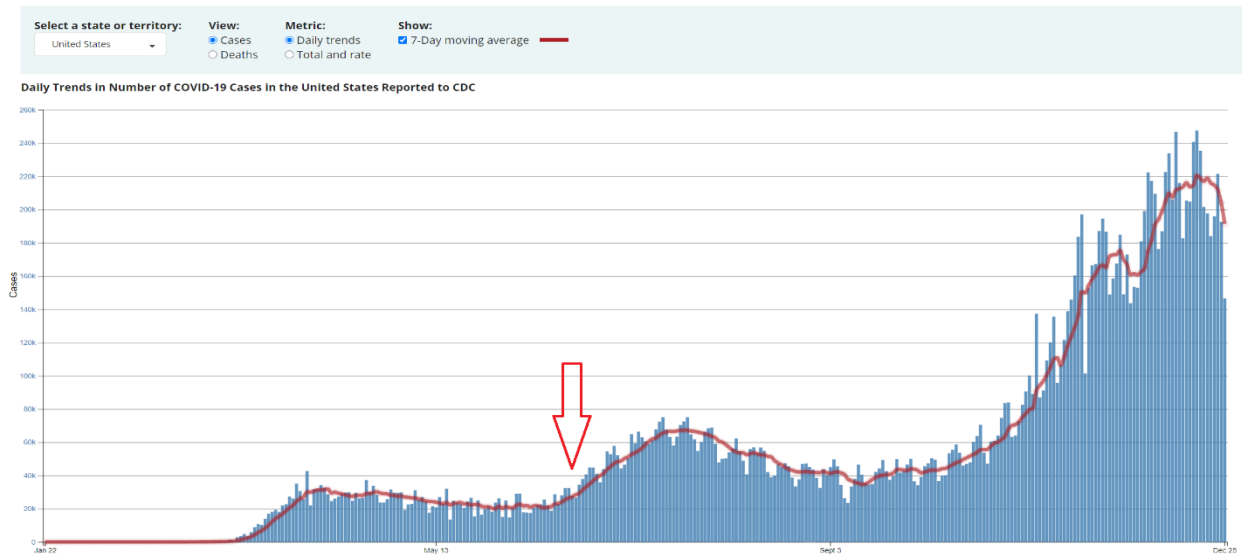
<sup>613</sup> *Id.*

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### Trends in Number of COVID-19 Cases and Deaths in the US Reported to CDC, by State/Territory

Reported to the CDC by State or Territory



### National COVID-19 Cases as of June 11, 2021<sup>614</sup>

<sup>614</sup> [https://townhall.virginia.gov/L/GetFile.cfm?File=meeting\92\32669\Agenda\\_DOLI\\_32669\\_v6.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=meeting\92\32669\Agenda_DOLI_32669_v6.pdf)

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### Daily Trends in COVID-19 Cases in the United States Reported to CDC

— 7-Day moving average

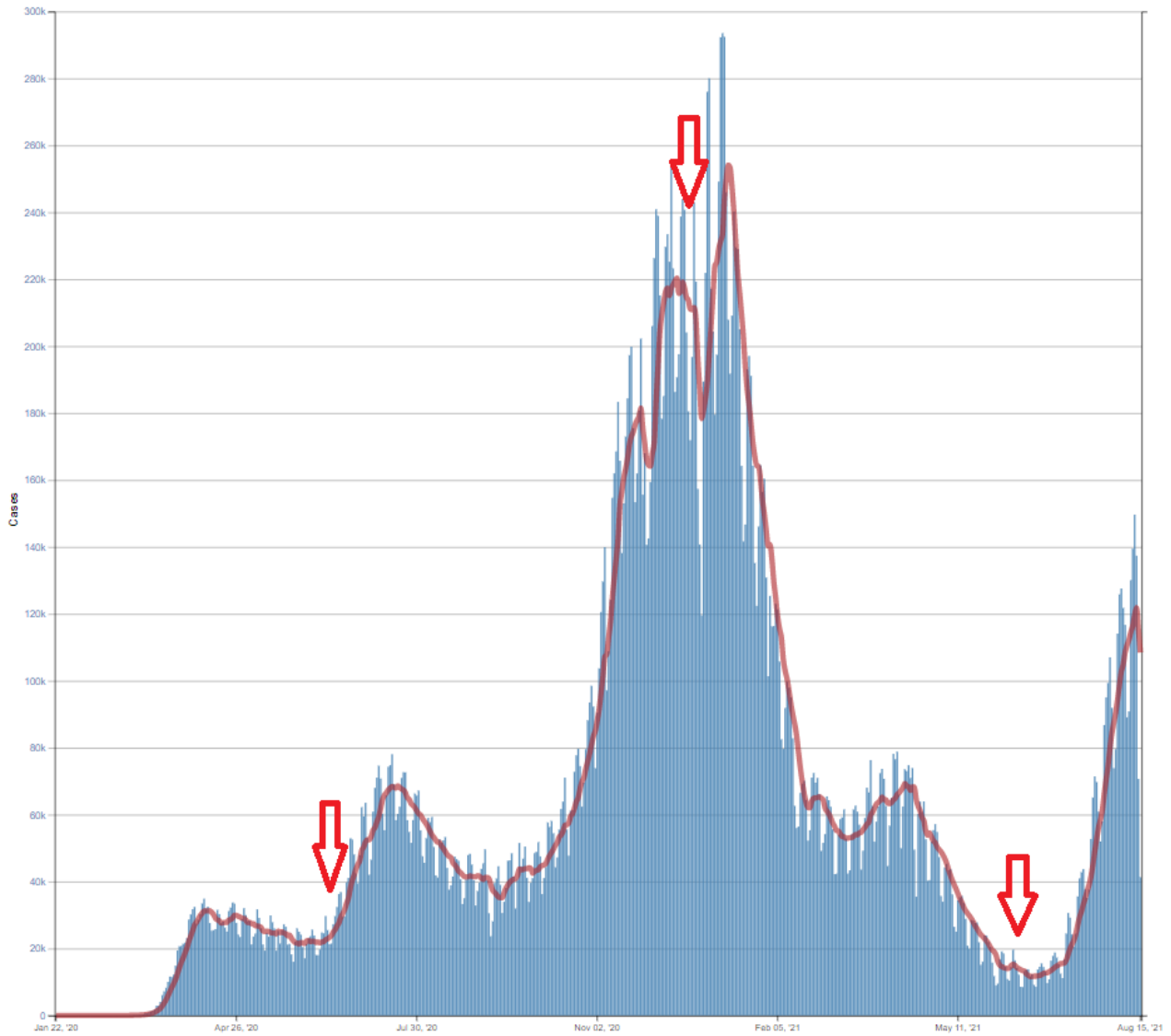


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## National COVID-19 Cases as of August 17, 2021<sup>615</sup>

Daily Trends in Number of COVID-19 Cases in the United States Reported to CDC



<sup>615</sup> [https://covid.cdc.gov/covid-data-tracker/#trends\\_dailytrendscases](https://covid.cdc.gov/covid-data-tracker/#trends_dailytrendscases)

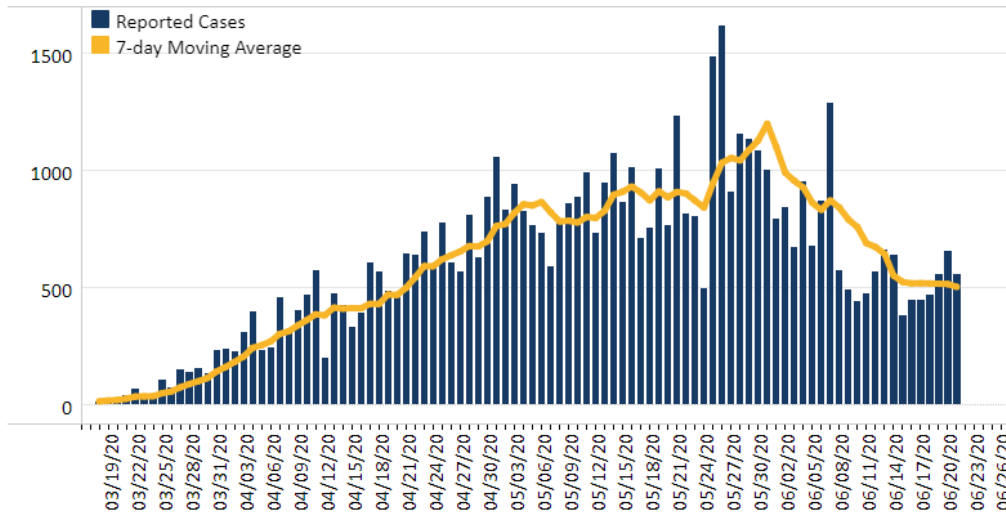
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### Virginia Cases as of June 21, 2020.<sup>616</sup>

#### Total Cases by Date Reported

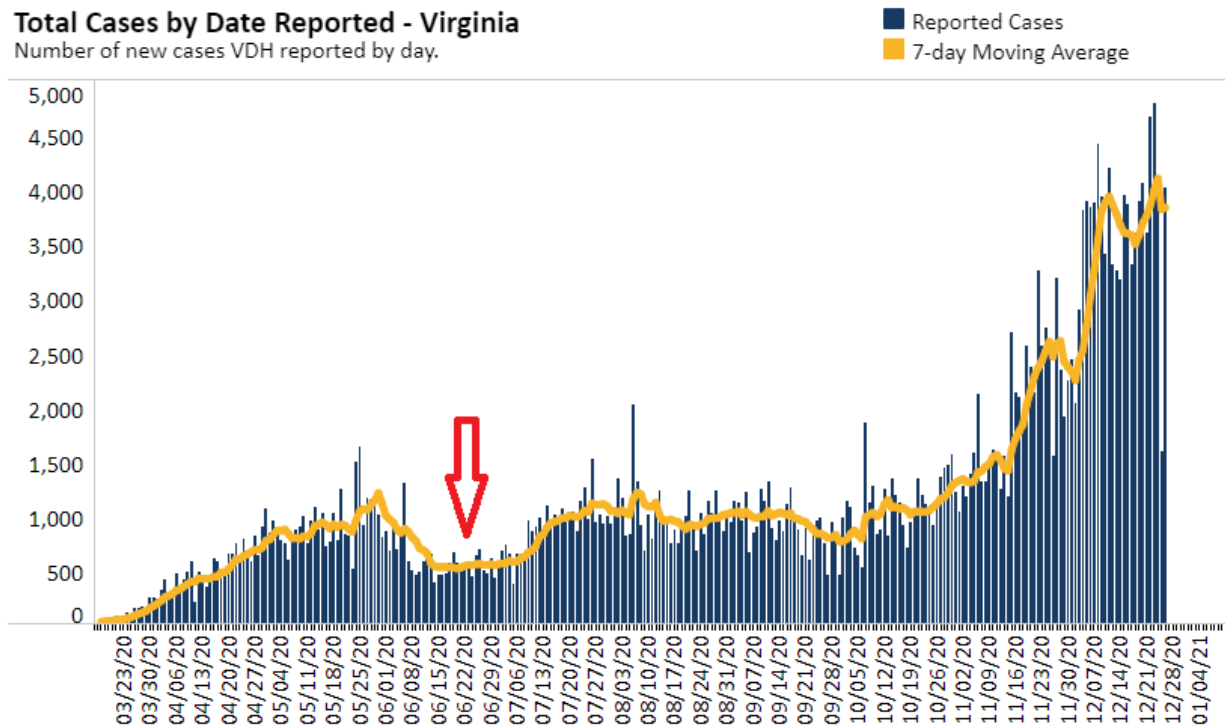
Number of new cases VDH reported by day.



### Virginia Cases as of December 26, 2020.<sup>617</sup>

#### Total Cases by Date Reported - Virginia

Number of new cases VDH reported by day.



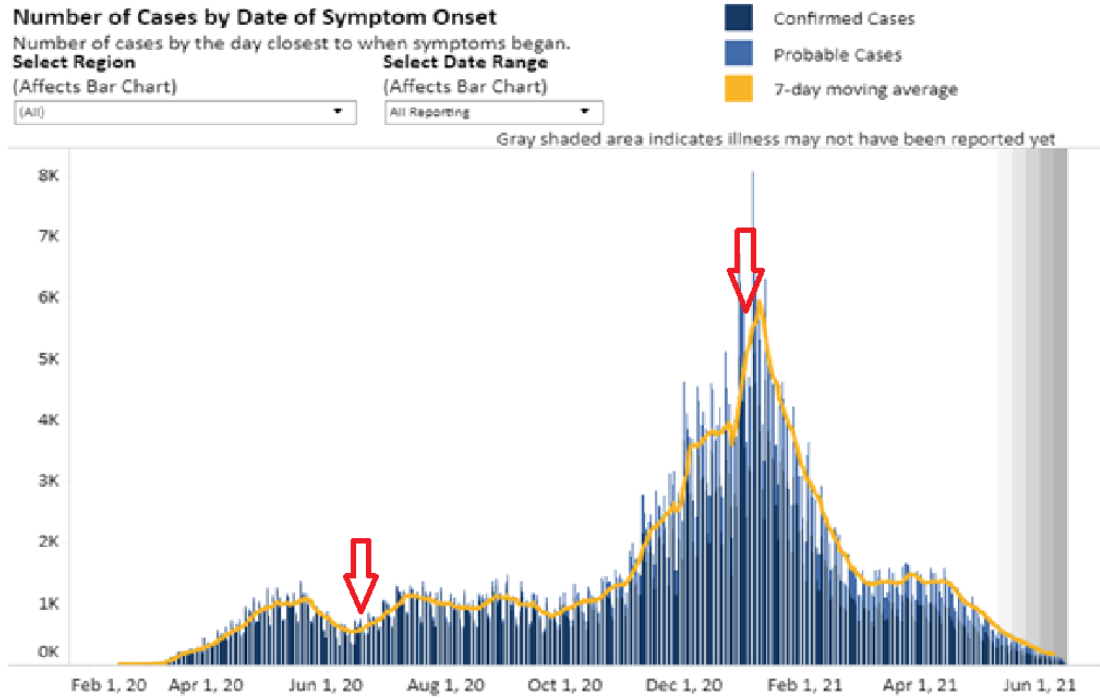
<sup>616</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

<sup>617</sup> *Id.*

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## Virginia Cases as of June 14, 2021.<sup>618</sup>



## Virginia Cases as of August 17, 2021.<sup>619</sup>

<sup>618</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>619</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

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### Number of Cases by Date of Symptom Onset

Number of cases by the day closest to when symptoms began.

Select Region

(Affects Bar Chart)

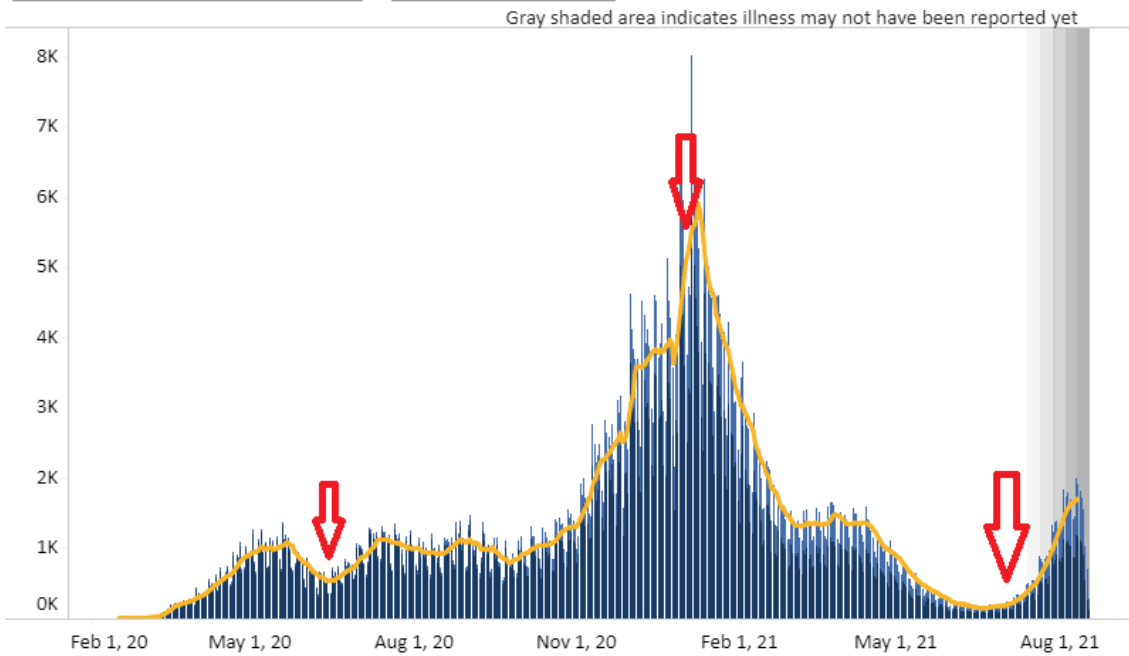
(All)

Select Date Range

(Affects Bar Chart)

All Reporting

- Confirmed Cases
- Probable Cases
- 7-day moving average

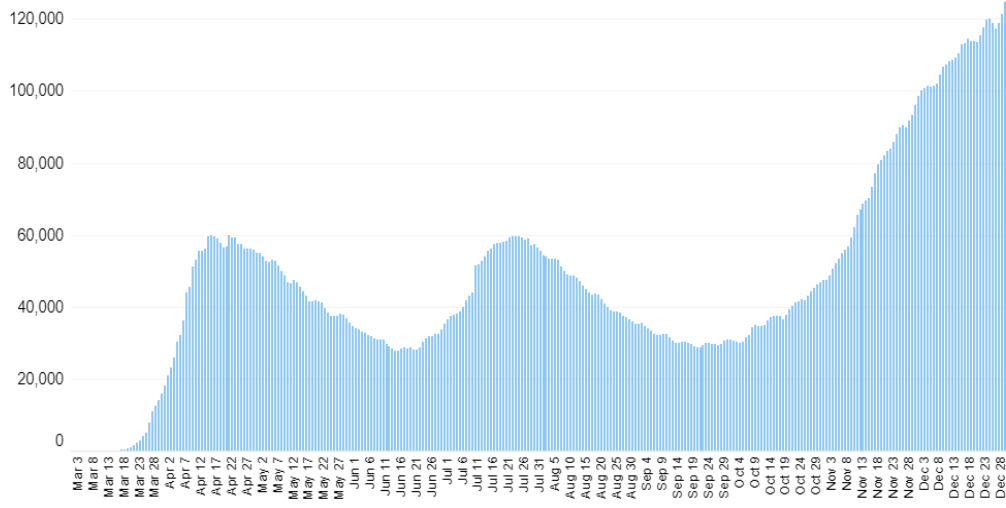


Current hospitalizations remain the most reliable statistic. Hospitalizations are a much better reflection of reality than the other metrics through the holiday reporting bumpiness.<sup>620</sup>

### U. S. Hospitalizations through January 2, 2021.

US CURRENTLY HOSPITALIZED WITH COVID-19

Mar 1 Jan 2



The COVID Tracking Project

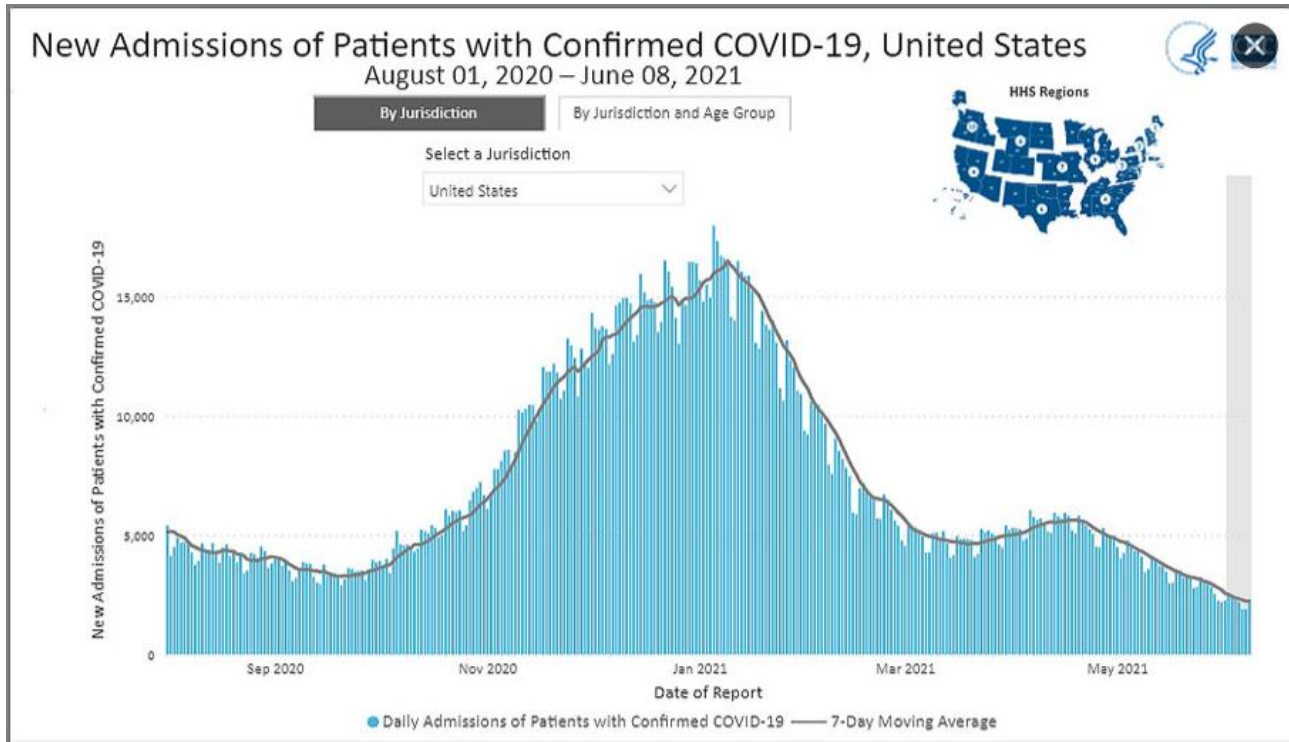
Note: Florida began reporting this figure on July 10.

<sup>620</sup> <https://covidtracking.com/data/charts/us-currently-hospitalized>

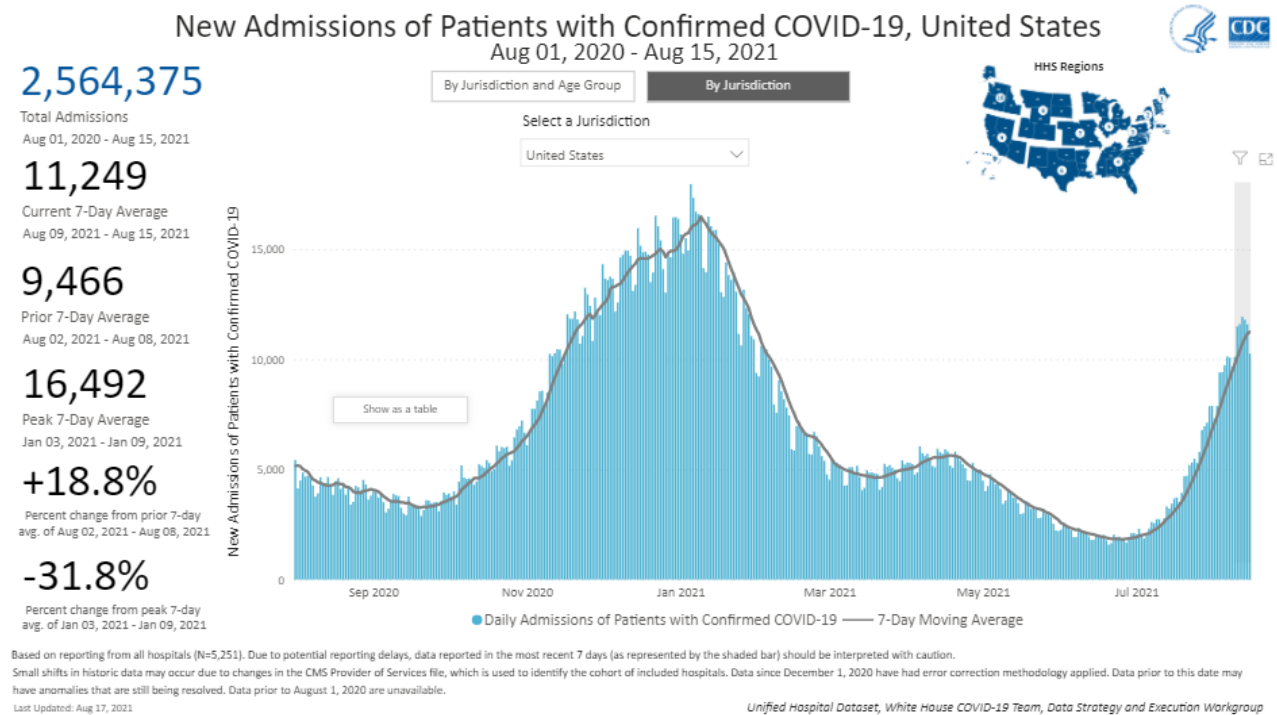
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## U. S. Hospitalizations August 1, 2020 through June 8, 2021.<sup>621</sup>



## U. S. Hospitalizations from August 1, 2020 through August 15, 2021.<sup>622</sup>



<sup>621</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

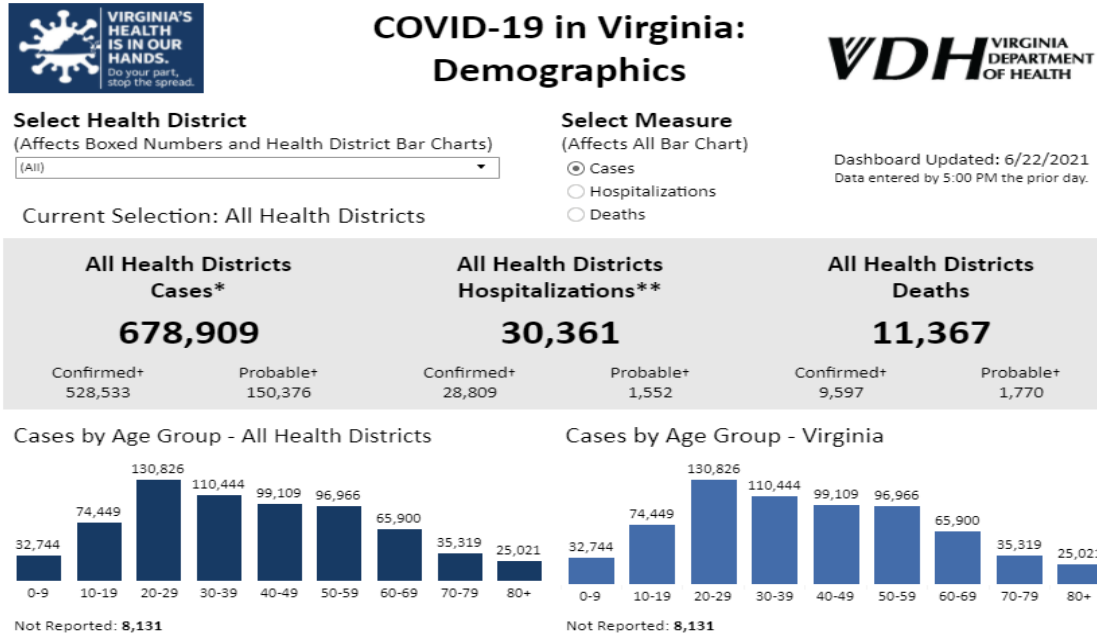
<sup>622</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

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## COVID-19 in Virginia Demographics<sup>623</sup>

Approximately **74.1%** of COVID-19 cases occurred in the working age population of 20-69.

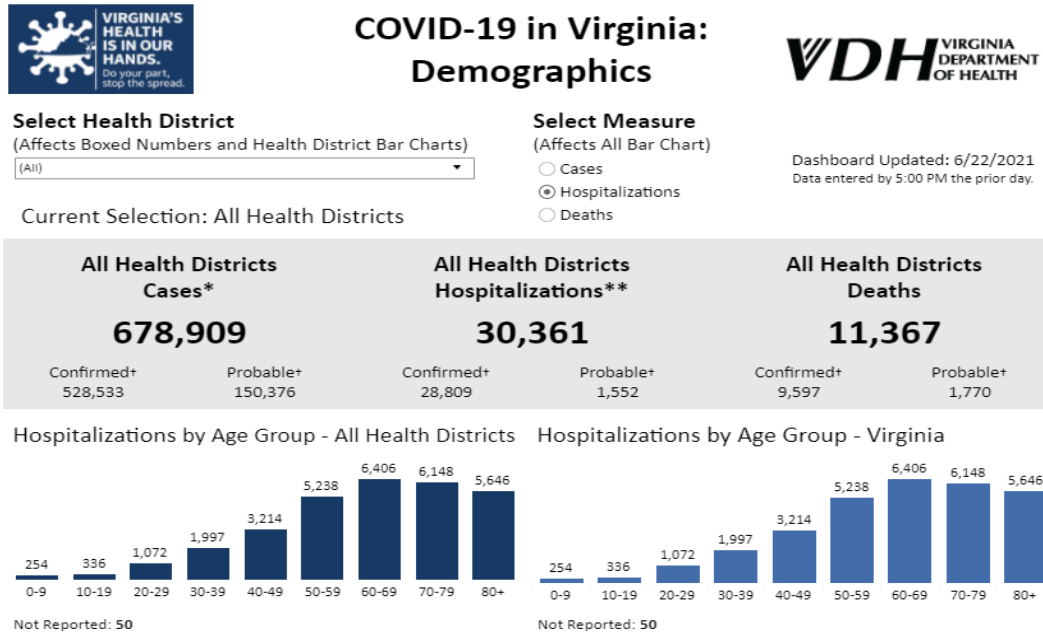


<sup>623</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-demographics/>

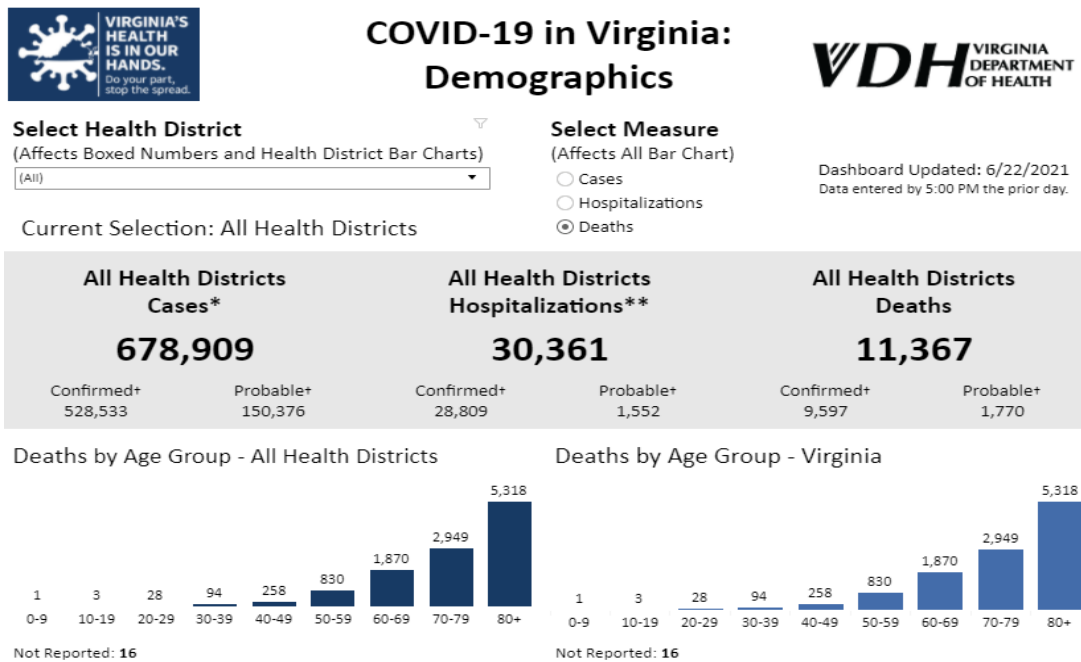
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Approximately **59.0%** of COVID-19 hospitalizations occurred in the working age population of 20-69.



Approximately **27.1%** of COVID-19 deaths occurred in the working age population of 20-69.

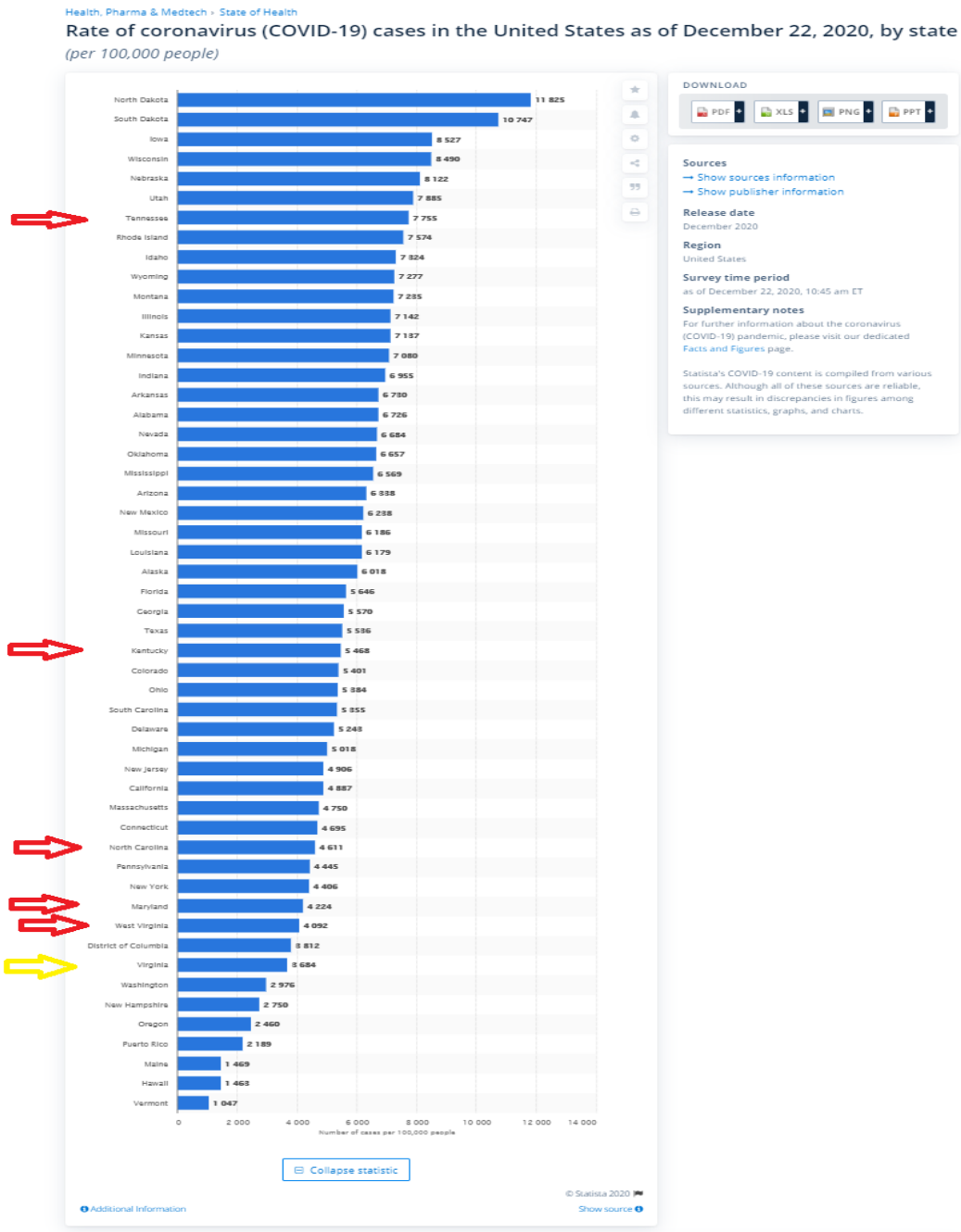


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## COVID-19 State Rankings: Total Cases per 100K as of December 22, 2020 <sup>624</sup>

- 7 - Tennessee
- 29 - Kentucky
- 39 - North Carolina
- 42 - Maryland
- 43 - West Virginia
- 45 - Virginia



<sup>624</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

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**COVID-19 State Rankings: Total Cases per 100K as of June 11, 2021 <sup>625</sup>**

5	-	Tennessee
28	-	Kentucky
38	-	North Carolina
42	-	West Virginia
43	-	Virginia
44	-	Maryland

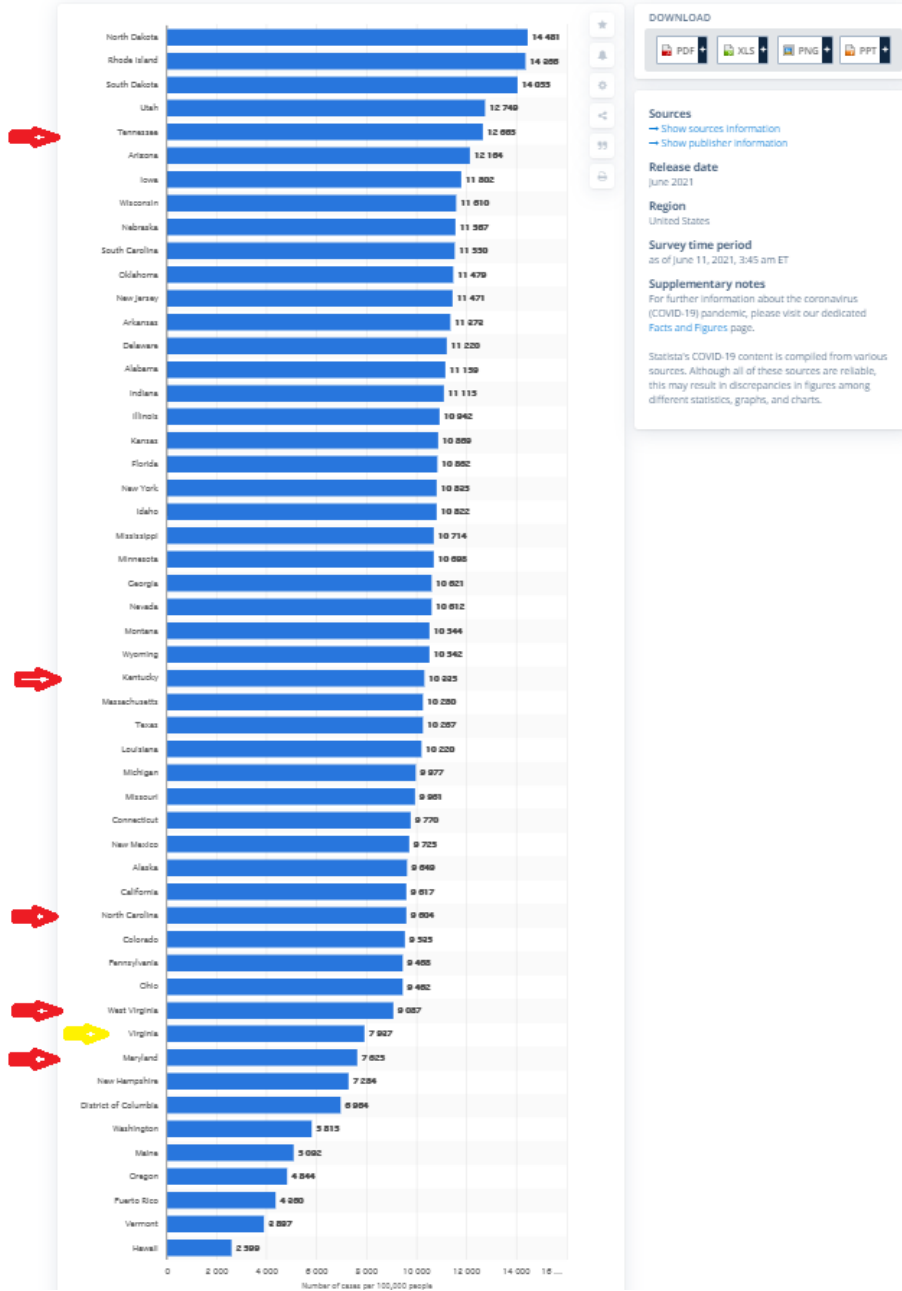
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<sup>625</sup> <https://www.statista.com/statistics/1109004/coronavirus-covid19-cases-rate-us-americans-by-state/>

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Rate of coronavirus (COVID-19) cases in the United States as of June 11, 2021, by state  
(per 100,000 people)



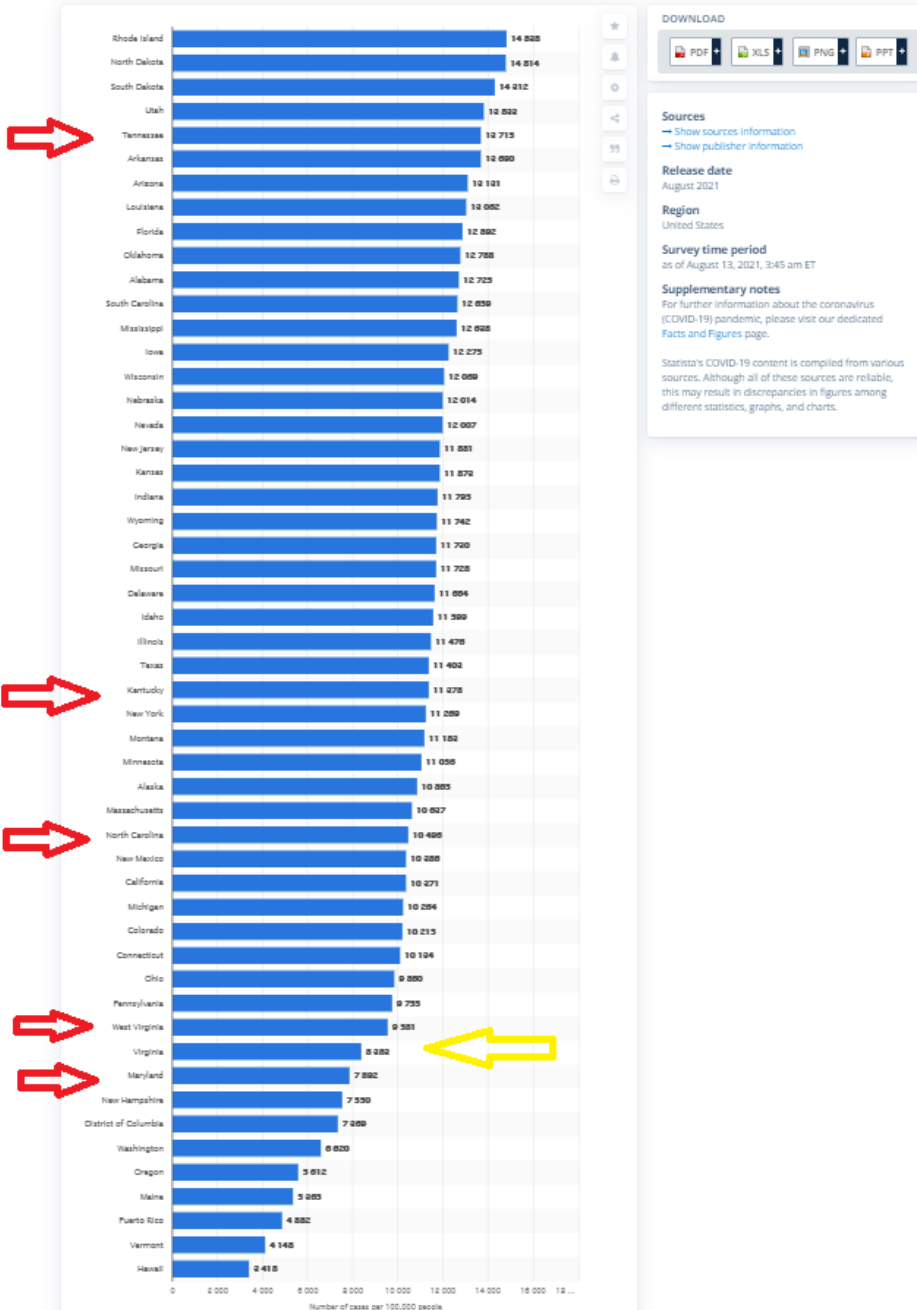
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## COVID-19 State Rankings: Total Cases per 100K as of August 13, 2021 <sup>626</sup>

- 5 - Tennessee
- 28 - Kentucky
- 34 - North Carolina
- 42 - West Virginia
- 43 - Virginia
- 44 - Maryland

Rate of coronavirus (COVID-19) cases in the United States as of August 13, 2021, by state  
(per 100,000 people)



<sup>626</sup> <https://www.statista.com/statistics/1109004/coronavirus-covid19-cases-rate-us-americans-by-state/>

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### COVID-19 State Rankings: Average Daily Cases per 100K in Last 7 Days as of December 26, 2020.<sup>627</sup>

- 1 - Tennessee
- 6 - West Virginia
- 19 - North Carolina
- 25 - Kentucky
- 30 - Virginia
- 39 - Maryland

Data Table for Average Daily Cases per 100k in Last 7 Days

CDC | Updated: Dec 27 2020 2:05PM

State/Territory ↕	Average Daily Cases per 100k in Last 7 Days ↕
Tennessee	119.7
California	95.7
Arizona	88
Oklahoma	83.2
Indiana	72.5
West Virginia	71.4
Alabama	68.6
Utah	67.3
Arkansas	65.6
Nevada	64
Delaware	63.6
New York*	63.6
Pennsylvania	63.2
Georgia	62.6
Ohio	61.4
Massachusetts	59.7
Mississippi	57.9
Rhode Island	57.4
North Carolina	56.8
New Mexico	56.5
Idaho	53.7
South Carolina	50.9
New Jersey	50.6
New York City*	50.5
Kentucky	48
Florida	46.4
Kansas	45.4
New Hampshire	45.4
Illinois	44.8
Virginia	44.7
Nebraska	43.7
Louisiana	43.2
Texas	42.7
South Dakota	42.4
Colorado	42.2
Wyoming	40.9
Missouri	40.8
Connecticut	39.9
Maryland	38.7
Wisconsin	37.7
Montana	37.6
Iowa	37
Alaska	34.3
Maine	31.2
Minnesota	30.2
Michigan	29
District of Columbia	27.7
North Dakota	26.7
Washington	26.5
Oregon	22.1
Puerto Rico	21.4
Vermont	14.3
Virgin Islands	9.1
Hawaii	8.5
Guam	6.3
Northern Mariana Islands	1.8
American Samoa	0
Federated States of Micronesia	0
Palau	0
Republic of Marshall Islands	0

<sup>627</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

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## COVID-19 State Rankings: Average Daily Cases per 100K in Last 7 Days as of June 14, 2021. <sup>628</sup>

- 11 - Kentucky
- 21 - West Virginia
- 39 - Tennessee
- 42 - North Carolina
- 47 - Virginia
- 49 - Maryland

Data Table for Cumulative Cases per 100k in Last 7 Days

CDC | Data as of: June 14, 2021 1:13 PM ET. Posted: June 14, 2021 2:13 PM ET [Download Data](#)

State/Territory ↕	7-Day Case Rate per 100,000 ↕
Virgin Islands	89.8
Colorado	73.2
Wyoming	67.7
Missouri	64.2
Utah	59.8
Washington	51.8
Arkansas	50.7
Florida	50.6
Nevada	43.2
Oregon	42.1
Kentucky	40.7
Arizona	40.3
Montana	39.6
Indiana	33.9
Idaho	32.1
Alabama	31.1
Louisiana	29.7
North Dakota	29.5
Texas	29
Mississippi	28.9
West Virginia	28.1
Kansas	26.6
Hawaii	25.6
Maine	25.4
Oklahoma	25.1
South Carolina	24.3
Georgia	24.1
Delaware	23.8
Pennsylvania	22
New Mexico	20.5
Ohio	20.5
Alaska	19.6
American Samoa	N/A
Guam	20.5
New York City*	20.2
Minnesota	19
New Jersey	18.7
Illinois	18.6
Tennessee	18.3
Michigan	18.2
Iowa	17.4
North Carolina	16.5
New York*	15.7
Rhode Island	14
Wisconsin	12.5
Massachusetts	11.5
Virginia	11.5
Puerto Rico	11.1
Maryland	11
New Hampshire	11
Nebraska	10.6
South Dakota	10.1
California	9.7
Vermont	9.3
Connecticut	9.2
District of Columbia	8.8
Federated States of Micronesia	N/A
Northern Mariana Islands	0
Palau	0
Republic of Marshall Islands	0

<sup>628</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_casesper100klast7days](https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days)

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### COVID-19 State Rankings: Average Daily Cases per 100K in Last 7 Days as of August 16, 2021. <sup>629</sup>

- 10 - Kentucky
- 11 - Tennessee
- 29 - North Carolina
- 42 - Virginia
- 43 - West Virginia
- 47 - Maryland

Data Table for Cumulative Cases per 100k in Last 7 Days

CDC | Data as of: August 16, 2021 1:36 PM ET. Posted: August 16, 2021 4:59 PM ET

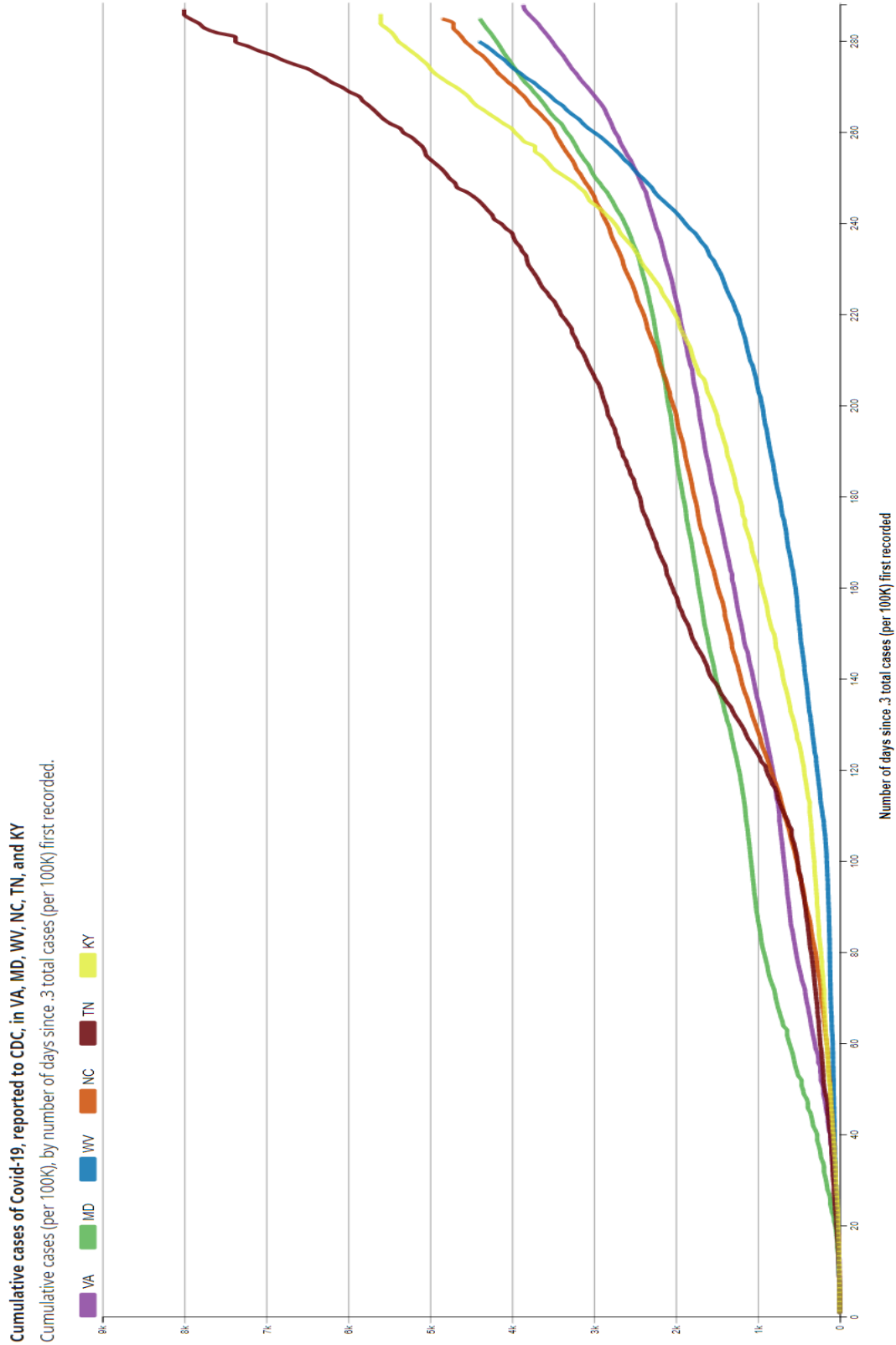
State/Territory ↕	7-Day Case Rate per 100,000 ↕
Florida	704.5
Louisiana	642
Mississippi	540.5
Arkansas	514.6
Alabama	356
Texas	337.2
Hawaii	324.6
Missouri	317.3
Georgia	306
Kentucky	306
Tennessee	291.8
South Carolina	289.7
Virgin Islands	285.6
Arizona	266.6
Wyoming	248.3
Oklahoma	231.3
Kansas	227.3
Oregon	223.5
Alaska	213.1
Puerto Rico	197
Idaho	186.7
Washington	186.4
New Mexico	186.3
Nevada	180.1
Indiana	179.9
Guam	176.8
Delaware	176
New York City*	171.2
North Carolina	164.4
Montana	161.3
New York (Level of Community Transmission)*	151.8
Ohio	149.1
Utah	142.3
New York*	137.1
California	136.6
Wisconsin	136.1
Rhode Island	132.9
Iowa	132.7
New Jersey	131.9
North Dakota	130.4
Illinois	127
Virginia	124.1
West Virginia	119.7
Minnesota	112.1
District of Columbia	109
Pennsylvania	108.1
Maryland	99
Massachusetts	91.8
Connecticut	81.5
Maine	77.1
Colorado	76.9
South Dakota	74.8
Michigan	70.5
New Hampshire	68.9
Vermont	66.5
Nebraska	39.6
Northern Mariana Islands	0
Palau	0
Republic of Marshall Islands	0
American Samoa	N/A
Federated States of Micronesia	N/A

<sup>629</sup> [https://covid.cdc.gov/covid-data-tracker/#cases\\_casesper100klast7days](https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days)

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### Comparison of trends (Totals per 100,000) in COVID-19 cases by state December 26, 2020:<sup>630</sup>

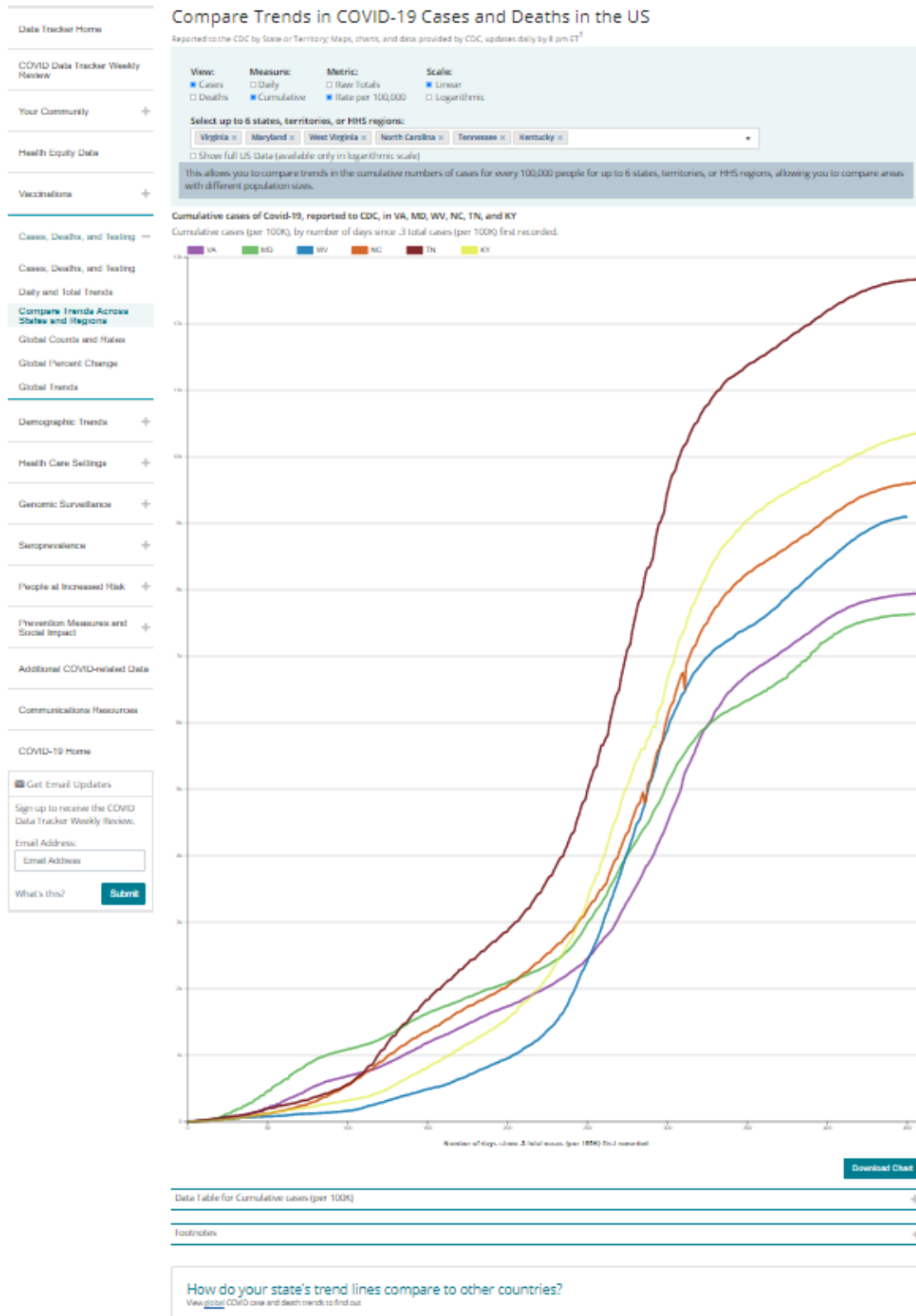


<sup>630</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

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## Comparison of trends (Totals per 100,000) in COVID-19 cases by state June 14, 2021:<sup>631</sup>

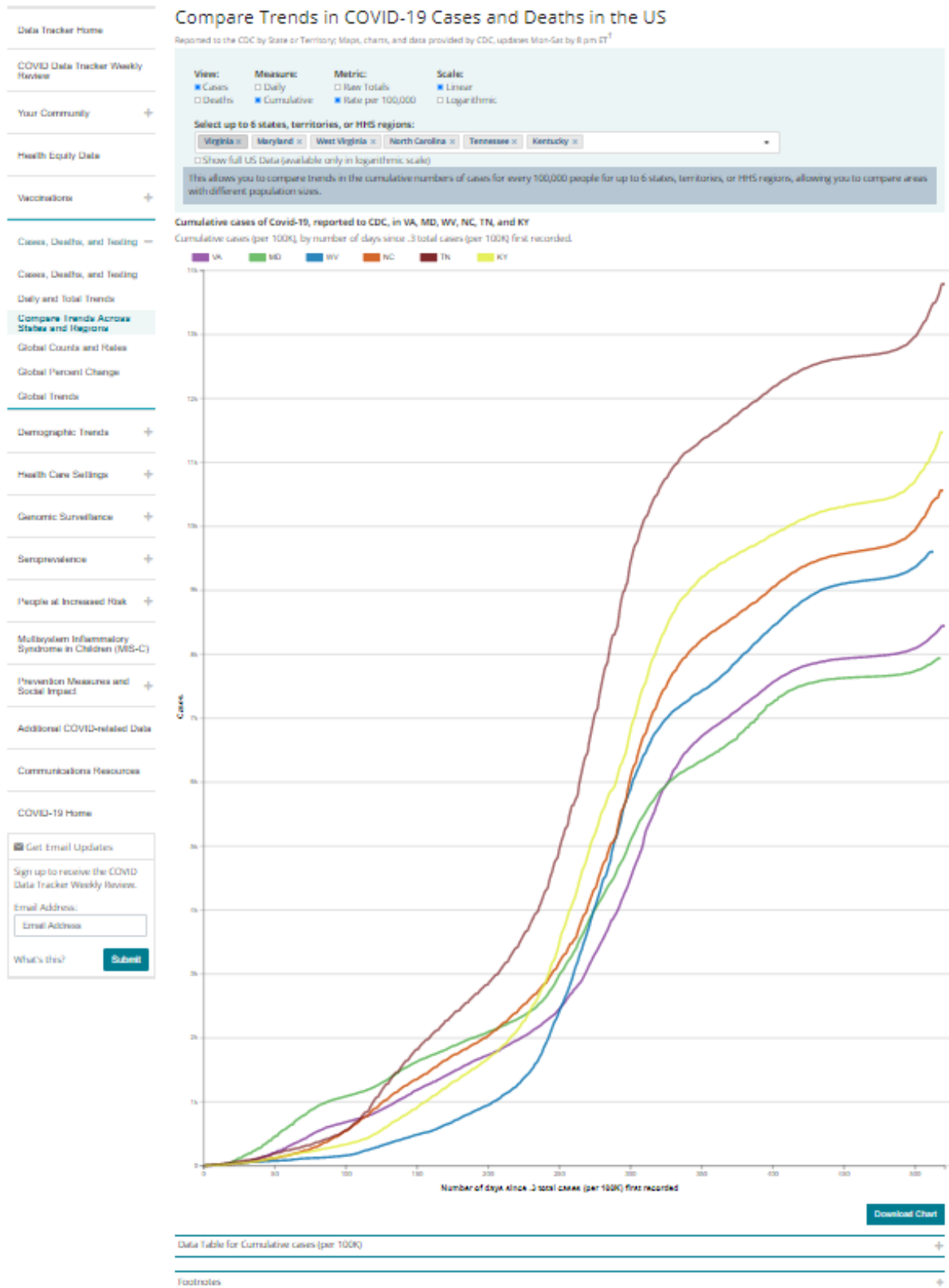


<sup>631</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

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## Comparison of trends (Totals per 100,000) in COVID-19 cases by state August 15, 2021:<sup>632</sup>



<sup>632</sup> [https://covid.cdc.gov/covid-data-tracker/#compare-trends\\_cases-cum-rate-lin](https://covid.cdc.gov/covid-data-tracker/#compare-trends_cases-cum-rate-lin)

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D. SARS-CoV-2 and COVID-19, General Information, Studies, and Statistics.

1. General Information on Pandemics.<sup>633</sup>

“Viruses are constantly mutating. Those that trigger pandemics have enough novelty that the human immune system does not quickly recognize them as dangerous invaders. They force the body to create a brand-new defense, involving new antibodies and other immune system components that can react to and attack the foe. Large numbers of people get sick in the short term, and social factors such as crowding and the unavailability of medicine can drive those numbers even higher. Ultimately, in most cases, antibodies developed by the immune system to fight off the invader linger in enough of the affected population to confer longer-term immunity and limit person-to-person viral transmission. But that can take several years, and before it happens, havoc reigns.

....

Containment. The severe acute respiratory syndrome (SARS) epidemic of 2003 was caused not by an influenza virus but by a coronavirus, SARS-CoV, that is closely related to the cause of the current affliction, SARS-CoV-2. Of the seven known human coronaviruses, four circulate widely, causing up to a third of common colds. The one that caused the SARS outbreak was far more virulent. Thanks to aggressive epidemiological tactics such as isolating the sick, quarantining their contacts and implementing social controls, bad outbreaks were limited to a few locations such as Hong Kong and Toronto.

This containment was possible because sickness followed infection very quickly and obviously: almost all people with the virus had serious symptoms such as fever and trouble breathing. And they transmitted the virus after getting quite sick, not before. “Most patients with SARS were not that contagious until maybe a week after symptoms appeared,” says epidemiologist Benjamin Cowling of the University of Hong Kong. “If they could be identified within that week and put into isolation with good infection control, there wouldn’t be onward spread.” Containment worked so well there were only 8,098 SARS cases globally and 774 deaths. The world has not seen a case since 2004.

Vaccine power. When a new H1N1 influenza virus, known as swine flu, caused a pandemic in 2009, “there was an alarm bell because this was a brand-new H1N1,” Cowling says, and it was very similar to the 1918 killer. Swine flu proved less severe than feared. In part, Krammer says, “we were lucky because the pathogenicity of the virus wasn’t very high.” But another important reason was that six months after the virus appeared, scientists developed a vaccine for it.

Unlike measles or smallpox vaccines, which can confer long-term immunity, **flu vaccines offer only a few years of protection. Influenza viruses are slippery, mutating rapidly to escape immunity. As a result, the vaccines must be updated every year and given regularly.** But during a pandemic, even a short-term

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<sup>633</sup> <https://www.scientificamerican.com/article/how-the-covid-19-pandemic-could-end1/>

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vaccine is a boon. The 2009 vaccine helped to temper a second wave of cases in the winter. As a result, the virus much more rapidly went the way of the 1918 virus, becoming a widely circulating seasonal flu, from which many people are now protected either by flu shots or by antibodies from a previous infection.

Projections about how COVID-19 will play out are speculative, but the end game will most likely involve a mix of everything that checked past pandemics: Continued social-control measures to buy time, new antiviral medications to ease symptoms, and a vaccine. The exact formula—how long control measures such as social distancing must stay in place, for instance—depends in large part on how strictly people obey restrictions and how effectively governments respond. For example, containment measures that worked for COVID-19 in places such as Hong Kong and South Korea came far too late in Europe and the U.S. “The question of how the pandemic plays out is at least 50 percent social and political,” Cobey says.

....

It will take a vaccine to stop transmission. That will take time—probably a year from now. Still, there is reason to think a vaccine could work effectively. Compared with flu viruses, coronaviruses don’t have as many ways to interact with host cells.

“If that interaction goes away, [the virus] can’t replicate anymore,” Krammer says. “That’s the advantage we have here.” It is not clear whether a vaccine will confer long-term immunity as with measles or short-term immunity as with flu shots. But “any vaccine at all would be helpful at this point,” says epidemiologist Aubree Gordon of the University of Michigan.

Unless a vaccine is administered to all of the world’s eight billion inhabitants who are not currently sick or recovered, COVID-19 is likely to become endemic. It will circulate and make people sick seasonally—sometimes very sick. But if the virus stays in the human population long enough, it will start to infect children when they are young.” (Emphasis added).

## 2. Transmission.

### **Modes of Transmission**

“The principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through exposure to respiratory fluids carrying infectious virus. Exposure occurs in three principal ways:

- (1) inhalation of very fine respiratory droplets and aerosol particles,
- (2) deposition of respiratory droplets and particles on exposed mucous membranes in the mouth, nose, or eye by direct splashes and sprays, and
- (3) touching mucous membranes with hands that have been soiled either directly by

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virus-containing respiratory fluids or indirectly by touching surfaces with virus on them.

People release respiratory fluids during exhalation (e.g., quiet breathing, speaking, singing, exercise, coughing, sneezing) in the form of droplets across a spectrum of sizes.<sup>1-9</sup> These droplets carry virus and transmit infection.

- The largest droplets settle out of the air rapidly, within seconds to minutes.
- The smallest very fine droplets, and aerosol particles formed when these fine droplets rapidly dry, are small enough that they can remain suspended in the air for minutes to hours.

Infectious exposures to respiratory fluids carrying SARS-CoV-2 occur in three principal ways (not mutually exclusive):

1. Inhalation of air carrying very small fine droplets and aerosol particles that contain infectious virus. Risk of transmission is greatest within three to six feet of an infectious source where the concentration of these very fine droplets and particles is greatest.
2. Deposition of virus carried in exhaled droplets and particles onto exposed mucous membranes (i.e., “splashes and sprays”, such as being coughed on). Risk of transmission is likewise greatest close to an infectious source where the concentration of these exhaled droplets and particles is greatest.
3. Touching mucous membranes with hands soiled by exhaled respiratory fluids containing virus or from touching inanimate surfaces contaminated with virus.”<sup>634</sup>

### **Asymptomatic and Pre-symptomatic Transmission**

“Increasing numbers of epidemiologic studies have documented SARS-CoV-2 transmission during the pre-symptomatic incubation period. Studies using RT-PCR detection have reported low cycle thresholds, indicating larger quantities of viral RNA, among people with asymptomatic and pre-symptomatic SARS-CoV-2 infection. Likewise in viral culture, viral growth has been observed in specimens obtained from patients with asymptomatic and pre-symptomatic infection. The proportion of SARS-CoV-2 transmission due to asymptomatic or pre-symptomatic infection compared with symptomatic infection is not entirely clear; however, recent studies do suggest that people who are not showing symptoms may transmit the virus.”<sup>635</sup>

A meta-analysis estimated that the initial median  $R_0$  [the basic reproduction number for the virus] for COVID-19 is 2.79 (meaning that one infected person will on average infect 2.79 others), although current estimates might be biased because of insufficient

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<sup>634</sup> [https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fscience%2Fscience-briefs%2Fscientific-brief-sars-cov-2.html](https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fscience%2Fscience-briefs%2Fscientific-brief-sars-cov-2.html)

<sup>635</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

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data.<sup>636</sup> The current best estimate of the CDC based on data through August 1, 2020 is an  $R_0$  value of 2.5.<sup>637</sup>

Around one in five people are traditionally thought to be super-spreaders. These are people who seem to transmit a given infectious disease significantly more widely than most.<sup>638</sup>

“The incubation period for COVID-19 is thought to extend to 14 days, with a median time of 4-5 days from exposure to symptoms onset. One study reported that 97.5% of people with COVID-19 who have symptoms will do so within 11.5 days of SARS-CoV-2 infection.”<sup>639</sup>

**“Available data indicate that persons with mild to moderate COVID-19 remain infectious no longer than 10 days after symptom onset. Most adults with more severe to critical illness or severe immunocompromise likely remain infectious no longer than 20 days after symptom onset; however, there have been several reports of people shedding replication-competent virus beyond 20 days due to severe immunocompromise. Recovered adults can continue to shed detectable but non-infectious SARS-CoV-2 RNA in upper respiratory specimens for up to 3 months after illness onset, albeit at concentrations considerably lower than during illness, in concentration ranges where replication-competent virus has not been reliably recovered and infectiousness is unlikely. The circumstances that result in persistently detectable SARS-CoV-2 RNA have yet to be determined. Studies have not found evidence that clinically recovered adults with persistence of viral RNA have transmitted SARS-CoV-2 to others. These findings strengthen the justification for relying on a symptom-based rather than test-based strategy for ending isolation of most patients, so that adults who are no longer infectious are not kept unnecessarily isolated and excluded from work or other responsibilities.”**<sup>640</sup>  
(Emphasis added).

The CDC’s current best estimate of the percentage of persons with positive COVID-19 infections that are asymptomatic is 30%.<sup>641</sup>

The CDC’s current best estimate of the percentage of COVID-19 disease transmission occurring prior to symptom onset is 50%.<sup>642</sup>

### **Viral Shedding**

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<sup>636</sup> [https://wwwnc.cdc.gov/eid/article/26/6/20-0495\\_article](https://wwwnc.cdc.gov/eid/article/26/6/20-0495_article)

<sup>637</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

<sup>638</sup> <https://newatlas.com/health-wellbeing/covid19-case-studies-coronavirus-superspreader-clusters-cdc-report/>

<sup>639</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

<sup>640</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html>

<sup>641</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

<sup>642</sup> *Id.*

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“Viral shedding by asymptomatic people may represent 40–50% of total infections though some uncertainty remains regarding how much they contribute to totals. Viral shedding may antedate symptoms by up to 3+ days.”<sup>643</sup>

“Viral shedding<sup>644</sup> ...occurs when a virus is released from an infected host. Studying viral shedding is helpful in understanding how infectious diseases like COVID-19 spread.

Researchers often define the term across a spectrum, using modifiers like “low” and “high” to describe levels of viral shedding. Assessing levels of viral shedding helps researchers determine at what point individuals are most infectious.

For example, a recently published study<sup>645</sup> of 94 patients with COVID-19 suggests that those infected with the new strain of coronavirus have the highest levels of viral shedding right before showing symptoms. Other studies have shown that some individuals may continue shedding the virus even after their symptoms resolve, or subside; one study<sup>646</sup> found that individuals with mild cases of the virus may continue viral shedding up to eight days after symptom resolution.

From a public health perspective, understanding viral shedding of COVID-19 is necessary to determine appropriate actions for virus mitigation. If viral shedding is indeed highest right before a person starts showing symptoms, robust contact tracing efforts to identify potential exposures is necessary to slow the further spread of COVID-19 in communities. Information about viral spread after symptom resolution also allows public health officials to determine appropriate measures for those who have recovered from COVID-19, including guidance on extended quarantine.” (Emphasis added).

### **Infectious Dose and Viral Load**

“Infectious respiratory diseases spread when a healthy person comes in contact with virus particles expelled by someone who is sick — usually through a cough or sneeze. The amount of particles a person is exposed to can affect how likely they are to become infected and, once infected, how severe the symptoms become.

The amount of virus necessary to make a person sick is called the infectious dose. Viruses with low infectious doses are especially contagious in populations without significant immunity. The minimum infectious dose of SARS-CoV-2, the virus that causes COVID-19, is unknown so far, but researchers suspect it is low. “The virus is spread through very, very casual interpersonal contact,” W. David Hardy, a professor

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[https://www.hopkinsguides.com/hopkins/view/Johns\\_Hopkins\\_ABX\\_Guide/540747/all/Coronavirus\\_COVID\\_19\\_SA\\_RS\\_CoV\\_2\\_](https://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540747/all/Coronavirus_COVID_19_SA_RS_CoV_2_)

<sup>644</sup> <https://achi.net/newsroom/defining-covid-19-terms-viral-shedding/>

<sup>645</sup> <https://www.nature.com/articles/s41591-020-0869-5>

<sup>646</sup> <https://www.healio.com/pulmonology/practice-management/news/online/%7B071c6a27-2c50-458f-9558-19b9f501df05%7D/patients-with-covid-19-may-shed-virus-after-symptom-resolution>

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of infectious disease at Johns Hopkins University School of Medicine, told STAT.<sup>647</sup>

A high infectious dose may lead to a higher viral load, which can impact the severity of COVID-19 symptoms. Viral load is a measure of virus particles. It is the amount of virus present once a person has been infected and the virus has had time to replicate in their cells. With most viruses, higher viral loads are associated with worse outcomes.

One study<sup>648</sup> of COVID-19 patients in China found that those with more severe symptoms tended to have higher viral loads. ‘It’s not proven, but it would make sense that higher inoculating doses will lead to higher viral loads, and higher viral loads would translate into more pathogenic clinical courses,’ said Dan Barouch, director of the Center for Virology and Vaccine Research at Beth Israel Deaconess Medical Center.’<sup>649</sup> (Emphasis added).

### 3. Cross Border Transmission.

According to the Director-General of the World Health Organization, “This [SARS-CoV-2] virus does not respect borders.”<sup>650</sup> While “stay at home” orders were still in place in 17 states and the District of Columbia as of May 25, 2020, states began reopening over the summer, only to reinstate restrictions as case rates increased dramatically in the fall and early winter.<sup>651</sup>

Particularly in the construction industry, but in other mobile work crew industries as well, contractors from the states of Maryland, North Carolina, West Virginia, Tennessee, the District of Columbia, Georgia, Pennsylvania, and other states regularly work in Virginia, increasing the chance of virus spread across borders.<sup>652</sup> For instance, during calendar year 2019, contractors from the following states were inspected by VOSH:

Alabama (5)	Missouri (5)
California (2)	Nebraska (3)
Delaware (3)	New Hampshire (1)
<u>District of Columbia (11)</u>	New Jersey (1)
Florida (9)	New York (1)
<u>Georgia (13)</u>	<u>North Carolina (96)</u>
Illinois (4)	Ohio (5)
Indiana (4)	Oklahoma (1)
Iowa (1)	<u>Pennsylvania (11)</u>
Kentucky (2)	South Carolina (5)
<u>Maryland (66)</u>	<u>Tennessee (22)</u>

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<sup>647</sup> <https://www.statnews.com/2020/04/14/how-much-of-the-coronavirus-does-it-take-to-make-you-sick/>

<sup>648</sup> [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(20\)30196-1/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30196-1/fulltext)

<sup>649</sup> <https://www.statnews.com/2020/04/14/how-much-of-the-coronavirus-does-it-take-to-make-you-sick/>

<sup>650</sup> <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19--27-february-2020>

<sup>651</sup> <https://www.aarp.org/politics-society/government-elections/info-2020/coronavirus-state-restrictions.html>

<sup>652</sup> <https://www.kayak.com/travel-restrictions/united-states/>

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Michigan (2)  
Minnesota (3)  
Mississippi (1)

Texas (6)  
West Virginia (11)  
Wisconsin (2).

WLS.com, Roanoke, VA, May 5, 2020, “25 COVID-19 cases connected to Cave Spring High School construction work”

“ROANOKE, Va. – More than two dozen coronavirus cases are connected to construction work at a local high school, according to Roanoke County Public Schools officials.

The president of Avis Construction, Troy Smith, spoke to the Roanoke County school board on Tuesday and reported as many as 25 cases of COVID-19 that are related to construction work at Cave Spring High School.

Smith told school board members that not all 25 cases are construction workers, but rather, some are family members of workers.

School officials told 10 News that most cases are in workers from different out-of-state subcontractors.

All work was halted at the Cave Spring High School construction site on Monday, per recommendation from the health department.”<sup>653</sup> (Emphasis added).

CNBC.com, June 14, 2021, “Boris Johnson extends current lockdown rules in England due to concerns over delta Covid variant”

“LONDON — Prime Minister Boris Johnson on Monday announced a delay of four weeks to the next phase of England’s lockdown reopening, amid a surge in the delta variant of Covid-19 first discovered in India.

Rules on the use of face masks, limiting the number of people who can meet indoors and out, and shutting nightclubs and similar venues were due to be lifted June 21, but that has now been pushed back to July 19. At the moment, gatherings are limited to six people indoors and 30 outdoors.

....

New figures from Public Health England indicate that 42,323 cases of the delta variant of the coronavirus have now been confirmed across the U.K., an increase of 240% from last week, while the country’s transmission rate is at its highest since January.

More than 70 million vaccine doses have been administered across the U.K., with around 80% of the country having now received at least one dose. **But a Public Health England paper in late May showed that the Pfizer and AstraZeneca vaccines were only 33% effective against the delta variant**

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<sup>653</sup> <https://www.wsls.com/news/local/2020/05/06/25-covid-19-cases-connected-to-cave-spring-high-school-construction-work/>

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### **after a single shot.**

New data on Monday showed much better effectiveness against the delta variant after two doses. Public Health England said the Pfizer-BioNTech vaccine is 96% effective against hospitalization after two doses and the Oxford-AstraZeneca shot is 92% effective.”<sup>654</sup> (Emphasis added).

#### 4. Infection Fatality Rate.

Though there are limitations on the availability and accuracy of COVID-19 data around the country, researchers are conducting studies to determine a likely range of the “infection mortality rate” (IFR) of COVID-19. The infection fatality rate is the ratio of deaths divided by the number of actual infections with SARS-CoV-2.

A study by the University of Washington using data through April 20, 2020 calculated the U.S. “infection mortality rate” among symptomatic cases (IFR-S) to be 1.3%.<sup>655</sup> Another study calculated a global IFR of 1.04%.<sup>656</sup>

A study by the London School of Hygiene and Tropical Medicine estimated the infection fatality rate on the Diamond Princess Cruise Ship to be 1.2%.<sup>657</sup> Nearly the entire cruise ships 3,711 passengers and crew were tested.

A study<sup>658</sup> published in the International Journal of Infectious Diseases in December 2020, concluded: “Based on a systematic review and meta-analysis of published evidence on COVID-19 until July 2020, the IFR of the disease across populations is 0.68% (0.53%–0.82%). However, due to very high heterogeneity in the meta-analysis,

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<sup>654</sup> <https://www.cnbc.com/2021/06/14/uks-boris-johnson-to-extend-covid-19-restrictions-in-england-reports.html>

<sup>655</sup> <https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2020.00455>; Study assumptions: We make three assumptions for our analysis: (1) Errors in the numerator and the denominator lead to underreporting of true COVID-19 deaths and cases, respectively; error is smaller for deaths than for cases. (2) Both the errors are declining over time. (3) The errors in the denominator are declining at a faster rate than the error in the numerator.

Assumption #1 is self-evident; both the deaths and the actual cases are undercounted during the initial phase of the epidemic. Because deaths are much more visible events than infections, which, in the case of COVID-19, can go asymptomatic during the first few days of infection, we posit that, at any point in time, the errors in the denominator are larger than the errors in the numerator. Hence, this assumption leads to CFR estimates being larger than the IFR-S, which is typically believed to be true based on observed data.

Assumption #2 is our central assumption, which states that under some stationary processes of care delivery, health care supply, and reporting, which are all believed to be improving over time, the errors in both the numerator and the denominator are declining. It implies that we are improving in the measurement of both the numerator and denominator over time, albeit at different rates in different jurisdictions.

Assumption #3 posits that the error in the denominator is declining faster than the error in the numerator. This assumption indicates that the CFR rates, based on the number of cumulative COVID-19 deaths and the cumulative reported COVID-19 cases, are declining over time and are confirmed based on our observed data (described in detail below).

<sup>656</sup> <https://www.medrxiv.org/content/10.1101/2020.05.11.20098780v1>

<sup>657</sup> <https://www.medrxiv.org/content/10.1101/2020.03.05.20031773v2>

<sup>658</sup> *A systematic review and meta-analysis of published research data on COVID-19 infection fatality rates,* <https://www.sciencedirect.com/science/article/pii/S1201971220321809?via%3Dihub>

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it is difficult to know if this represents a completely unbiased point estimate. It is likely that, due to age and perhaps underlying comorbidities in the population, different places will experience different IFRs due to the disease. Given issues with mortality recording, it is also likely that this represents an underestimate of the true IFR figure. More research looking at age-stratified IFR is urgently needed to inform policymaking on this front.”

As of March 19, 2021, the CDC’s best estimate of the infection fatality rate for COVID-19 is 2.5.<sup>659</sup>

The generally accepted approximate IFR-S of seasonal influenza is 0.1%.<sup>660</sup>

## 5. COVID-19 Comparisons to Seasonal Influenza.

### **Seasonal Influenza**

“While seasonal influenza (flu) viruses are detected year-round in the United States, flu viruses are most common during the fall and winter. The exact timing and duration of flu seasons can vary, but influenza activity often begins to increase in October. Most of the time flu activity peaks between December and February, although activity can last as late as May.”<sup>661</sup>

“Influenza activity in the United States during the 2018–2019 season began to increase in November and remained at high levels for several weeks during January–February. Influenza A viruses were the predominant circulating viruses last year. While influenza A (H1N1pdm09) viruses predominated from October 2018 – mid February 2019, influenza A (H3N2) viruses were more commonly reported starting in late February 2019. Influenza B viruses were not commonly reported among circulating viruses during the 2018–2019 season. The season had moderate severity based on levels of outpatient influenza-like illness, hospitalizations rates, and proportions of pneumonia and influenza-associated deaths.

CDC estimates that the burden of illness during the 2018–2019 season included an estimated 35.5 million people getting sick with influenza, 16.5 million people going to a health care provider for their illness, 490,600 hospitalizations, and 34,200 deaths from influenza (Table 1). The number of influenza-associated illnesses that occurred last season was similar to the estimated number of influenza-associated illnesses during the 2012–2013 influenza season when an estimated 34 million people had symptomatic influenza illness.”<sup>662</sup> (Emphasis added).

The effectiveness of the 2018-2019 influenza vaccine for all vaccine types against

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<sup>659</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

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[https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00455?utm\\_campaign=covid19fasttrack&utm\\_medium=press&utm\\_content=basu&utm\\_source=mediaadvisory&](https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00455?utm_campaign=covid19fasttrack&utm_medium=press&utm_content=basu&utm_source=mediaadvisory&)

<sup>661</sup> <https://www.cdc.gov/flu/about/season/flu-season.htm>

<sup>662</sup> <https://www.cdc.gov/flu/about/burden/2018-2019.html>

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influenza A or B viruses was estimated by the CDC to be 29%.<sup>663</sup>

The mortality rate or death rate of the seasonal influenza in 2018 was approximately 0.1%.<sup>664</sup>

“According to the CDC, counted deaths during the peak week of the influenza seasons from 2013-2014 to 2019-2020 ranged from 351 (2015-2016, week 11 of 2016) to 1,626 (2017-2018, week 3 of 2018).”<sup>665</sup>

### **COVID-19**

“The Centers for Disease Control and Prevention (CDC) today confirmed the first case of 2019 Novel Coronavirus (2019-nCoV) in the United States in the state of Washington. The patient recently returned from Wuhan, China, where an outbreak of pneumonia caused by this novel coronavirus has been ongoing since December 2019.... The patient from Washington with confirmed 2019-nCoV infection returned to the United States from Wuhan on January 15, 2020.”<sup>666</sup> (Emphasis added).

“Officials in Santa Clara County, California, announced last night that at least two deaths in early February can now be attributed to COVID-19. Until now, the first US fatality from the pandemic coronavirus was assumed to be in the Seattle area on Feb 28, but postmortem testing on deaths from Feb 6 [2020] and Feb 17 now confirm that COVID-19 was spreading in the San Francisco Bay area weeks earlier than previously thought.”<sup>667</sup>

“[As of May 20, 2020] The CDC's current "best guess" is that — in a scenario without any further social distancing or other efforts to control the spread of the virus — roughly 4 million patients would be hospitalized in the U.S. with COVID-19 and **500,000 would die over the course of the pandemic.** That's according to the agency's new parameters that the Center for Public Integrity plugged into a simple epidemiological model.

....

The CDC document outlines five possible scenarios<sup>668</sup> for the future of the pandemic, one "best guess" and two better-case and two worse-case versions. All of them are "unmitigated," meaning they do not account for future social distancing, widespread mask usage or other efforts to contain the coronavirus.

State and local officials can use the scenarios as a baseline model against which to weigh different responses.”<sup>669</sup> (Emphasis added).

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<sup>663</sup> <https://www.cdc.gov/flu/vaccines-work/2018-2019.html>

<sup>664</sup>

[https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00455?utm\\_campaign=covid19fasttrack&utm\\_medium=press&utm\\_content=basu&utm\\_source=mediaadvisory&](https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00455?utm_campaign=covid19fasttrack&utm_medium=press&utm_content=basu&utm_source=mediaadvisory&) citing <https://www.cdc.gov/flu/about/burden/2018-2019.html>

<sup>665</sup> <https://www.thedenverchannel.com/news/coronavirus/study-covid-19-10-to-40-times-deadlier-than-seasonal-flu>

<sup>666</sup> <https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html>

<sup>667</sup> <https://www.cidrap.umn.edu/news-perspective/2020/04/coroner-first-us-covid-19-death-occurred-early-february>

<sup>668</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

<sup>669</sup> <https://www.npr.org/sections/health-shots/2020/05/22/860981956/scientists-say-new-lower-cdc-estimates-for-severity-of-covid-19-are-optimistic>

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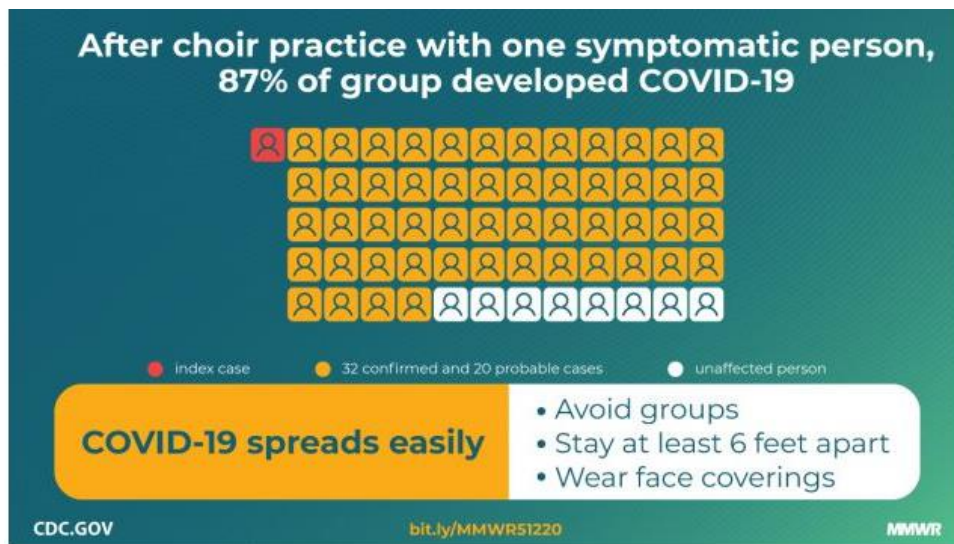
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As of August 11, 2021, in the U. S. there were 36,268,057 total cases (current 7-day average of 114,190 cases), 2,507,105 hospitalizations (current 7-day average of 10,072), and 617,096 total deaths (current 7-day moving average of 407 deaths).<sup>670</sup>

“During the week ending April 21, 2020, 15,455 coronavirus-related deaths [occurred], which made the coronavirus' peak death rate 10 to 40 times higher than the one-week peak of the flu.”<sup>671</sup> (Emphasis added).

## 6. Superspreader Cases.

**“Superspreader Event”: High SARS-CoV-2 Attack Rate Following Exposure at a Choir Practice — Skagit County, Washington, March, 2020<sup>672</sup>**



“Following a 2.5-hour choir practice on March 10, 2020 attended by 61 persons, including a symptomatic index patient, 32 confirmed and 20 probable secondary COVID-19 cases occurred (an attack virus rate of from 53.3% to 86.7%)<sup>673</sup>; three patients were hospitalized, and two died. Transmission was likely facilitated by close proximity (within 6 feet) during practice and augmented by the act of singing.

....

No choir member reported having had symptoms at the March 3 practice. One person at the March 10 practice had cold-like symptoms beginning March 7. This person, who had also attended the March 3 practice, had a positive laboratory result for SARS-

<sup>670</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>671</sup> <https://www.thedenverchannel.com/news/coronavirus/study-covid-19-10-to-40-times-deadlier-than-seasonal-flu>

<sup>672</sup> <https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e6.htm>

<sup>673</sup> “The findings in this report are subject to at least two limitations. First, the seating chart was not reported because of concerns about patient privacy. However, with attack rates of 53.3% and 86.7% among confirmed and all cases, respectively, and one hour of the practice occurring outside of the seating arrangement, the seating chart does not add substantive additional information. Second, the 19 choir members classified as having probable cases did not seek testing to confirm their illness. One person classified as having probable COVID-19 did seek testing 10 days after symptom onset and received a negative test result. It is possible that persons designated as having probable cases had another illness.” *Id.*

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CoV-2 by reverse transcription–polymerase chain reaction (RT-PCR) testing.

....

Aerosol emission during speech has been correlated with loudness of vocalization, and certain persons, who release an order of magnitude more particles than their peers, have been referred to as superemitters and have been hypothesized to contribute to superspreading events.<sup>674</sup>

....

The 2.5-hour singing practice provided several opportunities for droplet and fomite transmission, including members sitting close to one another, sharing snacks, and stacking chairs at the end of the practice. The act of singing, itself, might have contributed to transmission through emission of aerosols, which is affected by loudness of vocalization.

....

Certain persons, known as superemitters, who release more aerosol particles during speech than do their peers, might have contributed to this and previously reported COVID-19 superspreading events (2–5). These data demonstrate the high transmissibility of SARS-CoV-2 and the possibility of superemitters contributing to broad transmission in certain unique activities and circumstances.

....

It is recommended that persons avoid face-to-face contact with others, not gather in groups, avoid crowded places, maintain physical distancing of at least 6 feet to reduce transmission, and wear cloth face coverings in public settings where other social distancing measures are difficult to maintain.”<sup>675</sup>

### **High COVID-19 Attack Rate Among Attendees at Events at a Church — Arkansas, March 2020<sup>676</sup>**

On March 16, 2020, the day that national social distancing guidelines were released (1), the Arkansas Department of Health (ADH) was notified of two cases of coronavirus disease 2019 (COVID-19) from a rural county of approximately 25,000 persons; these cases were the first identified in this county. The two cases occurred in a husband and wife; the husband is the pastor at a local church.

During March 6–8, the church hosted a 3-day children’s event which consisted of two separate 1.5-hour indoor sessions (one on March 6 and one on March 7) and two, 1-hour indoor sessions during normal church services on March 8. This event was led by two guests from another state. During each session, children participated in competitions to collect offerings by hand from adults, resulting in brief close contact

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<sup>674</sup> *Id.*

<sup>675</sup> *Id.*

<sup>676</sup> [https://www.cdc.gov/mmwr/volumes/69/wr/mm6920e2.htm?s\\_cid=mm6920e2\\_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm6920e2.htm?s_cid=mm6920e2_w)

The findings in this report are subject to at least four limitations. First, some infected persons might have been missed because they did not seek testing, were ineligible for testing based on criteria at the time, or were unable to access testing. Second, although no previous cases had been reported from this county, undetected low-level community transmission was likely, and some patients in this cluster might have had exposures outside the church. Third, risk of exposure likely varied among attendees but could not be characterized because data regarding individual behaviors (e.g., shaking hands or hugging) were not collected. Finally, the number of cases beyond the cohort of church attendees likely is undercounted because tracking out-of-state transmission was not possible, and patients might not have identified church members as their source of exposure.

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among nearly all children and attending adults.

On March 7, food prepared by church members was served buffet-style. A separate Bible study event was held March 11; the pastor reported most attendees sat apart from one another in a large room at this event. Most children and some adults participated in singing during the children's event; no singing occurred during the March 11 Bible study. Among all 94 persons who might have attended any of the events, 19 (20%) attended both the children's event and Bible study.

During the investigation, two church participants who attended the March 6–8 children's event were found to have had onset of symptoms on March 6 and 7; these represent the primary cases and likely were the source of infection of other church attendees. The two out-of-state guests developed respiratory symptoms during March 9–10 and later received diagnoses of laboratory-confirmed COVID-19, suggesting that exposure to the primary cases resulted in their infections. The two primary cases were not linked except through the church; the persons lived locally and reported no travel and had no known contact with a traveler or anyone with confirmed COVID-19. Patient interviews revealed no additional common exposures among church attendees.

The husband and wife were the first to be recognized by ADH among the 35 patients with laboratory-confirmed COVID-19 associated with church attendance identified through April 22; their illnesses represent the index cases. During the investigation, two persons who were symptomatic (not the husband and wife) during March 6–8 were identified; these are considered the primary cases because they likely initiated the chain of transmission among church attendees.

The estimated attack rate ranged from 38% (35 cases among all 92 church event attendees) to 78% (35 cases among 45 church event attendees who were tested for SARS-CoV-2).

During contact tracing, at least 26 additional persons with confirmed COVID-19 cases were identified among community members who reported contact with the church attendees and likely were infected by them; one of the additional persons was hospitalized and subsequently died.

### **Community Transmission of SARS-CoV-2 at Two Family Gatherings — Chicago, Illinois, February–March 2020<sup>677</sup>**

Most early reports of person-to-person SARS-CoV-2 transmission have been among household contacts, where the secondary attack rate has been estimated to exceed 10% (1), in health care facilities (2), and in congregate settings (3). However, widespread community transmission, as is currently being observed in the United States, requires more expansive transmission events between non-household contacts.

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<sup>677</sup> *Id.*

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This report describes the cluster of 16 cases<sup>678</sup> of confirmed or probable COVID-19, including three deaths, likely resulting from transmission of SARS-CoV-2 at two family gatherings (a funeral and a birthday party).

The median interval from last contact with a patient with confirmed or probable COVID-19 to first symptom onset was 4 days. Within 3 weeks after mild respiratory symptoms were noted in the index patient, 15 other persons were likely infected with SARS-CoV-2, including three who died. Patient A1.1, the index patient, was apparently able to transmit infection to 10 other persons, despite having no household contacts and experiencing only mild symptoms for which medical care was not sought (patient A1.1 was only tested later as part of this epidemiologic investigation).

### **Identifying and Interrupting Superspreading Events—Implications for Control of Severe Acute Respiratory Syndrome Coronavirus 2<sup>679</sup>**

Severe acute respiratory syndrome (SARS) coronavirus 2 (SARS-CoV-2) continues to spread (1). Although we still have limited information on the epidemiology of coronavirus disease (COVID-19), there have been multiple reports of superspreading events (SSEs)

SSEs highlight a major limitation of the concept of  $R_0$ . The basic reproductive number  $R_0$ , when presented as a mean or median value, does not capture the heterogeneity of transmission among infected persons (16); 2 pathogens with identical  $R_0$  estimates may have markedly different patterns of transmission. Furthermore, the goal of a public health response is to drive the reproductive number to a value  $<1$ , something that might not be possible in some situations without better prevention, recognition, and response to SSEs.

#### 7. COVID-19 Pandemic Planning.

#### **[August 8, 2020] Table 1. Parameter Values that vary among the five COVID-19 Pandemic Planning Scenarios.<sup>680</sup>**

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<sup>678</sup> The findings in this investigation are subject to at least three limitations. First, lack of laboratory testing for probable cases means some probable COVID-19 patients might have instead experienced unrelated illnesses, although influenza-like illness was declining in Chicago at the time. Second, phylogenetic data, which could confirm presumed epidemiologic linkages, were unavailable. For example, patient B3.1 experienced exposure to two patients with confirmed COVID-19 in this cluster, and the causative exposure was presumed based on expected incubation periods. Patient D3.1 was a health care professional, and, despite not seeing any patients with known COVID-19, might have acquired SARS-CoV-2 during clinical practice rather than through contact with members of this cluster. Similarly, other members of the cluster might have experienced community exposures to SARS-CoV-2, although these transmission events occurred before widespread community transmission of SARS-CoV-2 in Chicago. Finally, despite intensive epidemiologic investigation, not every confirmed or probable case related to this cluster might have been detected. Persons who did not display symptoms were not evaluated for COVID-19, which, given increasing evidence of substantial asymptomatic infection (9), means the size of this cluster might be underestimated. *Id.*

<sup>679</sup> [https://wwwnc.cdc.gov/eid/article/26/6/20-0495\\_article](https://wwwnc.cdc.gov/eid/article/26/6/20-0495_article)

<sup>680</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

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The scenarios are intended to advance public health preparedness and planning. They are not predictions or estimates of the expected impact of COVID-19.

Scenario 5: Parameter values for disease severity, viral transmissibility, and pre-symptomatic and asymptomatic disease transmission that represent the best estimate, based on the latest surveillance data and scientific knowledge. Parameter values are based on data received by CDC through August 8, 2020.

Parameter	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5: Current Best Estimate
<b><math>R_0^*</math></b>	2.0		4.0		<b>2.5</b>
<b>Infection Fatality Ratio†</b>	0-19 years: 0.00002 20-49 years: 0.00007 50-69 years: 0.0025 70+ years: 0.028		0-19 years: 0.0001 20-49 years: 0.0003 50-69 years: 0.010 70+ years: 0.093		0-19 years: 0.00003 20-49 years: 0.0002 50-69 years: 0.005 70+ years: 0.054
<b>Percent of infections that are asymptomatic‡</b>	10%	70%	10%	70%	<b>40%</b>
<b>Infectiousness of asymptomatic individuals relative to symptomatic¶</b>	25%	100%	25%	100%	75%
<b>Percentage of transmission occurring prior to symptom onset</b>	30%	70%	30%	70%	<b>50%</b>

\*The best estimate representative of the point estimates of  $R_0$  from the following sources:

**[August 8, 2020] From Table 2: CDC Parameter Values Common to the Five COVID-19 Pandemic Planning Scenarios.**<sup>681</sup>

The parameter values are likely to change as we obtain additional data about disease severity and viral transmissibility of COVID-19.

Parameter values are based on data received by CDC through August 8, 2020, including COVID-19 Case Surveillance Public Use Data (<https://data.cdc.gov/Case-Surveillance/COVID-19-Case-Surveillance-Public-Use-Data/vbim-akqf>); data from the Hospitalization Surveillance Network ([COVID-NET](#)) (through August 1); and data from Data Collation and Integration for Public Health Event Response (*DCIPHER*).

<sup>681</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

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<b>Pre-existing immunity Assumption, ASPR and CDC</b>	No pre-existing immunity before the pandemic began in 2019. It is assumed that all members of the U.S. population were susceptible to infection prior to the pandemic.
<b>Time from exposure to symptom onset*</b>	~6 days (mean)
<b>Time from symptom onset in an individual and symptom onset of a second person infected by that individual†</b>	~6 days (mean)
<b>Mean ratio of estimated infections to reported case counts, Overall (range)§</b>	11 (6, 24)
<b>Parameter Values Related to Healthcare Usage</b>	
<b>Median number of days from symptom onset to SARS-CoV-2 test among SARS-CoV-2 positive patients (interquartile range)¶</b>	Overall: 3 (1, 6) days
<b>Median number of days from symptom onset to hospitalization (interquartile range)**</b>	18-49 years: 6 (3, 10) days 50-64 years: 6 (2, 10) days ≥65 years: 4 (1, 9) days
<b>Median number of days of hospitalization among those not admitted to ICU (interquartile range)††</b>	18-49 years: 3 (2, 5) days 50-64 years: 4 (2, 7) days ≥65 years: 6 (3, 10) days
<b>Median number of days of hospitalization among those admitted to ICU (interquartile range)††,§§</b>	18-49 years: 11 (6, 20) days 50-64 years: 14 (8, 25) days ≥65 years: 12 (6, 20) days
<b>Percent admitted to ICU among those hospitalized††</b>	18-49 years: 23.8% 50-64 years: 36.1% ≥65 years: 35.3%
<b>Percent on mechanical ventilation among those hospitalized. Includes both non-ICU and ICU admissions††</b>	18-49 years: 12.0% 50-64 years: 22.1% ≥65 years: 21.1%

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<b>Percent that die among those hospitalized. Includes both non-ICU and ICU admissions<sup>††</sup></b>	<p>18-49 years: 2.4%</p> <p>50-64 years: 10.0%</p> <p>≥65 years: 26.6%</p>
<b>Median number of days of mechanical ventilation (interquartile range)<sup>**</sup></b>	Overall: 6 (2, 12) days
<b>Median number of days from symptom onset to death (interquartile range)<sup>**</sup></b>	<p>18-49 years: 15 (9, 25) days</p> <p>50-64 years: 17 (10, 26) days</p> <p>≥65 years: 13 (8, 21) days</p>
<b>Median number of days from death to reporting (interquartile range)<sup>†††</sup></b>	<p>18-49 years: 19 (5, 45) days</p> <p>50-64 years: 21 (6, 46) days</p> <p>≥65 years: 19 (5, 44) days</p>

[March 19, 2021] Table 1. Parameter Values that vary among the five COVID-19 Pandemic Planning Scenarios.<sup>682</sup>

The scenarios are intended to advance public health preparedness and planning. They are not predictions or estimates of the expected impact of COVID-19.

Scenario 5: Parameter values for disease severity, viral transmissibility, and pre-symptomatic and asymptomatic disease transmission that represent the best estimate, based on the latest surveillance data and scientific knowledge. Parameter values are based on data received by CDC through March 19, 2021.

Parameter	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5: Current Best Estimate
<b><math>R_0^*</math></b>	2.0		4.0		<b>2.5</b>
<b>Infection fatality ratio (Estimated number of deaths per 1,000,000 infections)<sup>†</sup></b>	0–17 years old: 6 18–49 years old: 150 50–64 years old: 1,800 65+ years old: 26,000		0–17 years old: 80 18–49 years old: 1,700 50–64 years old: 20,000 65+ years old: 270,000		0–17 years old: 20 18–49 years old: 500 50–64 years old: 6,000 65+ years old: 90,000
<b>Percent of infections that are asymptomatic<sup>§</sup></b>	15%	70%	15%	70%	<b>30%</b>

<sup>682</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

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<b>Parameter</b>	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>	<b>Scenario 4</b>	<b>Scenario 5: Current Best Estimate</b>
<b>Infectiousness of asymptomatic individuals relative to symptomatic<sup>^</sup></b>	25%	100%	25%	100%	75%
<b>Percentage of transmission occurring prior to symptom onset**</b>	30%	70%	30%	70%	50%

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**[February 14, 2021] Table 2. Parameter Values Common to the Five COVID-19 Pandemic Planning Scenarios.**<sup>683</sup> The parameter values are likely to change as we obtain additional data about disease severity and viral transmissibility of COVID-19.

Parameter values are based on data received by CDC between December 31, 2020, and February 14, 2021, including COVID-19 Case Surveillance Data (public use version of data: <https://data.cdc.gov/Case-Surveillance/COVID-19-Case-Surveillance-Public-Use-Data/vbim-akqf>); data from the Hospitalization Surveillance Network ([COVID-NET](#)) (through December 31, 2020); and data from Human and Health Services Protect (*HHS Protect*) (through February 14, 2021).

Parameter values Table 2

<b>Pre-existing immunity Assumption, ASPR and CDC</b>	No pre-existing immunity before the pandemic began in 2019. It is assumed that all members of the U.S. population were susceptible to infection prior to the pandemic.
<b>Time from exposure to symptom onset*</b>	~6 days (mean)
<b>Time from symptom onset in an individual and symptom onset of a second person infected by that individual†</b>	~6 days (mean)
<b>Mean ratio of estimated infections to reported case counts, overall (range)§</b>	11 (6, 24)
<b>Parameter Values Related to Healthcare Usage</b>	
<b>Median number of days from symptom onset to SARS-CoV-2 test among SARS-CoV-2 positive patients (interquartile range)^</b>	Overall: 2 (0, 4) days
<b>Median number of days from symptom onset to hospitalization (interquartile range)**</b>	0–17 years old: 2 (0, 7) days 18–49 years old: 6 (2, 10) days 50–64 years old: 6 (2, 10) days ≥65 years old: 4 (1, 9) days
<b>Median number of days of hospitalization among those not admitted to ICU (interquartile range) ††</b>	0–17 years old: 2 (1, 4) days 18–49 years old: 3 (2, 6) days 50–64 years old: 4 (2, 7) days ≥65 years old: 5 (3, 9) days

<sup>683</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

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<b>Median number of days of hospitalization among those admitted to the ICU (interquartile range)<sup>††,§§</sup></b>	0–17 years old: 5 (2, 10.5) days 18–49 years old: 10 (6, 20) days 50–64 years old: 14 (8, 25) days ≥65 years old: 13 (7, 22) days
<b>Percent admitted to the ICU among those hospitalized<sup>††</sup></b>	0–17 years old: 27.5% 18–49 years old: 18.9% 50–64 years old: 27.1% ≥65 years old: 26.9%
<b>Percent on mechanical ventilation among those hospitalized. Includes both non-ICU and ICU admissions<sup>††</sup></b>	0–17 years old: 5.8% 18–49 years old: 9.0% 50–64 years old: 15.1% ≥65 years old: 15.6%
<b>Percent that die among those hospitalized. Includes both non-ICU and ICU admissions<sup>††</sup></b>	0–17 years old: 0.7% 18–49 years old: 2.1% 50–64 years old: 7.9% ≥65 years old: 18.8%
<b>Median number of days of mechanical ventilation (interquartile range)<sup>**</sup></b>	Overall: 5 (2, 11) days
<b>Median number of days from symptom onset to death (interquartile range)<sup>**</sup></b>	0–17 years old: 10 (4, 31) days 18–49 years old: 17 (10, 30) days 50–64 years old: 19 (11, 30) days ≥65 years old: 16 (9, 25) days
<b>Median number of days from death to reporting (interquartile range)<sup>^^</sup></b>	0–17 years old: 8 (3, 33) days 18–49 years old: 26 (5, 63) days 50–64 years old: 28 (5, 64) days ≥65 years old: 23 (4, 59) days

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## 8. Community or “Herd” Immunity.

“Community immunity [or herd immunity]: A situation in which a sufficient proportion of a population is immune to an infectious disease (through vaccination and/or prior illness) to make its spread from person to person unlikely. Even individuals not vaccinated (such as newborns and those with chronic illnesses) are offered some protection because the disease has little opportunity to spread within the community....”<sup>684</sup>

To reach herd immunity for COVID-19, likely 70% or more of the population would need to be immune. Without a vaccine, over 200 million Americans would have to get infected before we reach this threshold. Put another way, even if the current pace of the COVID-19 pandemic continues in the United States – with over 25,000 confirmed cases a day – it will be well into 2021 before we reach herd immunity.”<sup>685</sup>

Nypost.com, Dr. Fauci says COVID-19 herd immunity may take 90%<sup>686</sup> to be infected or vaccinated:

“Dr. Anthony Fauci now says as much as 90 percent of the population may need to get vaccinated or infected to achieve herd immunity against COVID-19 — admitting in a new interview that he has been intentionally raising the bar based, in part, on what he thinks the country is ready to hear.

“We really don’t know what the real number is,” the nation’s top infectious disease expert told the New York Times.

“I think the real range is somewhere between 70 to 90 percent. But, I’m not going to say 90 percent.”

The director of the National Institute of Allergy and Infectious Diseases acknowledged that he’s been intentionally upping that number as science’s understanding of the virus has changed — and as Americans have become more confident in coronavirus vaccines.

....

He said he’s comfortable drawing the line at 90 percent herd immunity because he doesn’t believe the virus is more infectious than the measles, which falls in that range.

“I’d bet my house that COVID isn’t as contagious as measles,” he said.

Around 46 percent of Americans plan to take the vaccine at the earliest available opportunity, while 32 percent are willing to wait for others to get the shot first, according to a recent USA Today-Suffolk University survey.”

*Latimes.com*, December 26, 2020. Can COVID-19 vaccines get us to herd immunity?

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<sup>684</sup> <https://www.cdc.gov/vaccines/terms/glossary.html#commimmunity>

<sup>685</sup> <https://coronavirus.jhu.edu/from-our-experts/early-herd-immunity-against-covid-19-a-dangerous-misconception>

<sup>686</sup> <https://nypost.com/2020/12/24/fauci-covid-herd-immunity-requires-90-to-be-infected-or-vaccinated/>

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‘The jury is definitely still out’:<sup>687</sup>

The aim of the vaccination campaign against COVID-19 is herd immunity — the point at which so few people are susceptible to infection that the virus runs out of places to go.

In the early days of the pandemic, epidemiologists estimated that would require inoculating about two-thirds of the U.S. population.

Now many of those same experts say that figure is almost certainly too low.

‘If you really want true herd immunity, where you get a blanket of protection over the country ... you want about 75 to 85% of the country to get vaccinated,’ Dr. Anthony Fauci, the nation’s top infectious-disease official, told a reporter last week. ‘I would say even closer to 85%.’

The shift reflects a deeper understanding of how the virus spreads — that it jumps from one person to another more easily than once thought.

The question of how many people must be vaccinated is of crucial importance as the world embarks on the biggest inoculation campaign in decades.

The goal of vaccination isn’t just to protect the individual who receives it but also to drape a fire blanket over a large enough portion of the population that the fire begins running out of fuel.

If too few people are vaccinated, the virus will keep finding enough new hosts to propagate itself — and continue to stress the healthcare system, delay economic recovery, necessitate social distancing and potentially surge again if vaccines lose effectiveness over time.

Whatever the threshold for herd immunity, public health officials face a substantial challenge.

An early December poll from the Associated Press-NORC Center for Public Affairs Research found that 46% of American adults planned to get vaccinated while 26% would decline and 27% were still undecided.

One group of researchers found that anti-vaccination messaging on social media has tripled since the start of the pandemic.

A particular obstacle could be vaccinating children and teenagers, a group that has not been hit especially hard by the pandemic and for which vaccines are still being tested. But at 22% of the U.S. population, they are important to any effort to achieve herd immunity and return to normal life.

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<sup>687</sup> <https://www.yahoo.com/now/covid-19-vaccines-us-herd-110023026.html>

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When epidemiologists first aimed to model how many people would need to be vaccinated in order to drive the coronavirus toward extinction, they compared early transmission trends to those of other recent flu pandemics.

They noted how the coronavirus had a longer incubation period, more asymptomatic spread and higher contagion — estimating that the pandemic would probably drag on for 18 to 24 months.

“It likely won’t be halted until 60% to 70% of the population is immune,” said a report published by infectious-disease experts in April.

There are two paths to immunity: becoming infected with the virus and recovering, or getting vaccinated. Neither is a guarantee.

Based on data from clinical trials showing that the efficacy of the two authorized vaccines — from Pfizer and Moderna — is excellent but still imperfect, the threshold for herd immunity rises to around 74%.

But experts say even that calculation is still too simple.

“Those numbers are useful for thought experiments, but they don’t represent what’s likely to be the way we control the virus or its impacts,” said Harvard epidemiologist Marc Lipsitch. “Offering a kind of magic number requires some very strong assumptions about these vaccines.”

Many factors can come into play. If the virus becomes even more transmissible, the threshold for herd immunity would increase.

The targets could vary by location. In sparsely populated places where people adhere to social distancing guidelines, fewer people would have to be vaccinated to burn out the virus.

‘It’s going to be the sort of thing that we’re studying for a very long time to come,’ said William Hanage, an epidemiologist at the Center for Communicable Disease Dynamics at Harvard.

Then there are the vaccines themselves.

They were authorized based on rapid-fire clinical trials that showed recipients were highly unlikely to develop symptoms of COVID-19 — but did not determine whether the vaccines actually prevent people from becoming infected with the virus or transmitting it.

The degree to which the vaccines prevent transmission matters greatly in the equation for calculating herd immunity. In a bad-case scenario, the vaccines do so little to stop transmissions that herd immunity simply can’t be achieved through vaccination alone.

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“At the moment, the jury is definitely still out,” Lipsitch said. “If I had to guess, there will be a component of herd immunity — I just don’t know how dramatic it will be.”

It could turn out that reaching herd immunity depends not only on how many people are vaccinated but also which people. Inoculating those most likely to spread it — people who live or work in close quarters, for example — may do much more to contain the pandemic than vaccinating people who live in relative seclusion.

Given all these unknowns, Fauci brought his estimate to 85% — and has said it could be even higher.

The costs of not achieving herd immunity are substantial. If the virus continues to circulate broadly, even some people who are vaccinated will develop COVID-19. Hospitals will continue to confront surges of the virus, depleting their resources and compromising their ability to treat heart attacks, strokes and other emergencies.

Meanwhile, overall quality of life would continue to suffer. Schools, offices and restaurants would remain closed even for people who have been vaccinated.

Experts say that until the virus is circulating at extraordinarily low levels — such that the risk of becoming infected is close to zero — social distancing and mask-wearing are here to stay.

The final answer to the question of how many people need to be vaccinated won’t be known until herd immunity is actually achieved. When epidemiologists start to see the test positivity rate falling to extremely low numbers, that’s how they’ll know the campaign is working.

But with the exception of smallpox, no virus that afflicts humans has ever been wiped out completely. Experts have been struggling with polio for decades, lately in conflict regions where vaccination campaigns have been disrupted.

They emphasize that in the age of globalization, herd immunity must eventually take into account almost every corner of the earth — a pathogen anywhere remains a threat everywhere.

‘I think it’s extremely unlikely that we would be able to eradicate this virus,’ Hanage said. ‘In reality, we have to accept that.’

‘However, we should be able to get to a point where we are going to be able to live without it markedly damaging our lives, without leading to surges that damage our healthcare, or large excessive mortality — and that is what we are seeking to achieve.’” (Emphasis added).

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As of December 29, 2020, the CDC says:

“Experts do not know what percentage of people would need to get vaccinated to achieve herd immunity to COVID-19. Herd immunity is a term used to describe when enough people have protection—either from previous infection or vaccination—that it is unlikely a virus or bacteria can spread and cause disease. As a result, everyone within the community is protected even if some people don’t have any protection themselves. The percentage of people who need to have protection in order to achieve herd immunity varies by disease.”<sup>688</sup>

As of May 29, 2021, the CDC has calculated the “Estimated Disease Burden of COVID-19.”<sup>689</sup>

Table 1: Preliminary estimated COVID-19 cumulative incidence, by age group — United States, February 2020-May 2021<sup>‡</sup>

Age group	Infections		Symptomatic Illness		Hospitalizations		Deaths	
	Estimate	95% UI*	Estimate	95% UI*	Estimate	95% UI*	Estimate	95% UI*
0-17 years	26,838,244	21,966,492 – 33,109,862	22,895,857	19,681,278 – 27,181,718	209,264	169,035 – 256,472	332	310-449
18-49 years	60,461,355	50,372,115 – 73,172,038	51,581,445	45,181,664 – 59,344,624	1,533,679	1,313,618 – 1,796,098	34,171	31,355 – 37,360
50-64 years	20,375,641	17,043,764 – 24,561,779	17,377,602	15,329,878 – 19,854,568	1,604,612	1,411,704 – 1,831,326	116,284	112,590 – 120,005
65+ years	12,298,890	9,934,247 – 15,460,317	10,005,696	8,872,135 – 11,338,584	2,808,089	2,474,510 – 3,218,931	615,824	607,666 – 623,771
All ages	120,259,370	103,321,791 – 140,873,869	101,886,269	90,959,297 – 115,248,191	6,156,065	5,502,505 – 6,954,083	766,611	754,944 – 778,170

\* Adjusted estimates and rates are presented in two parts: an uncertainty interval [UI] and a point estimate. The uncertainty interval provides a range in which the true number or rate of COVID-19 infections, symptomatic illnesses, or hospitalization would be expected to fall if the same study was repeated many times, and it gives an idea of the precision of the point estimate. A 95% uncertainty interval means that if the study were repeated 100 times, then 95 out of 100 times the uncertainty interval would contain the true point estimate. Conversely, in only 5 times out of a 100 would the uncertainty interval not contain the true point estimate.

<sup>688</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/BP-Final-Standard-for-SARS-CoV-2-that-Causes-COVID-19-DRAFT-1.4.2021.pdf>

<sup>689</sup> <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/burden.html>

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## 9. COVID-19 Virus Mutations.

Depending on the level of contagiousness of COVID-19 expressed in the  $R_0$ <sup>690</sup> value, “the threshold for combined [COVID-19] vaccine efficacy and herd immunity needed for disease extinction” is estimated between 55% and 82% “(i.e., >82% of the population has to be immune, through either vaccination or prior infection, to achieve herd immunity to stop transmission).<sup>691</sup>

“The new [SARS-CoV-2] coronavirus is an RNA virus: a collection of genetic material packed inside a protein shell. Once an RNA virus makes contact with a host, it starts to make new copies of itself that can go on to infect other cells.

RNA viruses, like the flu and measles, are more prone to changes and mutations compared with DNA viruses, such as herpes, smallpox, and human papillomavirus (HPV).

‘In the world of RNA viruses, change is the norm. We expect RNA viruses to change frequently. That’s just their nature,’ said Dr. Mark Schleiss, a pediatric infectious disease specialist and investigator with the Institute for Molecular Virology at the University of Minnesota.

SARS-CoV-2 is no exception, and over the past few months it has been mutating. But the virus has mutated at a very slow pace. And when it does mutate, the new copies aren’t far off from the original virus.

‘The sequences of the original isolates from China are very close to those in viruses circulating in the U.S. and the rest of the world,’ said Dr. John Rose, a senior research scientist in the department of pathology at Yale Medicine who’s helping develop a COVID-19 vaccine.

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Early research from scientists at Los Alamos National Laboratory<sup>692</sup> shows that SARS-CoV-2 has mutated into a new form that may be more contagious.

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<sup>690</sup> “The basic reproduction number ( $R_0$ ), pronounced “R naught,” is intended to be an indicator of the contagiousness or transmissibility of infectious and parasitic agents....  $R_0$  has been described as being one of the fundamental and most often used metrics for the study of infectious disease dynamics (7–12). An  $R_0$  for an infectious disease event is generally reported as a single numeric value or low–high range, and the interpretation is typically presented as straightforward; an outbreak is expected to continue if  $R_0$  has a value >1 and to end if  $R_0$  is <1 (13). The potential size of an outbreak or epidemic often is based on the magnitude of the  $R_0$  value for that event (10), and  $R_0$  can be used to estimate the proportion of the population that must be vaccinated to eliminate an infection from that population (14,15).  $R_0$  values have been published for measles, polio, influenza, Ebola virus disease, HIV disease, a diversity of vectorborne infectious diseases, and many other communicable diseases (14,16–18).

[https://wwwnc.cdc.gov/eid/article/25/1/17-1901\\_article](https://wwwnc.cdc.gov/eid/article/25/1/17-1901_article)

<sup>691</sup> [https://wwwnc.cdc.gov/eid/article/26/7/20-0282\\_article#suggestedcitation](https://wwwnc.cdc.gov/eid/article/26/7/20-0282_article#suggestedcitation)

<sup>692</sup> <https://www.biorxiv.org/content/10.1101/2020.04.29.069054v1>

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The new strain is responsible for the vast majority of infections reported around the world since mid-March, according to the new study published in the preprint research website BioRxiv Thursday.

In total, the researchers identified 14 strains of COVID-19 and released their findings to help those working on vaccines and treatments.

That being said, the new dominant strain identified does seem to be more infectious in laboratory settings.

But scientists are now trying to understand how the variation behaves in the body — which may be very different from lab settings. Additionally, the study is in preprint, which means it hasn't yet been fully peer-reviewed.

It's also unclear whether the new mutation infects and sickens people differently. At this time, the illness and hospitalization rates caused by the new variation seems to be similar.”<sup>693</sup>

*Forbes.com*, December 29, 2020. First U.S. Case Of New Covid Mutation<sup>694</sup> Discovered In Colorado:

“A new, highly contagious coronavirus variant that was first identified in Britain has reached the United States, officials in Colorado confirmed Tuesday, reporting the first known U.S. case of the strain more than two weeks after it was discovered — a worrying development as Covid-19 infections and deaths climb nationwide.

The variant was discovered in a man in his 20s who lives in Elbert County, a rural area near Denver, Gov. Jared Polis (D-Colo.) said in a tweet Tuesday afternoon.

The man has no travel history, Polis said, placing him at odds with many other patients in Europe who appeared to contract the variant while traveling in the United Kingdom.

....

Researchers believe this new coronavirus variant — which U.K. officials disclosed earlier this month — is about 56% more contagious than other versions of the virus, an alarming figure even though it doesn't appear to lead to deadlier infections. As of last week, the variant was already responsible for the majority of London's Covid-19 infections, and officials have partly blamed it for a recent spike in U.K. Covid-19 cases that has forced much of the country back into strict lockdowns. Dozens of countries have banned or restricted travel from the United Kingdom in response, including the United States, which began requiring all U.K. travelers to show a negative coronavirus test

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<sup>693</sup> <https://www.healthline.com/health-news/what-to-know-about-mutation-and-covid-19#The-new-coronavirus-is-mutating,-but-very-slowly>

<sup>694</sup> <https://www.forbes.com/sites/joewalsh/2021/12/29/first-us-case-of-new-covid-mutation-discovered-in-colorado/?sh=5560175e1d79>

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before flying to the U.S. this week.

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Most infectious disease experts aren't surprised to see the new variant arrive in the United States. Last week, Dr. Anthony Fauci told ABC News it's "certainly possible" the mutation was already present in the country. But experts fear a more transmissible form of Covid-19 could make controlling the virus' spread even more difficult, adding to an already-dire surge in cases throughout the United States." (Emphasis added).

CNN.com, June 14, 2021, "A new coronavirus variant is on the rise. Here's why experts are concerned"<sup>695</sup>

"The [Delta variant](#)<sup>696</sup> is on its way to becoming the dominant strain of coronavirus in the US, raising concerns that outbreaks could hit unvaccinated people this fall.

And a new study shows the Delta variant is associated with almost double the risk of hospitalization compared to the Alpha variant.

The Alpha (B.1.1.7) variant, which is "[stickier" and more contagious](#)<sup>697</sup> than the original strain of novel coronavirus, became [the dominant strain in the US](#)<sup>698</sup> this spring.

But health experts worry the Alpha variant could be trumped by the Delta variant, which [appears to be even more transmissible and may cause more severe illness](#)<sup>699</sup> for those not vaccinated.

As of June 14, 2021, about 10% of Covid-19 cases in the US can be attributed to the Delta variant. But that proportion is doubling every two weeks, Scott Gottlieb, a former commissioner of the US Food and Drug Administration, said in a CBS interview Sunday. He said the Delta variant will probably take over as the dominant strain of coronavirus in the US.

As of June 22, 2021, the Delta variant now makes up about 20% of all new COVID-19 cases in the U.S.<sup>700</sup>

"I think in parts of the country where you have less vaccination -- particularly in parts of the South, where you have some cities where vaccination rates are low -- there's a risk that you could see outbreaks with this new variant," Gottlieb said.

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<sup>695</sup> <https://www.cnn.com/2021/06/14/health/us-coronavirus-monday/index.html>

<sup>696</sup> <https://www.cnn.com/2021/06/10/health/delta-variant-india-explained-coronavirus-intl-cmd/index.html>

<sup>697</sup> <https://www.cnn.com/2021/04/12/health/b117-covid-variant-young-patients/index.html>

<sup>698</sup> <https://www.cnn.com/videos/health/2021/04/07/walensky-covid-19-uk-variant-sot-cohen-nr-vpx.cnn>

<sup>699</sup> <https://www.cnn.com/2021/06/10/health/delta-variant-india-explained-coronavirus-intl-cmd/index.html>

<sup>700</sup> <https://www.cnbc.com/2021/06/22/fauci-declares-delta-variant-greatest-threat-to-the-nations-efforts-to-eliminate-covid.html>

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While 52.4% of Americans have received at least one dose of vaccine, only 43.4% have been fully vaccinated, according to data Sunday from the US Centers for Disease Control and Prevention.

The Delta variant could pose a serious risk for states lagging in Covid-19 vaccinations, but the good news is Americans can stave off the danger by getting vaccinated.

Studies suggest those who are fully vaccinated have protection against the Delta variant.

"We have the tools to control this and defeat it," Gottlieb said. "We just need to use those tools."

New research shows the Delta variant may lead to more hospitalizations. The Delta variant -- or the B.1.617.2 strain first detected in India -- has been linked to about double the risk of hospitalization compared to the Alpha variant first found in the UK, according to the preliminary findings of a Scottish study published Monday in *The Lancet*.

The Alpha variant used to be the dominant strain in the UK. But last week, Health Secretary Matt Hancock said the Delta variant had taken over -- making up 91% of new cases in the UK."

CNBC.com, June 8, 2021, "Fauci says U.S. must vaccinate more people before Delta becomes dominant Covid variant in America"<sup>701</sup>

"In the U.S., the Delta variant accounts for more than 6% of cases scientists have been able to sequence, he said. The actual number is likely higher, as the U.S. is running the genetic sequence on a fraction of cases.

"In the U.K., the Delta variant is rapidly emerging as the dominant variant ... It is replacing the B.1.1.7," Fauci said. "We cannot let that happen in the United States."

....

First detected in October, the Delta variant has spread to at least 62 countries, the World Health Organization said last week.

"We continue to observe significantly increased transmissibility and a growing number of countries reporting outbreaks associated with this variant," the WHO said of the Delta strain last week, noting that further study was a high priority.

The Delta strain has a stranglehold on India, causing a spike in infections and deaths that has clogged hospital systems. The Indian government announced Monday that the country will soon begin providing Covid-19 vaccines for free

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<sup>701</sup> <https://www.cnbc.com/2021/06/08/fauci-says-us-must-vaccinate-more-people-before-delta-becomes-dominant-covid-variant-in-america.html>

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to all adults in the country.

Fauci also said that the Delta variant is more contagious and may be associated with a higher risk of hospitalization than the original “wild type” Covid-19 strain.

Studies also show that two doses of the Pfizer or AstraZeneca shots are effective against the Delta strain, according to the National Institutes of Health.

Two doses of the Pfizer vaccine were shown to be 88% effective against the Delta variant, while two doses of the AstraZeneca shot were shown to be 60% effective against the strain, according to NIH data.

Fauci stressed the importance of getting two doses after NIH studies showed that, three weeks after being given, **just one dose of either vaccine provided only 33% efficacy against the Delta variant.**” (Emphasis added).

WRIC.com, Richmond, Virginia, June 23, 2021, "State's vaccine coordinator: Delta variant is spreading, gives look into what school may look like in the fall"<sup>702</sup>

"Virginia hit the benchmark for vaccinations earlier this week, but the state's vaccine coordinator, Dr. Danny Avula, says there is still more work to be done.

On Monday, Governor Ralph Northam reported 70% of adults in Virginia have received at least one dose of the vaccine, but there are segments of the Commonwealth still reporting a 30% or 40% vaccination rate. It comes as the delta variant is already starting to spread.

'At the end of May the Delta variant was about 2% of our new infections and as of last week it was 10% and I think it's going to be much more than that,' Avula told our sister station, WAVY.

The good news is that those fully vaccinated don't need to worry. Luckily, he said the vaccine appears to be working against that variant and others that have emerged so far. 'So far, I think we've been lucky,' Avula said. 'These variants like the U-K variant, the alpha the delta, that have really emerged in different countries – our vaccines have been incredibly effective against them.'

So, what about the rest of the population who hasn't gotten the shot? 'What that means is that kids who are not vaccinated will likely at some point be vectors – the will spread this new variant widely,' Avula stated. The concern then becomes spreading the virus to unvaccinated adults.

'So, for segments in our community like in Southern or Southwest Virginia where the adult vaccination rate is about 40% that means that kids will

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<sup>702</sup> <https://www.wric.com/health/coronavirus/states-vaccine-coordinator-delta-variant-is-spreading-gives-look-into-what-school-may-look-like-in-the-fall/>

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contribute to the spread of disease – if we’re not careful,” he said.”

### Current CDC National Statistics on COVID-19.

As of August 11, 2021:<sup>703</sup>

#### SARS-CoV-2 Variants

Multiple variants of the virus that causes COVID-19 are circulating globally, including within the United States. Currently, four variants are classified as a variant of concern (VOC). Nowcast estimates\* of COVID-19 cases caused by these VOCs for the week ending August 7 are summarized here.

**Nationally, the combined proportion of cases attributed to Delta (B.1.617.2, AY.1, AY.2, AY.3) is estimated to increase to 97.4%;** Alpha (B.1.1.7) proportion is estimated to decrease to 0.9%; Gamma (P.1) proportion is estimated to decrease to 0.5%; and Beta (B.1.351) is estimated to be less than 0.1%.

Nowcast estimates that Delta (B.1.617.2, AY.1, AY.2, and AY.3) will continue to be the predominant variant circulating in all 10 HHS regions. Alpha (B.1.1.7) is estimated to be 1.6% or less in all HHS regions. Gamma (P.1) is estimated to be 1.2% or less in all HHS regions; and Beta (B.1.351) is estimated to be less than 0.1% in all HHS regions.

#### Reported Cases

The current 7-day moving average of daily new cases (114,190) increased 18.4% compared with the previous 7-day moving average (96,454). **The current 7-day moving average is 66.3% higher compared to the peak observed on July 20, 2020 (68,685).** The current 7-day moving average is 65.0% lower than the peak observed on January 10, 2021 (254,023) and is **882.8% higher than the lowest value observed on June 19, 2021 (11,619).** A total of 36,268,057 COVID-19 cases have been reported as of August 11.

#### Daily Trends in COVID-19 Cases in the United States Reported to CDC

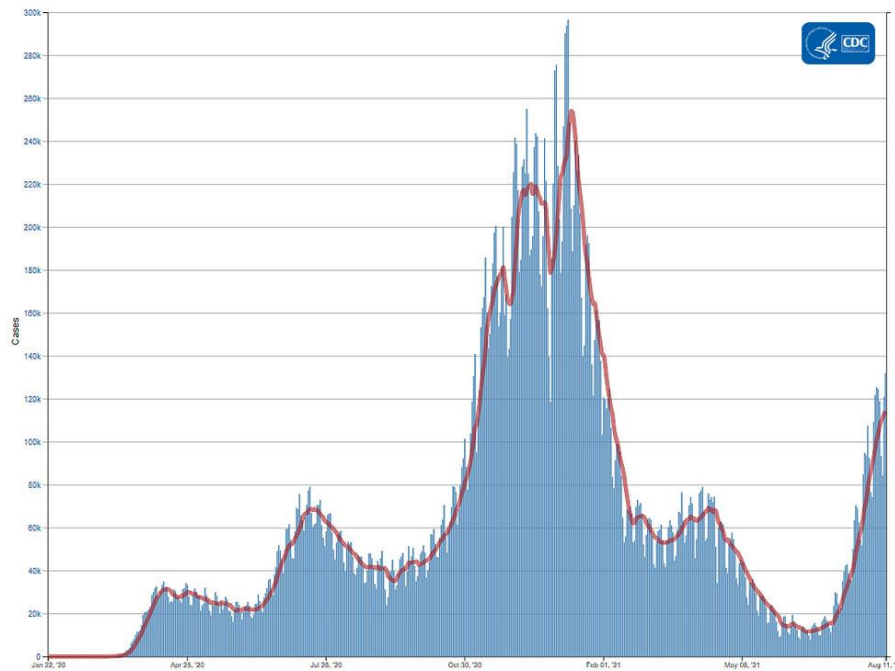
■ 7-Day moving average

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<sup>703</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

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## 10. COVID-19 Vaccine Development and Deployment.

### **How COVID-19 Vaccines Work<sup>704</sup>**

“COVID-19 vaccines help our bodies develop immunity to the virus that causes COVID-19 without us having to get the illness. Different types of vaccines work in different ways to offer protection, but with all types of vaccines, the body is left with a supply of “memory” T-lymphocytes as well as B-lymphocytes that will remember how to fight that virus in the future.

It typically takes a few weeks for the body to produce T-lymphocytes and B-lymphocytes after vaccination. Therefore, it is possible that a person could be infected with the virus that causes COVID-19 just before or just after vaccination and then get sick because the vaccine did not have enough time to provide protection.

Sometimes after vaccination, the process of building immunity can cause symptoms, such as fever. These symptoms are normal and are a sign that the body is building immunity.”

### **Authorized Vaccines**

Currently, three vaccines are authorized and recommended to prevent COVID-19.<sup>705</sup>

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<sup>704</sup> [https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/how-they-work.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fvaccines%2Fabout-vaccines%2Fhow-they-work.html](https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/how-they-work.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fvaccines%2Fabout-vaccines%2Fhow-they-work.html)

<sup>705</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines.html>

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- Pfizer-BioNTech COVID-19 vaccine<sup>706</sup> [2 shots given 21 days apart]

“Based on evidence from clinical trials, the Pfizer-BioNTech vaccine was 95% effective at preventing laboratory-confirmed COVID-19 illness in people without evidence of previous infection. In clinical trials, the Pfizer-BioNTech vaccine was also highly effective at preventing laboratory-confirmed COVID-19 illness in adolescents aged 12–15 years, and the immune response in people aged 12–15 years was at least as strong as the immune response in people aged 16–25 years.”

- Moderna’s COVID-19 vaccine<sup>707</sup> [2 shots given 28 days apart]

- “Based on evidence from clinical trials, the Moderna vaccine was 94.1% effective at preventing laboratory-confirmed COVID-19 illness in people who received two doses who had no evidence of being previously infected. The vaccine was also highly effective in clinical trials at preventing COVID-19 among people of diverse age, sex, race, and ethnicity categories and among people with underlying medical conditions.”

- Johnson & Johnson’s/Janssen<sup>708</sup> [1 shot]

“The J&J/Janssen COVID-19 Vaccine was 66.3% effective in clinical trials (efficacy) at preventing laboratory-confirmed COVID-19 illness in people who had no evidence of prior infection. People had the most protection 2 weeks after getting vaccinated. The vaccine had high efficacy at preventing hospitalization and death in people who did get sick. No one who got COVID-19 at least 4 weeks after receiving the J&J/Janssen COVID-19 Vaccine had to be hospitalized. Early evidence suggests that the J&J/Janssen COVID-19 Vaccine might provide protection against asymptomatic infection, which is when a person is infected by the virus that causes COVID-19 but does not get sick.”

### **Cost is not an obstacle to getting vaccinated against COVID-19**

COVID-19 vaccines are available for everyone at no cost. Vaccines were paid for with taxpayer dollars and will be given to all people living in the United States, regardless of insurance or immigration status.<sup>709</sup>

### **Previously infected people, natural immunity and access to a COVID-19 vaccine**

“Getting COVID-19 may offer some natural protection, known as immunity. Current evidence suggests that reinfection with the virus that causes COVID-19 is uncommon in the 90 days after initial infection. However, experts don’t know for sure how long

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<sup>706</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/Pfizer-BioNTech.html>

<sup>707</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/Moderna.html>

<sup>708</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/janssen.html>

<sup>709</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/no-cost.html>

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this protection lasts, and the risk of severe illness and death from COVID-19 far outweighs any benefits of natural immunity.”<sup>710</sup>

You should be vaccinated regardless of whether you already had COVID-19. That’s because experts do not yet know how long you are protected from getting sick again after recovering from COVID-19. Studies have shown that in people who have recovered from COVID-19, vaccination provides a strong boost in protection. Learn more about [why getting vaccinated is a safer way to build protection](#) than getting infected.

A recent study<sup>711</sup> published in the CDC's Morbidity and Mortality Weekly Report on August 13, 2021 found that:

"Although laboratory evidence suggests that antibody responses following COVID-19 vaccination provide better neutralization of some circulating variants than does natural infection,<sup>712</sup> few real-world epidemiologic studies exist to support the benefit of vaccination for previously infected persons. This report details the findings of a case-control evaluation of the association between vaccination and SARS-CoV-2 reinfection in Kentucky during May–June 2021...."

....

"Among Kentucky residents infected with SARS-CoV-2 in 2020, vaccination status of those reinfected during May–June 2021 was compared with that of residents who were not reinfected. In this case-control study, being unvaccinated was associated with 2.34 times the odds of reinfection compared with being fully vaccinated."

If you were treated for COVID-19 with monoclonal antibodies or convalescent plasma, you should wait 90 days before getting a COVID-19 vaccine. Talk to your doctor if you are unsure what treatments you received or if you have more questions about getting a COVID-19 vaccine.

If you or your child have a history of multisystem inflammatory syndrome in adults or children ([MIS-A](#) or [MIS-C](#)), consider delaying vaccination until you or your child have recovered from being sick and for 90 days after the date of diagnosis of MIS-A or MIS-C. Learn more about the [clinical considerations](#) people with a history of multisystem MIS-C or MIS-A.”<sup>713</sup>

### **Continued need to wear face covering and practice physical distancing after vaccination**

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<sup>710</sup> <https://www.cdc.gov/vaccines/covid-19/hcp/answering-questions.html>

<sup>711</sup> <https://www.cdc.gov/mmwr/volumes/70/wr/mm7032e1.htm>

<sup>712</sup> [https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-by-product%2Fclinical-considerations.html#CoV-19-vaccination](https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-by-product%2Fclinical-considerations.html#CoV-19-vaccination) and <https://www.cdc.gov/coronavirus/2019-ncov/hcp/testing-overview.html>

<sup>713</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq.html>

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On May 16, 2021, the CDC issued updated guidance on fully vaccinated persons.<sup>714</sup>

Fully vaccinated people can resume activities without wearing a mask or physically distancing, except where required by federal, state, local, tribal, or territorial laws, rules, and regulations, including local business and workplace guidance.

In general, people are considered fully vaccinated:

- 2 weeks after their second dose in a 2-dose series, such as the Pfizer or Moderna vaccines, or
- 2 weeks after a single-dose vaccine, such as Johnson & Johnson's Janssen vaccine

If you don't meet these requirements, regardless of your age, you are NOT fully vaccinated. Keep taking all [precautions](#)<sup>715</sup> until you are fully vaccinated.

"On July 27, 2021, CDC released [updated guidance](#) on the need for urgently increasing COVID-19 vaccination coverage and a recommendation for everyone in areas of [substantial or high transmission](#) to wear a mask in public indoor places, even if they are fully vaccinated. CDC issued this new guidance due to several concerning developments and newly emerging data signals. First is a reversal in the downward trajectory of cases. In the days leading up to our guidance update, CDC saw a rapid and alarming rise in the COVID case and hospitalization rates around the country.

- In late June, our 7-day moving average of reported cases was around 12,000. On July 27, the 7-day moving average of cases reached over 60,000. This case rate looked more like the rate of cases we had seen before the vaccine was widely available.

[As of August 11, 2021, "the current 7-day moving average of daily new cases (114,190) increased 18.4% compared with the previous 7-day moving average (96,454). The current 7-day moving average is 66.3% higher compared to the peak observed on July 20, 2020 (68,685). The current 7-day moving average is 65.0% lower than the peak observed on January 10, 2021 (254,023) and is 882.8% higher than the lowest value observed on June 19, 2021 (11,619)."<sup>716</sup>]

Second, new data began to emerge that the Delta variant was more infectious and was leading to increased transmissibility when compared to other variants, even in vaccinated individuals. This includes recently published data from CDC and our public health partners, unpublished surveillance data that will be publicly available in the coming weeks, information included in CDC's updated [Science Brief on COVID-19 Vaccines and Vaccination](#), and ongoing outbreak investigations linked to the Delta variant.

Delta is currently the predominant strain of the virus in the United States."

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<sup>714</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html>

<sup>715</sup> <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>

<sup>716</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

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## **Vaccine rollout and timeline**

*ABC News*, December 30, 2020.

“The U.S. COVID-19 vaccine rollout moved slower than expected this month,...vaccine experts and public health officials warned the bigger test will come next year when inventory finally expands and the broader public raises their hands for a shot.

‘It’s really difficult to administer every dose when you are prioritizing it and trying to avoid waste,’ said Claire Hannan, executive director of the Association of Immunization Managers.

‘But when we get into a position of mass clinics and everyone has access, we’ll be much more efficient in getting it out,’ she said.

[The federal government] initially pledged 300 million doses by January 2021 when announcing Operation Warp Speed, then later this fall dropped the estimate to 100 million. After Pfizer adjusted its production estimates, Health Secretary Alex Azar promised 40 million doses on hand and 20 million vaccinations by the end of the year.

Instead, the administration was on track to ship those 20 million doses by the first week of January -- enough for first doses in the two-dose vaccine -- with only 2.6 million vaccinations recorded by the federal government.”

## **U.S. Population**

There are over 332,000,000 people living in the United States.<sup>717</sup>

## **Vaccine deployment**

Successful deployment of a COVID-19 vaccine will depend on the willingness of the U. S. population to actually take the vaccine. In a Reuters’ survey<sup>718</sup> of 4,428 U.S. adults taken between May 13 and May 19:

“Fourteen percent of respondents said they were not at all interested in taking a vaccine, and 10% said they were not very interested. Another 11% were unsure.

....

Overall, 84% of respondents said vaccines for diseases such as measles are safe for both adults and children, suggesting that people hesitant to take a coronavirus vaccine might reconsider, depending on safety assurances they receive. For example, among those who said they were “not very” interested

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<sup>717</sup> <https://www.census.gov/popclock/>

<sup>718</sup> <https://www.reuters.com/article/us-health-coronavirus-vaccine-poll-exclu/exclusive-a-quarter-of-americans-are-hesitant-about-a-coronavirus-vaccine-reuters-ipsos-poll-idUSKBN22X19G>

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in taking the vaccine, 29% said they would be more interested if the FDA approved it.

....

In addition, misinformation about vaccines has grown more prevalent on social media during the pandemic, according to academic researchers.

‘It’s not surprising a significant percentage of Americans are not going to take the vaccine because of the terrible messaging we’ve had, the absence of a communication plan around the vaccine and this very aggressive anti-vaccine movement,’ said Peter Hotez, dean of the National School of Tropical Medicine at Baylor College of Medicine, where he is developing a vaccine.

....

The Reuters/Ipsos poll was conducted online, in English, throughout the United States and had a credibility interval, a measure of precision, of plus or minus 2 percentage points.”<sup>719</sup>

*VCU.edu*, December 14, 2020. Study<sup>720</sup> finds more than half of respondents are unlikely to get COVID-19 vaccine under emergency use authorization:

“A new study led by a Virginia Commonwealth University professor is among the first to examine the psychological and social predictors of U.S. adults’ willingness to get a future COVID-19 vaccine and whether these predictors differ under an emergency use authorization release of the vaccine.

The study, “Willingness to Get the COVID-19 Vaccine with and without Emergency Use Authorization,” will be published in the *American Journal of Infection Control*. It involved a survey of 788 U.S. adults, and found that 59.9% of respondents were definitely or probably planning to receive a future coronavirus vaccine, while 18.8% were neutral and 21.3% were probably or definitely not planning to get it.

When asked if they would get the vaccine under an emergency use authorization, 46.9% of respondents said they were definitely, likely, or somewhat willing to do so; while 53.1% said they were definitely, likely, or somewhat unwilling to do so.

“The biggest issue coming out of this study is that participants seemed worried about receiving the COVID-19 vaccine under emergency use authorization,” said lead author Jeanine Guidry, Ph.D., an assistant professor in the Richard T. Robertson School of Media and Culture in the College of Humanities and Sciences and director of the Media+Health Lab at VCU.

The study found that concerns about side effects were a significant barrier, Guidry noted.

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<sup>719</sup> *Id.*

<sup>720</sup> [https://news.vcu.edu/article/Study\\_finds\\_more\\_than\\_half\\_of\\_respondents\\_are\\_unlikely\\_to\\_get](https://news.vcu.edu/article/Study_finds_more_than_half_of_respondents_are_unlikely_to_get)

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“[Such concerns are] not unusual,” she said, “but we now also know that two of the vaccines — Pfizer and Moderna — may have some expected side effects ... [and that] may make people hesitate to get the vaccine.”

The study also found troubling disparities among demographic groups. For example, younger respondents were more likely than older respondents to express a willingness to get the vaccine. And it found that white respondents were more likely than Black respondents to be willing to get the vaccine, either under emergency use authorization or regular Food and Drug Administration approval.

“That is something researchers have found in other previous vaccine studies as well, but it is more worrying with COVID-19 because we know that Black Americans are infected with COVID-19 significantly more frequently than white Americans, and they are also more likely to die from the virus,” Guidry said.

“Unfortunately, there is history of medical mistreatment of African Americans and individuals from low-income communities in the U.S.,” said co-author Bernard Fuemmeler, Ph.D., a professor in the Department of Health Behavior and Policy in the VCU School of Medicine.

“Against this backdrop it is understandable that mistrust among certain communities will be an issue to contend with as we hope to make progress in delivering the vaccine to those most in need,” Fuemmeler said. “It starts with recognizing this history and providing people with the information they desire to alleviate their justifiable wariness about the vaccine.”

The researchers found that significant predictors of a willingness to get the coronavirus vaccine included education level and having health insurance, as well as a high-perceived susceptibility to COVID-19. Predictors of a willingness to get the vaccine under an emergency use authorization included age and race/ethnicity.” (Emphasis added).

*NPR.org*, December 15, 2020. Poll:<sup>721</sup> Americans Are Growing Less Reluctant To Take COVID-19 Vaccine:

“Now that federal regulators have authorized one COVID-19 vaccine for emergency use in the U.S. — and appear close to authorizing another — it seems Americans are growing less reluctant about receiving an inoculation themselves. The Kaiser Family Foundation, or KFF, released a poll Tuesday showing a significant leap in the number of people saying they definitely or probably would get vaccinated.

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<sup>721</sup> <https://www.npr.org/sections/coronavirus-live-updates/2020/12/15/946761737/poll-americans-are-growing-less-reluctant-to-take-covid-19-vaccine>

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About 71% of respondents to the late November and early December survey said they would get a vaccine, up from 63% in an August/September poll. KFF says the increase was evident across all racial and ethnic groups surveyed, as well as both Democrats and Republicans.

Of course, since the previous poll, there have been important advances in the development of a vaccine for COVID-19, which has cost more than 300,000 lives in the U.S.”

While fully vaccinated rates are improving, they have not reached a range that could be considered able to achieve population or herd immunity. Here are fully vaccinated rates for some surrounding states as of August 17, 2021<sup>722</sup>:

8. Maryland	51.95%
14. District of Columbia	49.09%
16. Virginia	48.36%
30. Kentucky	40.82%
37. North Carolina	37.85%
41. West Virginia	35.68%
46. Tennessee	33.58%

NOTE: As of June 22, 2021, 70.0% of Virginia's adult population has been fully vaccinated (approximately 15.9% of Virginia’s population is 65 years and over.<sup>723</sup>

While fully vaccinated rates are improving, they have not reached a range that could be considered able to achieve population or herd immunity. Here are fully vaccinated rates for some surrounding states as of August 17, 2021<sup>724</sup>:

6. Maryland	60.04%
13. District of Columbia	56.27%
14. Virginia	55.79%
29. Kentucky	46.82%
38. North Carolina	44.82%
43. Tennessee	40.19%
45. West Virginia	39.31%

NOTE: As of August 17, 2021, 74.4% of Virginia's adult population has been fully vaccinated (approximately 15.9% of Virginia’s population is 65 years and over.<sup>725</sup>

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<sup>722</sup> <https://www.beckershospitalreview.com/public-health/states-ranked-by-percentage-of-population-vaccinated-march-15.html>

<sup>723</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-vaccine-summary/>

<sup>724</sup> <https://www.beckershospitalreview.com/public-health/states-ranked-by-percentage-of-population-vaccinated-march-15.html>

<sup>725</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/covid-19-vaccine-summary/>

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## **Unvaccinated and Not Fully Vaccinated People**

APNews.com, June 24, 2021, "Nearly all COVID deaths in US are now among unvaccinated."<sup>726</sup>

" Nearly all COVID-19 deaths in the U.S. now are in people who weren't vaccinated, a staggering demonstration of how effective the shots have been and an indication that deaths per day — now down to under 300 — could be practically zero if everyone eligible got the vaccine.

An Associated Press analysis of available government data from May shows that “breakthrough” infections in fully vaccinated people accounted for fewer than 1,200 of more than 853,000 COVID-19 hospitalizations. That’s about 0.1%.

And only about 150 of the more than 18,000 COVID-19 deaths in May were in fully vaccinated people. That translates to about 0.8%, or five deaths per day on average.

The AP analyzed figures provided by the Centers for Disease Control and Prevention. The CDC itself has not estimated what percentage of hospitalizations and deaths are in fully vaccinated people, citing limitations in the data.

Among them: Only about 45 states report breakthrough infections, and some are more aggressive than others in looking for such cases. So the data probably understates such infections, CDC officials said.

Still, the overall trend that emerges from the data echoes what many health care authorities are seeing around the country and what top experts are saying.

Earlier this month, Andy Slavitt, a former adviser to the Biden administration on COVID-19, suggested that 98% to 99% of the Americans dying of the coronavirus are unvaccinated.

And CDC Director Dr. Rochelle Walensky said on Tuesday that the vaccine is so effective that “nearly every death, especially among adults, due to COVID-19, is, at this point, entirely preventable.” She called such deaths 'particularly tragic.'"

CNN.com, June 22, 2021, "A coronavirus outbreak hit a Florida government building. Two people are dead but a vaccinated employee wasn't infected."<sup>727</sup>

"Two people are dead and four of their coworkers were hospitalized after a Covid-19 outbreak swept through a government building in Manatee County,

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<sup>726</sup> <https://apnews.com/article/coronavirus-pandemic-health-941fcf43d9731c76c16e7354f5d5e187>

<sup>727</sup> <https://www.cnn.com/2021/06/22/us/florida-manatee-county-coronavirus-outbreak/index.html>

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Florida.

The outbreak began in the IT department, according to Manatee County Administrator Scott Hopes, who is also an epidemiologist. Another person who worked on the same floor but in a different department also tested positive for coronavirus last week.

Of the six people infected, five were hospitalized. One employee who was in the hospital died and another employee who was not hospitalized also died, Hopes told CNN's Erin Burnett.

The only exposed employee in the IT office who was vaccinated did not get infected, Hopes said. "The clinical presentation gives me concern that we're dealing with a very infectious variant that is quite deadly," Hopes told Burnett.

The government building was closed on Friday as a precaution. It reopened Monday but officials didn't implement a mask requirement, instead keeping them optional."

USAToday.com, June 16, 2021, "People hospitalized with COVID-19 now have one overwhelming thing in common. They're not vaccinated."<sup>728</sup>

"In Minnesota, the HealthPartners system has seen a "precipitous decline" in COVID-19 hospitalizations, says Dr. Mark Sannes, an infectious disease physician and senior medical director for the system, which operates nine hospitals and more than 55 clinics. But now, nearly every admitted patient he does see is unvaccinated.

"Less than 1% of our hospitalized COVID patients are vaccinated," he said.

In Ohio, at University Hospitals Cleveland Medical Center, only 2% of the COVID-19 patients admitted in the last month were vaccinated, said Dr. Robert Salata, the hospital's physician-in-chief.

And at Sanford Health, which runs 44 medical centers and more than 200 clinics across the Dakotas, Minnesota and Iowa, less than 5% of the 1,456 patients admitted with COVID-19 so far this year were fully vaccinated, said spokesperson Angela Dejene.

Falling rates of COVID-19 across the United States mask a harsh reality – the overwhelming majority of those getting sick and being hospitalized today are unvaccinated, while vaccinated patients are becoming rare.

Hospitals in states with the lowest vaccination rates tend to have more COVID-19 patients in intensive care units, according to hospital data collected in the

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<sup>728</sup> <https://www.usatoday.com/story/news/health/2021/06/16/majority-covid-19-hospital-patients-us-now-unvaccinated-younger/7684857002/>

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past week by the Department of Health and Human Services and vaccination rates published by the Centers for Disease Control and Prevention."

USAToday.com, June 3, 2021, "First in line, still no shot: Surprising number of hospital workers refuse vaccines"<sup>729</sup>

" USA TODAY surveyed some of the largest hospital networks and public hospitals in the country. At the nine networks that responded, fully vaccinated rates ranged from 53% to 72%. Rates among 15 of the nation's largest public hospitals ranged from 51% to 91%.

The survey encompassed 276 hospitals, or about 4.5% of the nation's hospitals. Most fell below President Joe Biden's goal of 70% by July 4. Staff included ranged from workers with medical training, such as doctors and nurses, to those in support roles, such as cafeteria workers.

The fact that so many hospital workers remain unvaccinated is troubling news for public health officials who are counting on the vaccines to stop the spread of the virus. Experts worry that the rest of the population will follow suit.

"I think it'll be a bit of a struggle to get to that 70-to-75% vaccination rate," said Stacey Gabriel, the chief executive officer of the 80-bed Hocking Valley Community Hospital in Logan, Ohio, where only 50% of her workers are vaccinated."

### **How Long Does Vaccine Immunity Last**

USAToday.com, August 19, 2021, "Vaccine effectiveness declines over time, studies say"

Protection provided by COVID-19 vaccines declines over time, but protection against the most severe effects of the disease — including hospitalization and death — remains strong, according to three studies published Wednesday by the Centers for Disease Control and Prevention.

Morbidity and Mortality Weekly Report (MMWR), August 18, 2021, "New COVID-19 Cases and Hospitalizations Among Adults, by Vaccination Status — New York, May 3–July 25, 2021"<sup>730</sup>

In this study, current COVID-19 vaccines were highly effective against hospitalization ([vaccine effectiveness] VE >90%) for fully vaccinated New York residents, even during a period during which prevalence of the Delta variant increased from <2% to >80% in the U.S. region that includes New York, societal public health restrictions eased,<sup>§§</sup> and adult full-vaccine coverage in New York neared 65%. However, during the assessed period, rates

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<sup>729</sup> <https://www.usatoday.com/in-depth/news/investigations/2021/06/03/covid-19-vaccines-refused-surprising-number-hospital-workers/7432058002/>

<sup>730</sup> [https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e1.htm?s\\_cid=mm7034e1\\_w](https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e1.htm?s_cid=mm7034e1_w)

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of new cases increased among both unvaccinated and fully vaccinated adults, with lower relative rates among fully vaccinated persons. Moreover, VE against new infection declined from 91.7% to 79.8%. To reduce new COVID-19 cases and hospitalizations, these findings support the implementation of a layered approach centered on vaccination, as well as other prevention strategies.

Morbidity and Mortality Weekly Report (MMWR), August 18, 2021, " Effectiveness of Pfizer-BioNTech and Moderna Vaccines in Preventing SARS-CoV-2 Infection Among Nursing Home Residents Before and During Widespread Circulation of the SARS-CoV-2 B.1.617.2 (Delta) Variant — National Healthcare Safety Network, March 1–August 1, 2021"<sup>731</sup>

Analysis of nursing home COVID-19 data from NHSN indicated a significant decline in effectiveness of full mRNA COVID-19 vaccination against laboratory-confirmed SARS-CoV-2 infection, from 74.7% during the pre-Delta period (March 1–May 9, 2021) to 53.1% during the period when the Delta variant predominated in the United States. This study could not differentiate the independent impact of the Delta variant from other factors, such as potential waning of vaccine-induced immunity. Further research on the possible impact of both factors on VE among nursing home residents is warranted. Because nursing home residents might remain at some risk for SARS-CoV-2 infection despite vaccination, multipronged COVID-19 prevention strategies, including infection control,§§ testing, and vaccination of nursing home staff members, residents, and visitors are critical.

Medrxiv.org, August 8, 2021, "Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence"<sup>732</sup>

Although clinical trials and real-world studies have affirmed the effectiveness and safety of the FDA-authorized COVID-19 vaccines, reports of breakthrough infections and persistent emergence of new variants highlight the need to vigilantly monitor the effectiveness of these vaccines. Here we compare the effectiveness of two full-length Spike protein-encoding mRNA vaccines from Moderna (mRNA-1273) and Pfizer/BioNTech (BNT162b2) in the Mayo Clinic Health System over time from January to July 2021, during which either the Alpha or Delta variant was highly prevalent. We defined cohorts of vaccinated and unvaccinated individuals from Minnesota (n = 25,589 each) matched on age, sex, race, history of prior SARS-CoV-2 PCR testing, and date of full vaccination.

Both vaccines were highly effective during this study period against SARS-CoV-2 infection (mRNA-1273: 86%, 95%CI: 81-90.6%; BNT162b2: 76%, 95%CI: 69-81%) and COVID-19 associated hospitalization (mRNA-1273: 91.6%, 95% CI: 81-97%; BNT162b2: 85%, 95% CI: 73-93%).

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<sup>731</sup> [https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e3.htm?s\\_cid=mm7034e3\\_w](https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e3.htm?s_cid=mm7034e3_w)

<sup>732</sup> <https://www.medrxiv.org/content/10.1101/2021.08.06.21261707v1>

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However, in July, the effectiveness against infection was considerably lower for mRNA-1273 (76%, 95% CI: 58-87%) with an even more pronounced reduction in effectiveness for BNT162b2 (42%, 95% CI: 13-62%).

Morbidity and Mortality Weekly Report (MMWR), August 18, 2021, Sustained Effectiveness of Pfizer-BioNTech and Moderna Vaccines Against COVID-19 Associated Hospitalizations Among Adults — United States, March–July 2021<sup>733</sup>

In a multistate network that enrolled adults hospitalized during March–July 2021, effectiveness of 2 doses of mRNA vaccine against COVID-19–associated hospitalization was sustained over a follow-up period of 24 weeks (approximately 6 months). These findings of sustained VE [vaccine effectiveness] were consistent among subgroups at highest risk for severe outcomes from COVID-19, including older adults, adults with three or more chronic medical conditions, and those with immunocompromising conditions. Overall VE in adults with immunocompromising conditions was lower than that in those without immunocompromising conditions but was sustained over time in both populations.

These data provide evidence for sustained high protection from severe COVID-19 requiring hospitalization for up to 24 weeks among fully vaccinated adults, which is consistent with data demonstrating mRNA COVID-19 vaccines have the capacity to induce durable immunity, particularly in limiting the severity of disease. Alpha variants were the predominant viruses sequenced, although Delta variants became dominant starting in mid-June, consistent with national surveillance data. Because of limited sequenced virus, Delta-specific VE was not assessed. VE was similar during June–July when circulation of Delta increased in the United States compared with VE during March–May when Alpha variants predominated, although further surveillance is needed.

#### Virginia Vaccination Data

**As of August 17, 2021, 55.3% of the population in Virginia is fully vaccinated.**<sup>734</sup>

**74.4% of the adult population has been fully vaccinated (approximately 15.9% of Virginia’s population is 65 years and over<sup>735</sup>).**

**62.4% of the population in Virginia is vaccinated with at least one dose.**

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<sup>733</sup> <https://www.cdc.gov/mmwr/volumes/70/wr/mm7034e2.htm>

<sup>734</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-vaccine-summary/>

<sup>735</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-vaccine-summary/>

<https://www.census.gov/quickfacts/VA>

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# COVID-19 in Virginia: Vaccine Summary



Dashboard Updated: 8/17/2021

## COVID-19 Vaccinations in Virginia

### Total Doses Administered - 9,708,029

People Vaccinated with at Least One Dose*	% of the Population Vaccinated with at Least One Dose	People Fully Vaccinated^	% of the Population Fully Vaccinated
5,326,820	62.4%	4,718,220	55.3%
	% of the Adult (18+) Population Vaccinated with at Least One Dose 74.4%		% of the Adult (18+) Population Fully Vaccinated 66.4%

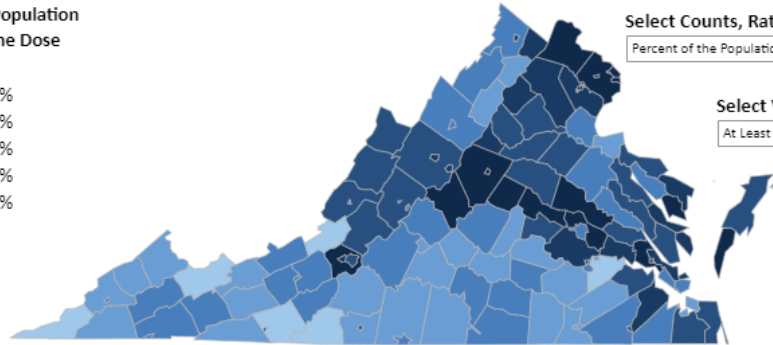
\* People vaccinated with one dose of a two-dose vaccine and one dose of a single dose vaccine, including doses administered through the Federal CDC Pharmacy Partnership. Doses on the Federal Doses Administered dashboard are included.

^ People vaccinated with two doses of a two-dose vaccine and one dose of a single dose vaccine, including doses administered through the Federal CDC Pharmacy Partnership. Doses on the Federal Doses Administered dashboard are included.

### People Vaccinated by Locality of Residence and Vaccination Status - Percent of the Population

Percent of the Population with At Least One Dose

- 35.1% - 40.0%
- 40.1% - 45.0%
- 45.1% - 50.0%
- 50.1% - 55.0%
- 55.1% - 60.0%
- 60.1%+



Select Counts, Rates, or Percents

Percent of the Population

Select Vaccination Status

At Least One Dose

## Community and Workplace Transmission

Although U. S. and Virginia vaccination rates and case rates are very promising and heading in the right directions, most scientific sources indicate that COVID-19 exposures in the workplace will not be going away anytime soon:

An uneven vaccine rollout could eventually make coronavirus outbreaks look a bit like measles outbreaks,...A single person carrying the measles virus can infect 12 or more people, but the spread of the virus is mostly contained through high vaccination rates. There are, however, still outbreaks in communities where immunization rates are low....Occasionally, those outbreaks spill out into the wider community....it's unlikely we'll ever eradicate the coronavirus — not any time soon, anyway. There's only one virus scientists have wiped out with a vaccine: smallpox. The World Health Organization began that effort in 1959, declaring the disease eradicated by 1980.<sup>736</sup>

<sup>736</sup> <https://www.sandiegouniontribune.com/news/health/story/2021-05-22/the-pandemic-will-end-but-the-coronavirus-is-probably-here-to-stay-heres-why>

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CDC modeling of “Projected Incident Cases by Epidemiological Week and by Scenario for Round 5” shows a wide variance of future incident cases depending on the prevalence of vaccinations and the use of NPI (NonPharmaceutical Interventions such as face coverings and physical distancing).<sup>737</sup>

"Community transmission," also called "community spread," means people have been infected with SARS-CoV-2 in an area, including some who are not sure how or where they became infected. The level of community transmission may be obtained from the VDH website and is assessed using, at a minimum, two metrics: new COVID-19 cases per 100,000 persons in the last 7 days and percentage of positive SARS-CoV-2 diagnostic nucleic acid amplification tests in the last 7 days. For each of these metrics, CDC classifies transmission values as low, moderate, substantial, or high. If the values for each of these two metrics differ (e.g., one indicates moderate and the other low), then the higher of the two should be used for decision-making.<sup>738</sup>

CDC core indicators of and thresholds for community transmission levels of SARS-CoV-2:

<b><u>Indicator Level</u></b>	<b><u>Low</u></b>	<b><u>Moderate</u></b>	<b><u>Substantial</u></b>	<b><u>High</u></b>
<u>New COVID-19 cases per 100,000 persons in the last 7 days</u>	<u>0–9.99</u>	<u>10.00–49.99</u>	<u>50.00–99.99</u>	<u>≥100.00</u>
<u>Percentage of positive SARS-CoV-2 diagnostic nucleic acid amplification tests in the last 7 days</u>	<u>&lt;5.00</u>	<u>5.00–7.99</u>	<u>8.00–9.99</u>	<u>≥10.00</u>

As of August 15, 2021, the overwhelming majority of US and Virginia counties and cities have high or substantial levels of community transmission.<sup>739</sup>

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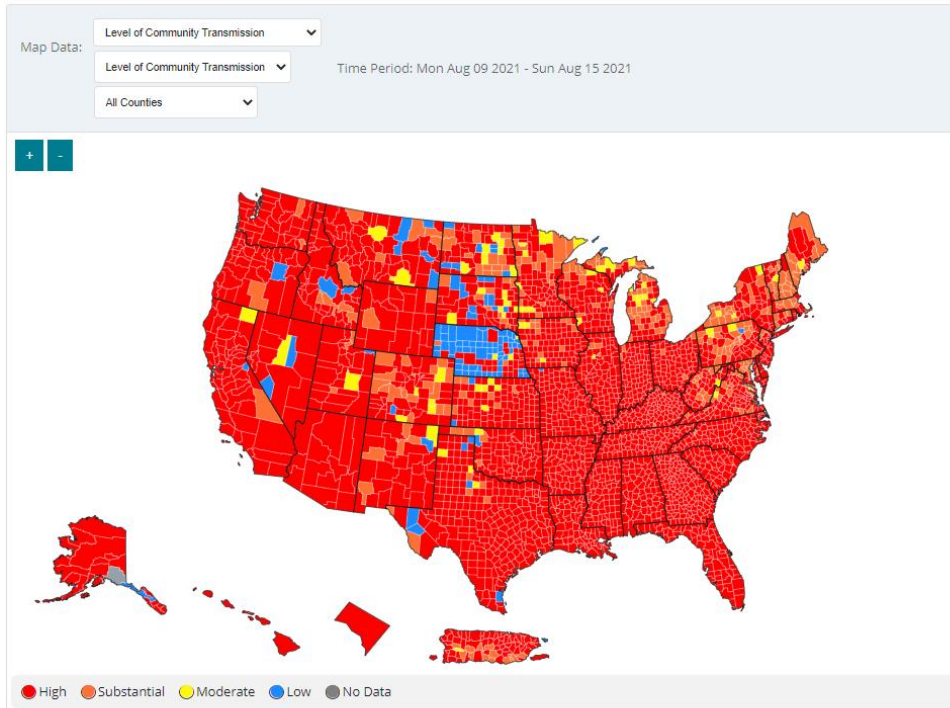
<sup>737</sup> <https://covid19scenariomodelinghub.org/viz.html>

<sup>738</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/08/Revisions-to-Proposed-Amendments-to-the-FPS-for-COVID-19-16VAC25-220-Adopted-06.29.2021.pdf> and [https://www.cdc.gov/mmwr/volumes/70/wr/mm7030e2.htm#T1\\_down](https://www.cdc.gov/mmwr/volumes/70/wr/mm7030e2.htm#T1_down)

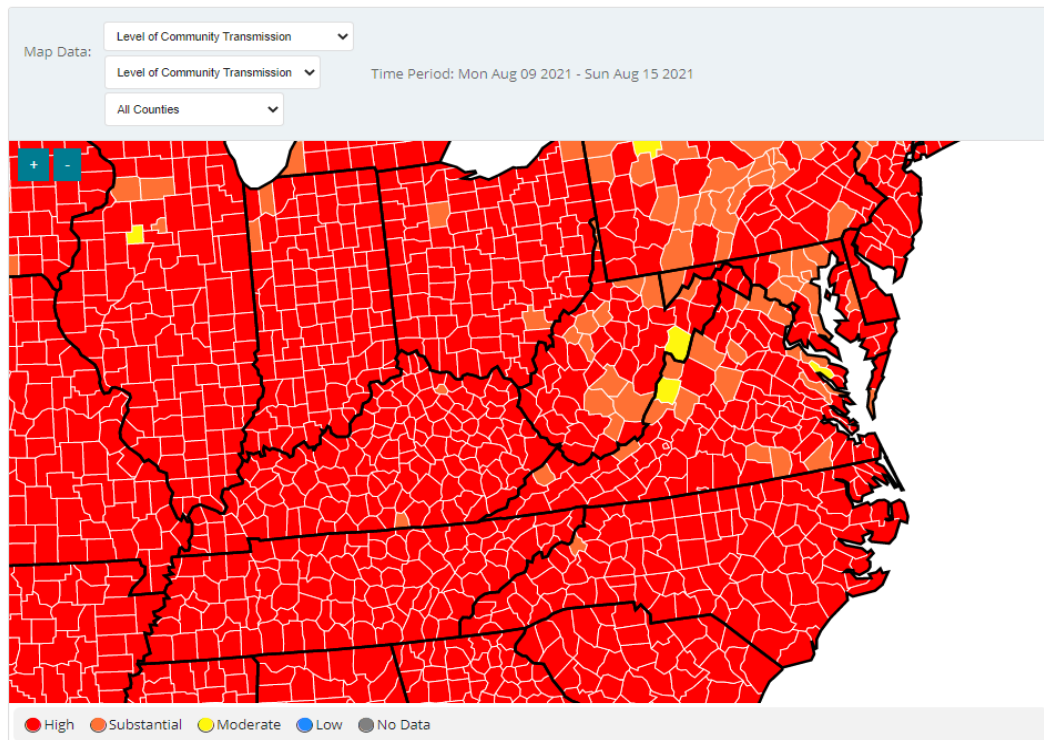
<sup>739</sup> <https://covid.cdc.gov/covid-data-tracker/#county-view>

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Current 7-days is Mon Aug 09 2021 - Sun Aug 15 2021 for case rate and Fri Aug 06 2021 - Thu Aug 12 2021 for percent positivity. The percent change in counties at each level of transmission is the absolute change compared to the previous 7-day period.



Current 7-days is Mon Aug 09 2021 - Sun Aug 15 2021 for case rate and Fri Aug 06 2021 - Thu Aug 12 2021 for percent positivity. The percent change in counties at each level of transmission is the absolute change compared to the previous 7-day period.

### National Trends

**As of June 11, 2021**, in the U. S. there were 33,246,578 total cases (current 7-day

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average of 13,997 cases), 2,243,371 hospitalizations (current 7-day average of 2,239), and 596,059 total deaths (current 7-day moving average of 347 deaths).<sup>740</sup>

**As of August 11, 2021**, in the U. S. there were 36,268,057 total cases (current 7-day average of 114,190 cases), 2,507,105 hospitalizations (current 7-day average of 10,072), and 617,096 total deaths (current 7-day moving average of 407 deaths).<sup>741</sup>

**Since June 11, 2021**, the 7 day average of cases in the US has increased approximately 815%.

**Since June 11, 2021**, the 7 day average of hospitalizations in the US has approximately increased 450%. (NOTE: Hospitalization rates typically lag behind illness indicators<sup>742</sup>).

**Since June 11, 2021**, the 7 day average of deaths in the US has increased approximately 17%.

### Virginia Trends

**As of June 14, 2021**, cases in Virginia totaled 677,812<sup>743</sup> (7-day average 140 cases), 30,182 hospitalizations (7-day average of 10 hospitalizations),<sup>744</sup> with 11,318 deaths (7-day average of 3 deaths).<sup>745</sup>

**As of August 10, 2021**, cases in Virginia totaled 725,971<sup>746</sup> (7-day average 1,700 cases), 32,399 hospitalizations (7-day average of 37 hospitalizations),<sup>747</sup> with 11,625 deaths (7-day average of 5 deaths).<sup>748</sup>

**Since June 14, 2021**, the 7 day average of cases in Virginia has increased approximately 1,114%.

**Since June 14, 2021**, the 7 day average of hospitalizations in Virginia has increased approximately 270%. (NOTE: Hospitalization rates typically lag behind illness indicators<sup>749</sup>).

**Since June 14, 2021**, the 7 day average of death in Virginia has increased approximately 67%.

Fortunately, employee deaths, hospitalizations and outbreaks in Virginia are down

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<sup>740</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>741</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

<sup>742</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/pdf/covidview-07-17-2020.pdf>

<sup>743</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>744</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>745</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>746</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia/>

<sup>747</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>748</sup> <https://www.vdh.virginia.gov/coronavirus/covid-19-in-virginia-cases/>

<sup>749</sup> <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/pdf/covidview-07-17-2020.pdf>

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substantially from the height of the pandemic. However, there is a concerning trend in the number of outbreaks of 3 or more cases occurring since the beginning of July, 2021.

Weekly VOSH COVID-19 Response report for June 11, 2021:

SUMMARY   VOSH COVID-19 RESPONSE									
Dates	4/23/21	4/30/21	5/7/21	5/14/21	5/21/21	5/28/21	6/4/21	6/11/21	Total
<b>Phone Calls</b>									
<b>Total Phone Calls</b>	94	69	64	110	113	92	78	70	12948
<b>UPAs Complaints   OIS Statewide</b>	19	8	12	7	4	1	4	1	1943 *
<b># Inspections</b>	6	1	3	3	0	2	0	0	208 **
<i>Complaints, Referrals, Hospitalizations &amp; Fatalities</i>									
<i>Inspections w/ Violations</i>	57	57	57	58	61	63	66	70	70
<i>Inspections Closed</i>	99	104	105	109	117	118	119	125	125
<i># of Violations Issued - Final Order Cases (Willful, Serious, OTS)</i>	148	198	198	202	207	211	221	232	232
<i>#EEs Exposed</i>	7065	12316	12316	12364	12519	12584	12690	12806	12806
<b># Hospitalizations</b>	1	2	0	0	0	0	0	0	78 ***
<b>Fatalities/Workplace deaths</b>	0	1	2	0	0	1	0	0	44
<b># of Emails forwarded to Regional/Field Offices from MF COVID-19 positive Cases Reports (ETS)   Complaints (does not include reports submitted by phone in the Regional Offices).</b>	3	3	2	2	0	2	0	0	669
<b># REDCAP Notifications (Launched 09/28/20)</b>	283	267	201	126	88	93	45	48	25832
<b># REDCAP Notifications (3 or more cases reported)</b>	80	50	30	33	14	14	9	5	6714
* <i>Time Range: 01/01/2020 to 06/11/2021   UPA numbers may change as Regions update the system.</i>									
** <i>Inspections opened (Total: 208 - Draft + Final)</i>									
% of COVID-19 Inspections closed - 60% (125)									
% of COVID-19 Inspections with violations - 34% (70)									
*** <i>There are Employers submitting multiple notifications. Some of the hospitalizations reported to VOSH later resulted in fatalities.</i>									

Fatalities - Calendar Year	2020	2021	% [2021]
<b>Total</b>	57	24	33
<b>COVID-19</b>	31	13	54%
<b>Fall</b>	8	6	25%
<b>Struck-By</b>	12	4	17%
<b>Caught-in</b>	5	1	4%
<b>Electrocution</b>	1		0%

NOTE: The “REDCAP Notifications” row has statistics for employer reported outbreaks to VDH of 1 or more positive COVID-19 employee cases within a 14 day period of employees who were at the facility within the previous 14 days.

The “REDCAP Notifications (3 or more cases reported) row has statistics for employer reported outbreaks to DOLI of 3 or more positive COVID-19 employee cases within a 14 day period of employees who were at the facility within the previous 14 days. (During the week of 6/4/2021, the 5 reports of 3 or more cases to DOLI are included in the total of 48 REDCAP notifications overall).

Weekly VOSH COVID-19 Response report for August 13, 2021:

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SUMMARY   VOSH COVID-19 RESPONSE								
	Dates	7/9/21	7/16/21	7/23/21	7/30/21	8/6/21	8/13/21	Total
<b>Phone Calls</b>								
Total Phone Calls		41	35	46	48	55	59	13383
UPAs Complaints   OIS Statewide		0	3	2	7	3	14	2057 *
# Inspections		1	0	0	0	0	0	212 **
<i>Complaints, Referrals, Hospitalizations &amp; Fatalities</i>								
	Inspections w/ Violations	75	79	80	88	89	90	90
	Inspections Closed	143	145	147	151	152	179	179
	# of Violations Issued - Final Order Cases (Willful, Serious, OTS)	250	258	269	291	292	295	295
	#EEs Exposed	13018	13234	13481	13868	13900	14701	14701
	Current Penalty (\$)			\$ 573,303	\$ 647,351	\$ 651,201	\$ 735,175	\$ 735,175
# Hospitalizations		0	0	0	1	0	0	84 ***
Fatalities/Workplace deaths		0	0	0	0	0	0	44
# of Emails forwarded to Regional/Field Offices from MF COVID-19 positive Cases Reports (ETS)   Complaints (does not include reports submitted by phone in the Regional Offices).		0	2	0	0	1	0	676
# REDCAP Notifications (Launched 09/28/20)		39	55	114	170	246	415	26975
# REDCAP Notifications (3 or more cases reported)		8	6	29	49	67	126	7009
* Time Range: 01/01/2020 to 08/13/2021   UPA numbers may change as Regions update the system.								
**Inspections opened (Total: 212 - Draft + Final)								
% of COVID-19 Inspections closed - 84% (179)								
% of COVID-19 Inspections with violations - 42% (90)								
***There are Employers submitting multiple notifications. Some of the hospitalizations reported to VOSH later resulted in fatalities.								

Fatalities - Calendar Year	2020	2021	% [2021]
Total	57	26	31
COVID-19	31	13	50%
Fall	8	6	23%
Struck-By	12	5	19%
Caught-in	5	1	4%
Asphyxiation	0	1	4%
Electrocution	1		0%

Increase in Outbreak Reports to DOLI

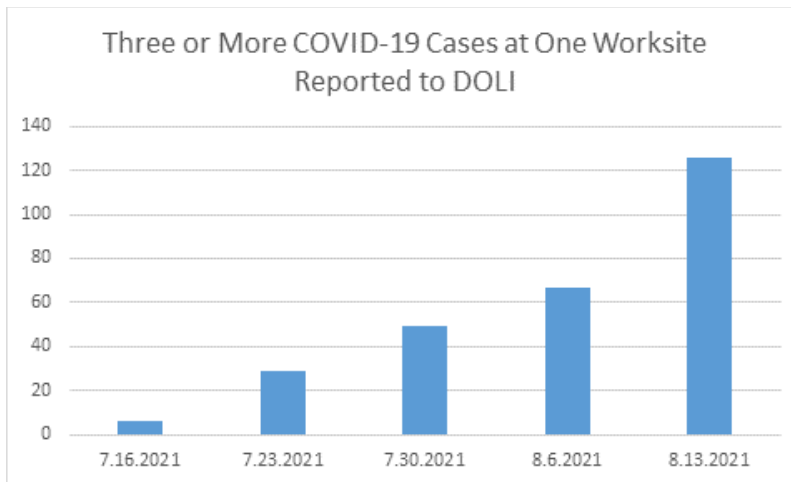
The Standard requires employers to report to DOLI outbreaks of three or more employees at one worksite being infected with COVID-19 within a 14 day period. For all of June and the first two weeks in July, those report numbers had been averaging 5 per week (the lowest averages since early in the pandemic).

For the third week in July the number increased to 29 and in succeeding weeks it has now reached 126 reports during the week ending August 13, 2021 – a level not seen since February 26, 2021.

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While 126 reports in one week is nowhere near the 597 reports received on January 8, 2021 at or near the height of the pandemic, this workplace trend is definitely concerning and will be a focus of the Department’s efforts to mitigate the spread of the virus in the workplace.

**One Virginia state agency recently reported an outbreak of 21 COVID-19 cases at a call center which resulted in four hospitalizations and one employee in critical condition. Initial indications are that the outbreak may have resulted from a reluctance of employees to be vaccinated.**

In addition, some states have trouble spots as well – and as noted below, there remain some in Virginia.<sup>750</sup> Virginia community transmission rates can be found on a county-by-county basis at: <https://covid.cdc.gov/covid-data-tracker/#county-view>

You can see the following from the screenshot below (June 13, 2021):

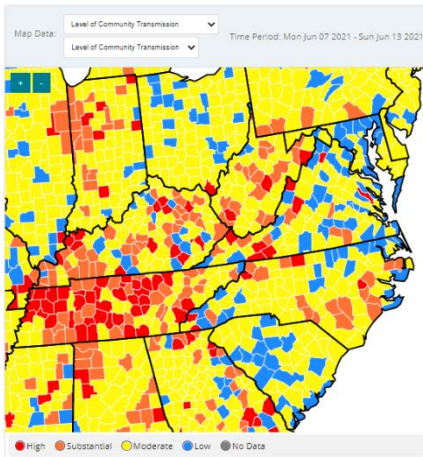
- about 25-30% of Virginia counties have a low community transmission rate
- about 8% of Virginia counties have a high transmission rate,
- about 7% of Virginia counties having a substantial transmission rate
- the remaining 55-60% of Virginia counties have a moderate transmission rate

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<sup>750</sup> <https://covid.cdc.gov/covid-data-tracker/#county-view>

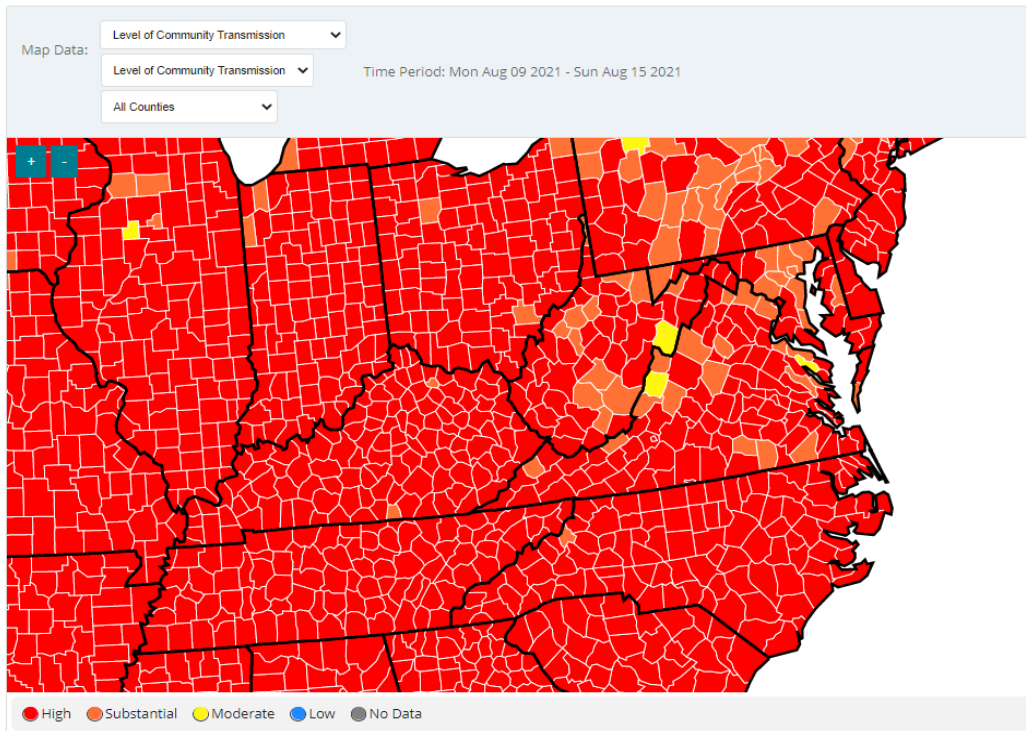
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Current 7-days is Mon Jun 07 2021 - Sun Jun 13 2021 for case rate and Sun Jun 06 2021 - Sat Jun 12 2021 for percent positivity. The percent change in counties at each level of transmission is the absolute change compared to the previous 7-day period.

As of August 15, 2021, the overwhelming majority of Virginia counties and cities have high or substantial levels of community transmission.<sup>751</sup>



Current 7-days is Mon Aug 09 2021 - Sun Aug 15 2021 for case rate and Fri Aug 06 2021 - Thu Aug 12 2021 for percent positivity. The percent change in counties at each level of transmission is the absolute change compared to the previous 7-day period.

The jury is still out as to whether the United States will reach herd immunity levels (generally considered to be in the 70-85% range). Even if the country does reach herd/population immunity, it is possible to lose the immunity in the future, or go in and out of herd/population immunity depending on the season. Herd/population immunity is not immediately possible because “No one younger than 12 can get a Covid-19 vaccine in the US right now. The Pfizer/BioNTech vaccine is authorized for those age 12 and older, and the Moderna and Johnson & Johnson vaccines are authorized for adults 18 and older.”<sup>752</sup>

<sup>751</sup> <https://covid.cdc.gov/covid-data-tracker/#county-view>

<sup>752</sup> <https://www.cnn.com/2021/03/30/health/herd-immunity-covid-shifts/index.html>

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In addition, surveys continue to indicate that a certain percentage of the population will refuse to get vaccinated (“about 20% of people surveyed said they definitely would not get vaccinated or would only get vaccinated if their job or school required it, according to the Kaiser Family Foundation COVID-19 Vaccine Monitor.”).<sup>753</sup>

Also, it is not currently known how long immunity from a natural infection lasts in a person, or how long it will last for fully vaccinated or partially vaccinated people. The virus has shown a propensity for mutations, some of which appear to be more infectious and therefore more easily spread. Increased travel in state, around the country and from other countries could make the U.S. fall out of herd/population immunity even after it is reached.

E. Virginia VWCC and VOSH Statistics.

1. Virginia Workers Compensation Statistics as of May 31, 2020.<sup>754</sup>

Since February, 2020, the Virginia Workers’ Compensation Commission received 3,154 COVID-19 related claims as of May 31, 2020 in a wide variety of occupational settings, representing a nearly 44.5% increase in claims over a 20 day period since May 11, 2020 (2,182 claims).

NOTE 1: Individual private self-insurers are not included in these statistics.

NOTE 2: Most but not all claims are assigned a NAICS code (North American Industrial Classification Code). As of May 31, 2020, 18.4 % (581 claims) of claims were not assigned a NAICS code. A cursory review of the non-NAICS claims revealed that a significant number were in healthcare or long term care environments.

NOTE 3: Workers classified as independent contractors are not included in these statistics. There is a practice known as “misclassification”<sup>755</sup> of employees as independent contractors that has been found to be prevalent in certain industries<sup>756</sup> in

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<sup>753</sup> <https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-march-2021/>

<sup>754</sup> Virginia Department of Human Resources Workers’ Compensation Statistics as of May 31, 2020.

As of May 31, 2020, the Virginia Department of Human Resource Management (DHRM) Workers’ Compensation Division has received 42 claims involving COVID-19 exposure. Agencies involved included: Library of Virginia, State Corporation Commission, Virginia Alcoholic Beverage Control Authority, Virginia Commonwealth University, Virginia Department of Agriculture and Consumer Services, Virginia Department of Behavioral Health and Developmental Services, Virginia Department of Corrections, Virginia Department of Forestry, Virginia Department of Game and Inland Fisheries, Virginia Department of Health, Virginia Department of Juvenile Justice, Virginia Department of Military Affairs, Virginia Department of Motor Vehicles, and Virginia State Police.

<sup>755</sup> <https://www.doli.virginia.gov/vosh-programs/misclassification-in-the-workplace/>

<sup>756</sup> [http://www.dpor.virginia.gov/uploadedFiles/MainSite/Content/Licensees/JLARC\\_Employee%20Misclassification%20Report%20\(2012\).pdf](http://www.dpor.virginia.gov/uploadedFiles/MainSite/Content/Licensees/JLARC_Employee%20Misclassification%20Report%20(2012).pdf)

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Virginia that impacts the ability to obtain accurate workers' compensation data.

The following industries had 10 or more claims filed as of May 31, 2020:

<u>NAICS</u> <sup>757</sup>	<u>Industry</u>
No NAICS	Restaurant: Fast Food (70)
322299	All Other Converted Paper Product Manufacturing (25)
445110	Supermarkets and Other Grocery (except Convenience) Stores (14)
452990	All Other General Merchandise Stores (11)
488119	Other Airport Operations (13)
531	Real Estate (33)
54151	Computer Programming (541511) and Design (541512) (13)
561320	Temporary Help Services (12)
561720	Janitorial Services (25)
621111	Offices of Physicians (except Mental Health Specialists) (97)
621498	All Other Outpatient Care Centers (33)
621511	Medical Laboratories (17)
621512	Diagnostic Imaging Centers (16)
621610	Home Health Care Services (12)
621999	All Other Miscellaneous Ambulatory Health Care Services (29)
622110	General Medical and Surgical Hospitals (457)
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals (40)
623311	Continuing Care Retirement Communities (79) (See NOTE 2 above)
721110	Hotels (except Casino Hotels) and Motels (18)
722310	Food Service Contractors (13)
921190	Other General Government Support (317)
922120	Police Protection (106)
922160	Fire Protection (125)
922190	Other Justice, Public Order, and Safety Activities (941)

## 2. Virginia Workers Compensation Statistics as of November 30, 2020.

Since February, 2020, the Virginia Workers' Compensation Commission received 9,773 COVID-19 related claims as of November 30, 2020.

## 3. Virginia Workers Compensation Statistics as of June 15, 2021.

Since February, 2020, the Virginia Workers' Compensation Commission received 15,770 COVID-19 related claims as of June 15, 2021.

VWCC Reports Thirty-three (33) Employee Deaths as of June 15, 2021

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<sup>757</sup> North American Industrial Classification System, <https://www.census.gov/eos/www/naics/>

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NOTE: The June 15, 2021 report from the VWCC contains data on 23 employee deaths not currently included in VOSH COVID-19 Employee Death Statistics. VOSH is actively investigating this data issue to determine if these employee deaths fall within VOSH jurisdiction. If so, VOSH will open inspections for each case. If confirmed, 23 additional deaths would result in a 52% increase in employee deaths attributed to COVID-19 since February 1, 2020.

Date of Injury	Date Death	Year Of Birth	Industry Code	Industry Code Description
4/26/2021	5/15/2021 12:00:00 AM	1986	561320	Temporary Help Services
3/4/2021	3/31/2021 12:00:00 AM	1959	926120	Regulation and Administration of Transportation Programs
12/31/2020	2/17/2021 12:00:00 AM	1974	551112	Offices of Other Holding Companies
1/19/2021	2/2/2021 12:00:00 AM	1966		
12/21/2020	1/15/2021 12:00:00 AM	1961	562111	Solid Waste Collection
1/15/2021	1/15/2021 12:00:00 AM	1961	562111	Solid Waste Collection
12/15/2020	1/10/2021 12:00:00 AM	1948	541611	Administrative Management and General Management Consulting Services
12/17/2020	1/9/2021 12:00:00 AM	1967	926120	Regulation and Administration of Transportation Programs
1/7/2021	1/8/2021 12:00:00 AM	1954		
12/1/2020	1/1/2021 12:00:00 AM	1960	524126	Direct Property and Casualty Insurance Carriers
11/29/2020	11/29/2020 12:00:00 AM	1960	922190	Other Justice, Public Order, and Safety Activities
9/25/2020	11/3/2020 12:00:00 AM	1951	311613	Rendering and Meat Byproduct Processing
10/5/2020	10/22/2020 12:00:00 AM	1970	339999	All Other Miscellaneous Manufacturing
9/24/2020	10/4/2020 12:00:00 AM	1950	722310	Food Service Contractors
9/10/2020	9/11/2020 12:00:00 AM	1957	325212	Synthetic Rubber Manufacturing
8/31/2020	9/9/2020 12:00:00 AM	1953	921190	Other General Government Support
7/16/2020	8/16/2020 12:00:00 AM	1945	922190	Other Justice, Public Order, and Safety Activities
8/7/2020	8/13/2020 12:00:00 AM	1945	325613	Surface Active Agent Manufacturing
7/2/2020	7/27/2020 12:00:00 AM	1961		
5/12/2020	7/19/2020 12:00:00 AM	1959	621111	Offices of Physicians (except Mental Health Specialists)
5/28/2020	7/14/2020 12:00:00 AM	1969	622210	Psychiatric and Substance Abuse Hospitals
6/2/2020	6/8/2020 12:00:00 AM	1963	722310	Food Service Contractors

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4/1/2020	5/24/2020 12:00:00 AM	1961	445110	Supermarkets and Other Grocery (except Convenience) Stores
5/22/2020	5/22/2020 12:00:00 AM	1975	561110	Office Administrative Services
5/3/2020	5/19/2020 12:00:00 AM	1958	621610	Home Health Care Services
3/31/2020	5/11/2020 12:00:00 AM	1966	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)
4/24/2020	5/5/2020 12:00:00 AM	1963		
4/13/2020	4/20/2020 12:00:00 AM	1979	237990	Other Heavy and Civil Engineering Construction
4/19/2020	4/19/2020 12:00:00 AM		484121	General Freight Trucking, Long-Distance, Truckload
4/8/2020	4/12/2020 12:00:00 AM	1946	623311	Continuing Care Retirement Communities
3/20/2020	4/9/2020 12:00:00 AM	1969	721110	Hotels (except Casino Hotels) and Motels
3/28/2020	4/7/2020 12:00:00 AM	1951		
3/23/2020	4/3/2020 12:00:00 AM	1963	721110	Hotels (except Casino Hotels) and Motels

3. Deaths, Hospitalizations, and Employee Complaints reported to the Virginia Department of Labor and Industry.

Pursuant to Va. Code §40.1-51.1.D,<sup>758</sup> employers must report employee deaths and hospitalizations to DOLI.

NOTE: The VOSH Program has investigated an average of 37 annual work-related<sup>759</sup> employee deaths over the last five calendar years. The 31 COVID-19 death notifications in 2020 would represent 84% of the deaths investigated by VOSH in an average year.

The 13 COVID-19 death notifications in 2021 would represent 35% of the deaths investigated by VOSH in an average year.

Fatalities through August 13, 2021:

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<sup>758</sup> <https://law.lis.virginia.gov/vacode/40.1-51.1/>

<sup>759</sup> NOTE: The VOSH Program will ultimately make a determination as to whether an employee's death due to COVID-19 was work-related or not. An infectious disease such as COVID-19 presents additional difficulties to investigators when it comes to determining work-relatedness.

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<b>Fatalities - Calendar Year</b>	<b>2020</b>	<b>2021</b>	<b>% [2021]</b>
<b>Total</b>	<b>57</b>	<b>26</b>	<b>31</b>
<b>COVID-19</b>	<b>31</b>	<b>13</b>	<b>50%</b>
<b>Fall</b>	<b>8</b>	<b>6</b>	<b>23%</b>
<b>Struck-By</b>	<b>12</b>	<b>5</b>	<b>19%</b>
<b>Caught-in</b>	<b>5</b>	<b>1</b>	<b>4%</b>
<b>Asphyxiation</b>	<b>0</b>	<b>1</b>	<b>4%</b>
<b>Electrocution</b>	<b>1</b>		<b>0%</b>

NOTE: The June 15, 2021 report from the VWCC contains data on 23 employee deaths not currently included in VOSH COVID-19 Employee Death Statistics. VOSH is actively investigating this data issue to determine if these employee deaths fall within VOSH jurisdiction. If so, VOSH will open inspections for each case. If confirmed, 23 additional deaths would result in a 52% increase in employee deaths attributed to COVID-19 since February 1, 2020.

<b>SUMMARY   VOSH COVID-19</b>			
	<b>Dates</b>	<b>4/23/21</b>	<b>4/30/21</b>
<b>Phone Calls</b>			
<b>Total Phone Calls</b>		<b>94</b>	<b>69</b>
<b>UPAs Complaints   OIS Statewide</b>		<b>19</b>	<b>8</b>
<b># Inspections</b>		<b>6</b>	<b>1</b>
<i>Complaints, Referrals, Hospitalizations &amp; Fatalities</i>			
<i>Inspections w/ Violations</i>		<i>57</i>	<i>57</i>
<i>Inspections Closed</i>		<i>99</i>	<i>104</i>
<i># of Violations Issued - Final Order Cases (Willful, Serious, OTS)</i>		<i>148</i>	<i>198</i>
<i>#EEs Exposed</i>		<i>7065</i>	<i>12316</i>
<b># Hospitalizations</b>		<b>1</b>	<b>2</b>
<b>Fatalities/Workplace deaths</b>		<b>0</b>	<b>1</b>
<b># of Emails forwarded to Regional/Field Offices from MF</b>			
<i>COVID-19 positive Cases Reports (ETS)   Complaints</i>			
<i>(does not include reports submitted by phone in the Regional Offices).</i>		<b>3</b>	<b>3</b>
<b># REDCAP Notifications (Launched 09/28/20)</b>		<b>283</b>	<b>267</b>
<b># REDCAP Notifications (3 or more cases reported)</b>		<b>80</b>	<b>50</b>

NOTE: “UPA” means unprogrammed activity (complaints, referrals, fatalities, hospitalizations).  
 “MF” means Occupational Safety Compliance Director Marta Fernandes

4. VOSH Inspection and Citation History.

NOTE: See ATTACHMENT F for VOSH Investigation and Inspection Procedures.

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See ATTACHMENT H for a list of VOSH Violations Issued in COVID-19 Cases Opened from February 1, 2020 to January 21, 2022.

Inspections for All COVID-19 Inspections through June 16, 2021:

Inspections in Progress	39
Inspections Closed with No Violations	79
Inspections with Violations	68
Total Inspections	186
Violation Types	
Serious	147 (64.2%)
Other-than-serious	79 (34.5%)
Willful	3 (1.3%)
Repeat	0 (0%)
Total Violations	229
Total Penalties Issued:	\$551,140.00

g. Inspection Statistics by NAICS.<sup>760</sup>

Virginia Department of Labor and Industry (DOLI)  
 Virginia Occupational Safety and Health (VOSH)  
 COVID-19 Inspections Conducted From January 1, 2020 to June 16, 2021

Site NAICS	NAICS Description	Insp With Viols Issued	No Citations Issued	Insp in Progress	Insp Closed	Employee Death	Ownership Type	Entry Date
	<b>NAICS Sector 11: Agriculture, Forestry, Fishing and Hunting</b>							
115114	Postharvest Crop Activities (except Cotton Ginning)	1				1	Private Sector	09/01/2020
111998	All Other Miscellaneous Crop Farming	1			1		Private Sector	09/18/2020
114111	Finfish Fishing		1		1		Private Sector	10/30/2020

<sup>760</sup> North America Industrial Classification System.

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111421	Nursery and Tree Production	1			1		Private Sector	09/18/2020
115114	Postharvest Crop Activities (except Cotton Ginning)			1			Private Sector	04/08/2021
112512	Shellfish Farming			1		1	Private Sector	04/22/2021
	<b>NAICS Sector 21-23: Mining, Quarrying, and Oil and Gas Extraction; Utilities; Construction</b>							
221310	Water Supply and Irrigation Systems		1		1	1	Private Sector	06/02/2020
236118	Residential Remodelers		1		1		Private Sector	11/12/2020
238990	All Other Specialty Trade Contractors			1			Private Sector	02/24/2021
238310	Drywall and Insulation Contractors			1			Private Sector	03/09/2021
238320	Painting and Wall Covering Contractors		1		1		Private Sector	05/12/2021
	<b>NAICS Sector 31-33: Manufacturing</b>							
311615	Poultry Processing		1		1	1	Private Sector	04/28/2020
311612	Meat Processed from Carcasses		1		1		Private Sector	05/20/2020
311812	Commercial Bakeries		1		1		Private Sector	06/24/2020
327390	Other Concrete Product Manufacturing		1		1	1	Private Sector	07/15/2020
314110	Carpet and Rug Mills		1		1		Private Sector	08/07/2020
311821	Cookie and Cracker Manufacturing		1		1		Private Sector	09/01/2020
311612	Meat Processed from Carcasses	1			1		Private Sector	09/22/2020
333991	Power-Driven Handtool Manufacturing	1			1		Private Sector	09/30/2020
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	1			1		Private Sector	10/07/2020
336211	Motor Vehicle Body Manufacturing	1			1		Private Sector	10/20/2020
321212	Softwood Veneer and Plywood Manufacturing		1		1	1	Private Sector	10/23/2020
326291	Rubber Product Manufacturing for Mechanical Use	1			1		Private Sector	10/29/2020
311613	Rendering and Meat Byproduct Processing	1			1		Private Sector	10/30/2020
321999	All Other Miscellaneous Wood Product Manufacturing	1			1		Private Sector	11/24/2020
332994	Small Arms, Ordnance, and Ordnance Accessories Manufacturing	1			1		Private Sector	12/15/2020
337110	Wood Kitchen Cabinet and Countertop Manufacturing	1					Private Sector	12/22/2020
327991	Cut Stone and Stone Product Manufacturing	1					Private Sector	01/12/2021

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337110	Wood Kitchen Cabinet and Countertop Manufacturing		1		1		Private Sector	01/13/2021
326191	Plastics Plumbing Fixture Manufacturing		1		1		Private Sector	02/08/2021
326211	Tire Manufacturing (except Retreading)			1		1	Private Sector	02/08/2021
326199	All Other Plastics Product Manufacturing			1			Private Sector	03/17/2021
324121	Asphalt Paving Mixture and Block Manufacturing		1		1		Private Sector	04/05/2021
<b>NAICS Sector 42: Wholesale Trade</b>								
424410	General Line Grocery Merchant Wholesalers	1			1		Private Sector	07/31/2020
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	1				1	Private Sector	09/04/2020
423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers		1		1		Private Sector	11/16/2020
423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers		1		1		Private Sector	01/19/2021
423210	Furniture Merchant Wholesalers		1		1		Private Sector	02/12/2021
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	1					Private Sector	03/18/2021
<b>NAICS Sector 44-45: Retail Trade</b>								
441120	Used Car Dealers		1		1	1	Private Sector	06/18/2020
442110	Furniture Stores	1			1	1	Private Sector	08/11/2020
441222	Boat Dealers	1					Private Sector	08/28/2020
444110	Home Centers		1		1		Private Sector	10/19/2020
453910	Pet and Pet Supplies Stores	1			1		Private Sector	11/02/2020
441310	Automotive Parts and Accessories Stores	1			1		Private Sector	11/18/2020
441228	Motorcycle, ATV, and All Other Motor Vehicle Dealers		1		1		Private Sector	11/23/2020
444110	Home Centers		1		1		Private Sector	12/15/2020
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	1					Private Sector	12/14/2020
444130	Hardware Stores		1		1		Private Sector	12/23/2020
451120	Hobby, Toy, and Game Stores		1		1		Private Sector	01/05/2021
441310	Automotive Parts and Accessories Stores		1		1		Private Sector	11/06/2020
451110	Sporting Goods Stores		1		1		Private Sector	01/08/2021
445110	Supermarkets and Other Grocery (except Convenience) Stores	1					Private Sector	01/13/2021

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441310	Automotive Parts and Accessories Stores		1		1		Private Sector	01/21/2021
452110	Department Stores		1		1		Private Sector	01/21/2021
442110	Furniture Stores		1		1		Private Sector	04/20/2021
445210	Meat Markets				1		Private Sector	04/20/2021
445210	Meat Markets				1		Private Sector	04/20/2021
441110	New Car Dealers				1		Private Sector	01/26/2021
444130	Hardware Stores		1		1		Private Sector	01/29/2021
453910	Pet and Pet Supplies Stores	1			1		Private Sector	02/01/2021
444110	Home Centers		1		1		Private Sector	02/03/2021
441110	New Car Dealers		1		1		Private Sector	02/05/2021
453310	Used Merchandise Stores				1		Private Sector	02/25/2021
441120	Used Car Dealers	1					Private Sector	03/02/2021
441110	New Car Dealers				1		Private Sector	03/08/2021
445110	Supermarkets and Other Grocery (except Convenience) Stores				1		Private Sector	03/08/2021
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)		1		1		Private Sector	03/10/2021
441310	Automotive Parts and Accessories Stores		1		1		Private Sector	04/15/2021
446191	Food (Health) Supplement Stores				1		Private Sector	04/29/2021
	<b>NAICS Sector 48-49: Transportation and Warehousing</b>							
488119	Other Airport Operations		1		1	1	Private Sector	04/29/2020
485113	Bus and Other Motor Vehicle Transit Systems		1		1		Private Sector	06/08/2020
485310	Taxi Service	1			1		Private Sector	06/29/2020
492110	Couriers and Express Delivery Services		1		1		Private Sector	10/30/2020
492110	Couriers and Express Delivery Services	1					Private Sector	10/30/2020
493110	General Warehousing and Storage		1		1		Private Sector	12/09/2020
485999	All Other Transit and Ground Passenger Transportation	1			1		Private Sector	01/08/2021
485113	Bus and Other Motor Vehicle Transit Systems				1		Private Sector	01/12/2021
485113	Bus and Other Motor Vehicle Transit Systems				1		Private Sector	04/12/2021

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	<b>NAICS Sector 51: Information</b>							
519120	Libraries and Archives		1		1		Local Government	09/14/2020
	<b>NAICS Sector 52: Finance and Insurance</b>							
522310	Mortgage and Nonmortgage Loan Brokers		1		1		Private Sector	12/30/2020
522310	Mortgage and Nonmortgage Loan Brokers	1					Private Sector	01/08/2021
524114	All Other Professional, Scientific, and Technical Services		1		1		Private Sector	02/04/2021
	<b>NAICS Sector 53: Real Estate and Rental and Leasing</b>							
531110	Lessors of Residential Buildings and Dwellings		1		1	1	Private Sector	05/26/2020
531110	Lessors of Residential Buildings and Dwellings			1		1	Private Sector	03/03/2021
	<b>NAICS Sector 54: Professional, Scientific, and Technical Services</b>							
541519	Other Computer Related Services		1		1		Private Sector	04/29/2020
541350	Building Inspection Services		1		1		Local Government	07/10/2020
	<b>NAICS Sector 56: Administrative and Support and Waste Management and Remediation Services</b>							
561422	Telemarketing Bureaus and Other Contact Centers	1				1	Private Sector	05/13/2020
561720	Janitorial Services		1		1		Private Sector	07/16/2020
561110	Office Administrative Services	1			1		Private Sector	08/12/2020
561720	Janitorial Services	1			1		Private Sector	06/26/2020
561612	Security Guards and Patrol Services		1		1	1	Private Sector	09/10/2020
561720	Janitorial Services	1				1	Private Sector	09/28/2020
562910	Remediation Services		1		1		Private Sector	10/02/2020
561612	Security Guards and Patrol Services	1					Private Sector	10/30/2020
561720	Janitorial Services		1		1		Private Sector	11/09/2020
561320	Temporary Help Services			1		1	Private Sector	05/26/2021
561790	Other Services to Buildings and Dwellings			1			Private Sector	04/13/2021

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561720	Janitorial Services			1			Private Sector	02/10/2021
562212	Solid Waste Landfill			1			Private Sector	05/10/2021
	<b>NAICS Sector 61: Educational Services</b>							
611110	Elementary and Secondary Schools		1		1	1	Local Government	10/28/2020
	<b>NAICS Sector 62: Health Care and Social Assistance</b>							
623311	Continuing Care Retirement Communities	1			1	1	Private Sector	04/27/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1				1	Private Sector	04/30/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)		1		1		Private Sector	05/06/2020
622110	Nursing Care Facilities (Skilled Nursing Facilities)	1			1		Private Sector	05/08/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1				1	Private Sector	05/05/2020
621610	Home Health Care Services		1		1		Private Sector	05/13/2020
621491	HMO Medical Centers	1			1		Private Sector	05/20/2020
621610	Home Health Care Services	1			1	1	Private Sector	05/20/2020
622110	General Medical and Surgical Hospitals	1			1		Private Sector	05/29/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)		1		1		Private Sector	06/08/2020
621498	All Other Outpatient Care Centers	1			1		Private Sector	06/16/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)		1		1	1	Private Sector	06/23/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)		1		1		Private Sector	07/02/2020
622310	Specialty (except Psychiatric and Substance Abuse) Hospitals	1					Private Sector	07/02/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1					Private Sector	07/02/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1			1		Private Sector	07/06/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)		1		1	1	Private Sector	07/27/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1					Private Sector	08/04/2020
623312	Assisted Living Facilities for the Elderly	1			1		Private Sector	08/07/2020
622110	General Medical and Surgical Hospitals		1		1		Private Sector	08/12/2020
622310	General Medical and Surgical Hospitals		1		1		Private Sector	08/13/2020
622110	General Medical and Surgical Hospitals		1		1		Private Sector	08/11/2020

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623312	Assisted Living Facilities for the Elderly		1		1	1	Private Sector	09/04/2020
622210	Psychiatric and Substance Abuse Hospitals		1		1	1	State Government	09/06/2020
621210	Offices of Dentists	1			1		Private Sector	09/25/2020
621330	Offices of Mental Health Practitioners (except Physicians)		1		1		Private Sector	10/15/2020
621310	Offices of Chiropractors	1			1		Private Sector	10/28/2020
622110	General Medical and Surgical Hospitals		1		1		Private Sector	10/30/2020
623312	Assisted Living Facilities for the Elderly	1			1		Private Sector	11/19/2020
621420	Outpatient Mental Health and Substance Abuse Centers		1		1		Private Sector	11/19/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1				1	Private Sector	11/24/2020
623110	Offices of Chiropractors		1		1	1	Private Sector	12/07/2020
621310	Offices of Chiropractors	1					Private Sector	12/10/2020
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1			1		Private Sector	12/11/2020
621420	Outpatient Mental Health and Substance Abuse Centers			1		1	Private Sector	01/11/2021
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1				1	Private Sector	01/13/2021
622110	General Medical and Surgical Hospitals		1		1		Private Sector	01/14/2021
621112	Offices of Physicians, Mental Health Specialists			1		1	Private Sector	01/29/2021
624190	Other Individual and Family Services			1			Private Sector	02/05/2021
622210	Psychiatric and Substance Abuse Hospitals			1		1	Private Sector	02/16/2021
621910	Ambulance Services	1					Private Sector	02/19/2021
622210	Psychiatric and Substance Abuse Hospitals			1			State Government	02/25/2021
623110	Nursing Care Facilities (Skilled Nursing Facilities)			1			Private Sector	03/02/2021
623311	Continuing Care Retirement Communities			1		1	Private Sector	03/03/2021
623311	Continuing Care Retirement Communities			1		1	Private Sector	03/03/2021
623210	Residential Intellectual and Developmental Disability Facilities		1		1		Private Sector	04/13/2021
623220	Residential Mental Health and Substance Abuse Facilities			1		1	State Government	05/26/2021
	<b>NAICS 71: Arts, Entertainment, and Recreation</b>							
713940	Fitness and Recreational Sports Centers			1			Private Sector	02/24/2021

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	<b>NAICS 72: Accommodation and Food Services</b>							
721110	Hotels (except Casino Hotels) and Motels	1			1	1	Private Sector	06/01/2020
722310	Food Service Contractors		1		1		Private Sector	07/06/2020
722511	Full-Service Restaurants	1					Private Sector	08/20/2020
722511	Office Administrative Services	1					Private Sector	08/20/2020
722515	Snack and Nonalcoholic Beverage Bars		1		1		Private Sector	09/22/2020
722511	Full-Service Restaurants	1					Private Sector	10/08/2020
722513	Limited-Service Restaurants		1		1		Private Sector	10/27/2020
722513	Limited-Service Restaurants		1		1		Private Sector	01/14/2021
722511	Full-Service Restaurants			1			Private Sector	01/26/2021
722513	Limited-Service Restaurants		1		1		Private Sector	02/03/2021
722511	Full-Service Restaurants			1			Private Sector	02/03/2021
713210	Casinos (except Casino Hotels)		1		1		Private Sector	02/04/2021
721110	Hotels (except Casino Hotels) and Motels		1		1		Private Sector	03/02/2021
721110	Hotels (except Casino Hotels) and Motels		1		1		Private Sector	03/08/2021
721110	Hotels (except Casino Hotels) and Motels			1			Private Sector	03/08/2021
722513	Limited-Service Restaurants	1			1		Private Sector	01/26/2021
722511	Full-Service Restaurants			1			Private Sector	05/03/2021
	<b>NAICS 81: Other Services (except Public Administration)</b>							
811192	Car Washes	1			1		Private Sector	07/17/2020
812112	Beauty Salons	1					Private Sector	10/28/2020
812199	Other Personal Care Services	1					Private Sector	12/03/2020
811111	General Automotive Repair		1		1		Private Sector	01/06/2021
811121	Automotive Body, Paint, and Interior Repair and Maintenance			1			Private Sector	01/20/2021
811219	Other Electronic and Precision Equipment Repair and Maintenance	1					Private Sector	01/20/2021
812112	Automotive Exhaust System Repair		1		1		Private Sector	01/22/2021
813110	Religious Organizations			1		1	Private Sector	03/09/2021

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812910	Pet Care (except Veterinary) Services			1			Private Sector	04/14/2021
811198	All Other Automotive Repair and Maintenance	1					Private Sector	05/03/2021
	<b>NAICS Sector 92: Public Administration</b>							
922120	Police Protection	1			1		Local Government	06/30/2020
921190	Other General Government Support		1		1	1	Local Government	08/25/2020
923120	Administration of Public Health Programs		1		1		Private Sector	08/25/2020
923120	Administration of Public Health Programs		1		1		Local Government	08/25/2020
922120	Administration of Public Health Programs		1		1	1	Local Government	08/27/2020
922140	Correctional Institutions	1			1	1	State Government	09/09/2020
922140	Correctional Institutions	1			1	1	Local Government	09/30/2020
922160	Fire Protection	1			1		Local Government	11/19/2020
922120	Police Protection			1		1	Local Government	01/19/2021
922140	Correctional Institutions	1				1	State Government	02/17/2021

**Total Inspections: 186**                      **68**      **79**      **39**      **117**      **43**  
**36.6%**      **42.5%**      **21.0%**

**V. Economic and Workplace Impacts.**

**A. Economic Impact Analysis.**

1. An economic impact analysis (EIA) meeting the requirements of Va. Code §2.2-4007.04<sup>761</sup> was issued on January 11, 2021. The EIA was prepared by Chmura Economics & Analytics, a nationally recognized economic consulting firm.<sup>762</sup>  
**See Attachment I.**

A DOLI Addendum to the EIA was issued on January 11, 2021. **See Attachment J.**

2. An economic impact analysis (EIA)<sup>763</sup> on the Proposed Amendments based on the requirements of Va. Code §2.2-4007.04<sup>764</sup> is being prepared by Chmura

<sup>761</sup> <https://law.lis.virginia.gov/vacode/title2.2/chapter40/section2.2-4007.04/>

<sup>762</sup> <http://www.chmuraecon.com/>

<sup>763</sup> <https://www.doli.virginia.gov/wp-content/uploads/2021/01/VDOLI-COVID-Regulation-Economic-Impact-Analysis-EIA-20210111.pdf>

<sup>764</sup> <https://law.lis.virginia.gov/vacode/title2.2/chapter40/section2.2-4007.04/>

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Economics & Analytics, a nationally recognized economic consulting firm.<sup>765</sup>

[The EIA will be provided to the Board along with the Department's response in separate documents]

B. Impact on Employers.

Employers will have to familiarize themselves with the amendments to the Virginia Standard in effect since January 27, 2021. Certain employers will have to train employees on the requirements of the standard based on the risk levels for its employees (see IV. Summary of Proposed Amendments to the Virginia Standard and attached text of proposed amendments to the Virginia Standard).

The Department will significantly supplement its COVID-19 webpage with education, training, and outreach materials that will assist employers and employees in complying with the proposed amendments to the Virginia Standard.

A substantial majority of the proposed substantive amendments concern issues that have already been addressed by Frequently Asked Questions (FAQs)<sup>766</sup> published by the Department at [www.doli.virginia.gov](http://www.doli.virginia.gov) and updated information provided by the CDC.

The regulatory burden for employers is substantially reduced for those employees that are fully vaccinated in non-healthcare settings.

On June 29, 2021, the Board adopted federal OSHA's COVID-19 ETS for Virginia with an effective date of August 2, 2021.<sup>767</sup> The COVID-19 ETS will expire within six months or when repealed by the Board, whichever occurs first. During the pendency of the COVID-19 ETS, application of the Virginia Standard to healthcare services and healthcare support services is suspended and will reapply after the COVID-19 ETS is no longer in effect.

Employers should benefit from reductions in injuries, illnesses, and fatalities associated with employee exposure to SARS-CoV-2 and COVID-19 related hazards which would be addressed by any comprehensive regulation.

In addition, there may be an ancillary benefit to those employers whose establishments are frequented by the general public who may take some level of confidence in the safety and health of the physical establishment because of the requirements of this emergency temporary standard/emergency regulation.

C. Impact on Employees.

1. Vulnerabilities of Virginia's Workforce to SARS-CoV-2 and COVID-19 Hazards.

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<sup>765</sup> <http://www.chmuraecon.com/>

<sup>766</sup> <https://www.doli.virginia.gov/final-covid-19-standard-frequently-asked-questions/>

<sup>767</sup> <https://www.doli.virginia.gov/emergency-temporary-standard-interim-final-rule/>

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Those employees at high-risk for severe illness from COVID-19 are<sup>768</sup>:

Compared to younger adults, older adults are more likely to require hospitalization if they get COVID-19

	Hospitalization <sup>1</sup>	Death <sup>2</sup>
18-29 years	Comparison Group	Comparison Group
30-39 years	2x higher	4x higher
40-49 years	3x higher	10x higher
50-64 years	4x higher	30x higher
65-74 years	5x higher	90x higher
75-84 years	8x higher	220x higher
85+ years	13x higher	630x higher

Adults of any age with certain underlying medical conditions are at increased risk for severe illness from the virus that causes COVID-19. Severe illness from COVID-19 is defined as hospitalization, admission to the ICU, intubation or mechanical ventilation, or death.

Adults of any age with the following conditions are at increased risk of severe illness from the virus that causes COVID-19:

- Cancer
- Chronic kidney disease
- COPD (chronic obstructive pulmonary disease)
- Down Syndrome
- Heart conditions, such as heart failure, coronary artery disease, or cardiomyopathies
- Immunocompromised state (weakened immune system) from solid organ transplant
- Obesity (body mass index [BMI] of 30 kg/m<sup>2</sup> or higher but < 40 kg/m<sup>2</sup>)
- Severe Obesity (BMI ≥ 40 kg/m<sup>2</sup>)
- Pregnancy
- Sickle cell disease
- Smoking
- Type 2 diabetes mellitus

COVID-19 is a new disease. Currently there are limited data and information about the impact of many underlying medical conditions on the risk for severe illness from COVID-19. Based on what we know at this time, adults of any age with the following

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<sup>768</sup> <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html>

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conditions might be at an increased risk for severe illness from the virus that causes COVID-19:

- Asthma (moderate-to-severe)
- Cerebrovascular disease (affects blood vessels and blood supply to the brain)
- Cystic fibrosis
- Hypertension or high blood pressure
- Immunocompromised state (weakened immune system) from blood or bone marrow transplant, immune deficiencies, HIV, use of corticosteroids, or use of other immune weakening medicines
- Neurologic conditions, such as dementia
- Liver disease
- Overweight (BMI > 25 kg/m<sup>2</sup>, but < 30 kg/m<sup>2</sup>)
- Pulmonary fibrosis (having damaged or scarred lung tissues)
- Thalassemia (a type of blood disorder)
- Type 1 diabetes mellitus<sup>769</sup>

## 2. National and Virginia Statistics.

Based on U. S. Census figures, “In 1998, adults ages 55 and older represented 12 percent of the American workforce. Twenty years later, this group represents 23 percent of the workforce, the largest labor force share of any age group. By 2028, nearly one in three people between the ages of 65 and 74 are expected to remain in the labor force, and more than 12 percent of people 75 and older will still be working, roughly tripling the rate at which the oldest Americans were working two decades ago.”<sup>770</sup>

NOTE: In 2008, the labor force participation rate for employees 65 and older in Virginia was 16%.<sup>771</sup> In 2017 the U.S. Senate’s Special Committee on Aging noted that the average labor force participation rate of employees 65 years and older in the South Atlantic states, including Virginia, was 17.9%.<sup>772</sup>

The U.S. Census estimates that Virginia’s population as of July 1, 2019 was 8,535,519, and that 15.4% (1,314,469) of Virginia’s population was 65 years or older.<sup>773</sup>

A labor force participation rate for those 65 and older in Virginia of 17.9% would equate to 235,289 elderly employees.

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<sup>769</sup> [https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fneed-extra-precautions%2Fgroups-at-higher-risk.html](https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fneed-extra-precautions%2Fgroups-at-higher-risk.html)

<sup>770</sup> <https://www.seniorliving.org/research/senior-employment-outlook-covid/>

<sup>771</sup> [http://sfc.virginia.gov/pdf/health/2008%20Session/August%2020%20mtg/HHR%20-%20Perrone%20-%20UVA%20-%208.20.08%20\(B&W\).pdf](http://sfc.virginia.gov/pdf/health/2008%20Session/August%2020%20mtg/HHR%20-%20Perrone%20-%20UVA%20-%208.20.08%20(B&W).pdf)

<sup>772</sup> <https://www.aging.senate.gov/imo/media/doc/Aging%20Workforce%20Report%20FINAL.pdf>, p. 12.

<sup>773</sup> <https://www.census.gov/quickfacts/fact/table/VA#>

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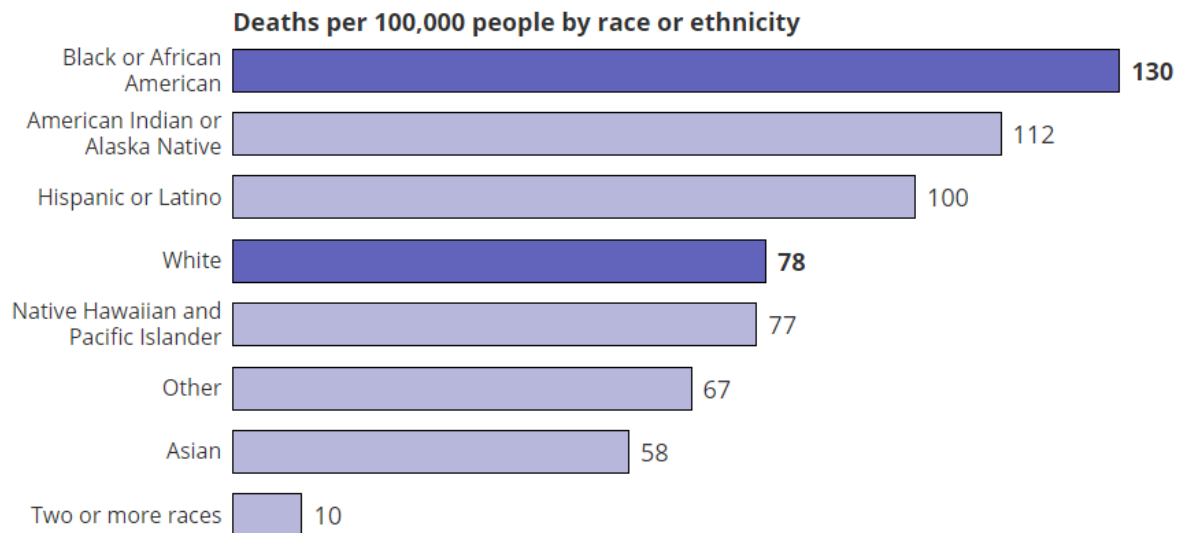
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A study by SeniorLiving.Org looked “at the jobs that are most common for seniors, how have their labor force participation rates changed over time, and what impacts might arise from the COVID-19 crisis.” Key findings include:

- In all 50 states and the District of Columbia, at least 20 percent of adults ages 65 to 74 are in the workforce. In seven states, more than 30 percent are working.
- Since 2013, 46 of 51 had seen increases in workforce participation of 75-and-older residents. Seven states posted 20 percent gains, including Vermont, West Virginia, Maine, Georgia, Michigan, Rhode Island and Connecticut.
- Seniors represent significant portions of the workforce for many professions that require close contact with others, including bus drivers, ushers, ticket takers, taxi drivers, street vendors, chiropractors, dentists, barbers, etc.

Additionally, current data suggest a disproportionate burden of illness and death among racial and ethnic minority groups.<sup>774</sup>

## Nationwide, Black people are dying at 1.7 times the rate of white people.



The CDC postulates that part of the reason for this disparity is that some racial and ethnic minority groups are disproportionately represented in essential work settings such as healthcare facilities, farms, factories, grocery stores, and public transportation.

Other factors postulated include the disproportionate lack of access to healthcare and health insurance, language barriers, discrimination, financial status, serious underlying health conditions, stigmatization, and other systemic inequalities.<sup>775</sup>

<sup>774</sup> <https://covidtracking.com/race>

<sup>775</sup> <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html>

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Almost 40% of the population of Virginia are from a racial minority.<sup>776</sup>

The Bureau of Labor Statistics (BLS) conducted an analysis of employment statistics entitled “How many workers are employed in sectors directly affected by COVID-19 shutdowns, where do they work, and how much do they earn?”<sup>777</sup> The report looked at “six of the most directly exposed sectors include: Restaurants and Bars, Travel and Transportation, Entertainment (e.g., casinos and amusement parks), Personal Services (e.g., dentists, daycare providers, barbers), other sensitive Retail (e.g., department stores and car dealers), and sensitive Manufacturing (e.g., aircraft and car manufacturing).”

In all, 20.4 percent of all workers are employed in industries most immediately affected by the COVID-19 shutdowns<sup>778</sup>:

**Table 1. Industry statistics, by firm size class**

Firm size (number of employees)	Total	All other	Most exposed sectors						
			Restaurants and bars	Travel and transportation	Entertainment	Personal services	Other sensitive retail	Sensitive manufacturing	Most exposed sectors combined
<b>Employment levels in June 2019 (thousands)</b>									
<b>10 or less</b>	14,139.9	10,813.4	1,124.6	140.1	209.2	845.7	779.8	227.1	3,326.5
<b>11 to 50</b>	22,257.7	14,994.6	4,022.0	545.2	541.1	743.5	961.4	449.9	7,263.1
<b>51 to 100</b>	10,572.4	7,644.2	1,533.8	198.5	294.7	100.9	556.5	243.8	2,928.2
<b>101 to 500</b>	25,483.5	20,893.5	1,668.0	558.9	642.0	146.2	830.9	744.0	4,590.0
<b>More than 500</b>	77,528.8	65,076.8	3,925.1	2,050.6	957.0	249.9	3,419.9	1,849.5	12,452.0
<b>Total</b>	149,982.3	119,422.5	12,273.5	3,493.3	2,644.0	2,086.2	6,548.5	3,514.3	30,559.8
<b>Total wages paid in second quarter 2019 (billions of dollars)</b>									
<b>10 or less</b>	\$144.894	\$120.886	\$5.183	\$0.926	\$1.951	\$7.731	\$5.844	\$2.373	\$24.008
<b>11 to 50</b>	242.971	194.789	19.428	3.350	2.581	7.412	9.954	5.457	48.182
<b>51 to 100</b>	132.246	108.932	8.192	1.674	1.649	1.010	7.550	3.239	23.314
<b>101 to 500</b>	358.286	314.502	8.519	5.413	5.783	1.453	12.052	10.564	43.784

<sup>776</sup> <https://www.census.gov/quickfacts/VA>

<sup>777</sup> <https://www.bls.gov/opub/mlr/2020/article/covid-19-shutdowns.htm>

<sup>778</sup> *Id.*

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**Table 1. Industry statistics, by firm size class**

Firm size (number of employees)	Total	All other	Most exposed sectors						
			Restaurants and bars	Travel and transportation	Entertainment	Personal services	Other sensitive retail	Sensitive manufacturing	Most exposed sectors combined
<b>More than 500</b>	1,240.032	1,121.793	20.876	27.118	8.879	2.259	24.403	34.704	118.239
<b>Total</b>	2,118.429	1,860.902	62.198	38.481	20.843	19.865	59.803	56.337	257.527

Note: Firms are identified by Employer Identification Number.

Source: Authors' calculations based on U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages data for June and second quarter 2019. The North American Industry Classification System codes used to define the most exposed sectors can be found in Joseph S. Vavra, "Shutdown sectors represent large share of all U.S. employment" (Chicago, IL: Becker Friedman Institute for Economics at the University of Chicago, March 31, 2020), <https://bfi.uchicago.edu/insight/blog/key-economic-facts-about-covid-19/>.

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“Older adults make up a large percentage of many of the jobs in these industries. For example, nearly half of bus drivers are older than 55, while almost 1 in 5 ticket takers and ushers are 65 or older. And although the BLS didn’t specifically call them out, farmers have also been impacted by the toll of the virus, with both prices of commodities and consumption declining. The median age of farmers and ranchers in the U.S. is 56.1 years old.”<sup>779</sup>

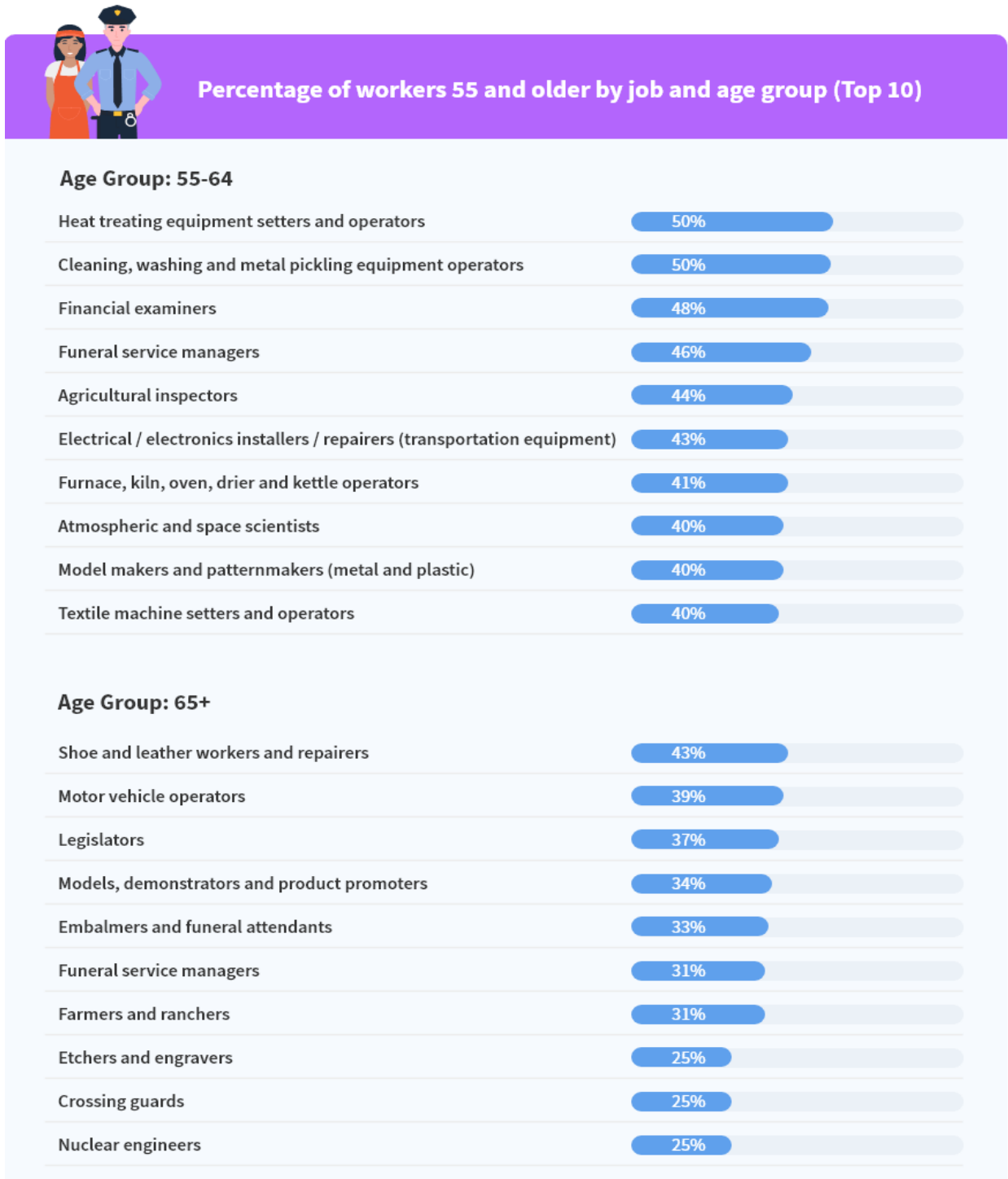


<sup>779</sup> <https://www.seniorliving.org/research/senior-employment-outlook-covid/>

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“When it comes to specific job titles, a few roles are much more common for older adults than for others. For example, nearly 80 percent of funeral service managers are 55 and older, compared to much more physical roles like fence builders (7.3 percent) or lifeguards (5.8 percent).”<sup>780</sup>



<sup>780</sup> *Id.*

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Finally, the CDC conducted a study of “Selected health conditions and risk factors, by age: United States, selected years 1988–1994 through 2015–2016”<sup>781</sup> of the general population. Although the working population of the country is only a subset of the totals for the table, the data nonetheless demonstrates the significant risk that SARS-CoV-2 and COVID-19 related hazards pose to the U.S. and Virginia workers. Using the age adjusted statistical totals:

- 14.7% of the population suffer from diabetes,
- 12.2% from high cholesterol
- 30.2% suffer from hypertension
- 39.7% suffer from obesity

**Table 21. Selected health conditions and risk factors, by age: United States, selected years 1988–1994 through 2015–2016**

Excel version (with more data years and standard errors when available): [https://www.cdc.gov/nchs/hus/contents2018.htm#Table\\_021](https://www.cdc.gov/nchs/hus/contents2018.htm#Table_021).

[Data are based on interviews, physical examinations, and laboratory data of a sample of the civilian noninstitutionalized population]

Health condition	1988–1994	1999–2000	2001–2002	2003–2004	2005–2006	2007–2008	2009–2010	2011–2012	2013–2014	2015–2016
<b>Diabetes<sup>1</sup></b>										
Percent of adults aged 20 and over										
Total, age-adjusted <sup>2</sup>	8.8	10.0	11.6	11.8	11.5	12.6	12.5	12.7	13.1	14.7
Total, crude	8.3	9.6	11.2	11.8	11.9	13.0	13.2	13.4	14.0	16.0
<b>Hypercholesterolemia<sup>3</sup></b>										
Total, age-adjusted <sup>4</sup>	22.8	25.5	24.6	27.9	27.4	27.6	27.2	28.2	27.4	26.9
Total, crude	21.5	24.5	24.2	27.9	28.1	28.8	28.6	30.4	29.3	29.6
<b>High total cholesterol<sup>5</sup></b>										
Total, age-adjusted <sup>4</sup>	20.8	18.3	16.5	16.9	15.6	14.2	13.2	12.7	11.1	12.2
Total, crude	19.6	17.7	16.4	17.0	15.9	14.6	13.6	13.1	11.1	12.5
<b>Hypertension<sup>6</sup></b>										
Total, age-adjusted <sup>4</sup>	25.5	30.0	29.7	32.1	30.5	31.2	30.0	30.0	30.8	30.2
Total, crude	24.1	28.9	28.9	32.5	31.7	32.6	31.9	32.5	33.5	33.2
<b>Uncontrolled high blood pressure among persons with hypertension<sup>7</sup></b>										
Total, age-adjusted <sup>4</sup>	77.2	71.9	68.3	63.8	63.0	56.2	55.7	54.6	51.3	59.7
Total, crude	73.9	69.1	65.4	60.8	56.6	51.8	46.7	48.0	46.1	51.5
<b>Overweight or obesity<sup>8</sup></b>										
Total, age-adjusted <sup>4</sup>	56.0	64.5	65.6	66.4	66.9	68.1	68.8	68.6	70.4	71.3
Total, crude	54.9	64.1	65.6	66.5	67.3	68.3	69.2	69.0	70.7	71.6
<b>Obesity<sup>9</sup></b>										
Total, age-adjusted <sup>4</sup>	22.9	30.5	30.5	32.3	34.4	33.7	35.7	34.9	37.8	39.7
Total, crude	22.3	30.3	30.6	32.3	34.7	33.9	35.9	35.1	37.9	39.8
<b>Untreated dental caries<sup>10</sup></b>										
Total, age-adjusted <sup>4</sup>	27.7	24.4	21.3	29.8	24.4	21.7	---	25.5	31.5	26.1
Total, crude	28.2	25.0	21.7	30.2	24.5	21.8	---	25.5	31.3	25.9
<b>Obesity<sup>11</sup></b>										
Percent of persons under age 20										
2–5 years	7.2	10.3	10.6	14.0	11.0	10.1	12.1	8.4	9.4	13.9
6–11 years	11.3	15.1	16.3	18.8	15.1	19.6	18.0	17.7	17.4	18.4
12–19 years	10.5	14.8	16.7	17.4	17.8	18.1	18.4	20.5	20.6	20.6
<b>Untreated dental caries<sup>10</sup></b>										
5–19 years	24.3	23.6	21.2	25.6	16.2	16.9	14.6	17.5	19.6	14.3

<sup>781</sup> <https://www.cdc.gov/nchs/data/hus/2018/021.pdf>

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3. Virginia Statistics.

Virginia's Adult Reported Diabetes Rate in 2020 was 10.9%.<sup>782</sup>

Virginia's Hypertension Rate in 2015 was 33.2%<sup>783</sup>

Virginia's Adult Reported High Cholesterol Rate<sup>784</sup> in 2020 was 32.7%.<sup>785</sup>

Virginia's Adult Reported Obesity Rate<sup>786</sup> in 2019 was 31.9%.<sup>787</sup>

All employees, but particularly those in high risk age and medical categories, would benefit from increased safety and health protections provided by a comprehensive regulation to address SARS-CoV-2 and COVID-19 related hazards. Employees in the affected industries would have to be trained on the requirements of any new regulation.

D. Impact on the Department of Labor and Industry.

No significant impact is anticipated on the Department. VOSH employees would be trained on the requirements of any amendments to the Virginia Standard. A VOSH Compliance Directive on Inspection and Enforcement Procedures would be developed by staff. Updates to training and outreach products would be developed by VOSH Cooperative Programs staff and made available to the regulated community, employees, and the general public at:

<https://www.doli.virginia.gov/covid-19-outreach-education-and-training/>

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<sup>782</sup> [https://www.americashealthrankings.org/explore/annual/measure/High\\_Chol/state/VA](https://www.americashealthrankings.org/explore/annual/measure/High_Chol/state/VA)

<sup>783</sup> <https://www.vdh.virginia.gov/content/uploads/sites/65/2018/05/VA-Heart-Disease-FactSheetFINAL.pdf>

<sup>784</sup> Percentage of adults who reported having their cholesterol checked and were told by a health professional that it was high.

<sup>785</sup> [https://www.americashealthrankings.org/explore/annual/measure/High\\_Chol/state/VA](https://www.americashealthrankings.org/explore/annual/measure/High_Chol/state/VA)

<sup>786</sup> Percentage of adults with a body mass index of 30.0 or higher based on reported height and weight (pre-2011 BRFSS methodology).

<sup>787</sup> <https://www.americashealthrankings.org/explore/annual/measure/Obesity/state/VA>

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ATTACHMENT M: August 20, 2021, Economic Impact of Proposed Amendments to the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes Covid-19, Prepared by Chmura Economics and Analytics

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PREPARED FOR

Virginia Department of Labor and Industry



August 20, 2021

# ECONOMIC IMPACT

## **PROPOSED AMENDMENTS TO THE VOSHSTANDARD FOR**

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# **INFECTIOUS DISEASE PREVENTION OF THE SARS-COV- 2 VIRUS THAT CAUSES COVID-19**



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## 8 Background

During the COVID-19 pandemic, the Commonwealth of Virginia was the first state to issue a mandatory COVID-19 Emergency Temporary Standard (ETS) establishing workplace safety and health requirements to mitigate the spread of the SARS-CoV-2 virus.<sup>1</sup>

The ETS, 16VAC25-220,<sup>2</sup> was adopted by the Virginia Safety and Health Codes Board (Board) and published by the Virginia Department of Labor and Industry (DOLI). The effective date of the ETS was July 27, 2020, and applied to all Virginia employers under the jurisdiction of the Virginia Occupational Safety and Health (VOSH) program. The ETS lapsed on January 26, 2021.

To replace the ETS, the Board adopted a permanent VOSH Standard, 16VAC25-220,<sup>3</sup> which took effect on January 27, 2021. This standard is designed to supplement and enhance existing VOSH laws, rules, regulations, and standards applicable directly or indirectly to the SARS-CoV-2 virus or COVID-19 disease-related hazards.

On June 29, 2021, the Board adopted proposed amendments (amendments) to the standard, which are the subject of this Economic Impact Analysis (EIA). The amendments address the advent of widely available and effective vaccines in Virginia, updated CDC guidelines, and revised relevant requirements for employers.

Chmura Economics & Analytics (Chmura) was commissioned by DOLI to conduct the EIA for the amendments to 16VAC25-220. Chmura understands that regarding the amendments, there are several components to be addressed in the EIA. The analysis will include the following elements:

- Number of businesses and other entities impacted, including the number of small businesses

- Localities disproportionately impacted
- Projected employment affected
- Projected incremental costs for affected businesses, localities, and entities from implementing the standard

Information from DOLI indicates that some items listed in this standard overlap with existing federal or state regulations/requirements, or the governor's executive order issued during the COVID-19 pandemic

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<sup>1</sup> Source: <https://www.doli.virginia.gov/archive-page-for-all-ets-related-material/>.

<sup>2</sup> Source: <https://www.doli.virginia.gov/wp-content/uploads/2020/07/RIS-filed-RTD-Final-ETS-7.24.2020.pdf>.

<sup>3</sup> Source: <https://www.doli.virginia.gov/wp-content/uploads/2021/01/Final-Standard-for-Infectious-Disease-Prevention-of-the-Virus-That-Causes-COVID-19-16-VAC25-220-1.27.2021.pdf>.

(currently Executive Order 79.<sup>4</sup> For instance, a small number of the requirements with associated costs related to the Commonwealth's response to the COVID-19 pandemic are contained in Governor's Executive Order 79 (K-12 employees must wear facemasks (face coverings in VOSH Standard) while on school grounds), and the Transportation Security Administration's (TSA) requirement that employees wear face masks on commercial flights, buses and trains through Jan. 18, 2022.<sup>5</sup>

To the extent that a requirement is included in both the VOSH Standard, and executive orders or existing federal or state regulations/requirements, DOLI does not consider the standard to impose any new cost burden on a covered locality or employer. This economic impact analysis only assesses incremental costs to Virginia businesses.

In addition, many of the costs associated with COVID-19 workplace hazards are the result of requirements contained in current federal Occupational Safety and Health Administration (OSHA) or VOSH unique standards and regulations already applicable to private and public sector employers, including local governments. Therefore, DOLI does not consider them to be new costs associated with adoption of the proposed amendments to the standard.

NOTE: The Department of Labor and Industry (DOLI) has consulted with the Virginia Department of Health (VDH) about whether revisions should be recommended to the Board's Proposed Amendments to the VOSH Standard originally adopted on June 29, 2021, in response to the CDC's updated guidance<sup>6</sup> for fully vaccinated people issued on July 27, 2021 (requirement in certain situations for fully vaccinated employees to wear face coverings in areas of substantial or high transmission).

DOLI and VDH are in agreement that some revisions<sup>7</sup> should be recommended to the Board along with the Governor's amendment to 16VAC25-220-10.E.

The Dept. invited the public to comment on the Revised Proposed Amendments to the VOSH Standard by using the Townhall Comment Forum.<sup>8</sup> The forum will be open for 7 days from August 16, 2021 to August 23, 2021.

This EIA does not address the revisions.



The following are federal OSHA identical and state unique standards and regulations applicable in the construction industry, agriculture industry, public sector maritime industry,<sup>9</sup> and general industry<sup>10</sup> that can be used in certain situations to address COVID-19 hazards in the workplace:

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<sup>4</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-79-and-Order-of-Public-Health-Emergency-Ten-Ending-of-Commonsense-Public-Health-Restrictions-Due-to-Novel-Coronavirus\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-79-and-Order-of-Public-Health-Emergency-Ten-Ending-of-Commonsense-Public-Health-Restrictions-Due-to-Novel-Coronavirus(COVID-19).pdf)

<sup>5</sup> The Transportation Security Administration on Tuesday extended a federal requirement that travelers [and employees] wear masks on commercial flights, buses and trains through Jan. 18, 2022." Please see:

<https://www.cnn.com/2021/08/17/biden-administration-set-to-extend-mask-mandate-for-travel-through-mid-january.html>.

<https://www.tsa.gov/news/press/releases/2021/04/30/tsa-extends-face-mask-requirement-airports-and-throughout>

<sup>6</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

<sup>7</sup> <https://www.doli.virginia.gov/wpcontent/uploads/2021/07/Summary-of-Governor-Northams-Review-of-Proposed-Amendmentsto-16VAC25-220-7.1.2021.pdf>

<sup>8</sup> <https://townhall.virginia.gov/L/ViewNotice.cfm?GNid=130>

<sup>9</sup> VOSH standards and regulations only apply to public sector maritime employers and employees. OSHA retains jurisdiction over private sector maritime employers and employees in Virginia.

<sup>10</sup> General industry covers all employers not otherwise classified as construction, agriculture, or maritime.

### **Occupational Exposure to COVID-19, Emergency Temporary Standard, 1910.502, et seq.**

On June 21, 2021, OSHA issued an emergency temporary standard to protect healthcare and healthcare support service workers from occupational exposure to COVID-19 in settings where people with COVID-19 are reasonably expected to be present.

On June 29, 2021, the Virginia Safety and Health Codes Board adopted the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq.<sup>11</sup> This standard is in effect in Virginia and is applicable to all settings where any employee provides healthcare services or healthcare support services. The effective date is August 2, 2021. The emergency temporary standard will expire within six months or when repealed by the Board, whichever occurs first.

#### **General Industry**

- 1910.132, Personal Protective Equipment in General Industry (including Workplace Assessment)
- 1910.133, Eye and Face Protection in General Industry
- 1910.134, Respiratory Protection in General Industry
- 1910.138, Hand Protection
- 1910.141, Sanitation in General Industry (including Handwashing Facilities)
- 1910.1030, Bloodborne Pathogens in General Industry
- 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories in General Industry

#### **Construction Industry**

- 1926.95, Criteria for Personal Protective Equipment in Construction
- 1926.102, Eye and Face Protection in Construction
- 1926.103, Respiratory Protection in Construction
- 16VAC25-160, Sanitation in Construction (including Handwashing Facilities)

#### **Agriculture**

- 16VAC25-190, Field Sanitation (including Handwashing Facilities) in Agriculture

#### **Public Sector Maritime**

- 1915.152, Shipyard Employment (Personal Protective Equipment)
- 1915.153, Shipyard Employment (Eye and Face Protection)
- 1915.154, Shipyard Employment (Respiratory Protection)

- 1915.157, Shipyard Employment (Hand and Body Protection)
  - 1917.127, Marine Terminal Operations (Sanitation)
  - 1917.92 and 1917.1(a)(2)(x), Marine Terminal Operations (Respiratory Protection, 1910.134)
  - 1917.91, Marine Terminal Operations (Eye and Face Protection)
  - 1917.95, Marine Terminal Operations (PPE, Other Protective Measures)
  - 1918.95, Longshoring (Sanitation)
  - 1918.102, Longshoring (Respiratory Protection)
- 

<sup>11</sup> Found at <https://townhall.virginia.gov/L/ViewStage.cfm?stageid=9308>.

- 1918.101, Longshoring (Eye and Face Protection)

### Multiple Industries

- 16VAC25-220, VOSH COVID-19 Standard in General Industry, Construction, Agriculture and Public Sector Maritime
- 1904, Recording and Reporting Occupational Injuries and Illness in General Industry, Construction, Agriculture and Public Sector Maritime
- 1910.142, Temporary Labor Camps (including Handwashing Facilities) in Agriculture and General Industry
- 1910.1020, Access to Employee Exposure and Medical Records in General Industry, Construction, and Public Sector Maritime (excludes Agriculture)
- 1910.1200, Hazard Communication in General Industry, Construction, Agriculture and Public Sector Maritime
- 16VAC25-60-120 (General Industry), 16VAC25-60-130 (Construction Industry), 16VAC25-60-140 (Agriculture), and 16VAC25-60-150 (Public Sector Maritime)
  - The above standards provide that manufacturer's specifications and limitations are applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment, which can be used to apply to operation and maintenance of air handling systems in accordance with manufacturer's instructions.

In addition, Virginia Code §40.1-51.1.A, provides that:

“It shall be the duty of every employer to furnish to each of his employees safe employment and a place of employment that is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees and to comply with all applicable occupational safety and health rules and regulations promulgated under this title.”

Otherwise known as the “general duty clause” (the Virginia equivalent to §5(a)(1) of the OSH Act of 1970), Va. Code §40.1-

51.1.A can be used to address “serious” recognized hazards to which employees of the cited employer are exposed through reference to such things as national consensus standards, manufacturer's requirements, requirements of the Centers for Disease Control and Prevention (CDC), or an employer's safety and health rules.

To the extent that the general duty clause could be used by DOLI to address COVID-19 workplace hazards to the same extent as, and in the same manner as the standard (were the standard not in effect), DOLI does not consider any of the costs associated with such use of the clause to be new costs associated with adoption of the standard.

## 9. Employer Categorization

In the amendments to 16VAC25-220, certain mandatory requirements apply to all covered Virginia employers, and additional requirements apply to some employers based on an increased risk of potential exposure associated with the SARS-CoV-2 virus and the COVID-19 disease. In the amendments, workplaces are divided into three risk exposure levels: healthcare services<sup>12</sup> and healthcare support services, higher-risk workplaces, and other.

Healthcare services are provided to individuals by professional healthcare practitioners (e.g., doctors, nurses, emergency medical personnel, and oral health professionals) for the purpose of promoting, maintaining, monitoring, or restoring health. Healthcare services are delivered through various means including: hospitalization, long-term care, ambulatory care, homehealth and hospice care, emergency medical response, and patient transport. For the purposes of this analysis, healthcare services include autopsies. Healthcare support services facilitate the provision of healthcare. Healthcare support services include patient intake/admissions, patient food services, equipment and facility maintenance, housekeeping, laundry services, medical waste handling, and medical equipment cleaning/reprocessing.

Higher-risk workplaces will have employees who are fully vaccinated employees and those who are not fully vaccinated. In this report, employees who are not fully vaccinated are considered to be “at-risk” employees.<sup>13</sup> Higher-risk workplaces include, but are not limited to: manufacturing, meat and poultry processing, high-volume retail and grocery, transit, seafood processing, correctional facilities, jails, detention centers, and juvenile detention centers. In those workplaces, employees who are not fully vaccinated work close to one another, or have close contact with the general public who may not be fully vaccinated, and thus are considered at-risk.

In this analysis, Chmura classifies Virginia employers into the above categories based on the North America Industry Classification System (NAICS) codes. It is understood that businesses with the same NAICS code may be classified differently. For example, cleaning services for healthcare facilities should be classified as healthcare support services, but those cleaning offices or homes face a lower exposure risk. However, the available data do not allow Chmura to make that distinction. Chmura worked with DOLI to classify different employers into the above three categories.

Chmura uses the latest employment and establishment data to estimate the number of employers that may be affected by the amendments. The latest establishment data were for the year 2020, while the latest employment data were for the four quarters ending with the first quarter of 2021.<sup>14</sup> This economic impact analysis also

estimates the number of small businesses—defined as those with fewer than 500 employees or less than \$6 million of annual revenue. The business sizedata are from the U.S. Census Business Survey for 2019.<sup>15</sup>

Finally, some of the regulations contained in these amendments apply only to the workers who are not fully vaccinated. Chmura uses vaccination rate data from the Virginia Department of Health to estimate the number of unvaccinated employees. As of August 4, 2021, 65.3% of adults (age 18 and older) in Virginia were fully vaccinated.<sup>16</sup> It is likely that there may be differences among workers in different categories of workplaces. It was initially expected that healthcare workers

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<sup>12</sup> In this report, healthcare services are also referred to as healthcare.

<sup>13</sup> For brevity, when this report mentions “at-risk” employees, this refers to employees who are not fully vaccinated.

<sup>14</sup> The affected businesses presented in this report are measured by the number of business establishments, not the number of firms. For example, a bank can have many branches in Virginia, and each branch is a separate establishment. Employment data will be referred to as employment as of thesecond quarter of 2020.

<sup>15</sup> In this analysis, Chmura only used the number of employees to classify establishments into small business, as revenue information is not available.

<sup>16</sup> Source: Virginia Department of Health, <https://www.vdh.virginia.gov/coronavirus/covid-19-vaccine-summary/>.

may have higher vaccination rates than the general population, as they were the first to be eligible for vaccines. But a recent national study on the healthcare workforce reviewed by Chmura does not provide conclusive evidence. As of July 2021, it was reported that at the national level, vaccination rates among healthcare workers vary greatly: 96% of physicians, 55% of nursing home staff, less than 50% of nurses, and just 26% of home health aides were fully vaccinated.<sup>17</sup> As a whole, those data suggest the overall vaccination rate for healthcare workers is no better than the overall rate for adults in the country, as physicians only account for a small percentage of the healthcare workforce. As a result, Chmura applied the same vaccination rates to all employees in this study.

Table 2.1 presents the estimated number of Virginia business establishments and related employment. In 2020, there were an estimated 289,782 establishments in Virginia, with 45,567 in healthcare or healthcare support services. There were 70,700 establishments classified in the higher-risk category, and the rest were classified as other workplaces. The latest employment data show that there were 4 million workers in Virginia as of the first quarter of 2021, with 454,841 in healthcare or healthcare support services, 1.6 million in higher-risk workplaces, and 1.9 million in other workplaces. Almost all Virginia establishments (99.7%) have fewer than 500 employees, and 75.5% of jobs in Virginia are in small businesses. Finally, an estimated 1.4 million Virginia workers were not fully vaccinated as of early August 2021, and 1.0 million of them work in small businesses.

**Table 2.1: Estimated Virginia Business Establishment and Employment**

Workplace Exposure Risk Level	All Businesses			Small Businesses			Percent of Small Business	
	Establishment (2020)	Employment (Q1-2021)	At-Risk Employees (Q1-2021)	Establishment (2020)	Employment (Q1-2021)	At-Risk Employees (Q1-2021)	Establishment (2020)	Employment (Q1-2021)
Healthcare/Healthcare Support	45,567	454,841	157,830	45,401	334,233	115,979	99.6%	73.5%
Higher-Risk	70,700	1,592,221	552,501	70,482	1,253,921	435,110	99.7%	78.8%
Other	173,515	1,919,022	665,901	172,967	1,405,320	487,646	99.7%	73.2%
<b>Total</b>	<b>289,782</b>	<b>3,966,084</b>	<b>1,376,231</b>	<b>288,850</b>	<b>2,993,473</b>	<b>1,038,735</b>	<b>99.7%</b>	<b>75.5%</b>

Source: U.S. Census and JobsEQ by Chmura

In estimating the economic impact of the 16VAC25-220 amendments, Chmura focuses on the incremental cost due to these amendments. As stated in Section 1, if certain stipulations contained in these amendments overlap with existing federal or state regulations/requirements, the stipulations will not create an additional cost for affected employers. Chmura worked with DOLI to identify the standards that exceed existing federal and state regulations, thus resulting in incremental costs for Virginia businesses.

The 16VAC25-220 amendments have nine sections, numbered 16VAC25-220-10 to 16VAC25-220-90. The section of 16VAC25-220-10 outlines the purpose, scope, and applicability; 16VAC25-220-20 stipulates the effective date of the standard; and 16VAC25-220-30 defines terminologies used in the amendments. Furthermore, 16VAC25-220-90 states that discrimination against an employee for exercising rights under this standard is prohibited. These four sections do not result in incremental costs for businesses in Virginia and are excluded from this analysis. As a result, the rest of the report will evaluate the economic impact of the five sections, 16VAC25-220-40 to 16VAC25-220-80.

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<sup>17</sup> Source: Annals of Internal Medicine, <https://www.acpjournals.org/doi/10.7326/M21-3150>.



## 10. Impact of 16VAC25-220-40

### a. Economic Impact

Section 16VAC25-220-40 outlines the mandatory requirements for all employers in Virginia. There are 13 sections lettered A to M. Under each section, there are additional sub-sections.

Section A states the following. “Employers shall have a policy in place to ensure compliance with the requirements in this section to protect employees from workplace exposure to the SARS-CoV-2 virus that causes the COVID-19 disease. Such policy shall have a method to receive anonymous complaints of violations. Employers shall ensure compliance with the requirements in this section to protect employees in all exposure risk levels from workplace exposure to the SARS-CoV-2 virus that causes the COVID-19 disease.”<sup>18</sup> It is estimated that approximately one to two staff hours may be needed to develop such policies.

Section B is related to exposure assessment, notification requirements, and employee access to exposure and medical records. The current regulations by the federal Occupational Safety and Health Administration (OSHA) have required employers in general industry (excluding construction, agriculture, and maritime industries) to assess workplace hazards.<sup>19</sup> Thus, Section B will not incur additional costs for Virginia businesses except for those in construction, agriculture, and maritime industries. For businesses in those three industries, it is estimated that risk assessment, discussion with sub-contractors, notifying employees, and having a system to report positive COVID-19 cases may take approximately four to five hours of staff time to perform.

Section C is related to the return-to-work policies all businesses need to have regarding sick employees or those possibly infected by the SARS-CoV-2 virus. The key component of Section C is that those infected or thought to be infected are not allowed to return to work, and employers shall provide COVID-19 testing at no cost for employees. While those stipulations may cause businesses to lose potential revenue, the requirements are already in effect under existing CDC guidelines related to return-to-work.<sup>20</sup> The only cost for a business is to develop policies and procedures related to employees. It is estimated that approximately seven to ten hours may be needed to develop such policies. The Virginia Department of Health provides guidelines for this, which could reduce the time needed to develop this plan.<sup>21</sup>

Section D concerns the establishment and implementation of policies and procedures that “ensure employees that are not fully vaccinated and otherwise at-risk employees observe physical distancing while on the job and during paid breaks on the employer's property.” Employers should use verbal announcements, signage, or visual cues to

promote physical distancing. It is estimated that approximately one to two staff hours may be needed to develop such policies. The cost of signs ranges from \$1.80 to \$9.40, for workplace use, depending on the size.<sup>22</sup>

Section E concerns the access to common areas and breakrooms in the workplace for at-risk employees, requiring businesses to limit occupancy of such areas, provide handwashing facilities or supplies, post signage, and to clean and sanitize such areas. The additional cost to businesses includes physical distancing signage, ranging from \$1.80 to \$9.40,

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<sup>18</sup> All direct quotes in this document are from: Proposed Amendments to Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus that Causes COVID-19, DOLI, June 29, 2021, unless noted otherwise. The Appendix includes the itemized list of cost estimates.

<sup>19</sup> Source: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132>.

<sup>20</sup> Source: [https://www.vdh.virginia.gov/coronavirus/frequently-asked-questions/virginia-questions/#\\_heading=h.3rdcrjn](https://www.vdh.virginia.gov/coronavirus/frequently-asked-questions/virginia-questions/#_heading=h.3rdcrjn).

<sup>21</sup> Source: <https://www.vdh.virginia.gov/coronavirus/vdh-interim-guidance-for-implementing-safety-practices-for-critical-infrastructure-workers-non-healthcare-during-widespread-community-transmission-in-virginia/>.

<sup>22</sup> Source: <https://www.zumaooffice.com/search.aspx?keyword=social+distancing+sign>.

and hand sanitizer, estimated to be around \$5.00 for a 12 to 17-ounce bottle, or \$25 to \$35 per gallon.<sup>23</sup> In addition, professional cleaning services for commercial buildings range from \$50 to \$100 per hour.<sup>24</sup> The requirement of handwashing facilities is covered in existing OSHA and DOLI standards and regulations.

Section F is associated with multiple employees occupying a vehicle for work purposes, if any of them are not fully vaccinated. Employers are required to mitigate the hazards associated with SARS-CoV-2 and COVID-19. Employers should eliminate the need for employees sharing work vehicles, provide access to fresh air ventilation, and provide respiratory protection, such as a filtering respirator. Face coverings should be provided for employees until adequate supplies of respiratory protection and/or personal protective equipment become readily available. It is estimated that the cost of respiratory protection, such as N95 respirators, are available at a cost of \$1.50 per piece for disposables, and \$14.00 per piece for reusables.<sup>25</sup> Face coverings, such as standard disposable masks, cost about \$0.10 per piece when purchased in bulk.<sup>26</sup>

Section G is related to wearing face coverings in indoor workplaces for at-risk employees. In addition, when a face shield is required to comply with the regulation, an employer must ensure that face shields are cleaned daily. Also, employers can provide disposable face shields; prices range from \$0.40 to \$4.00 per piece.<sup>27</sup>

Sections H, J, and K are reserved, and Section I stipulates how a face covering should be worn. There is no incremental cost for employers associated with those sections.

Section L involves workplace sanitation and disinfection standards. While employers shall comply with VOSH standards, this regulation requires prompt cleaning and/or disinfection of workplaces accessed by employees suspected to have COVID-19, or employees who have tested positive for the virus. The cost of professional cleaning services for commercial buildings ranges from \$50 to \$100 per hour. This cleaning requirement does not apply to food agricultural production, manufacturing, or food prepared in food service areas where specific regulations apply. In addition to the requirement of cleaning and disinfecting possibly contaminated areas, all common spaces should be cleaned at least once during or at the end of each shift. Employers should also make available to employees various cleaning products. Examples of those products include hand sanitizer, which costs around \$5.00 for a 12 to 17-ounce bottle, or \$25 to \$35 per gallon; liquid hand soap, ranging from \$12 to \$50 per gallon;<sup>28</sup> and all-purpose cleaning products, between \$20 to \$35 per gallon.<sup>29</sup>

Section M requires employers to provide PPE for employees in situations when “engineering, work practice, and administrative controls are not feasible or do not provide sufficient protection.” Chmura estimates the cost of PPE to outfit

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<sup>23</sup> Source: [https://www.bulkofficesupply.com/search.aspx?keyword=hand+sanitizer&onatalp=4024471056375168968&fph=0\\_41bfd98c84e3ed86d3746ed1a8c10870](https://www.bulkofficesupply.com/search.aspx?keyword=hand+sanitizer&onatalp=4024471056375168968&fph=0_41bfd98c84e3ed86d3746ed1a8c10870)

<sup>24</sup> Source: <https://desertoasiscleaners.com/commercial-cleaning-cost/>.

<sup>25</sup> Source: <https://www.costco.com/niosh-n95-round-respirator%2c-100-masks.product.100707773.html> and [https://www.amazon.com/3M-Respirator-6300-Respiratory-Protection/dp/B007JZ1MK6/ref=sr\\_1\\_5?dchild=1&keywords=respirator&qid=1626783913&sr=8-5](https://www.amazon.com/3M-Respirator-6300-Respiratory-Protection/dp/B007JZ1MK6/ref=sr_1_5?dchild=1&keywords=respirator&qid=1626783913&sr=8-5).

<sup>26</sup> Source: <https://www.turmerry.com/pages/wholesale-face-mask-usa-suppliers>.

<sup>27</sup> Source: [https://www.amazon.com/Pack-Protective-Face-Shields-Health/dp/B08KT42ST2/ref=zg\\_bs\\_11312309011\\_32?\\_encoding=UTF8&refRID=81Z183PNKBPFTM6B1J72&th=1](https://www.amazon.com/Pack-Protective-Face-Shields-Health/dp/B08KT42ST2/ref=zg_bs_11312309011_32?_encoding=UTF8&refRID=81Z183PNKBPFTM6B1J72&th=1).<sup>28</sup>  
Source: <https://www.amazon.com/gallon-hand-soap/s?k=gallon+hand+soap>.

<sup>29</sup> Source: [https://www.amazon.com/Glissen-Chemical-Nu-Foamicide-Disinfectant-Food-Contact/dp/B086339RQS/ref=sr\\_1\\_3?dchild=1&keywords=commercial+disinfecting&qid=1628619803&sr=8-3](https://www.amazon.com/Glissen-Chemical-Nu-Foamicide-Disinfectant-Food-Contact/dp/B086339RQS/ref=sr_1_3?dchild=1&keywords=commercial+disinfecting&qid=1628619803&sr=8-3).

one person is \$4.00. This cost includes disposable gloves at \$0.10 per pair,<sup>30</sup> disposable gowns at \$0.65 per piece,<sup>31</sup> disposable goggles at \$1.70 per piece,<sup>32</sup> and disposable N95 respirators at \$1.50 per piece.

**In summary, 16VAC25-220-40 generates moderate incremental costs for covered businesses in Virginia. One major cost addition is staff hours required to develop policies and procedures related to return-to-work and travel. Another is the cost of cleaning services, cleaning products, hand sanitizer, face coverings, and PPE. For businesses in construction, agriculture, and maritime industries not covered by existing rules, there are additional costs to conduct a risk assessment.**

#### b. Businesses and Entities Affected

All covered businesses in Virginia will be affected by 16VAC25-220-40. There are an estimated 289,782 total establishments in 2020, with an employment of 4.0 million as of the first quarter of 2021. Some regulations will only affect at-risk employees. Healthcare services and healthcare support services will not be impacted during the period that the ETS is in effect (45,567 establishments are in healthcare or healthcare support services). It is estimated that 1.4 million Virginia workers are not fully vaccinated as of August 2021. For establishments in construction, agriculture, and maritime industries, it is estimated that there were 23,680 Virginia businesses in these industries in 2020. They employed 277,981 workers as of the first quarter of 2021, with an estimated 96,459 employees who had not been fully vaccinated.

#### c. Localities Particularly Affected

Since 16VAC25-220-40 applies to all businesses, no locality will be particularly affected by this proposed regulatory action.

For stipulations that will incur additional costs for construction, agriculture, and maritime industries, some localities in Virginia will be disproportionately affected. As Table 3.1 shows, many are rural counties with a large number of workers in the agriculture industry.

The proposed regulations will have a limited impact on overall employment in the state, since the estimated incremental costs are limited. One cost is additional hours that can be accommodated by existing staff without the need to hire additional workers. Other incremental costs are cleaning services, cleaning products, and face

#### d. Projected Impact on Employment

Locality	Percent Employment
Amelia County	28.8%
Cumberland County	28.8%
Northampton County	23.9%
Rappahannock County	23.1%
Floyd County	22.8%
Powhatan County	22.6%
King and Queen County	21.8%
<b>Virginia</b>	<b>7.0%</b>

Source: JobsEQ by Chmura

**Table 3.1: Top Ten Virginia Localities with the Highest Percentage of Employment in Construction, Agriculture, and Maritime Industries**

Locality	Percent Employment
Manassas Park City	35.2%
Highland County	34.6%
Charles City County	32.7%

<sup>30</sup> Source: [https://www.amazon.com/Examination-100-Count-Disposable-Ultra-Strong-Healthcare/dp/B07KYV178H/ref=sxin\\_12\\_alexaas\\_0\\_B07KYV178H?cv\\_ct\\_cx=gloves&dchild=1](https://www.amazon.com/Examination-100-Count-Disposable-Ultra-Strong-Healthcare/dp/B07KYV178H/ref=sxin_12_alexaas_0_B07KYV178H?cv_ct_cx=gloves&dchild=1). <sup>31</sup> Source: [https://www.amazon.com/Disposable-Isolation-Latex-Free-Non-Woven-Industries/dp/B08NFK2463/ref=sr\\_1\\_4?dchild=1&keywords=medical+gowns&qid=1626783382&sr=8-4](https://www.amazon.com/Disposable-Isolation-Latex-Free-Non-Woven-Industries/dp/B08NFK2463/ref=sr_1_4?dchild=1&keywords=medical+gowns&qid=1626783382&sr=8-4).

<sup>32</sup> Source: [https://www.amazon.com/dp/B087D6NLH1/ref=sspa\\_dk\\_detail\\_5?psc=1&pd\\_rd\\_i=B087D6NLH1&pd\\_rd\\_w=sDk1m&pf\\_rd\\_p=887084a2-5c34-4113-a4f8-b7947847c308](https://www.amazon.com/dp/B087D6NLH1/ref=sspa_dk_detail_5?psc=1&pd_rd_i=B087D6NLH1&pd_rd_w=sDk1m&pf_rd_p=887084a2-5c34-4113-a4f8-b7947847c308).

coverings. The products are inexpensive and can be absorbed by businesses, having limited impact on employment.

e. Small Business Impact

It is estimated that the number of small businesses impacted by 16VAC25-220-40 is 288,850, based on 2020 data. Associated employment was 3.0 million as of the first quarter of 2021. It is estimated that 1.0 million Virginia workers in small businesses are not fully vaccinated. In construction, agriculture, and maritime industries, it is estimated that 23,662 small businesses are impacted based on 2020 data. Total associated employment is 263,885, and 91,568 of these workers were not fully vaccinated as of the first quarter of 2021.

## 11. Impact of 16VAC25-220-50

### a. Economic Impact

16VAC25-220-50 outlines the mandatory requirements for Virginia employers categorized as healthcare services or healthcare support services. There are four sections lettered A to D within this standard, with additional subsections under each section.

On June 21, 2021, the federal OSHA issued an emergency temporary standard (ETS) to protect both healthcare and healthcare support service workers from occupational exposure to COVID-19 in settings where people with COVID-19 are reasonably expected to be present.<sup>33</sup>

On June 29, 2021, the Virginia Safety and Health Codes Board (Board) adopted the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq. It is applicable to all settings where any employee provides healthcare services or healthcare support services. The effective date is August 2, 2021, and shall expire within six months or when repealed by the Board, whichever occurs first.

In its motion to adopt the ETS, the Virginia Safety and Health Codes Board also accepted the recommendation of the Virginia Department of Labor and Industry that:<sup>34</sup>

- Application of Virginia's 16VAC-25-220, except for 16VAC-25-220-40 B.7.d and e, and 16VAC25-220-90, to such covered employers and employees subject to the standard shall be suspended while the federal COVID-19 Emergency Temporary Standard remains in effect.
- Should the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to settings where any employee provides healthcare services or healthcare support services be later stayed or invalidated by a state or federal court, the provisions of Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, including 16VAC25-220-50, shall immediately apply to such employers and employees in its place with no further action of the Board required.
- Should the federal COVID-19 Emergency Temporary Standard, 1910.502, et seq., applicable to all settings where any employee provides healthcare services or healthcare support services be later stayed by federal OSHA, or otherwise revoked, repealed, declared unenforceable, or permitted to expire, the provisions of Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, including 16VAC25-220-50, shall immediately apply to such employers and employees in its place with no further action of the Board required. In addition, the Virginia Safety and Health Codes Board shall, within 30 days notice, conduct a regular, special, or emergency meeting to determine whether there is a continued need for Virginia's 16VAC25-220, Final Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, or whether it should be maintained, modified, or revoked.



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<sup>33</sup> For federal OSHA materials, see COVID-19 Healthcare ETS Outreach.

<sup>34</sup> To access the final rule see Occupational Exposure to COVID—19; Emergency Temporary Standard, Interim Final Rule. For more information on the regulatory process followed regarding the adoption of the rule, please visit the Virginia Regulatory Town Hall.

**In summary, 16VAC25-220-50 will not incur additional costs for employers in healthcare and healthcare support service, because the 16VAC25-220, except for 16VAC-25-220-40 B.7.d and e, and 16VAC25-220-90, is suspended while the federal OSHA emergency temporary standard is in effect.**

**b. Businesses and Entities Affected**

In Virginia, it is estimated that 45,567 establishments in 2020 were in healthcare and healthcare support services, with employment of 454,841 as of the first quarter of 2021.

**c. Localities Particularly Affected**

In Virginia, an estimated 11.5% of all jobs are in healthcare and healthcare support services. However, in some localities, those percentages are significantly higher. Many of these localities have a high concentration of healthcare or nursing home facilities, such as Petersburg City, Winchester City, and Charlottesville City.

**Table 4.1: Top Ten Virginia Localities with the Highest Percentage of Employment in Healthcare and Healthcare Support**

Locality	Percent Employment
Petersburg City	31.6%
Winchester City	28.9%
Charlottesville City	27.9%
Norton City	27.5%
Franklin City	25.5%
Emporia City	25.2%
Alleghany County	24.8%
Fredericksburg City	24.4%
Galax City	24.3%
Martinsville City	23.3%
<b>Virginia State Average</b>	<b>11.5%</b>

Source: JobsEQ by Chmura

**d. Projected Impact on Employment**

There will be no impact on the overall employment in the state. The proposed regulations are currently suspended as long as the federal ETS is in effect.

**e. Small Business Impact**

It is estimated that the number of small businesses in healthcare and healthcare support is 45,401, based on 2020 data. Associated employment is 334,233 as of the first quarter of 2021.

## 5. Impact of 16VAC25-220-60

### 5.1. Economic Impact

16VAC25-220-60 outlines the requirements for employers having higher-risk workplaces with mixed-vaccination-status employees. There are four sections lettered A to D. Section A defines the applicable businesses for 16VAC25-220-60 and lists various factors that may increase the risks of COVID-19. This section poses no incremental cost to employers.

#### 5.1.1. Section B

Section B.1 is related to the engineering controls for businesses with higher-risk workplaces with mixed-vaccination-status employees. Specifically, subsection B.1 states that air-handling systems under the control of those businesses need to meet manufacturing instructions and additional operating instructions specific to the SARS-CoV-2 virus. Preexisting Virginia Occupational Safety and Health (VOSH) regulations already require that employers comply with "the manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment."<sup>35</sup> It is estimated that subsection B.1 will not generate incremental costs for businesses.<sup>36</sup>

Subsection B.2 states that where feasible, "employers shall install physical barriers, (such as plexiglass shields), for employees who are not vaccinated and otherwise at-risk employees, where such barriers will aid in mitigating the spread of SARS-CoV-2 and COVID-19 virus transmission." Similarly, subsection B.3 also requires that for workplaces with process and assembly lines (and employees who may not be fully vaccinated), employers should ensure proper spacing or use physical barriers when necessary. The cost of a physical barrier ranges from \$15 to \$300, depending on the size.<sup>37</sup> In addition, if other mitigation strategies are implemented in higher-risk workplaces, this requirement is optional for businesses and may not result in incremental costs.

#### 5.1.2. Section C

Section C concerns administrative and work practice control of employers with higher-risk workplaces and mixed-vaccination-status employees. Subsection C.1.a requires pre-screening or surveying of employees before the commencement of each work shift. Affected businesses will develop certain screening methods and devote staff hours to perform the screening. Guidelines from the Virginia Department of Health for screening includes temperature checks and screening questions.<sup>38</sup> It is estimated that the cost of a digital non-contact thermometer ranges from \$14 to \$80.<sup>39</sup> However, please note that although it is a generally accepted practice, the standard does not specifically require that employers check the temperatures of employees. Businesses need to have dedicated staff to perform screenings. It is estimated that screening each employee may take two to five minutes.

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<sup>35</sup> Source: 16VAC25-60-120 [General Industry], <https://law.lis.virginia.gov/admincode/title16/agency25/chapter60/section120/>.

<sup>36</sup> DOLI states that the air handling provisions in the VOSH Standard were specifically reviewed by the Virginia Department of Housing and Community Development (DHCD) and found to be consistent with Virginia Statewide Building Code requirements.

<sup>37</sup> Source: <https://www.zumaoffice.com/search.aspx?keyword=physical+barriers;> <https://www.dgsretail.com/P1711/Portable-Freestanding-Sneeze-Guard-Desk-Countertops-Acrylic-W/Base-24x24H>.

<sup>38</sup> Source: <https://www.vdh.virginia.gov/coronavirus/vdh-interim-guidance-for-implementing-safety-practices-for-critical-infrastructure-workers-non-healthcare-during-widespread-community-transmission-in-virginia/>.

<sup>39</sup> Source: <https://www.zumaoffice.com/search.aspx?keyword=thermometer>.

Subsection C.2 requires that “employers shall provide face coverings to suspected COVID-19 non-employees to contain respiratory secretions until the non-employees are able to leave the site.” Face coverings, such as standard disposable masks, cost about \$0.10 per piece when purchased in bulk.

Subsection C.3 requires employers to stagger break times, while Section C.4 requires employers to stagger employees’ arrival and departure times, to avoid congregating during breaks or in parking areas. Section C.5 states that employers shall implement flexible work hours (staggered shifts). Those measures pose no incremental costs for businesses.

Subsection C.6 requires employers to provide visual cues (floor markers or signs) as a reminder to maintain physical distancing. The additional cost to businesses includes physical distancing signage, which range from \$1.80 to \$9.40, and floor markers, at \$0.60 per piece.<sup>40</sup>

Subsection C.7 stipulates the requirement for retail workspaces where there are at-risk employees. Those measures include signage requesting face coverings, requiring physical distance, installing barriers when physical distancing is not feasible, moving electronic payment terminals away from at-risk employees, and shifting stocking activities to off-peak hours. Those requirements only apply to at-risk employees. Expenses for retail businesses are signs encouraging masks (\$1.80 to \$9.40 per sign), and floor markers (\$0.60 per piece).<sup>41</sup> The cost of a physical barrier ranges from \$15 to \$300, depending on the size.<sup>42</sup> Other requirements such as moving cash registers or changing stocking hours can be accomplished by adjusting current staff hours. These will not create new costs for retail businesses.

Subsections C.8 and C.9 require businesses to deliver services remotely and deliver products through curbside pick-up. Those requirements will not pose new costs for businesses and can be accomplished using current staff and contractors. Some measures, such as delivering services remotely, may even provide cost savings for businesses.

### 5.1.3. Section D

Section D is related to personal protective equipment (PPE) in the higher-risk workplace. It requires employers to assess hazardous risks, complete a written certification, and select PPE for at-risk employees. The current regulations by the Occupational Safety and Health Administration (OSHA) have required employers in general industry (excluding construction, agriculture, and maritime industries) to assess workplace hazards.<sup>43</sup> For businesses in those three industries, it is estimated that risk assessment and certification may take approximately four to five staff hours. Chmura estimates the cost of PPE to outfit one person is around \$4.00, including disposable

gloves at \$0.10 per pair, disposable gowns at \$0.65 per piece, disposable goggles at \$1.70 per piece, and disposable N95 respirators at \$1.50 per piece.

**In summary, 16VAC25-220-60 will incur limited incremental costs for employers at higher-risk workplaces with mixed-vaccination-status employees. Most of those costs are related to administrative controls, such as conducting screenings, installing physical barriers, and providing PPE for those not fully vaccinated. However, businesses can mitigate these costs by adopting more flexible worksites and shift arrangements.**

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<sup>40</sup> Source: [https://www.amazon.com/Social-Distancing-Floor-Decal-Stickers/dp/B089KCQHQL/ref=sr\\_1\\_8?dchild=1&keywords=social+distancing+signs&qid=1626877296&sr=8-8](https://www.amazon.com/Social-Distancing-Floor-Decal-Stickers/dp/B089KCQHQL/ref=sr_1_8?dchild=1&keywords=social+distancing+signs&qid=1626877296&sr=8-8). <sup>41</sup> Ibid.

<sup>42</sup> Source: <https://www.zumaooffice.com/search.aspx?keyword=physical+barriers>; <https://www.dgsretail.com/P1711/Portable-Freestanding-Sneeze-Guard-Desk-Countertops-Acrylic-W/Base-24x24H>.

<sup>43</sup> Source: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132>.

## 5.2. Businesses and Entities Affected

In Virginia, it is estimated that 70,700 establishments in 2020 were higher-risk workplaces with mixed-vaccination-status employees. They employed 1.6 million workers as of the first quarter of 2021, with an estimated 552,501 employees who were not fully vaccinated. This section has some specific requirements for retail businesses. In Virginia, it is estimated that 25,309 establishments in 2020 were in retail businesses. They employed 401,227 workers as of the first quarter of 2021, with an estimated 139,226 who were not fully vaccinated.

## 5.3. Localities Particularly Affected

In Virginia, an estimated 40.1% of all jobs are in higher-risk workplaces. In some localities, a high percentage of employees work for those businesses. As Table 5.1 shows, examples of those localities are Williamsburg City, Radford City, and Pulaski County. On average, 10.1% of Virginia employees are in retail, and localities such as Colonial Heights City, Franklin City, and Madison County have the highest percentage of local employment in retail businesses.

**Table 5.1: Top Ten Virginia Localities with Employees in Higher-Risk Workplaces**

Locality	Percent of Employees at Higher-Risk Workplaces	Locality	Percent of Employees in Retail
Williamsburg City	67.7%	Colonial Heights City	26.3%
Radford City	67.3%	Franklin City	21.5%
Pulaski County	65.4%	Madison County	21.1%
Greensville County	64.6%	Waynesboro City	20.4%
Henry County	64.2%	Essex County	20.4%
Montgomery County	63.6%	Greene County	20.0%
Harrisonburg City	63.0%	Rockbridge County	19.4%
Covington City	62.0%	Appomattox County	19.3%
Dinwiddie County	61.4%	Gloucester County	19.2%
Isle of Wight County	60.7%	Norton City	18.7%
<b>Virginia State Average</b>	<b>40.1%</b>	<b>Virginia State Average</b>	<b>10.1%</b>

Source: JobsEQ by Chmura

## 5.4. Projected Impact on Employment

The proposed standard will have a limited impact on overall employment in the state. Since the estimated incremental costs are not substantial, it is unlikely that any of the affected businesses will need to reduce staff size to meet those requirements. However, it will have a positive effect on businesses supplying products such as face masks and physical barriers.

### 5.5. Small Business Impact

The number of small businesses impacted by the requirement is 70,482, based on the 2020 establishment estimate. As of the first quarter of 2021, associated employment was 1.3 million. Among those employees, 435,710 were not fully vaccinated. It is estimated that 25,297 retail establishments in 2020 were small businesses. They employed 391,218 workers as of the first quarter of 2021, and an estimated 135,752 of those employees were not fully vaccinated.



## 6. Impact of 16VAC25-220-70

### 6.1. Economic Impact

16VAC25-220-70 is related to the development of a written Infectious Disease Preparedness and Response Plan. It only applies to employers in healthcare and healthcare support services, as well as employers with higher-risk workplaces and 11 or more employees who are not fully vaccinated. Subsections A and B stipulate the classification level of employers required to have this plan, which will not result in additional costs for businesses.

NOTE: Healthcare services and healthcare support services will not be impacted by 16VAC25-220-70 during the period that the ETS is in effect (45,567 establishments are in healthcare or healthcare support services).

Subsection C provides details related to the components of such a plan. Employers should designate a person responsible for the plan. Other components of the plan include identifying sources that expose employees at work, an employee's individual risk factor, contingency plans if a virus outbreak occurs, and identifying infection prevention measures. It is estimated that risk assessment and implementation of an infectious disease preparedness and response plan may take approximately 10 to 20 hours of staff time to develop. To mitigate such costs to businesses, the Virginia Occupational Safety and Health Program has provided a free online WORD template of an infectious disease preparedness and response plan that can be used by employers to satisfy the requirements of 16VAC25-220-70. This template can significantly reduce the cost for businesses.<sup>44</sup>

### 6.2. Businesses and Entities Affected

The proposed regulations will affect healthcare and healthcare support services employers, and those with higher-risk workplaces having 11 or more unvaccinated employees. It is estimated that the number of establishments in this category was 57,368 in 2020, with an employment of 1.6 million as of the first quarter of 2021.

### 6.3. Localities Particularly Affected

In Virginia, an estimated 39.3% of all employees are in the affected business category. Some localities have a higher percentage of employees in affected businesses. As Table 6.1

shows, examples of those localities are Emporia City, Galax City, and Williamsburg City.

### 6.4. Projected Impact on Employment

The proposed regulations will have no impact on overall state employment. The only incremental cost is additional hours, which can be accommodated by existing staff. Businesses will have no need to hire additional workers.

**Table 6.1: Top Ten Virginia Localities with the Highest Percentage of Affected Employment**

Locality	Percent of Affected Employment
Emporia City	62.5%
Galax City	62.1%
Williamsburg City	59.5%

Winchester City	
Danville City	58.5%
Petersburg City	57.0%
Norton City	56.8%
Greensville County	56.5%
Colonial Heights City	56.3%
Smyth County	56.2%
<b>Virginia State Average</b>	<b>39.3%</b>

Source: JobsEQ by Chmura

<sup>44</sup> Source: <https://www.doli.virginia.gov/covid-19-outreach-education-and-training/>.

## 6.5. Small Business Impact

It is estimated that the number of impacted small businesses is 57,098, based on the 2020 establishment estimate. Associated employment was 1.2 million as of the first quarter of 2021.

## 7. Impact of 16VAC25-220-80

### 7.1. Economic Impact

16VAC25-220-80 is related to providing employees with training on the hazards and characteristics of the SARS-CoV-2 and COVID-19 disease. Subsection A identifies employers which are required to provide training for their employees. The training requirement only applies to healthcare and healthcare support employers; and for higher-risk workplaces, training is required only for at-risk employees. For fully vaccinated employees, written information can be provided in lieu of training.

NOTE: Healthcare services and healthcare support services will not be impacted by 16VAC25-220-80 during the period that the ETS is in effect (45,567 establishments are in healthcare or healthcare support services).

Section B outlines information that should be covered in the training, and Section C requires that employers in healthcare and healthcare support services should maintain certification records for employees completing the training. Typically, development of material takes about 40 hours of staff time for a one-hour training course.<sup>45</sup> Delivering the training and maintaining training certifications will also require staff hours in human resources or management. To mitigate costs to businesses, VOSH has provided free online training materials that satisfy the requirements of 16VAC25-220-80. In addition, VOSH has provided a free online training certification form for employers to use.<sup>46</sup> As a result, employers may not need to develop new training materials, and all business costs are related to training each employee (about an hour) and staff time to maintain the certifications.

Other employers need to provide written or oral information to their employees (Sections E and F). The Virginia Department of Labor and Industry will develop an information sheet for employees to distribute. As a result, the cost to other affected businesses is minimal.

### 7.2. Businesses and Entities Affected

Overall, 16VAC25-220-80 will affect all businesses in Virginia, but the responsibility varies based on business categorization. The training requirement is for all employees in healthcare and healthcare support businesses, and for at-risk employees in higher-risk workplaces. Chmura estimates that there are 116,267 businesses in those two categories, with 1.0 million employees needing training. It is estimated that about 1.0 million fully vaccinated employees in higher-risk workplaces need to be provided with an information sheet. There were 173,515 other businesses in Virginia, with 1.9 million employees, who will need to be provided with an information sheet.

### 7.3. Localities Particularly Affected

Since 16VAC25-220-80 applies to all businesses, no locality will be particularly affected by this proposed regulatory action. However, for training requirements, since it only applies to healthcare, healthcare support services, and higher-risk workplaces, some localities affected the most include Williamsburg City, Emporia City, and Galax City. For other businesses without a training requirement, localities with high percentages of employment are Goochland County, King George County, and Surry County (Table 7.1).

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<sup>45</sup> Source: <https://trainlikeachampion.blog/why-does-it-matter-how-long-it-takes-to-design-a-presentation/>.

<sup>46</sup> Source: <https://www.doli.virginia.gov/wp-content/uploads/2020/08/ETS-Full-Training-Presentation.pdf>; <https://www.doli.virginia.gov/wp-content/uploads/2020/08/ETS-Abbreviated-Training-Presentation.pdf>; <https://www.doli.virginia.gov/wp-content/uploads/2020/07/Infographic.pdf>; and <http://www.doli.virginia.gov/wp-content/uploads/2020/07/Training-Certification.xlsx>.

NOTE: Local government healthcare services and healthcare support services will not be impacted by 16VAC25-220-80 during the period that the ETS is in effect.

**Table 7.1: Top Ten Virginia Localities with the Highest Percentage of Affected Businesses**

Locality	Percent of Employment in Healthcare / Support / Higher-Risk Workplaces	Locality	Percent of Employment in Other Businesses
Williamsburg City	80.2%	Goochland County	77.1%
Emporia City	78.9%	King George County	76.2%
Galax City	78.7%	Surry County	74.8%
Greensville County	76.2%	Manassas Park City	70.1%
Danville City	75.0%	Arlington County	67.8%
Pulaski County	74.9%	Charles City County	63.9%
Colonial Heights City	73.8%	Fairfax County	63.1%
Montgomery County	73.8%	Alexandria City	62.4%
Smyth County	73.6%	Highland County	61.7%
Henry County	73.5%	King and Queen County	56.2%
<b>Virginia State Average</b>	<b>51.6%</b>	<b>Virginia State Average</b>	<b>48.4%</b>

Source: JobsEQ by Chmura

#### 7.4. Projected Impact on Employment

The proposed regulations will have no impact on overall state employment. Since the estimated incremental costs are minimal, those efforts can be accommodated by existing staff without the need to hire additional workers.

#### 7.5. Small Business Impacts

Overall, 16VAC25-220-80 will affect all small businesses in Virginia, but training requirements are for all employees in healthcare, healthcare support businesses, and at-risk employees in higher-risk workplaces. Chmura estimates that there are 115,883 small businesses in those categories, with an estimated 769,344 employees needing training. It is estimated that about 818,810 million fully vaccinated employees of small businesses with higher-risk workplaces need to be provided with an information sheet. For other businesses, 172,967 are small businesses in Virginia, with 1.4 million employees, who will need to be provided with an information sheet.

## Appendix: Summary Table of Impact

Table A1: Economic Impact Summary

Stand ard	Description	Included in the Study	Estimated Cost
<b>16VA C25- 220-40</b>	<b>All Businesses</b>		
A	Have a policy to ensure compliance	Staff hours	1-2 hours
B	Exposure assessment (8 items)	Overlap with current regulations, with exception of construction, agriculture, and maritime industries	4-5 hours for construction, agriculture, and maritime businesses
C	Develop return-to-work policy	Staff hours	7-10 hours
	Not allow infected individuals to work (10-20 days)	Overlap with current regulations	
	Provide COVID-19 test	Overlap with current regulations	
D	Develop social distancing policies	Staff hours, signage	1-2 hours
	Use signage	Cost of signs	\$1.80-\$9.40 per sign
E	Post signage in common spaces	Cost of signs	\$1.80-\$9.40 per sign
	Clean and disinfect common areas	Cost of cleaning services	\$50-\$100 per hour for commercial cleaning
	Handwashing facilities	Overlap with current regulations	
	Handwashing supplies	Cost of hand sanitizer and soap	\$5 per bottle (12-17 ounces) or \$25-\$35 per gallon for hand sanitizer; \$12-\$50 per gallon for liquid hand soap
F	Provide N95 respiratory protection	Cost of N95 respirators	\$1.50 per piece (disposable); \$14.00 per piece (reusable)
	Provide face coverings when respirators are not available	Cost of face coverings	\$0.10-\$0.90 per unit (disposable); \$0.50-\$3.00 (reusable)
G	Provide face coverings	Cost of face coverings	\$0.10-\$0.90 per unit (disposable); \$0.50-\$3.00 (reusable)
	Face shields in certain circumstances	Cost of face shields	\$0.40-\$4.00 (disposable); \$1.50-\$8.00 (reusable)
H	Reserved	N/A	
I	Correct ways to wear face coverings	N/A	
J	Reserved	N/A	
K	Reserved	N/A	
L	Cleaning and disinfection	Cost of cleaning services	\$50-\$100 per hour for commercial cleaning
	Cleaning and disinfecting products available	Cost of cleaning and disinfecting products	\$20-\$35 per gallon for all-purpose cleaning products
	Access to soap and water, and hand sanitizer	Cost of soap and hand sanitizer	\$5 per bottle (12-17 ounces) or \$25-\$35 per gallon for hand sanitizer; \$12-\$50 per gallon for liquid hand soap
	Provide mobile crews with hand sanitizer	Cost of hand sanitizer	\$5 per bottle (12-17 ounces) or \$25-\$35 per gallon
	Ensure protective measures are in place	N/A	
M	Provide PPE	Cost of PPE	\$0.10 per pair for disposable gloves; \$0.65 per piece for disposable gowns; \$1.70 per piece for disposable goggles; \$1.50 per piece for disposable N95 respirators
<b>16VA C25-</b>	<b>Healthcare Services and Healthcare Support Services</b>		

220-50

Suspended, following federal OSHA ETS N/A

Table A1: Economic Impact Summary

Stand ar d	Description	Included in the Study	Estimated Cost
<b>16VA C25-220-60</b>	<b>Higher-risk Workplaces</b>		
A	Definition	N/A	
B	Air handling system (B.1)	Overlap with current regulations	
	Install physical barriers (B.2)	Cost of physical barriers	\$15-\$300 per unit
	Ensure proper spacing, use physical barriers if necessary (B.3)	Cost of physical barriers	\$15-\$300 per unit
C	Screening employees for symptoms (C.1)	Cost of screening methods	\$14-\$80 per thermometer, staff hours of 2-5 minutes per employee
	Face coverings to non-employees (C.2)	Cost of face coverings	\$0.10-\$0.90 per unit (disposable); \$0.50-\$3.00 (reusable)
	Stagger break times (C.3)	N/A	
	Stagger arrival and departure times (C4)	N/A	
	Flexible work hours (C.5)	N/A	
	Visual cues for social distancing (C.6)	Cost of signs or floor markers	\$1.80-\$9.40 per sign; \$0.50 per piece for floor markers
	Retail settings (C7a, C7b)	Cost of signs/physical barriers	\$15-\$300 per unit for physical barrier, \$1.80-\$9.40 per sign
	Moving cash register, non-peak stocking hours (C7c, C7d)	N/A	
	Deliver services remotely (C8)	Cost savings for business	
	Deliver products using curbside pickup	N/A	
D	Hazard assessment & certification (D1 & D2)	Staff hours	4-5 hours staff time
	Select PPE (D1)	Cost of PPE	\$0.10 per pair for disposable gloves; \$0.65 per piece for disposable gowns; \$1.70 per piece for disposable goggles; \$1.50 per piece for disposable N95 respirators
	Other requirements (D3.D4)	N/A	
<b>16VA C25-220-70</b>	Develop preparedness and response plan	Staff hours	10-20 hours
<b>16VA C25-220-80</b>	Training & certification (B, C, D)	Staff hours	About one hour for each employee
	Information sheet (E, F)	Staff hours	Minimal

Source: Chmura



ATTACHMENT N: August 20, 2021, DOLI ADDENDUM to August 20, 2021, Economic Impact of Proposed Amendments to the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes Covid-19, Prepared by Chmura Economics and Analytics



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

**C. Ray Davenport**  
COMMISSIONER

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**August 20, 2021**

## **DEPARTMENT OF LABOR AND INDUSTRY (DOLI) VIRGINIA OCCUPATIONAL SAFETY AND HEALTH (VOSH) PROGRAM**

### DOLI ADDENDUM

To the August 20, 2021, Economic Impact Analysis of the Proposed Amendments to the VOSH Standard for Infectious Disease Prevention of the Sars-Cov-2 Virus That Causes Covid-19,<sup>788</sup> prepared by Chmura Economics and Analytics.

### BACKGROUND

The Virginia Safety and Health Codes Board ("Board") adopted 16 VAC 25-220, Emergency Temporary Standard (ETS), Infectious Disease Prevention: SARS-CoV-2 Virus That Causes COVID-19, with an effective date of July 27, 2020. The ETS was limited by statute to be in effect for no more than six months, and expired on January 26, 2021.

A final VOSH Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, 16VAC25-220, was adopted by the Board and took effect on January 27, 2021.

On June 29, 2021, the Board adopted proposed amendments to the VOSH Standard. During the adoption process for the proposed amendments, the Board made clear that it would attempt to substantially comply with the core requirements in the APA by holding a thirty day written comment period<sup>789</sup> and a public hearing<sup>790</sup> along with obtaining an Economic Impact Analysis

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<sup>788</sup> It is the position of the Department based on consultation with the Attorney General that by virtue of Va. Code §40.1-22(6a), the Administrative Process Act does not apply to adoption of either an ETS or permanent replacement standard adopted under the specific procedures outlined in that statute. As noted on page 180 of the June 23, 2020 Briefing Package to the Board regarding proposed adoption of an ETS/emergency regulation, the OAG noted: "The clear intent of 40.1-22(6a) and 29 USC Section 655(c) in the OSH Act – is to create an alternative path to a temporary and permanent standard outside of the rigors and processes of the APA."

<sup>789</sup> The thirty day comment period was held from July 1, 2021 to July 31, 2021.

<sup>790</sup> The public hearing was held August 5, 2021.

[https://www.doli.virginia.gov/wp-content/uploads/2021/08/VDOLI\\_COVID\\_Amendment\\_20210820.pdf](https://www.doli.virginia.gov/wp-content/uploads/2021/08/VDOLI_COVID_Amendment_20210820.pdf) and holding a meeting to consider final adoption of the proposed amendments.<sup>791</sup>

Although not required by Va. Code §40.1-22(6a) DOLI contracted on behalf of the Board with Chmura Economics and Analytics (“Chmura”) to conduct an economic impact analysis of the proposed amendments to the VOSH Standard that would attempt to address elements contained in Va. Code §2.2-4007.04.A.1,<sup>792</sup> with the exception of three issues: costs associated with property value, fiscal impact on localities and potential funds to implement this standard. The purpose of this Addendum is to address those three issues.

NOTE: The Department of Labor and Industry (DOLI) has consulted with the Virginia Department of Health (VDH) about whether revisions should be recommended to the Board's Proposed Amendments to the VOSH Standard originally adopted on June 29, 2021, in response to the CDC's updated guidance for fully vaccinated people issued on July 27, 2021 (requirement in certain situations for fully vaccinated employees to wear face coverings in areas of substantial or high transmission).

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

DOLI and VDH are in agreement that some revisions should be recommended to the Board along with the Governor's amendment to 16VAC25-220-10.E.,

<https://www.doli.virginia.gov/wpcontent/uploads/2021/07/Summary-of-Governor-Northams-Review-of-Proposed-Amendmentsto-16VAC25-220-7.1.2021.pdf>).

The Dept. invited the public to comment on the Revised Proposed Amendments to the VOSH Standard by using the Townhall Comment Forum here. The forum will be open for 7 days from August 16, 2021 to August 23, 2021.

<https://townhall.virginia.gov/L/ViewNotice.cfm?GNid=1309>

The EIA prepared by Chmura does not address the above-referenced revisions.

## DEPARTMENT RESPONSE

1. The Department is not aware of the standard resulting in any additional costs related to impact of the standard on the use and value of private property, including additional costs related to the development of real estate for commercial or residential purposes. While

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<sup>791</sup> The Board is meeting August 26, 2021 to consider final adoption of the proposed amendments and certain revisions recommended by the Department.

<sup>792</sup> Va. Code §2.2-4007.04.A.1: The economic impact analysis shall include but need not be limited to the projected number of businesses or other entities to which the regulation would apply; the identity of any localities and types of businesses or other entities particularly affected by the regulation; the projected number of persons and employment positions to be affected; the impact of the regulation on the use and value of private property, including additional costs related to the development of real estate for commercial or residential purposes; and the projected costs to affected businesses, localities, or entities of implementing or complying with the regulations, including the estimated fiscal impact on such localities and sources of potential funds to implement and comply with such regulation.

Governor's Executive Orders (EO) (see the most recent EO 79<sup>793</sup>) have contained restrictions on the use of and operating hours, including closings, of private businesses, the standard contains no such restrictions.

2. Since the standard applies to all businesses, including state and local government employers, no locality will be particularly affected differently than any other local government entity by adoption of the standard. Any fiscal impact on a locality will be determined by whether of the employer's operations are considered "high risk" and the extent to which employees are fully vaccinated or not.

Those projected costs (e.g., cost of face coverings, physical barriers, employee training, etc.) are delineated on a per employee or per item basis in the Economic Impact Analysis (EIA) prepared by Chmura, and in the view of the Department would be applicable in a local government setting (See Summary Table of Impact in EIA).

[https://www.doli.virginia.gov/wp-content/uploads/2021/08/VDOLI\\_COVID\\_Amendment\\_20210820.pdf](https://www.doli.virginia.gov/wp-content/uploads/2021/08/VDOLI_COVID_Amendment_20210820.pdf)

Those localities that incur costs uniquely attributable to compliance with the standard will likely use revenue they generate from their own taxes and fees. A small number of the requirements with associated costs related to the Commonwealth's response to the COVID-19 pandemic are contained in Governor's Executive Order 79 (K-12 employees must wear face masks (face coverings in VOSH Standard) while on school grounds), and the Transportation Security Administration's (TSA) requirement that employees wear face masks on commercial flights, buses and trains through Jan. 18, 2022.<sup>794</sup>

To the extent that a requirement is included in both an Executive Order and the standard, or a TSA requirement and the standard, the Department does not consider the standard to impose any new cost burden on a covered locality.

In addition, many of the costs associated with dealing with workplace hazards associated with COVID-19 are the result of requirements contained in current federal OSHA or VOSH unique standards and regulations already applicable to local governments, and therefore DOLI does not consider such costs to be new costs associated with adoption of the standard.

Following are federal OSHA identical and state unique standards and regulations applicable in the Construction Industry, Agriculture Industry, Maritime Industry (public sector employment only as OSHA retains jurisdiction over private sector employment in Virginia), and General Industry ("General Industry" covers all employers not otherwise classified as Construction, Agriculture, or Maritime) that can be used in certain situations to address COVID-19 hazards in the workplace:

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<sup>793</sup> [https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-79-and-Order-of-Public-Health-Emergency-Ten-Ending-of-Commonsense-Public-Health-Restrictions-Due-to-Novel-Coronavirus\(COVID-19\).pdf](https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-79-and-Order-of-Public-Health-Emergency-Ten-Ending-of-Commonsense-Public-Health-Restrictions-Due-to-Novel-Coronavirus(COVID-19).pdf)

<sup>794</sup> The Transportation Security Administration on Tuesday extended a federal requirement that travelers [and employees] wear masks on commercial flights, buses and trains through Jan. 18, 2022."

<https://www.cnbc.com/2021/08/17/biden-administration-set-to-extend-mask-mandate-for-travel-through-mid-january.html>

<https://www.tsa.gov/news/press/releases/2021/04/30/tsa-extends-face-mask-requirement-airports-and-throughout>

### General Industry

- 1910.132, Personal Protective Equipment in General Industry (including workplace assessment)
- 1910.133, Eye and Face Protection in General Industry
- 1910.134, Respiratory Protection in General Industry
- 1910.138, Hand Protection
- 1910.141, Sanitation in General Industry (including handwashing facilities)
- 1910.1030, Bloodborne pathogens in General Industry
- 1910.1450, Occupational exposure to hazardous chemicals in laboratories in General Industry

### Construction Industry

- 1926.95, Criteria for personal protective equipment in Construction
- 1926.102, Eye and Face Protection in Construction
- 1926.103, Respiratory Protection in Construction
- 16VAC25-160, Sanitation in Construction (including handwashing facilities)

### Agriculture

- 16VAC25-190, Field Sanitation (including handwashing facilities) in Agriculture

### Public Sector Maritime

- 1915.152, Shipyard Employment (Personal Protective Equipment)
- 1915.153, Shipyard Employment (Eye and Face Protection)
- 1915.154, Shipyard Employment (Respiratory Protection)
- 1915.157, Shipyard Employment (Hand and Body Protection)
- 1917.127, Marine Terminal Operations (Sanitation)
- 1917.92 and 1917.1(a)(2)(x), Marine Terminal Operations (Respiratory Protection, 1910.134)
- 1917.91, Marine Terminal Operations (Eye and Face Protection)
- 1917.95, Marine Terminal Operations (PPE, Other Protective Measures)
- 1918.95, Longshoring (Sanitation)
- 1918.102, Longshoring (Respiratory Protection)
- 1918.101, Longshoring (Eye and Face Protection)

### Multiple Industries

- 16VAC25-220, Emergency Temporary Standard in General Industry, Construction, Agriculture and Public Sector Maritime
- 1904, Recording and Reporting Occupational Injuries and Illness in General Industry, Construction, Agriculture and Public Sector Maritime
- 1910.142, Temporary Labor Camps (including handwashing facilities) in Agriculture and General Industry

- 1910.1020, Access to employee exposure and medical records in General Industry, Construction, and Public Sector Maritime (excludes Agriculture)
- 1910.1200, Hazard Communication in General Industry, Construction, Agriculture and Public Sector Maritime
- 16VAC25-60-120 (General Industry), 16VAC25-60-130 (Construction Industry), 16VAC25-60-140 (Agriculture), and 16VAC25-60-150 (Public Sector Maritime), Manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment (can be used to apply to operation and maintenance of air handling systems in accordance with manufacturer's instructions)

### General Duty Clause

In addition, Va. Code §40.1-51.1.A, provides that:

A. It shall be the duty of every employer to furnish to each of his employees safe employment and a place of employment that is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees and to comply with all applicable occupational safety and health rules and regulations promulgated under this title.

Otherwise known as the “general duty clause” (the Virginia equivalent to §5(a)(1) of the OSH Act of 1970), Va. Code §40.1-51.1.A can be used to address “serious” recognized hazards to which employees of the cited employer are exposed through reference to such things as national consensus standards, manufacturer’s requirements, requirements of the Centers for Disease Control (CDC), or an employer’s safety and health rules.

To the extent that the general duty clause could be used by the Department to address COVID-19 workplace hazards to the same extent as and in the same manner as the standard were the standard not in effect, the Department does not consider any of the costs associated with such use of the clause to be new costs associated with adoption of the standard.

**ATTACHMENT O: Executive Order 6 (EO 6), Reinvigorating Job Growth by Removing Burdensome Regulations From Virginia's Business Community**



*Commonwealth of Virginia  
Office of the Governor*

## *Executive Order*

### **NUMBER SIX (2022)**

#### **REINVIGORATING JOB GROWTH BY REMOVING BURDENSOME REGULATIONS FROM VIRGINIA'S BUSINESS COMMUNITY**

By virtue of the authority vested in me as Governor, I hereby issue this Executive Order to ensure Virginia is open for business.

#### **Importance of the Initiative**

Businesses across the Commonwealth of Virginia faced unprecedented challenges throughout the COVID-19 pandemic. From government mandated closures, lockdowns, and restrictions to supply chain disruptions to staffing shortages, the effects of the pandemic undoubtedly made running a business in Virginia more difficult. Unfortunately, our government contributed to these difficulties.

The "Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19," as implemented by the Safety and Health Codes Board, is not having a measurable impact on preventing the spread of COVID-19 while presenting a significant burden on businesses. Overly burdensome and time-consuming training requirements for employees inhibit the hiring of new workers. Conflicting state and federal regulations cause confusion. Unnecessary restrictions impede daily activities.

Further, it appears the "Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19" was not enacted consistent with the Administrative Process Act as required by law and, in any event, was adopted in a rushed process that provided limited opportunity for the public to review and comment on the proposed



permanent regulations. It is critical that a standard such as this, which substantially impacts the lives and legal rights of our businesses and our citizens, be enacted through a process consistent with the law and the democratic principles fundamental to our Commonwealth.

The Department of Labor and Industry has many important responsibilities in protecting the interests of Virginia's workers, and our government and our businesses must work together to combat COVID-19.

However, regulations that do little to protect our citizens while imposing heavy burdens on our businesses are not in the best interest of our Commonwealth. This is particularly true when a regulation substantially impacts the legal rights our business and our citizens and is of questionable legality. Under these circumstances, to protect the rights of the citizens of our Commonwealth, our government should focus its limited resources on enforcement activities that further the interests of our citizens.

#### **Directive**

By virtue of the authority vested in me as Governor, by Article V, Sections 1 and 7 of the Constitution of Virginia, and by § 2.2-103 of the Code of Virginia, I direct the following:

1. The Safety and Health Codes Board is to convene an emergency meeting of their membership to discuss whether there is a continued need for the "Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19." The board is directed to consider federal action in regard to the Occupational Safety and Health Administration Emergency Temporary Standard. The Board should report its findings to the Governor within 30 days.
2. The Board and the Department of Labor of Industry is directed to seek guidance from the Office of the Attorney General regarding whether the proper legal and administrative procedures were followed during adoption and promulgation of the Permanent Standards.
3. As a matter of enforcement discretion, all Virginia Agencies of the Commonwealth under my authority are directed to focus their limited resources on enforcement activities that have the most impact with the least burden on our business and citizens.

**Effective Date**

This Executive Order shall be effective upon its signing and shall remain in force and effect unless amended or rescinded by future executive order or directive.

Given under my hand and under the Seal of the Commonwealth of Virginia, this 15<sup>th</sup> day of January, 2022.



A handwritten signature in black ink that reads "Glenn Youngkin".

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Glenn Youngkin, Governor

Attest:

A handwritten signature in black ink that reads "Kelly Thomasson".

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Kelly Thomasson, Secretary of the Commonwealth

**ATTACHMENT P: FEBRUARY 15, 2022 DRAFT GUIDANCE DOCUMENT:  
PROTECTING WORKERS, GUIDANCE ON MITIGATING AND  
PREVENTING THE SPREAD OF COVID-19 IN THE WORKPLACE**

DRAFT

**ATTACHMENT Q: UNSOLICITED DIRECT TO DOLI COMMENTS FROM THE GENERAL PUBLIC AS OF FEBRUARY 15, 2022**

**VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY**

**VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM**

**VIRGINIA SAFETY AND HEALTH CODES BOARD**

**SUBJECT:** Virginia Safety and Health Codes Board (Board) meeting (combined in person and virtual) scheduled for February 16, 2022 concerning the Virginia Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19, 16VAC25-220 (Virginia Standard)

**UNSOLICITED Direct to DOLI Comments from the General Public as of February 15, 2022 as of 9:07 am**

10001 Kyle Hedricks, Policy Manager The Associated General Contractors of Virginia (AGCVA)  
2/4/2022 Dear Safety and Health Codes Board Members,

On behalf of the Associated General Contractors of Virginia (AGCVA), Virginia's largest and most influential construction trade organization, we urge you to rescind the Permanent Safety Standard for Infectious Disease Prevention: SARS-CoV-2 / 16VAC25-220, pursuant to Governor Youngkin's Executive Order 6 signed on January 15, 2022.

In the midst of a pandemic, the construction industry has remained open and spent money beyond their budget to keep employees safe. This has included implementing temperature checks, enforcing social distancing, abiding the stay-at-home and return-to-work orders, posting signage, adding sanitary stations, rewriting daily safety procedures, and more. The industry has also complied with all government mandates throughout the pandemic.

Unfortunately, the adoption of a permanent standard exacerbated the problem of worker shortages due to burdensome, time-consuming, and conflicting regulations. The removal of this permanent regulation would allow the construction industry to enhance its daily operations while refocusing on its core safety precautions.

AGCVA opposed making these standards permanent in the first place because they set in stone a one-size-fits-all approach for businesses across the state to implement procedures while the science constantly evolves. Therefore, considering the Governor's Executive Order to review the need for such a standard, AGCVA and its members respectfully ask you to rescind the Permanent Safety Standard for these reasons:

1. The permanent standard created confusion due to conflicting federal and state regulations.

Virginia employers have had access to guidance and resources from the CDC, VDH, and OSHA to help slow the spread of COVID-19. Certain additional requirements in the permanent standards - particularly the return-to-work criteria - contradict the other guidance and recommendations. The contradicting guidance becomes even more convoluted in cases where Virginia-based companies have worksites in multiple states. To reduce confusion when deciding which requirements to follow, companies should be able to utilize current nation-wide guidance. This creates a consistent and clear message for all employers to convey through company instituted policies.

2. The mandate did not reflect evolving health and safety guidelines.

Guidance by the CDC, OSHA, and VDH continues to evolve as evidenced by the recent revisions to recovery/return to work guidelines and the withdrawal of the federal Vaccination and Testing Emergency Temporary Standard. The adoption of a permanent standard saddled Virginia's employers with a standard that did not reflect the latest breakthroughs on the virus and vaccines. Employers should instead be

encouraged to follow the latest CDC guidelines without the need to interpret a permanent standard that may be outdated the moment it is published. This creates hazardous risks for employers and their employees.

3. It fostered a distracted and diluted focus on other core safety precautions.

The complex requirements of the permanent standard are taking focus away from traditional and serious safety risks. These standards are one-size-fits-all, causing employers to spend an inordinate amount of time interpreting and implementing new procedures. The quest to stay compliant will keep companies from getting fined or shut down, but it comes at the cost of not being able to focus on ongoing core safety risks.

AGCVA represents an industry with a concerted effort focused on the safety and health of its workforce. Providing these companies the flexibility to adopt safety and health policies and procedures that fit each individual situation is the best way to ensure the safety of Virginia's workers. With that in mind, we respectfully ask the Board to rescind the permanent standard.

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10002 Ed Bowman, President W.E Bowman Constuction Rescind the Permanent Safety Standard for Infectious Disease Prevention: SARS-CoV-2 / 16VAC25-220 2/7/2022 Dear Safety and Health Codes Board Members,

On behalf of the Associated General Contractors of Virginia (AGCVA), Virginia's largest and most influential construction trade organization, we urge you to rescind the Permanent Safety Standard for Infectious Disease Prevention: SARS-CoV-2 / 16VAC25-220, pursuant to Governor Youngkin's Executive Order 6 signed on January 15, 2022.

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may be outdated the moment it is published. This creates hazardous risks for employers and their employees.

It fostered a distracted and diluted focus on other core safety precautions.

The complex requirements of the permanent standard are taking focus away from traditional and serious safety risks. These standards are one-size-fits-all, causing employers to spend an inordinate amount of time interpreting and implementing new procedures. The quest to stay compliant will keep companies from getting fined or shut down, but it comes at the cost of not being able to focus on ongoing core safety risks.

AGCVA represents an industry with a concerted effort focused on the safety and health of its workforce. Providing these companies the flexibility to adopt safety and health policies and procedures that fit each individual situation is the best way to ensure the safety of Virginia's workers. With that in mind, we respectfully ask the Board to rescind the permanent standard.

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10003 Lori Culp                      Permanent Covid Standard VAC-16VAC25-220-Virginia-Standard-10.6.21 Question  
for public hearing                      2/7/2022                      For comment on the H&S Board public meeting 2/16.

Dear Health and Safety Board,

According to section G - amended in October 2021: Could the board explain the logic that fully vaccinated must be in a room alone or they need to wear a mask unless eating or drinking?

This restriction means that staff who are vaccinated in a workstation, not a room, and that workstation/desk is a minimum of 6 feet apart still need to wear a mask for 8 hours or their shift. As this is a permanent law, this restriction is placing burden and hardship on both employees and business, not in the healthcare field, being tied to the community transmission rate.

If people choose not to be vaccinated, those who have been vaccinated +boosted should not be forced to wear a mask indoors for hours of their shift, if they are 6 feet apart.

I am requesting a revision of the wording to remove the language alone in a room and state, working 6 feet apart or permanently removing the standard.

Thank you for the opportunity to comment on the matter.

Lori Culp  
571-309-6141

G. Employers shall provide and require employees that are not fully vaccinated, fully vaccinated employees in areas of substantial or high community transmission, and otherwise at-risk employees (because of a prior transplant or other medical condition) to wear face coverings or surgical masks while indoors, unless their work task requires a respirator or other PPE. Such employees shall wear a face covering or surgical mask that covers the nose and mouth to contain the wearer's respiratory droplets and help protect others and potentially themselves. This subsection does not apply to fully vaccinated employees in areas of low to moderate community transmission, and except as otherwise noted. The following are exceptions to the requirements for face coverings, facemasks or surgical masks for employees that are not fully vaccinated and fully vaccinated employees in areas of substantial or high community transmission: 1. When an employee is alone in a room. 2. While an employee is eating and drinking at the workplace, provided each employee who is not fully vaccinated is at least six feet away from any other person, or separated from other people by a physical barrier. 3

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10004 Daniel Blosser, President Riddleberger Brothers, Inc.                      Communication in support of the REPEAL  
of Permanent COVID-19 Burden on Business in Virginia                      2/7/2022

I am writing to urge you to rescind the Permanent Safety Standard for Infectious Disease Prevention: SARS-CoV-2 / 16VAC25-220, pursuant to Governor Youngkin's Executive Order 6 signed on January 15, 2022. In the midst of a pandemic, the construction industry has remained open and spent money beyond their budget to keep employees safe. This has included implementing temperature checks, enforcing social

distancing, abiding the stay-at-home and return-to-work orders, posting signage, adding sanitary stations, rewriting daily safety procedures, and more. Our firm has also complied with all government mandates throughout the pandemic. Unfortunately, the adoption of a permanent standard exacerbated the problem of worker shortages due to burdensome, time-consuming, and conflicting regulations. The removal of this permanent regulation would allow our firm to enhance its daily operations while refocusing on its core safety precautions.

The permanent standard created confusion due to conflicting federal and state regulations. Virginia employers have had access to guidance and resources from the CDC, VDH, and OSHA to help slow the spread of COVID-19. Certain additional requirements in the permanent standards - particularly the return-to-work criteria - contradict the other guidance and recommendations. The contradicting guidance becomes even more convoluted in cases where Virginia-based companies have worksites in multiple states. To reduce confusion when deciding which requirements to follow, companies should be able to utilize current nation-wide guidance. This creates a consistent and clear message for all employers to convey through company instituted policies.

The mandate also did not reflect evolving health and safety guidelines. Guidance by the CDC, OSHA, and VDH continues to evolve as evidenced by the recent revisions to recovery/return to work guidelines and the withdrawal of the federal Vaccination and Testing Emergency Temporary Standard. The adoption of a permanent standard saddled Virginia's employers with a standard that did not reflect the latest breakthroughs on the virus and vaccines. Employers should instead be encouraged to follow the latest CDC guidelines without the need to interpret a permanent standard that may be outdated the moment it is published. This creates hazardous risks for employers and their employees.

This DOLI standard also fostered a distracted and diluted focus on other core safety precautions. The complex requirements of the permanent standard are taking focus away from traditional and serious safety risks. These standards are one-size-fits-all, causing employers to spend an inordinate amount of time interpreting and implementing new procedures. The quest to stay compliant will keep companies from getting fined or shut down, but it comes at the cost of not being able to focus on ongoing core safety risks. Our own safety programs have been hampered by this unnecessary burden and we have witnessed a decline in adherence to internal safety plans, procedures and protocols from employees as they have lost focus on those while dealing with all the contradictory guidance from the CDC, VDH and OSHA. This is despite our continual training and communications to our employees.

Please consider these comments from business entities in Virginia, I respectfully request that our comments be taken into consideration and the permanent DOLI safety standards be repealed. Thank you for your time, review and consideration.

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10005 Shanna Billhimer, President Trumbo Electric, Inc.                      Communication in Support of the REPEAL of Permanent COVID-19 Burden on Business in Virginia 2/7/2022

I am writing to urge you to rescind the Permanent Safety Standard for Infectious Disease Prevention: SARS-CoV-2 / 16VAC25-220, pursuant to Governor Youngkin's Executive Order 6 signed on January 15, 2022. In the midst of a pandemic, the construction industry has remained open and spent money beyond their budget to keep employees safe. This has included implementing temperature checks, enforcing social distancing, abiding the stay-at-home and return-to-work orders, posting signage, adding sanitary stations, rewriting daily safety procedures, and more. Our firm has also complied with all government mandates throughout the pandemic. Unfortunately, the adoption of a permanent standard exacerbated the problem of worker shortages due to burdensome, time-consuming, and conflicting regulations. The removal of this permanent regulation would allow our firm to enhance its daily operations while refocusing on its core safety precautions.

The permanent standard created confusion due to conflicting federal and state regulations. Virginia employers have had access to guidance and resources from the CDC, VDH, and OSHA to help slow the spread of COVID-19. Certain additional requirements in the permanent standards - particularly the return-

to-work criteria - contradict the other guidance and recommendations. The contradicting guidance becomes even more convoluted in cases where Virginia-based companies have worksites in multiple states. To reduce confusion when deciding which requirements to follow, companies should be able to utilize current nation-wide guidance. This creates a consistent and clear message for all employers to convey through company instituted policies.

The mandate also did not reflect evolving health and safety guidelines. Guidance by the CDC, OSHA, and VDH continues to evolve as evidenced by the recent revisions to recovery/return to work guidelines and the withdrawal of the federal Vaccination and Testing Emergency Temporary Standard. The adoption of a permanent standard saddled Virginia's employers with a standard that did not reflect the latest breakthroughs on the virus and vaccines. Employers should instead be encouraged to follow the latest CDC guidelines without the need to interpret a permanent standard that may be outdated the moment it is published. This creates hazardous risks for employers and their employees.

This DOLI standard also fostered a distracted and diluted focus on other core safety precautions. The complex requirements of the permanent standard are taking focus away from traditional and serious safety risks. These standards are one-size-fits-all, causing employers to spend an inordinate amount of time interpreting and implementing new procedures. The quest to stay compliant will keep companies from getting fined or shut down, but it comes at the cost of not being able to focus on ongoing core safety risks. Our own safety programs have been hampered by this unnecessary burden and we have witnessed a decline in adherence to internal safety plans, procedures and protocols from employees as they have lost focus on those while dealing with all the contradictory guidance from the CDC, VDH and OSHA. This is despite our continual training and communications to our employees.

Please consider these comments from business entities in Virginia, I respectfully request that our comments be taken into consideration and the permanent DOLI safety standards be repealed. Thank you for your time, review and consideration.

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10006 Don Sproul REPEAL Permanent COVID-19 Burden on Business 2/7/2022

I urge you to rescind the Permanent Safety Standard for Infectious Disease Prevention: SARS-CoV-2 / 16VAC25-220

The permanent standard created confusion due to conflicting federal and state regulations. It set a standard in stone that it was a one-size-fits-all approach to businesses and it is not.

- The mandate did not reflect evolving health and safety guidelines.
- It fostered a distracted and diluted focus on other core safety precautions.

I respectfully ask the Board to rescind the permanent standard.

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10007 Amy Wolford RE: The Permanent Standard for Infectious Disease Prevention Of the SARS-CoV2 Virus that Causes COVID-19 2/11/2022

I am writing today as a private citizen who has been working within my organization for the past two years as our COVID response facilitator. During those two years I have found the Final Permanent Standard to be useful in several ways. I believe this standard has helped my workplace mitigate the spread of COVID-19 by helping us create effective policies to mitigate that spread.

Areas that have been, and continue to be useful include:

1. Assessing the risk for each position within the organization.
2. Creating contingency plans for each program within the organization
3. Training for staff about COVID-19 and ways to mitigate its spread
  - a. I was extremely grateful for the templates you prepared to help workplaces create their trainings.
4. Preparing and maintaining physical workplaces to help mitigate the spread of COVID-19
5. Justification for our ongoing mitigation efforts

The Final Permanent Standard helped me know what to look for and how to respond to various issues within the workplace and helped the organization as a whole create effective policy that has, in my eyes,



prevented the spread of COVID-19 within our workplaces. We work with vulnerable populations including the developmentally disabled and children with medical vulnerabilities and to our knowledge, we have not been responsible for the infection of anyone we work with. I have found it helpful, also, to have the Final Permanent Standard to lean on as employees (rarely) question why a certain mitigation effort is in place. While I know we have the General Duty Clause from OSHA to allow safety measure within our workplace, being able to point to a specific rule helps employers not be the “bad guy.”

And finally, I am a mother to a high schooler, and a friend of many teachers. The Final Permanent Standard protects teachers. Given the Governor’s recent order to make masks optional for students, our teachers are going to be at a greater risk for exposure and infection from COVID-19. Continuing the Final Permanent Standard until it is safe to remove masks in public spaces will help protect the teachers and their families. The Standard provides allowances for mask removal when community spread is low and I fear without this standard in place, that contingency will be ignored by the Governor and will increase the risk for school staff.

I thank you for all of the time you have invested in creating and revising the Final Permanent Standard and I hope you will continue to use scientific guardrails as you make future decisions.

Amy Wolford  
Roanoke County Resident

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10008 Dakota Rust

Comments for 2/16 Safety and Health Codes Board Meeting 2/14/2022

I would love to participate this this Wednesday’s Board Meeting however I will be working and unable to participate orally. I would like this email to serve as my oral public comments to the Board.

Please rescind all mask mandates for Virginia state employees and move to mask optional guidance. It is time employees are given back their right to do what’s best to take care of their own health. Case numbers and hospitalizations are down, and data has shown for many months that simple cloth masks and facial coverings do next to nothing in stopping the spread of COVID-19. Individuals have been given the proper tools to minimize the spread of COVID-19, now it is time to ease the restrictions and trust people to do what’s best for them.

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10009 Courtney May sent via email 2/14/2022 I am writing you in regards to change the following:

Purpose of Meeting:

This meeting is being held pursuant to Governor Youngkin's Executive Order 6 (EO 6)[1] issued January 15, 2022, directing the Safety and Health Codes Board to convene an emergency meeting of their membership to discuss whether there is a continued need for the “Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19.” The Board is directed to consider federal action in regard to the Occupational Safety and Health Administration Emergency Temporary Standard, and report its findings to the Governor within 30 days.

My name is Courtney May. I am a current teacher that has taught for 18 years in the state of Virginia. I am writing to ask that masking become optional for teachers and other school staff. As you may know, we are facing a shortage of teachers in Virginia. The shortage has worsened during the pandemic. Teachers are leaving education at alarming rates. Everyday, I hear from veteran teachers how this pandemic and teaching in a mask has taken a toll on them and their mental health. Teaching students that are masked everyday while wearing a mask is exhausting. Students are falling behind and teachers are worn out. Last week in my county our students and parents were given the choice to wear a mask or not. This has been the best step forward as Covid numbers are decreasing. We as teachers have not been as fortunate. We are still required to wear a mask everyday.

I am begging you to allow teachers and staff to become mask optional as soon as possible. Teachers considering another profession be the one decision that pushes them to keep going when they want to give

up. We are at a point as educators that we can no longer pour from an empty vessel. The realization has hit us that we are giving way more of ourselves than we ever have before.

We love our students and we enjoy making a difference in their lives. Please allow us the opportunity to choose. I, as a teacher, want the kids to see my smile. I want them to see the silly extroverted teacher that makes learning so much fun. Building relationships is difficult when students cannot see your face. Our facial expressions allow students to really get to know us and our personalities.

As for my own children, I want them to be able to see their own teachers' faces and expressions. My son and daughter (ages 6 and 8) walked into school for the first time in their school careers without masks last week. I was so happy for them but at the same time I was so sad for their teachers still having to be masked. My children are at a very fragile time in their educational career. They are learning to read and write and neither one can see their teachers' mouths to see how sounds are produced or how syllables are connected. That in itself is enough to put children behind.

Students walked in my classroom last week and looked at one another without masks. It was a joyous occasion. In the midst of the excitement one of my students looked at me and said "Mrs. May don't you know we can take our masks off, you do not have to wear one anymore' I said unfortunately teachers are still required to wear masks. The student replied "That makes no sense, teachers are the reason we come to school, We learn from you" that in itself spoke volumes to me. Tears streamed down my face.

In conclusion, I am reaching out to you as a teacher and a parent to allow all teachers and staff in Virginia schools to choose whether they would like to wear a mask. We need our passion back and our students need us more than ever. One more day in the classroom while masked may be what causes more strained teachers to walk away from education.

Covid classes are declining daily and it is time to make masking optional for Virginia teachers and staff. We need the option and our students deserve to see our faces. We owe it to them. Please make the change.

Thank you for your consideration,

Courtney May- Veteran educator in Virginia Public schools.

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10010 Ryan McEntire, CPA 2/14/2022 Permanent Covid Standards sent via email

I am writing as a business owner to request the strong consideration for the repeal of the Permanent Standard for Infectious Disease Prevention of the SARS-CoV-2 Virus That Causes COVID-19. This places an undue burden on small businesses that believe in the importance of compliance with applicable regulations (as we do). The rule is not followed in a majority of business situations and removing it would be just so that business can get back to normal, increase supply and get Virginia back as a top state for businesses.

10011 Jessica Bauer 2/14/2022 Meeting Comments sent via email I am writing to request that masking be made optional in the work place. My daughter has suffered through two years of trying to understand what her teachers are saying from behind masks. It is absurd that teachers should be required to mask up when the most important part of their job is communicating with their students. Please remove this regulation which is harmful to the students of Virginia.

10012 Melissa Spicer 2/14/2022 Maks Optional for teachers "My name is Melissa Spicer. I am a teacher and resident of Stafford County VA. I am writing to you this evening to ask that the board remove the requirement for teachers to wear masks. I would like to list just a few of the reasons I feel this is critical.

\* The students can not hear me clearly.

\*Teaching proper sound formation (phonics) is nearly impossible.

\* My ESOL cluster can not see how unknown words/ sounds are formed behind my mask, making an already difficult language to learn even harder.

\* My students with speech IEP's do not have a model for correct speech.

\*The students can not read my facial cues (happy, sad etc).

\* When I read a story the children miss out on all of the facial expressions and thus lose out on the beauty of how expressive our language can be. This translates directly into how they will read and interpret stories in the future.

\* I desire the freedom to breathe fresh air all day long instead of through a germ filled, wet mask that I have worn and talked through for 6 hours straight.

I ask that you please make the mask policy a personal choice for all teachers.

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10013 Jamie King 2/14/2022 OSHA mask mandate Good evening!

I heard that the OSHA mask mandate requiring teachers to wear masks is up for debate and that we could email you with our thoughts/ comments to be read at the meeting. Hopefully that was correct info.

Dear committee,

Please consider giving teachers the choice to wear masks. My health is suffering and I think it is greatly impacted because of my daily use of masks. I have terrible headaches on a daily basis, struggle to breath and have had to be put on an inhaler. I never in my life had struggled with asthma or needed an inhaler. My mental health is equally impacted. I am unable to properly teach phonics to my children because they can not hear me and cannot see my mouth to know how to properly make sounds. The kids are going to be impacted for years to come because of this poor instruction of phonics. Yes, I am continuing to teach the phonetic program but it is not effective if they can't see my mouth!! They also are going to miss social cues because they are hidden behind a mask. Again, not only impacting now, but their future.

Please vote to change this policy! Make masks optional. I want to breathe again. I want my kids to see my smile again.

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10014 Karla Alsop 2/14/2022 Un-mask Teachers As our schools continue to unmask please unmask our teachers as well. They have the right to choose for themselves.

10015 Tricia Orilio Williams 2/14/2022 Mask choice for Teachers "Good evening, Please pass my comments along. I'm a teacher and a mother. I think it's so important that teachers have the choice on whether to wear a mask. Most teachers were vaccinated in hopes of having mask choice. We want our students to see our facial expressions and see how we pronounce words. It's so crucial in early development.

It's also so hard working in a mask... it gets hot, my glasses fog up, my asthma acts up, and I get anxious. I want to give my students 100%. Please pass my comments along and give us the choice.

Thank you so much!

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10016 Cheryl Darden 2/14/2022 Mask-Optional for teachers and staff As a parent of two boys in Isle of Wight County Public School I kindly ask you to please remove the mask mandate for all teachers and staff. Our teachers have been through so much in the past 2 years. Let us give them a choice for wearing a mask. Most of our teachers took the vaccine even when they were very hesitant about it because they hoped it would get the school year back to normal. They did not expect to wear masks after taking the vaccine but unfortunately it was mandated. Masks need to be optional since seeing a teacher's face is so important to children. Kids need to see facial expressions and facial movement for forming words. My boys just started middle school this year, and I have not seen the faces of their teachers due to the masks. Masks are currently hurting our children's education and it is time for them to be optional for all our teachers and staff members. Thank you for your time and consideration.

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10017 Stephanie Williamson 2/14/2022 No More Masks Please give teachers and staff in schools the right to choose whether they want to wear masks or not regardless of vaccination status. This should be a personal choice of an individual.

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10018 "Mrs. Dee Strauss, M.Ed.

2/14/2022 Meeting today about safety and health codes I respectfully request that you allow the teachers, staff, and visitors to our Virginia Public Schools to be mask optional as are our students. Please put this into action as soon as possible. We have been masked long enough. I want my students to really see my smile - currently they can only make out the twinkle in my eye when I smile under this mask. Thank you for all you do.

A dedicated teacher in Virginia  
Dee Strauss :)

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10019 Jeff and Jennifer Geyer 2/14/2022 Unmasking Educators My wife and I, who work in the Stafford County school system, are requesting our state's leadership to allow our educators the choice to unmask during work hours and in school buildings.

Our biggest reason is so that kids can understand us, read our expressions, and read our lips without any hindrance.

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10020 Lisa Garnett 2/14/2022 Unmask Teachers VA OSHA/DOL I am strongly in support of allowing all teachers (staff, administrators, bus drivers) to make the best choice for themselves concerning masks. At this point, its been two long years and the teachers have been through so very much. We have vaccines, treatments, natural immunity and a very mild variant. It is no longer an emergency or a workforce hazard. It is time to move on. Mask mandates do not make sense at this point. Children need to see teachers faces and mouths to help with speech and so many emotional learning things also. Please allow teachers immediately to make their own decisions on masks.

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10021 Jordan Fisher 2/14/2022 Time for a choice! I am a teacher for CCPS and I am ready to have the choice of whether or not I need to wear a mask- just as the parents and students do. I am fully vaccinated and boosted, it is time for us professionals to have a choice.

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10022 Kelly Loynes 2/14/2022 Mask choice for teachers and state employees I'm writing as a citizen of the Commonwealth and also as an employee of the Commonwealth. State and county level employees, including teachers, should be allowed personal choice when it comes to masking in the workplace.

As difficult as the past two years have been for students, they have been just as difficult, if not more so in some instances, for teachers. I can only imagine trying to instruct students when you cannot use facial expressions or you may not be able to be clearly understood. The same detrimental effects of forced masking of children apply to teachers as well - decreased exchange of oxygen and carbon dioxide, poor oral hygiene from mouth breathing, increased incidence of headaches, skin irritations and infections, throat irritations and infections, etc. At the time, the detrimental effects far outweigh any perceived benefit. The same goes for state employees.

Covid is now endemic and we have to live with the virus. That includes making personal choices regarding health and welfare. It is each individual's responsibility to take care of their own well-being. Every state and county employee should be able to choose whether they want to wear a mask or not in their place of work. Please consider revising the portion of the standard regarding mask policy to reflect personal choice at all times rather than mandatory masking for all based on transmission.

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10023 Ashlyn Trant 2/14/2022 OSHA Requirements for Teachers I am writing to express my desire for OSHA to stop masking mandates for all VA employees; teachers in particular. Masking for students will soon be optional and it is essential for children to read lips and expression from their teachers.

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10024 Patricia Bowman 2/14/2022 Unmask Teachers! I'd like to take a minute and ask that you please do your part to help masks be optional for teachers. Students are struggling. I teach special education at the elementary level. My students are also learning English as a second language, and have ASD and speech delays. My students have difficulty learning in the first place. But trying to teach phonics behind a mask is impossible! You simply cannot teach letter sounds and blends effectively if the students can't see your mouth. I had a student so frustrated one time that in tears, he cried out, ""Can you just move your mask for a minute?!" Children, and especially those with ASD or other special needs, NEED to be able to see the whole face to be able to judge emotions. A student once thought the teacher was mad at him because her eyebrows were all he could see, and he thought they looked upset. The students are the main reason we need to be able to choose whether to wear a mask or not. But also, for our own health and mental well being. We deserve to have full oxygen that doesn't have to go through a damp, germ covered (because we touch and adjust them all day too) piece of cloth, that science says isn't effective anyway. Please, free the teachers! We are struggling also this year. And this would be one little thing that could make the rest of the year just a little easier.

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10025 Tiffany Sweetser 2/14/2022 Unmasking our teachers "To whom it may concern, I have three children in k-12 schools in Virginia. I strongly believe that it is critical that our teachers have the right to take their masks off in school! Masks have hindered the ability to teach, to communicate both verbally and non-verbally, and to bond with their students. Teachers deserve the right to choose just as students do. Please vote to make masks optional for ALL. Thanks you!

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10026 Amy Dodson 2/14/2022 Comment on Hearing Regarding the Permanent Standard for Infectious Disease Prevention I would like this board to consider my comments regarding the status of the Permanent Standard for Infectious Disease Prevention are as follows: This code was effective in January 2021. At that time, vaccinations were in their infancy. One year later, nearly 80+ % of Virginians have had at least one shot and over 70% are fully vaccinated. Further, it has become clear through scientific studies and reports that masking isn't the panacea people thought it'd be. It isn't because the government cannot control the mask type worn, how often it's replaced, nor monitored to see that it's always worn correctly. For these reasons, this code should be repealed and the mandate revoked.

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10027 unsigned 2/14/2022 DOLI regulation related to Covid. Do NOT repeal! I fully support the DOLI Covid instructions and requirements. I do NOT support their repeal. People are still dying by the thousands in this country. To not do everything we can to prevent it's spread is idiotic.

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10028 Jay Williams 2/14/2022 Mask Choice for Teachers I am writing you this evening to request that you consider giving teachers mask choice immediately. It's imperative that students see their teachers mouth and face for language development and social emotional development. Students will not have the choice and teacher should have the choice as well. Thank you for your consideration.

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10029 A Former Teacher in VA 2/14/2022 Optional Masks for Teachers/staff "Thank you for taking the time to read my email. I am writing you to ask that you please consider making masks optional

for all teachers, staff and bus drivers in the state of Virginia. Recently, many counties at the advisement of Governor Youngkin's EO#2 made masks optional for students, giving parents the choice to decide what is best for their children. Why would we not give our teachers, all school staff, bus drivers and volunteers/visitors the option to do the same? If a parent can make the decision for a child, why can't a teacher (many of them parents) have those same rights? There are many teachers that are ready to remove their masks. They want their students to see their facial expressions for many educational reasons. Children learning to read can't see their teacher's face when annunciating words, demonstrating fluency while reading or see facial expressions for social and emotional development. This is such a disservice to our students and our teachers. We know from statements made by the CDC that most masks are ineffective in stopping the transmission of Covid unless it's a properly fitted N95 mask. We know from the data that the current variant, Omicron, is less severe and the number of cases is decreasing significantly. It's time for our state to stop being mask police, stop mandates and start focusing on things that actually make a positive impact on our community. Staff that still want to wear a mask for their own protection have that right and should continue to be allowed to wear a mask while others may choose not to. With the current shortage in teachers across the state, I pray that this will be a step in the right direction that could restore some people's hope in the system. Many teachers have left due to the ridiculous amount of restrictions that have been placed on them preventing them from doing what they love to do. Thank you again for taking the time to read my comments.

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10030 Linda Gualtieri 2/14/2022 mask choice Please treat employees with human decency and respect and allow mask choice for all.

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10031 Jill Whitescarver 2/14/2022 Masking is ineffective & hurts people To the OSHA Committee:

I am a teacher and parent in Chesterfield County Public Schools, and I believe that all people should have the right and freedom to decide on certain issues that directly affect their health, as well as mental and psychological well-being. When one group of people who believe they have the power to override the decisions of all others when they are not using actual facts, common sense, or actual scientific facts and studies, it is allowing them to rule over all—which is not ethical, legal, or moral.

Many teachers and some students received the Covid shots, and EVERYONE was wearing masks until the recent change in masking policy. Still, there were numbers of students and staff getting Covid. This is direct and indisputable evidence that masks are completely ineffective against the spread of Covid.

If masks are not effective, why are we wearing them? The fact is that children have been hurt in so many ways by masks. Anyone who argues otherwise does not understand child psychology or how the world of education works. When children walk into their classrooms and cannot see the faces or expressions of the people caring for and teaching them, this is a serious problem that affects them mentally and psychologically. Having a masked teacher makes it substantially more difficult to connect to him/her, and we know that when children connect to their teachers, it sets the stage for effective learning. Another part of never seeing a teacher's face is understanding expressions and how they relate to communication. This does not even address the sound issue of the importance of successfully and correctly hearing their teacher, as well as the fact that children need to see how letter sounds are formed in the mouth. Until we remove the barrier of masks, the effects of this has, is, and will continue to monumentally affect children's understanding of and their ability to communicate verbally and understand nonverbal communication. And these are vital skills all children need.

Giving kids the right to choose to wear a mask but not the adults working with them makes no sense. If staff masking is required by OSHA, why are other school systems in this same state giving students AND staff the choice to wear masks? There are multiple states that have been giving students and staff the

choice on masks for quite awhile now, and these states are having no more issues with Covid illnesses than the states that lagged behind in respect to this issue.

Since giving students the right to choose on masks last week in my district, students have been doing wonderfully. There was a palpable feeling of relief and joy when they realized they had that choice. Some of them have continued to wear them, and some have chosen not to, but the best thing is that they have been afforded the freedom to choose. It is important that we ALL are given that right.

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10032 Pam Fredericksen 2/14/2022 unmasking of teachers and staff "Masks need to be optional for these people. if you are giving parents the option on whether they want their children to wear a mask or not then give that same option to teachers and staff. Children need to see our faces just as much. Please give us this option as well.

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10033 Vic Nicholls 2/14/2022 2/16/22 10 am meeting "I am unable to attend the function as I will be visiting the General Assembly all day.

Regarding Governor Younkin's EO 6, there is no medical continued need for the Permanent Standard in regard to COVID-19.

What should have been done is the state refuse to allow COVID 19 patients and suspected COVID 19 patients from being put in nursing homes and LTCF's in the first place. Even after you knew it was ongoing and caused deaths, you still did it anyway because it helped the hospitals' bottom line. Death counts wouldn't be like that.

Secondly, a case should have NEVER EVER been the basis of anything. A case is anything from nothing to a sneeze to a light cold to a bad cold to hospitalization. It means nothing. Trying to get people hyped up on cases was political hogwash.

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10034 "Katharine M. Durrett  
Roanoke County Public Schools" 2/14/2022 Re: optional masking for teachers -- comments for the committee mtg on 2/15/22

As a current 6th year special education teacher, I am more than ready to join many of my students in removing the mask I am required to wear daily in order to continue receiving paychecks and retain the chance to interact with my students in-person. Imagine my students being able to clearly hear my voice as I read stories to them, give spelling lessons/tests, and provide accommodations! It has been a long two years. Though first there was much unknown, there has now been adequate time, scientific studies, and data compiled to analyze the true nature of the risks posed by Covid-19. While some risk factors including medical history and age can be cause for concern on an individual basis, I still believe that our present circumstances and the freedoms which first established the United States as a country dictate that masking be a personal choice for each worker instead of a general mandate which is no longer supported by science. The emergency that initially established this standard is over and the expectations for workers must be updated to reflect this. Please also consider how inaccurate and confusing of a message it sends every day to children about this mitigation strategy that their teacher must still comply with wearing a mask while their parents can exercise discernment in deciding for their own families. As someone with a sincerely held, strong religious conviction which is violated every single day by the requirement for the workforce in our state to wear a mask - who has also been denied a religious exemption to this policy 3 times in the last 4 months - I implore you to act quickly to remove this unneeded, outdated mask mandate for all Virginia workers including teachers like me and restore personal choice in daily medical decisions.

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10035 Kathy Schmitt 2/14/2022 Mask choice for teachers "After countless studies proving the ineffectiveness of mask wearing , it is time for the teachers to have a choice in wearing a mask.

The two weeks of mask choice in our county has been such a positive experience for our students. Students need to see each other's faces for their socialization. The students need to see their teachers' faces too.

I hope your vote today allows teachers to have a choice to use or not use a mask.

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10036 Diane Thornton

2/14/2022 Unmask VA Workforce In light of Governor Youngkin unmasking our school children, how about unmasking ALL of VBCPS employees?

Last Spring the dash on my school bus read 106 degrees in the shade & for the first time in a decade, I thought I was going to pass out because of wearing the mask!

Also, after being diagnosed with asthma back in 2005 due to black mold hidden behind the walls in our home, about 2 years after we moved out of that house, I no longer needed to use my inhaler...until now after 2 years of working with a mask on.

Where is the proof that masks work? Not opinion, but actual true scientific clinical trials peer reviewed facts that they work? Because I can find those clinical trial studies stating that they do NOT work which explains why when myself & 60+ Million people got the H1N1 in 2009, we never had to wear them then nor during any flu season. A virus droplet is about 1 micron in size and can therefore easily fit through the weave of all these masks. They do not work against viruses! Bacteria, maybe, but not viruses. We were told to wear them for only 2 weeks to slow the spread...its been 2 years! Most of us don't wear them anywhere else, just like all those people at the Super Bowl. It's time to take them off for good and see smiling faces once again!

Virginia's Community Colleges Alumni"

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10037 Tom Tobin 2/14/2022 "Re: Teacher responsibilities

In your decision about un-masking the teacher work force, please take in to consideration that teachers have a responsibility to students to COMMUNICATE in the best way possible. Covering their faces and mouths fails that obligation, as evidenced by degenerating student performances. All parents know this; so please do the right thing.

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10038 Jill Pyles in williamsburg,Va 2/14/2022 Masking Teachers Hi, I'm in Williamsburg and would love to substitute. Bright beginnings preschool and the cafeteria head worker called me, but I have high blood pressure and allergies and don't wear a mask for long periods of time. I hope that soon masks will be optional for staff as well as students. Thank you,

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10039 John Wagstaff 2/14/2022 Stop mask mandates! Please pass to the board that as a husband of a teacher and farmer, I am against any mask mandates at this point.

1.It has been over 700 days and covid is not going away.

2. Multiple studies have shown that masks do not help

3. With the latest ""variant"" vaccinated and unvaccinated can get it, it is like the flu.

4. Students need to see their teachers' faces in some instances to get a good education.

5. The harm that the mandates have caused have outweighed the good. (missed dr appointments screenings etc, discrimination at many businesses against people that can't wear a mask)

Please suspend and remove this rule forcing masks.

Sincerely

John Wagstaff

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10040 Jac Wagstaff 2/14/2022 Stop the mask mandates "I am a teacher, teachers need to be able to remove their masks for educational reasons. My students need to see my face to help with the educational process. Remove this unnecessary and overreaching rule immediately.

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10041 2/14/2022 Kerri Bilthuis

Please give teachers the choice to wear or not wear a mask in school. I know the voice of the CEA is loud and makes it seem like teachers are scared to be in the building without a mask HOWEVER they do not represent the voice of all teachers. Teachers should have the choice to not wear a mask- it is extremely hard to teach while wearing a mask and quite frankly I am not worried about being around students without a mask on.

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