

From: Laura STOCK
To: Gonzalez, Autumn@DIR; Shupe, Christina@DIR
Subject: Fwd: [PWA] COVID-19: US federal accountability for entry, spread, and inequities—lessons for the future
Date: Thursday, March 17, 2022 12:38:24 PM
Attachments: 20_Hanage et al. COVID-19 US Federal Accountability_EJE (1).pdf

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From: Laura STOCK <lstock@berkeley.edu>
Date: Mon, Nov 2, 2020 at 9:41 AM
Subject: Fwd: [PWA] COVID-19: US federal accountability for entry, spread, and inequities—lessons for the future
To: Barbara Burgel <barbara.burgel@gmail.com>

Hi Barbara,

Not sure if you saw this... interesting correlation between osha complaints and death/infection rates..

----- Forwarded message -----

From: Peg Seminario <pseminario228@gmail.com>
Date: Mon, Nov 2, 2020 at 5:27 AM
Subject: [PWA] COVID-19: US federal accountability for entry, spread, and inequities—lessons for the future
To: Outbreak <outbreak@aficio.org>, AFL-CIO S&H Committee <aficio-sh-committee@aficio.org>, protecting-workers@googlegroups.com <protecting-workers@googlegroups.com>

Folks-

A new study on the inadequacy of the federal response on COVID-19 infections and deaths that includes an examination of worker OSHA complaints, which found that the number of complaints was highly correlated with COVID deaths 16 days later and suggests that worker complaints can serve as an early warning about future outbreaks. The study, published online today in the European Journal of Epidemiology was released last month as a working paper by the Harvard Center for Population and Development Studies. Tish Davis, Elise Pechter and I contributed to the section on OSHA complaints.

The abstract of the paper and key findings on the OSHA complaint analysis are below. Full study attached.
Peg Seminario

Hanage, W.P., Testa, C., Chen, J.T. et al. COVID-19: US federal accountability for entry, spread, and inequities—lessons for the future. Eur J Epidemiol (2020). <https://doi.org/10.1007/s10654-020-00689-2>
<https://link.springer.com/article/10.1007%2Fs10654-020-00689-2>

Abstract

The United States (US) has been among those nations most severely affected by the first—and subsequent—phases of the pandemic of COVID-19, the disease caused by SARS-CoV-2. With only 4% of the worldwide population, the US has seen about 22% of COVID-19 deaths. Despite formidable advantages in resources and expertise, presently the per capita mortality rate is over 585/million, respectively 2.4 and 5 times higher compared to Canada and Germany. As we enter Fall 2020, the US is enduring ongoing outbreaks across large regions of the country. Moreover, within the US, an early and persistent feature of the pandemic has been the disproportionate impact on populations already made vulnerable by racism and dangerous jobs, inadequate wages, and unaffordable housing, and this is true for both the headline public health threat and the additional disastrous economic impacts. In this article we assess the impact of missteps by the Federal Government in three specific areas: the introduction of the virus to the US and the establishment of community transmission; the lack of national COVID-19 workplace standards and enforcement, and lack of personal protective equipment (PPE) for workplaces as represented by

complaints to the Occupational Safety and Health Administration (OSHA) which we find are correlated with deaths 16 days later ($\rho = 0.83$); and the total excess deaths in 2020 to date already total more than 230,000, while COVID-19 mortality rates exhibit severe—and rising—inequities in race/ethnicity, including among working age adults.

Two findings stand out:

(1) The curve of the OSHA complaint data resembles an epidemic curve (Fig. 1), and (2) the complaints predate COVID-19 deaths (Fig. 2). At the national level, the OSHA complaints were best correlated with (a) COVID-19 deaths 16 days later ($\rho = 0.83$), and (b) COVID-19 new confirmed cases 10 days later ($\rho = 0.49$). Across all four subregions—Northeast, South, Midwest, West—of the country, OSHA complaints foreshadowed COVID-19 deaths by 1.5–4 weeks, with moderate to high correlations (0.64 to 0.94). Correlations with cases, however, are notably weaker in regions other than the North-East, which may be unsurprising given the volume of cases there in the spring. In general the variation in rates by geographic region and industry is substantial and mirrors the course of the pandemic—notably when considering individual industries the strongest correlation observed was between complaints in the Health Care and Social Assistance sector and deaths 20 days later ($\rho=0.928$). Regional correlations between complaints and reported COVID-19 cases and COVID-19 deaths (Fig. 1) suggest complaints reflect local responses to awareness of pandemic activity. These patterns point to a lack of learning from experiences across states, and the lack of enforced federal standards.

According to OSHA COVID-19 enforcement data, as of September 18, 2020, federal OSHA had opened inspections for only 191 out of 8909 worker complaints (2.1%) received related to COVID-19 [42, 43]. During this same time period, the state OSHA plans had opened 1076 inspections in response to 27,093 COVID-19 complaints received—4.0% of worker complaints for COVID-19 [42, 44].

These results further suggest that OSHA complaints have the potential to be used, in a prospective manner, to predict changes of COVID-19 activity as an additional data source in early warning systems such as those as described in [45].

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You received this message because you are subscribed to the Google Groups "Protecting Workers Alliance" group.

To unsubscribe from this group and stop receiving emails from it, send an email to protecting-workers+unsubscribe@googlegroups.com.

To view this discussion on the web visit https://groups.google.com/d/msgid/protecting-workers/CAODS4gjmuy%3DB7GY6m%2BhFUw_5owJCs23-9BS3w7wDk4OpdxbjQg%40mail.gmail.com.

--

Laura Stock, MPH

Director

<https://lohp.berkeley.edu>

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From: [Laura STOCK](#)
To: [Gonzalez, Autumn@DIR](#)
Cc: [Shupe, Christina@DIR](#)
Subject: Fwd: COVID ETS Discovery
Date: Thursday, March 17, 2022 12:37:29 PM

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From: **Laura STOCK** <lstock@berkeley.edu>
Date: Mon, Mar 8, 2021 at 2:42 PM
Subject: Re: COVID ETS Discovery
To: Shupe, Christina@DIR <CShupe@dir.ca.gov>

done

On Mon, Mar 8, 2021 at 2:31 PM Shupe, Christina@DIR <CShupe@dir.ca.gov> wrote:

And as a friendly reminder, please respond directly to Autumn. Do not use the "reply all" function.

C.

Get [Outlook for Android](#)

From: Gonzalez, Autumn@DIR <ARGonzalez@dir.ca.gov>
Sent: Monday, March 8, 2021 2:12:53 PM
To: David Thomas <dthomas@ncdcl.org>; Dave Harrison (dharrison@oe3.org) <dharrison@oe3.org>; Chris Laszcz-Davis <ChrisLD@EQ-Organization.com>; Barbara Burgel <barbara.burgel@gmail.com>; Laura STOCK <lstock@berkeley.edu>; Kennedy, Nola J <nola.kennedy@csun.edu>
Cc: Shupe, Christina@DIR <CShupe@dir.ca.gov>
Subject: COVID ETS Discovery

Hello Board Chair and Members,

We have received a discovery request in the Western Growers Association litigation. The request asks for email communications Board members may have had with Board staff or other Board members about the Finding of Emergency- Addendum 1 (a link to that document to refresh your memory-- [COVID-19 Prevention Emergency Addendum \(ca.gov\)](#)).

If you can confirm that you did not have any communications regarding this document from November 19 through 30, 2021, we will have you sign a statement to that effect to submit. If you did have any communications, we will need to have you search for those emails, and we will need to get them to the Attorney General's office. We will assert any relevant privileges.

The sooner you can let me know, the better. By COB Wednesday would be wonderful.

Thank you,

| Autumn

--

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From: [Laura STOCK](#)
To: [Gonzalez, Autumn@DIR](#)
Cc: [Shupe, Christina@DIR](#)
Subject: Fwd: dosh discussion of ETS at board meeting
Date: Thursday, March 17, 2022 12:39:24 PM

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From: **Laura STOCK** <lstock@berkeley.edu>
Date: Tue, Jan 18, 2022 at 12:05 PM
Subject: dosh discussion of ETS at board meeting
To: Shupe, Christina@DIR <CShupe@dir.ca.gov>

Hi Christina,

I was wondering if we could ask Eric to provide information on how the cph guidelines re isolation and quarantine are being integrated into the ets.

Is it too late to make that request?

Thanks!
Laura

--

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From: [Barbara Burgel](#)
To: [Gonzalez, Autumn@DIR](#)
Cc: [Chris Laszcz-Davis](#); [Laura STOCK](#)
Subject: Fwd: Preliminary Injunction Denied in COVID ETS Case
Date: Thursday, March 17, 2022 12:04:36 PM

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Begin forwarded message:

From: Laura STOCK <lstock@berkeley.edu>
Subject: Re: Preliminary Injunction Denied in COVID ETS Case
Date: February 25, 2021 at 12:29:33 PM PST
To: "Gonzalez, Autumn@DIR" <ARGonzalez@dir.ca.gov>
Cc: David Thomas <dthomas@ncdcl.org>, Barbara Burgel <barbara.burgel@gmail.com>, "Crawford, Kathleen W" <KCrawford2@henselphelps.com>, "Kennedy, Nola J" <nola.kennedy@csun.edu>, "Dave Harrison (dharrison@oe3.org)" <dharrison@oe3.org>, Chris Laszcz-Davis <ChrisLD@eq-organization.com>, "Shupe, Christina@DIR" <CShupe@dir.ca.gov>

great news!

Thanks!

On Thu, Feb 25, 2021 at 12:10 PM Gonzalez, Autumn@DIR <ARGonzalez@dir.ca.gov> wrote:

Good morning Board members,

I wanted to share the good news with you that the preliminary injunction request in the COVID ETS case has been denied by the judge. The decision is attached; it's long, but the gist of it is that the judge was not persuaded by the petitioner's claims that the Board exceeded its authority by issuing the regulations, and agrees with the Board that an emergency does exist. It's a big win and a good sign that the judge is inclined to find in our favor down the road!

Autumn

--
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From: Laura STOCK
To: Gonzalez, Autumn@DIR
Subject: Fwd: FW: Attn: CoPA and GAC - Ruling - OSHA COVID ETS
Date: Thursday, March 17, 2022 12:43:42 PM

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From: **Chris Laszcz-Davis** <chrisld@eq-organization.com>
Date: Thu, Jan 13, 2022 at 1:39 PM
Subject: FW: Attn: CoPA and GAC - Ruling - OSHA COVID ETS
To: Laura STOCK <lstock@berkeley.edu>

For your info... **Chris L-D**

Greetings – I just saw this...

<https://www.nbcnews.com/politics/supreme-court/supreme-court-blocks-biden-admin-s-covid-requirements-workplaces-allows-n1287435>

<https://www.yahoo.com/news/supreme-court-halts-covid-19-193050385.html>

Without trying to be overly dramatic – This is potentially the most significant OSH ruling since OSHA was created in 1970...

Standby – More to come...

--

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From: [Laura STOCK](#)
To: [Gonzalez, Autumn@DIR](#); [Shupe, Christina@DIR](#)
Cc: [Barbara Burgel](#)
Subject: Fwd: Statemen
Date: Thursday, March 17, 2022 12:34:05 PM
Attachments: [COVID Masking Change-March 2022-3.docx](#)

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I'd asked Barbara for a copy of her remarks today.

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From: **Barbara Burgel** <barbara.burgel@gmail.com>
Date: Thu, Mar 17, 2022 at 11:13 AM
Subject: Statemen
To: Laura STOCK <lstock@berkeley.edu>

--

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From: [Shupe, Christina@DIR](mailto:Shupe.Christina@DIR)
To: [Shupe, Christina@DIR](mailto:Shupe.Christina@DIR)
Cc: [Gonzalez, Autumn@DIR](mailto:Gonzalez.Autumn@DIR); [Paskins, Lara@DIR](mailto:Paskins.Lara@DIR); [Money, Sarah@DIR](mailto:Money.Sarah@DIR)
Subject: Updates on Federal Vaccine/Mandate ETS and OSHSB meeting schedule for 2022
Date: Thursday, January 13, 2022 1:50:24 PM

Good Afternoon Board Members,

The United States Supreme Court issued a stay today for the Federal OSHA ETS “2”, which mandates vaccination and testing requirements for some employers. OSHSB has consideration of a HORCHER adoption of the Federal ETS language on our agenda for January 20th. That agenda item will be removed, and an adoption will not be considered. The decision has been remanded to the 6th Circuit Court, and we will update you once they rule. That ruling is not expected for several months, however.

In other news, Governor Newsom recently signed an executive order, N-23-21, allowing the Board a 3rd readoption of our existing COVID-19 Prevention emergency regulations (<https://www.gov.ca.gov/wp-content/uploads/2021/12/12.16.21-ETS-Readoption-and-Shareholder-Meeting-EO.pdf>). Readoptions have different noticing requirements than the previously planned “permanent” regulatory proposal the Board expected to consider in early April of 2022. This 3rd readoption is expected to be on the Board’s March 17th, 2022 agenda. Therefore, the Board’s April meeting will once again be scheduled for the 3rd Thursday of the month (April 21st, 2022).

Another Executive Order, N-1-22 (<https://www.gov.ca.gov/wp-content/uploads/2022/01/1.5.22-Bagley-Keene-waiver-EO.pdf>), allows state bodies to continue Remote Meetings through March 31, 2022. We will continue to plane remote (Webex) meetings through that date.

Here is our upcoming Board Meeting schedule:

- January 20th, 2022 – Remote meeting: Petition decisions, no Federal ETS consideration
- February 17th, 2022 – Remote meeting
- March 17th, 2022 – Remote meeting: 3rd Readoption of COVID-19 Prevention ETS (consideration and vote)
- April 21st, 2022 – Location TBD: Possible in-person meeting in Oakland

If you have any questions, don’t hesitate to let myself or Autumn know.

C.

Christina Shupe
Executive Officer
Occupational Safety and Health Standards Board

From: [Dave Harrison](#)
To: [Gonzalez, Autumn@DIR](mailto:Gonzalez_Autumn@DIR)
Subject: FW: The Synergist Newswire: First Healthcare Worker Virus Rule Officially Ended by OSHA
Date: Friday, March 18, 2022 10:07:24 AM

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One more...

Dave Harrison
Financial Secretary
Operating Engineers Local #3
(510) 748-7400 ext. 3406
(707) 249-1541 cell

From: Dave Harrison
Sent: Friday, January 7, 2022 10:51 AM
To: Chris Laszcz-Davis <chrisld@eq-organization.com>
Subject: RE: The Synergist Newswire: First Healthcare Worker Virus Rule Officially Ended by OSHA

Thanks for sharing,
Hope you and your family are all safe and healthy.

Happy New Year,

Dave Harrison
Financial Secretary
Operating Engineers Local #3
(510) 748-7400 ext. 3406
(707) 249-1541 cell

From: Chris Laszcz-Davis <chrisld@eq-organization.com>
Sent: Thursday, January 6, 2022 1:22 PM
To: Dave Harrison <dharrison@oe3.org>
Subject: The Synergist Newswire: First Healthcare Worker Virus Rule Officially Ended by OSHA

Just a couple articles on COVID, federal rule for healthcare workers and vaccine or test mandates.

Chris Laszcz-Davis
(925) 330-1774 Office
ChrisLD@EQ-Organization.com

From: The Synergist <synergist@email.aiha.org>
Sent: Tuesday, January 4, 2022 2:46 PM
To: Chris Laszcz-Davis <chrisld@eq-organization.com>
Subject: The Synergist Newswire: First Healthcare Worker Virus Rule Officially Ended by OSHA

The Synergist Newswire rounds up media coverage of the IH and OEHS industries.

January 4, 2022



The following articles are chosen from a variety of sources to reflect media coverage of the industrial hygiene and occupational and environmental health and safety industries.

[First Healthcare Worker Virus Rule Officially Ended by OSHA](#)

Bloomberg Law

OSHA has officially withdrawn its original COVID-19 healthcare emergency temporary standard but is continuing to work on a permanent version of the rule. [READ MORE](#)

[Hazards of Disaster Cleanup, Support for Workers Focus of NIEHS Talk](#)

Environmental Factor

Climate-related disasters and worker safety were among the topics discussed during the Dec. 3 Keystone Science Lecture featuring Kevin Riley, PhD, director of the Labor Occupational Safety and Health Program at the University of California, Los Angeles. Environmental emergencies and cleanup efforts can make individuals susceptible to harmful exposures, both immediately and in the long term, he noted. [READ MORE](#)



If continuous learning is your main priority, AIHce EXP is for you! Access practical, cutting-edge education covering a variety of OEHS topics and spanning several industries. You can also earn up to 18 contact hours for full attendance. [LEARN MORE.](#)

[Extended Use and Disinfection of PPE](#)

The Synergist

At this point in the COVID-19 pandemic, supply of critical PPE components for healthcare workers has returned to normal levels. CDC no longer recommends crisis capacity strategies such as extended use and reuse of PPE. But knowledge about these strategies will help healthcare providers protect their workers and their patients in the event of future shortages. [READ MORE](#)

[The Secret Origins of NIOSH](#)

NIOSH Science Blog

While NIOSH's 50th anniversary dates from its creation in its present form in 1971, it has a little-known history that stretches back much further. NIOSH was in fact created from the Division of Industrial Hygiene of the U.S. Public Health Service, which has a continuous and eventful history going all the way back to 1914. [READ MORE](#)



Make an Impact in Just 25 Minutes

Add public speaking to your list of skills by presenting a pop-up education session at AIHce EXP 2022. The deadline for pop-up session proposals is Monday, Jan. 17. [SUBMIT NOW.](#)

[Biden Asks Supreme Court to Keep Vaccine-or-Test Rule in Force](#)

Bloomberg Law

The Biden administration asked the U.S. Supreme Court to reject calls to halt its COVID-19 shot-or-test rule for large employers while litigation against the measure proceeds at a federal appeals court in Cincinnati. [READ MORE](#)

[Eight Substances Added to 15th Report on Carcinogens](#)

Environmental Factor

Eight substances have been added to the *Report on Carcinogens*, bringing the total list to 256 substances that are known, or reasonably anticipated, to cause cancer in humans. This is the 15th *Report on Carcinogens*, which is a cumulative report mandated by Congress and prepared by the National Toxicology Program for the secretary of the U.S. Department of Health and Human Services. [READ MORE](#)



[WEBINAR] Adapting Your Ergonomics Program to the Hybrid Work Environment | Feb. 3

Learn how you can adapt your ergonomics program to meet the needs of your employees as permanent telework policies become the norm. [REGISTER NOW.](#)

[Omicron Overpowers Key COVID Antibody Treatments in Early Tests](#)

Nature

Strained hospitals bracing for a COVID-19 surge caused by the quickly spreading omicron variant could face another grim possibility: preliminary experiments suggest that most of the antibody treatments for the disease are powerless against omicron. [READ MORE](#)

[PFAS Destruction Technologies Are Starting to Emerge](#)

Chemical & Engineering News

Communities across the U.S. are desperate to rid their environments of toxic per- and polyfluoroalkyl substances (PFAS), especially when these chemicals are in their drinking water. But even when

PFAS are successfully filtered out of water, disposing of the extracted material remains a challenge. Now Congress is starting to examine technologies to destroy these widely used synthetic chemicals. [READ MORE](#)

[Labor Department Watchdog Probes OSHA Response to Rise in Warehouse Injuries](#)

Reuters

The U.S. Department of Labor's internal watchdog said on Wednesday that it will investigate OSHA's response to a rise in serious injuries at warehouses operated by online and brick-and-mortar retailers. [READ MORE](#)

[UC Davis Leads Grassroots Effort to Screen Migrant Workers and Their Families for COVID-19](#)

UC Davis Health Newsroom

An effort by UC Davis Health to detect COVID-19 among farmworkers and other vulnerable populations has resulted in more than 17,000 coronavirus rapid tests given to residents of four Central California counties. Underway since early February, the effort known as ORALE offers free COVID-19 screening primarily to Latinos with a focus on agricultural essential workers at locations and hours convenient to them. [READ MORE](#)

The articles that appear in The Synergist Newswire are chosen from a variety of sources to reflect media coverage of the industrial hygiene and occupational and environmental health and safety industries. An article's inclusion in The Synergist Newswire does not imply that AIHA endorses, supports, or verifies its contents or expressed opinions. Factual errors are the responsibility of the listed publication.

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From: [Shupe, Christina@DIR](mailto:Shupe_Christina@DIR)
To: Dave Harrison
Subject: RE: questions concerning petition 593
Date: Tuesday, August 11, 2020 6:48:53 PM

Hi Dave,

I raised your questions with Director Hagen during our call this afternoon and we discussed avenues for providing the data you've requested. I also spoken with Doug Parker, who has authority over enforcement as Chief of Cal/OSHA.

DIR is part of a multi-agency statewide taskforce addressing the COVID-19 pandemic. Director Hagen told me their enforcement information is being incorporated into a statewide database currently being developed for release on the State of California COVID-19 website. As soon as this website goes live, she will share it with us.

I also spoke with Doug about providing Board members with a liaison you can direct stakeholders to for the information being requested. Since the Board doesn't have authority over Cal/OSHA or its enforcement actions, this may be a solution for some of the inquiries you're receiving. In the meantime, you can be a conduit for stakeholders to reach Cal/OSHA directly, providing a valuable resource for those that reach out to you.

With regards to an ETS, the Board is currently considering Petition 583. The Division and Board Staff evaluations were posted today, and the Proposed Decision is being drafted now for consideration by the Board at its September Board meeting. I know there is a lot of interest in (and direction from the Board) to move this petition forward with great speed, but it would be beneficial for all parties to remember that the final decision adopted by the Board becomes part of the rulemaking record for any (potential) subsequent rulemaking and must therefore be able to withstand legal challenge. I take the instruction from the Board very seriously, and we are treating this as a top priority project. The proposed decision will take both evaluations and the legal responsibilities and obligations of the Board into consideration.

I'll be sharing our Petition Flowchart and Emergency Rulemaking Flowchart with the Board at the August meeting. Both documents are posted on our website, and you can share these with interested stakeholders as well.

<https://www.dir.ca.gov/oshsb/documents/petition-process-flowchart.pdf>
<https://www.dir.ca.gov/oshsb/documents/emergency-rulemaking-process-flowchart.pdf>

I'd like to also invite you to use me as a resource for stakeholders who are seeking more information on the rulemaking process. I am always happy to discuss OSHSB process with stakeholders.

C.

Christina Shupe
Executive Officer
Cal/OSHA Standards Board

From: Dave Harrison <dharrison@oe3.org>
Sent: Tuesday, August 11, 2020 12:38 PM
To: Shupe, Christina@DIR <CShupe@dir.ca.gov>
Subject: questions concerning petition 593

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Good morning,

I have been approached recently with multiple calls regarding petition 583 and enforcement around existing standards to protect workers during the COVID-19 crisis. Specifically, folks are wanting to know what the division is doing. I know they reported at last months meeting that over 800 jobsite inspections were made. How many citations have been issued as a result of those inspections? How many current investigations are underway as a result of the jobsite inspections? Are they able to disclose which

Employers are currently (if any) being investigated? Also, (if any) which section in the standard is being cited? When can the general public expect to see an ETS adopted similar to the standards adopted in Virginia and Oregon?

I know you are very busy but a response to these questions would be very helpful as I'm trying to respond to the questions I am being asked.

Thank you,

Dave Harrison

Financial Secretary

Operating Engineers Local #3

(510) 748-7400 ext. 3406

(707) 249-1541 cell

From: [Chris Laszcz-Davis](#)
To: [Dave Harrison](#)
Subject: FW: Attn: CoPA and GAC - Ruling - OSHA COVID ETS
Date: Thursday, January 13, 2022 1:38:25 PM

For your info... **Chris L-D**

Greetings – I just saw this...

<https://www.nbcnews.com/politics/supreme-court/supreme-court-blocks-biden-admin-s-covid-requirements-workplaces-allows-n1287435>

https://us01.l.antigena.com/l/tae8kJGmOuu_HC9-C6Hc0RBw-zjdsNUnCMJsrQRBpnZEC6phvjX3HA8~c4Wq~nQHZMLyt_YIS9k-8YVQN8yZ8kNV_e0rBDOB6pQJ8b0T_DwPgmslMJRnlZeigNHuGhG6jiXPsw4bktBdm8Rci3F8YuVHYTRM8UYdOY~derGZn502um

Without trying to be overly dramatic – This is potentially the most significant OSH ruling since OSHA was created in 1970...

Standby – More to come...

From: [Barbara Burgel](#)
To: [Gonzalez, Autumn@DIR](#)
Cc: [Chris Laszcz-Davis](#)
Subject: Fwd: Virginia COVID related Regulation--Webinar
Date: Thursday, March 17, 2022 12:02:06 PM

CAUTION: [External Email]

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Begin forwarded message:

From: Chris Laszcz-Davis <chrisld@eq-organization.com>
Subject: Virginia COVID related Regulation--Webinar
Date: July 30, 2020 at 7:58:04 AM PDT
To: Barbara Burgel <barbara.burgel@gmail.com>

Barbara, the following link takes you to the webinar on Virginia's COVID regulation, sponsored yesterday by the national AIHA.

Meeting Recording: https://aiha-org.zoom.us/rec/share/2OV2EZb-rm9LGpX97RD8SvU_TrzZX6a8hnRI-KEEExRsAIGI1wUGn50xIOjflybm

Access Password: e3#M^b=e

Thought you might want to know!

Chris Laszcz-Davis
(925) 330-1774 Office
ChrisLD@EQ-Organization.com

From: [Barbara BURGEL](#)
To: [Gonzalez, Autumn@DIR](#)
Cc: [Chris Laszcz-Davis](#)
Subject: Fwd: U.S. Department of Labor's Occupational Safety and Health Administration Actions to Protect America's Workers During the Coronavirus Pandemic | Occupational Safety and Health Administration
Date: Thursday, March 17, 2022 12:02:52 PM

CAUTION: [External Email]

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Begin forwarded message:

From: Chris Laszcz-Davis <chrisld@eq-organization.com>
Subject: U.S. Department of Labor's Occupational Safety and Health Administration Actions to Protect America's Workers During the Coronavirus Pandemic | Occupational Safety and Health Administration
Date: May 31, 2020 at 7:42:53 AM PDT
To: "Shupe, Christina@DIR" <CShupe@dir.ca.gov>

Just in case you haven't seen this set of guidance issued for various businesses.....

Chris Laszcz-Davis
(925) 330-1774 Office
ChrisLD@EQ-Organization.com

From: main@GlobalOccHyg-List.groups.io <main@GlobalOccHyg-List.groups.io> **On Behalf Of** Andrew Cutz via [groups.io](https://globalocchyg-list.groups.io)
Sent: Sunday, May 31, 2020 3:12 AM
To: GlobalOccHyg-List@groups.io
Cc: GlobalOccHyg List <globalocchyg-list@yahoogroups.com>
Subject: [GlobalOccHyg-List] U.S. Department of Labor's Occupational Safety and Health Administration Actions to Protect America's Workers During the Coronavirus Pandemic | Occupational Safety and Health Administration

For your Information...

Andrew Cutz, DIH, CIH, FAIHA
Moderator, GlobalOccHyg List
<https://globalocchyg-list.groups.io/g/main>

Reference URL:
<http://www.osha.gov/news/newsreleases/national/05282020>

From: [Barbara Burgel](#)
To: [Gonzalez, Autumn@DIR](#)
Subject: Fwd: COVID-19 ETS Proposal is live
Date: Thursday, March 17, 2022 11:58:03 AM

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Begin forwarded message:

From: Barbara Burgel <barbara.burgel@gmail.com>
Subject: Re: COVID-19 ETS Proposal is live
Date: May 7, 2021 at 4:24:27 PM PDT
To: "Shupe, Christina@DIR" <CShupe@dir.ca.gov>

Thank you for letting us know. Happy weekend to you.

BB

Barbara J. Burgel, RN, PhD, FAAN
Occupational Health Consultant
Adult Nurse Practitioner, and
Certified Occupational Health Specialist
415-269-9712

On Fri, May 7, 2021 at 2:24 PM Shupe, Christina@DIR <CShupe@dir.ca.gov> wrote:

Good Afternoon Board Members –

The COVID-19 Prevention proposal is live on our website. Emails will go out shortly to our full mailing list with notice and providing links to the text and updated Finding of Emergency. Please call me if you have any questions.

Christina Shupe

Cal/OSHA Standards Board

2520 Venture Oaks

Sacramento, CA 95833

From: [Laura STOCK](#)
To: [Gonzalez, Autumn@DIR](#); [Shupe, Christina@DIR](#)
Cc: [Barbara Burgel](#)
Subject: Fwd: Statemen
Date: Thursday, March 17, 2022 12:34:05 PM
Attachments: [COVID Masking Change-March 2022-3.docx](#)

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I'd asked Barbara for a copy of her remarks today.

----- Forwarded message -----

From: **Barbara Burgel** <barbara.burgel@gmail.com>
Date: Thu, Mar 17, 2022 at 11:13 AM
Subject: Statemen
To: Laura STOCK <lstock@berkeley.edu>

--

Laura Stock, MPH
Director
pronouns: she/her
Labor Occupational Health Program
UC Berkeley
University Hall, Suite 451
2199 Addison Street
Berkeley, CA 94720-7360
lohp.berkeley.edu
Stay connected with LOHP!
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From: [Barbara Burgel](#)
To: [Gonzalez, Autumn@DIR](#)
Cc: [Chris Laszcz-Davis](#)
Subject: Fwd: Attn: CoPA and GAC - Ruling - OSHA COVID ETS
Date: Thursday, March 17, 2022 11:59:29 AM
Importance: High

CAUTION: [External Email]

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Begin forwarded message:

From: Chris Laszcz-Davis <chrisld@eq-organization.com>
Subject: FW: Attn: CoPA and GAC - Ruling - OSHA COVID ETS
Date: January 13, 2022 at 1:39:16 PM PST
To: Barbara Burgel <barbara.burgel@gmail.com>

For your info... **Chris L-D**

Greetings – I just saw this...

<https://www.nbcnews.com/politics/supreme-court/supreme-court-blocks-biden-admin-s-covid-requirements-workplaces-allows-n1287435>

<https://www.yahoo.com/news/supreme-court-halts-covid-19-193050385.html>

Without trying to be overly dramatic – This is potentially the most significant OSH ruling since OSHA was created in 1970...

Standby – More to come...

From: [Barbara Burgel](#)
To: [Gonzalez, Autumn@DIR](#)
Cc: [Chris Laszcz-Davis](#)
Subject: Fwd: Oregon Proposed Reg on COVID
Date: Thursday, March 17, 2022 12:02:24 PM

CAUTION: [External Email]

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Begin forwarded message:

From: Barbara Burgel <barbara.burgel@gmail.com>
Subject: Re: FW: Oregon Proposed Reg on COVID
Date: July 18, 2020 at 1:39:51 PM PDT
To: Chris Laszcz-Davis <chrisld@eq-organization.com>

Great news. Thanks for sharing.
Barbara

On Sat, Jul 18, 2020 at 11:36 AM Chris Laszcz-Davis <chrisld@eq-organization.com> wrote:

Got an update on Oregon's journey to a covid standard...scroll on down for info. Keeping you posted...

-

Chris Laszcz-Davis

[\(925\) 330-1774 Office](tel:(925)330-1774)

ChrisLD@EQ-Organization.com

Subject: RE: Oregon Proposed Reg on COVID

-

Happy Saturday Chris,

-

It's my understanding that Oregon OSHA is planning to circulate two draft emergency temporary standards on occupational exposure to COVID-19 on August 3. One will be for health care and closely related industries, and other will be for general workplaces. Here's a link to the timeline they released a couple of weeks ago: <https://bit.ly/30i7mny>.

-

I'll check with Oregon OSHA to see if there are any other updates.

-

Statement by Barbara Burgel at California Occupational Safety and Health Standards Board,
March 17, 2022

In response to the recent COVID-ETS masking changes made by the Governor, via Executive Order and the CDPH, I wish to publicly document my concerns as the occupational representative to the California Occupational Safety and Health Standard Board. I believe this change is premature, especially when associated with a decrease in testing, and creates an unsafe working environment for California workers who are not protected by the ATD standard.

1. On February 28, 2022, the day before the Executive Order on March 1, 2022, there were 422 recorded deaths due to COVID, with over 16,000 new cases, with a 7-day average of 9,000 cases. It is unknown how many of these deaths were due to worksite exposure. The next day, the Governor signed his Executive Order.
2. The first time California recorded over 16,000 cases was on December 1, 2020. The first time California recorded over 400 deaths from COVID was on December 28, 2020; this is when we were unvaccinated. The numbers posted on February 28, 2022 should have prompted continued employer protection via masking, not less protection.
3. Yes, case rates have dropped for now—in January 2022, we had a 7-day average of 100,000 cases in California; yesterday, California reported over 3,000 new cases with a 7 day average of 3,800 cases—there were 156 COVID deaths yesterday (7-day average of 120 deaths). Overall, our death rates since January 2022 (when we have 71% of Californians fully vaccinated), remain much higher when compared to one year ago, when we had a 30-40% vaccinated rate in California.
4. The Omicron COVID sub-variant, BA.2, is more infectious than the prior Omicron and Delta variants, and earlier in the month accounted for 11.6% of COVID cases in the USA.
5. 82% of Californians (who are vaccine-eligible) have received at least one dose of the vaccine; 71% are fully vaccinated. 18% to 29% of Californians remain unvaccinated /fully vaccinated 268 984 996 due to either their personal choice, lack of knowledge/access, and/or their immunocompromised status, and this proportion varies by county. Vaccination reduces the severity of illness, hospitalization and death.
6. CDPH is focused on community and public health exposure, not specifically workplace exposure. California residents can choose to engage in community events, such as a sporting event or going to a movie or grocery store. Workers do not have this choice—they need to show up to teach in schools, and to work in the movie theater and grocery stores, so that they can continue to feed their families and pay their rent.
7. The masking changes enacted on March 1 (and for schools on March 11) shifts the employers' health and safety legal responsibility to the individual employee. To protect against asymptomatic transmission from exposure to a vaccinated or unvaccinated person, a worker must decide for themselves to wear a mask, maintain a six foot distance, and limit interactions to less than 15 minutes, when possible. Employers are now not continuing to test—CDPH has made this major policy change re: masking, without the check and balance of testing. How will we truly know the impact of this policy change without testing?
8. Employers remain legally responsible for the health and safety of their employees.
9. I urge the Board and DOSH to re-instate well-fitting masking requirements for workplaces not protected by the ATD standard.



COVID-19: US federal accountability for entry, spread, and inequities—lessons for the future

William P. Hanage¹ · Christian Testa² · Jarvis T. Chen² · Letitia Davis³ · Elise Pechter³ · Peg Seminario⁴ · Mauricio Santillana⁵ · Nancy Krieger²

Received: 21 September 2020 / Accepted: 22 October 2020
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Abstract

The United States (US) has been among those nations most severely affected by the first—and subsequent—phases of the pandemic of COVID-19, the disease caused by SARS-CoV-2. With only 4% of the worldwide population, the US has seen about 22% of COVID-19 deaths. Despite formidable advantages in resources and expertise, presently the per capita mortality rate is over 585/million, respectively 2.4 and 5 times higher compared to Canada and Germany. As we enter Fall 2020, the US is enduring ongoing outbreaks across large regions of the country. Moreover, within the US, an early and persistent feature of the pandemic has been the disproportionate impact on populations already made vulnerable by racism and dangerous jobs, inadequate wages, and unaffordable housing, and this is true for both the headline public health threat and the additional disastrous economic impacts. In this article we assess the impact of missteps by the Federal Government in three specific areas: the introduction of the virus to the US and the establishment of community transmission; the lack of national COVID-19 workplace standards and enforcement, and lack of personal protective equipment (PPE) for workplaces as represented by complaints to the Occupational Safety and Health Administration (OSHA) which we find are correlated with deaths 16 days later ($\rho = 0.83$); and the total excess deaths in 2020 to date already total more than 230,000, while COVID-19 mortality rates exhibit severe—and rising—inequities in race/ethnicity, including among working age adults.

Keywords COVID-19 · Border control · Occupational health · Health inequities · Pandemic preparedness · Trump administration

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whanage@hsph.harvard.edu

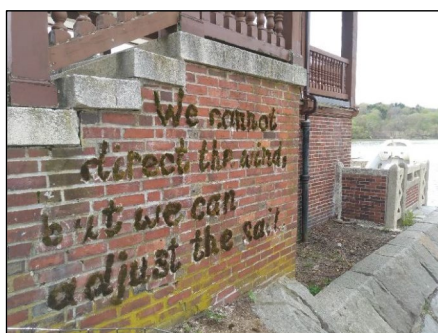
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³ Consultant, Boston, MA, USA

⁴ AFL-CIO (Retired), Washington, DC, USA

⁵ Computational Health Informatics Program, Boston Children's Hospital, Boston, MA, USA



Living graffiti at Jamaica Pond (Boston, MA): early May, while COVID-19 lockdown underway—"We cannot direct the wind, but we can adjust the sail" (photograph taken by N. Krieger)

The United States (US) has been among those nations most severely affected by the first—and subsequent—phases of the pandemic of COVID-19, the disease caused by SARS-CoV-2. With only 4% of the worldwide population, the US has seen about 22% of COVID-19 deaths. Despite formidable advantages in resources and expertise, presently the per capita mortality rate is over 585/million, respectively 2.4 and 5 times higher compared to Canada and Germany [1, 2]. As we enter Fall 2020, the US is enduring ongoing outbreaks across large regions of the country. Moreover, within the US, an early and persistent feature of the pandemic has been the disproportionate impact on populations already made vulnerable by racism and dangerous jobs, inadequate wages, and unaffordable housing, and this is true for both the headline public health threat and the additional disastrous economic impacts [3–8].

The newly issued federal *Healthy People 2030* framework (released on August 18, 2020) [9], sets the nation's objectives for the next decade, with the first two overarching goals being: (1) "Attain healthy, thriving lives and well-being free of preventable disease, injury, and premature death" and (2) "Eliminate health disparities, achieve health equity, and attain health literacy to improve the health and well-being of all." The third is: "Create social, physical and economic environments that promote attaining the full potential for health and well-being for all" [10]. In the case of COVID-19, the US has missed the mark on all three goals.

In the following we document critical federal missteps in protecting the nation, with an eye towards guiding a better response. We start with how community transmission in the US became established in the spring. We then document complaints submitted to the US Occupational Safety and Health Administration by US workers regarding their risk of exposure to COVID-19 at work, a key site of transmission, and compare the temporal relationship of these complaints to COVID-19 cases and deaths. We conclude with an empirical analysis of excess mortality and age-specific racial/ethnic inequities in COVID-19 mortality.

Control of borders: entry of the virus

To prevent or delay establishment of the virus, many countries have implemented symptom screening at ports of entry, sometimes together with quarantine of travelers. Such measures have enabled Singapore, Hong Kong, and Taiwan to avoid large early outbreaks, despite having been at high risk of introductions due to the volume of travelers from Wuhan (Hubei province, China), the initial epicenter of the pandemic. In the US, control of borders, including in relation to public health, rests with the federal government, an authority assumed since the founding of the country [11–15]. The administration implemented a travel ban affecting only non-US travelers from China on January 31, 2020, without any mandatory symptom screening at entry or quarantine of travelers, despite the virus at this time already known to be present in Italy, Iran, Spain, Germany, Finland, and the United Kingdom. Similarly, selective restrictions on travel from Europe were only instituted a full 6 weeks later, on March 11, 2020, at which point 830 deaths had been reported in Italy alone (by contrast, on January 31, 2020 China had reported 259 deaths). None of these restrictions applied to returning US citizens or permanent residents, despite their potential exposure to SARS-CoV-2 [16].

Hence there were ongoing opportunities for introductions of the virus to the US from Europe. Consistent with this, phylogenetic studies have found repeatedly that the great majority of SARS-CoV-2 introductions to the US were viral lineages circulating in Europe [17]. A study of the genomic epidemiology of the early pandemic in the Boston area estimated a total of 25 independent importations from Europe, 18 of which occurred prior to March 28 [18–20]. Imports included a superspreading event at a conference on February 26–27 leading to more than 90 known infections among attendees or their contacts. The index cases were two international business travelers. This introduction is estimated to be the direct ancestor of 35% of sampled genomes not associated with the conference, including samples from outbreaks in homeless shelters, so it is reasonable to suggest that this introduction alone

hastened the establishment of the virus in the region and the scale of the subsequent surge of infections. As has been previously shown, by early March the most likely source of introduction to a region was from elsewhere in the United States [21]. This shows that any action to delay or prevent introductions would need to be at the national level, and while the window for effective action was brief, it was missed.

Symptom screening alone is unlikely to provide a significant barrier to a virus like SARS-CoV-2 that is capable of presymptomatic transmission [22], but may be an effective component of mitigation if supplemented by a coherent central strategy to delay case importation. While like-for-like comparisons of government responses to COVID-19 should be interpreted with caution, the benefits of such an approach are well-illustrated by Australia: like the US, Australia is a large and well-developed economy with major metropolitan cities, substantial international travel, and wide variations in population density. Also similar to the US, important elements of pandemic response were devolved to individual states, but border control is the responsibility of the central federal government. Australia had reported 300 confirmed cases on March 15 when it imposed a closure of its borders to non-Australian citizens, which was augmented by a mandatory 14-day, supervised quarantine in a hotel for all international arrivals (including Australian citizens), aggressive testing and contact tracing, and population-wide adherence to social distancing guidelines [23]. Following these local containment measures Australia saw no explosive COVID-19 case surges through the Southern hemisphere winter. Despite a recent burst of domestic transmission in the state of Victoria that resulted in the immediate re-imposition of a statewide lockdown and interstate movement restrictions [24], at present (early September 2020) Australia reports 25.6 deaths/million persons, in comparison with the US report of 585 deaths/million persons [25]. This is the difference between establishing effective national border policies and failing to do so.

Lack of occupational health protections and community spread

The pandemic has presented different risks and rates of exposure to different sectors of US society, at different times and in different places. Health care and other essential workers who continued to work while much of the country was shut down, who work in close quarters or have contact with the public as part of their job—e.g., in transportation, critical manufacturing, food and agriculture, grocery stores, and pharmacies—have faced a greater risk of exposure and infection from COVID-19. [26–30]. Despite the designation of these workers as “essential,” an important federal

failure has been the lack of standards requiring systematic collection of data on COVID-19 cases or deaths by industry and occupation. Nevertheless, information available from case reports, state health departments, media reports, and other sources show: large numbers of cases among health care workers and first responders; major outbreaks in meat-packing, and poultry plants [31]; outbreaks among prison staff (above and beyond inmates); and numerous cases in transportation, warehousing, and other essential industries, as well as in public-facing occupations (e.g., grocery stores and retail) [32]. People infected at work expose their household members—and if they are low-wage workers, they are more likely to live in crowded housing with inadequate ventilation, which increases the risk of transmission and decreases the options for people who are ill to self-isolate [7, 8, 33–35].

The federal government could have limited transmission of SARS-CoV-2 at the workplace in multiple ways. One is through its unparalleled purchasing power and ability to invoke the Defense Production Act and ensure equitable supply and distribution of PPE. However supplying PPE was delegated to a variety of actors: state and city governments, large hospital chains, and in some cases small networks of clinics [13]. Second, the federal government could have established mandatory universal paid sick leave for those unable to work due to Covid-19, but it did not. The congressional mandate for 80 h of paid COVID-related leave covered only some groups of workers. Third, the federal government could have mandated standards for occupational exposures, but it failed to act, even as some US states have done so. To date, the federal Occupational Safety and Health Administration (OSHA) has not issued any emergency or permanent standard specific to COVID-19 exposure at the workplace; additionally, as of August 13, 2020, federal OSHA, which oversees enforcement of OSHA standards in 28 states, had issued only four citations related to COVID-19 [36]. Moreover, the total number of federal OSHA inspections (of any kind) during 2020 has been reduced by two-thirds, compared to the same period in prior years [37].

Several of the 22 states with approved state OSHA plans have taken stronger regulatory and enforcement action than federal OSHA to protect workers from exposure to SARS-CoV-2. For example, Virginia issued a comprehensive emergency temporary standard on SARS-CoV-2 on July 27, 2020, and the state of Michigan has issued multiple executive orders on worker protection from COVID-19 enforced through the Michigan State OSHA plan [38, 39]. The California, Nevada, and Minnesota state OSHA plans have all issued numerous citations under other existing standards to protect workers from COVID-19 [40]. However, in most states little regulatory or enforcement action has been taken by either the federal government or the state to address workplace exposures to the virus [13, 36].

While there have been few federal OSHA citations, worker complaints to OSHA that raise concerns about workplace conditions and exposure to COVID-19 can serve to estimate hazards of exposures and risks of infection as reported by workers themselves. To our knowledge, these

data have not been analyzed in relation to the population burdens of COVID-19 [41].

Figure 1 shows the volume of OSHA complaints (federal and state combined), broken down by four industries (manufacturing, retail, healthcare and social assistance, and other

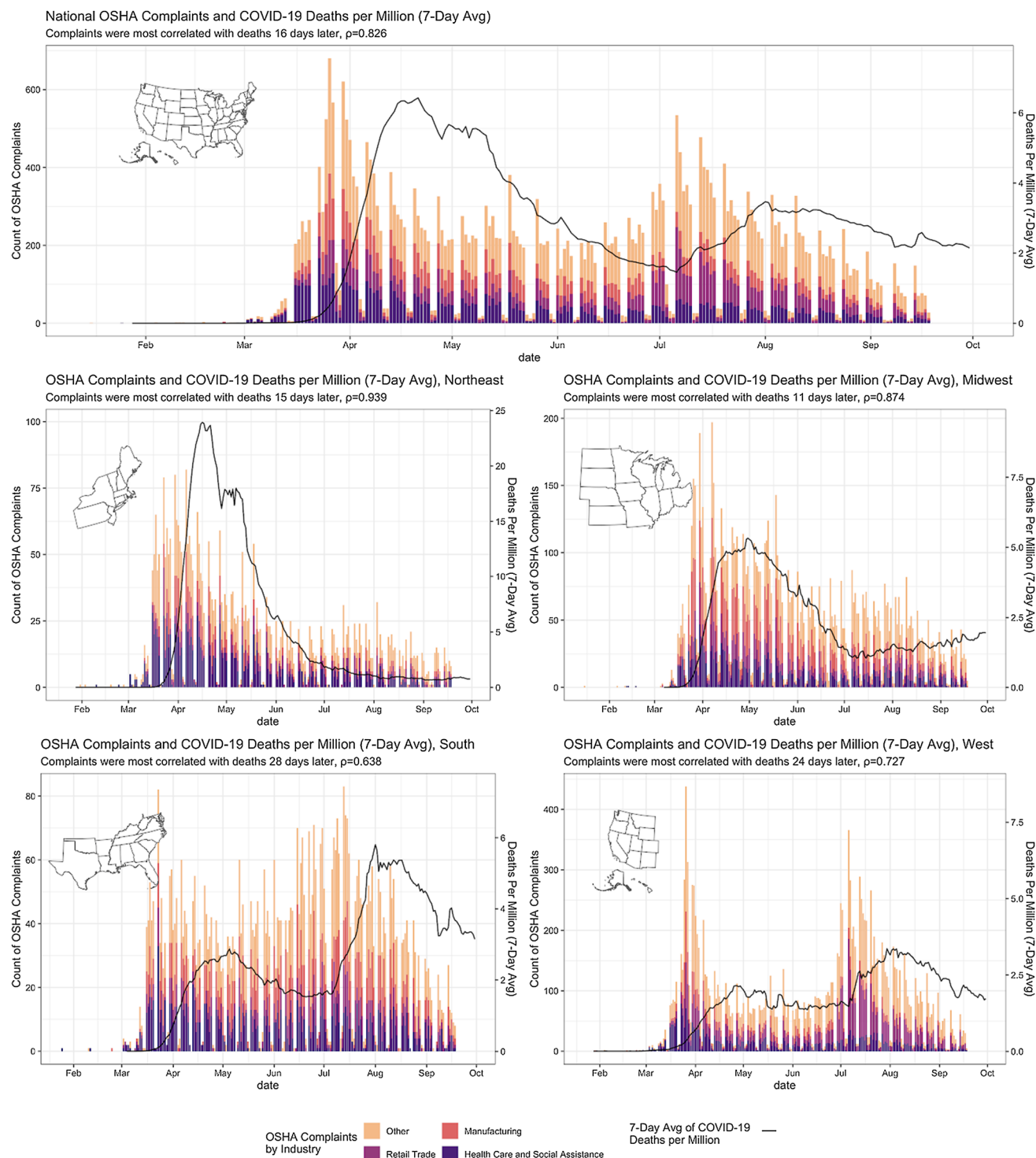


Fig. 1 National OSHA complaints and COVID—19 deaths per million (7 Day Average), January 16–September 18, 2020

up to September 18th 2020). The total number of national complaints is shown, as are the numbers of complaints for the four main geographical regions of the country. COVID-19 mortality data from confirmed cases is also shown.

Figure 2 in turn presents results of the time-series analysis using OSHA complaints volume, as a function of time, as a predictor and confirmed COVID-19 cases and COVID-19 deaths as the response variables. Specifically, we identified

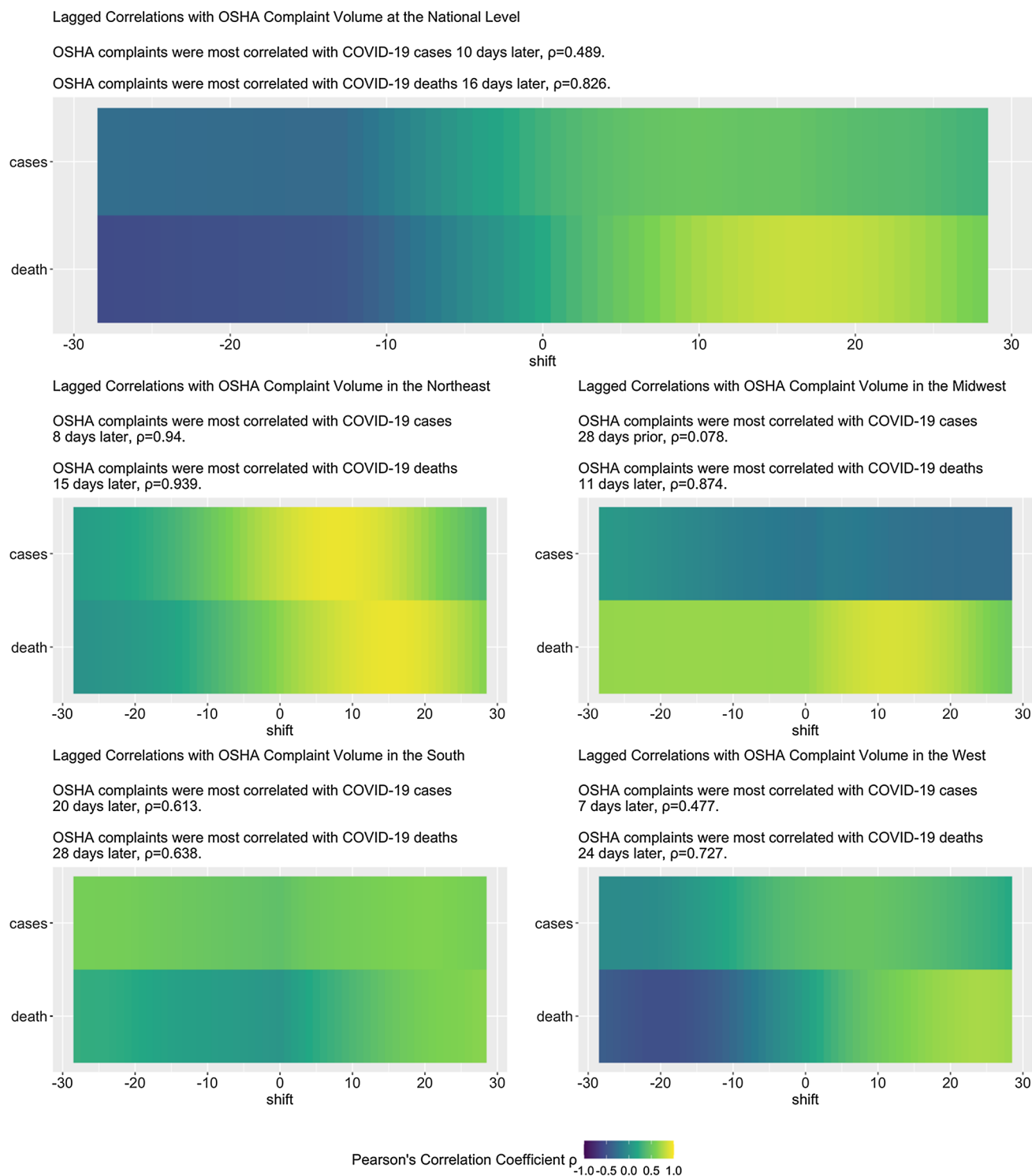


Fig. 2 Heatmaps showing the lagged correlations between OSHA complaint volume and COVID-19 cases and COVID-19 deaths, nationally and by US region, January 16, 2020—September 30, 2020

the best time lag that predicts each response variable—using OSHA complaints as a predictor—by calculating the Pearson correlation between multiple lags for each response variable and OSHA complaints.

Two findings stand out:

(1) The curve of the OSHA complaint data resembles an epidemic curve (Fig. 1), and (2) the complaints predate COVID-19 deaths (Fig. 2). At the national level, the OSHA complaints were best correlated with (a) COVID-19 deaths 16 days later ($\rho = 0.83$), and (b) COVID-19 new confirmed cases 10 days later ($\rho = 0.49$). Across all four subregions—Northeast, South, Midwest, West—of the country, OSHA complaints foreshadowed COVID-19 deaths by 1.5–4 weeks, with moderate to high correlations (0.64 to 0.94). Correlations with cases, however, are notably weaker in regions other than the North-East, which may be unsurprising given the volume of cases there in the spring. In general the variation in rates by geographic region and industry is substantial and mirrors the course of the pandemic—notably when considering individual industries the strongest correlation observed was between complaints in the Health Care and Social Assistance sector and deaths 20 days later ($\rho = 0.928$). Regional correlations between complaints and reported COVID-19 cases and COVID-19 deaths (Fig. 1) suggest complaints reflect local responses to awareness of pandemic activity. These patterns point to a lack of learning from experiences across states, and the lack of enforced federal standards.

According to OSHA COVID-19 enforcement data, as of September 18, 2020, federal OSHA had opened inspections for only 191 out of 8909 worker complaints (2.1%) received related to COVID-19 [42, 43]. During this same time period, the state OSHA plans had opened 1076 inspections in response to 27,093 COVID-19 complaints received—4.0% of worker complaints for COVID-19 [42, 44].

These results further suggest that OSHA complaints have the potential to be used, in a prospective manner, to predict changes of COVID-19 activity as an additional data source in early warning systems such as those as described in [45].

We cannot determine the extent to which patterns of OSHA complaints reflect growing awareness of the pandemic and the need for adequate protection, or whether they are more direct indicators of failures that causally contributed to workplace, family, and community spread. But findings do suggest that expressed worker concerns may be an indicator of real risks, and failure to respond is a missed opportunity to intervene to mitigate disease transmission in the workplace and, in turn, the community at large. While there is not a consistent definition of “essential workers,” data suggest that people in this category disproportionately are low-income, are people of color, rely on public transportation, and live in crowded housing [7, 8, 27–29]. They also have more underlying disabilities and less access to care,

which underscores the importance of mitigating exposures to SARs-CoV-2 in the workplace. Work is a key exposure risk, and to date, federal policies regarding COVID-19 and workplaces have chiefly aimed to limit the liability of employers, rather than to protect employees through, for example, mandating that employers develop an infection control plan [46]. In the following section we consider the consequences in terms of excess all-cause mortality and racial/ethnic inequities in COVID-19 mortality.

The outcome: total deaths, inequities in premature mortality, and increasing cases

Beyond the number of confirmed COVID-19 deaths in the US (more than 215,000 as of 10/13/2020, estimates of excess deaths (comparing the same calendar period for 2020 to the average annual deaths for 2015–2019 and controlling for population growth) provide a powerful way to gauge the excess mortality due to COVID-19. Excess mortality may be due directly to the infection or be due to delays in seeking care for non-COVID illnesses or injuries; this measure also takes into account potential reductions in mortality (e.g., due to lower air pollution during the economic lockdown) as well as the seasonality of death rates [47–49].

In Table 1, we show the results of four different approaches, ranging from more to less conservative, that have been used to estimate the excess number of deaths and the excess death rate (per 100,000 person-years (p-y)), in relation to US mortality data as of September 12, 2020 [50–53]. No matter which method is used, the estimated excess number of deaths, ranging from 286,425 to 333,906, is already greater than the outer margin of what the federal government stated, on April 3, 2020, would be the upper limit of the expected death toll, i.e., 200,000 [54–56].

We additionally estimated an annual excess age-standardized death rate of 91.6 per 100,000 p-y (95% CI 89.3–93.9) based on the difference in age-standardized mortality rates for 2020 vs 2015–2019, (as opposed to scaling the estimated excess death count by the 2020 population as in Table 1). This estimate is almost double that of the third leading cause of death in the US, i.e., unintentional injuries, for which the annual age-standardized death rate was 48/100,000 p-y in 2018 (the most recent year available) [57]. The number of excess deaths in 2020 (324,813) is already well over half the number of cancer deaths for all of 2018 (609,640) [57]. It should be obvious that given that the pandemic is not over, and transmission continues in much of the country, these numbers can only increase.

Australia is again instructive, as it exhibits very little excess mortality. The most recent report from the Australian Bureau of Statistics states, “55,047 doctor certified deaths occurred between 1 January 2020 and 26 May 2020 and

Table 1 Estimation of excess deaths during the US COVID-19 pandemic, comparing weekly 2020 death counts to the corresponding average annual 2015–2019 deaths, using 4 different methods^a as of September 12, 2020 (Source: Centers for Disease Control and Prevention)

Method	Crude excess	(95% CI)	Age-standardized excess rate per 100,000 person-years ^b	(95% CI)	Age-standardized cumulative incidence proportion per 100,000 population ^c	(95% CI)
1	324,813	(323,696 , 325,930)	134.5	(133.6 , 135.4)	82.5	(82.0, 83.1)
2	333,906	(332,773 , 335,038)	138.3	(137.4 , 139.2)	84.8	(84.3, 85.4)
3	286,425	(285,376 , 287,474)	118.1	(117.2 , 118.9)	72.4	(71.9, 72.9)
4	302,366	(301,289 , 303,444)	124.9	(124.0 , 125.7)	76.6	(76.1, 77.1)

^aMethod 1: sum up over weeks and then age-standardize using the direct method

Method 2: count only age strata and weeks where the excess is greater than zero, and set weeks where the excess in the age stratum is less than zero to zero

Method 3: instead of comparing to the average deaths in 2015–2019, we compare to the 95% upper bound on the average deaths for 2015–2019

Method 4: we compare to the upper bound on the average deaths for 2015–2019, but once again ignore weeks where the excess in the age stratum is less than zero

^bAge-standardized excess rate per 100,000 person-years is computed based on dividing the age-specific excess count of deaths under the four methods by the age-specific population person-time (taking into account the age-specific 2020 population counts and the elapsed time since January 1, 2020), weighting by the year 2000 standard million, and summing over age categories

^cAge-standardized cumulative incidence proportion per 100,000 population (i.e. a risk per capita) is computed based on dividing the age-specific excess count of deaths under the four methods by the age-specific population count in 2020, weighting by the year 2000 standard million, and summing over age categories

were registered by 30 June. This compares to a baseline average of 53,361 over the past 5 years” [58]. This translates to an excess of only 1686 deaths in Australia. In contrast, the US, with a population 13 times greater, has 154 times more excess deaths.

If the US has struggled with national pandemic response, it is instructive to compare with Europe. Like the US, European nations are advanced economies with substantial resources. Unlike the US, they are themselves independent nation states, with no overarching federal coordination, and the continent is far more densely populated than the US and has an older population. Some European nations have suffered even higher per-capita mortality from the pandemic so far than the US, among them Italy and Spain (hit hard early in the spring) and the United Kingdom. In contrast others such as Germany (like the US a federal nation with extensive porous land borders) have far less Covid-19 related mortality, and relatively little excess mortality overall including in the most at-risk age groups [59, 60]. In contrast with the US, European nations have seen few subsequent surges over the summer after initial introductions were controlled, even if cases are increasing once more in many countries. However, the overall all-cause mortality for the continent as a whole through the end of July, when outbreaks were still ongoing across the south of the US, is estimated to be 28% lower than the US [61].

We must also consider outcomes other than death. While SARS-CoV-2 is a virus that spreads via the respiratory route, it causes a systemic infection with commensurate potential for diverse long term sequelae, including important outcomes such as stroke in young, otherwise healthy adults

[62], and Multisystem Inflammatory Syndrome in Children (MIS-C), a condition similar to Kawasaki syndrome that is associated with pediatric SARS-CoV-2 infection [63]. If an extremely large number of infections are permitted, even rare chronic outcomes will leave a large burden on healthcare after the pandemic. As of August 27, 2020, the number of confirmed cases in the US equaled 6.04 million—almost on par with the population of Massachusetts (6.9 million) [64]. If 0.5% (30,222) develop persistent debilitating symptoms, this would be similar to the number of new cases of cancer per year in Massachusetts (which reported an average of 31,166 per year for 2012–2016) [65]. If 5% of the 6 million cases were so afflicted, the number of persons (300,000) would exceed the 2020 national estimate for the number of US women diagnosed with breast cancer (279,100) [66]. The proportion of long-term effects of one kind or another is unknown, but it is increasingly recognized as a source of serious concern [67, 68].

Finally, despite the initial federal failure to report COVID-19 data by race/ethnicity [6], a combination of specific studies, state reporting, investigative journalism, and data trackers has revealed that a persistent feature of the pandemic has been the existence of racial/ethnic inequities in cases, hospitalizations, and mortality, especially with regard to increased risk among US Black, Latinx, and American Indian/Alaska Native populations compared to the US white non-Hispanic population [3–5, 7, 8, 69, 70]. What is less appreciated is that racial/ethnic inequities in COVID-19 mortality rates, especially among younger working-age adults, are increasing over time, especially among the Latinx and American Indian/Alaska Native populations. These

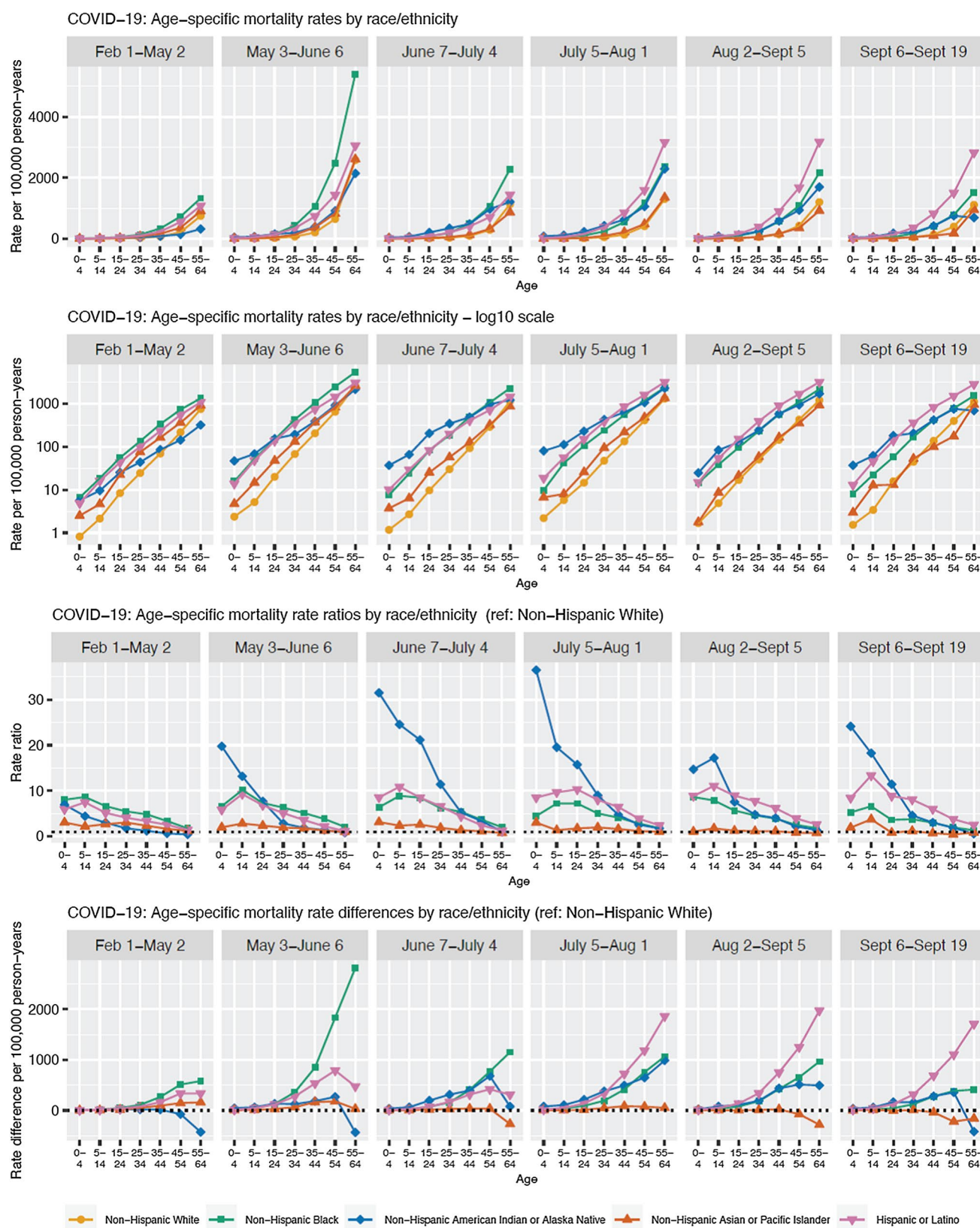


Fig. 3 Temporal trends in US age-specific racial/ethnic COVID-19 mortality rates, rate ratios, and rate differences: February 1—September 19, 2020

trends are evident in Fig. 3, which we generated using CDC data for February 1 through September 19th, 2020 (with 99.2% of deaths assigned a race/ethnicity) [53, 71]. Specifically, the racial/ethnic inequity in age-standardized mortality rate ratios, compared to white non-Hispanics, increased over time for the five calendar periods displayed (February 1–May 2, May 3–June 6, June 7–July 4, July 5–August 1, August 2–September 5, and September 6–September 19) among working age adults (ages 25–64) who were categorized as Black non-Hispanic (p value for trend < 0.0001), Hispanic ($p < 0.0001$), and American Indian/Alaska Native ($p < 0.0001$). The estimates we report, moreover, are likely to be conservative because classification of COVID-19 deaths in part depends on testing, and inequities in access to testing, especially affecting low-income communities of color, would deflate their reported COVID-19 mortality rates [72, 73]. Moreover, the elevated mortality risk on the order of 5- to tenfold among persons under age 65 shown in Fig. 2 is unlikely to be explained by pre-existing co-morbidities, because the documented racial/ethnic mortality rate ratios for major chronic conditions (including cardiovascular disease, diabetes, and cancer) among adults under age 65 are around twofold or less [70, 74, 75].

In closing, we have documented key points at which the US federal government has failed to take the actions and collect the data needed to protect the US population from COVID-19 and the attendant toll on population health and health inequities. Despite the understandable dismay at the state of the pandemic in the United States, it is not too late to make a difference, and that difference starts with the implementation of apt policies. Those policies are too numerous to list here but have been amply documented in publications from organizations such as the Center for Global Development, which identified many of the relevant challenges early in the pandemic, stating in February: “There is an urgent but closing window to prepare for large-scale spread of the disease in the US and elsewhere. This paper recommends actions to address pressing gaps in US and global preparedness in the event that COVID-19 cannot be contained and sustained human-to-human transmission occurs beyond China” [76]. The National Association of County and City Health Officials has made the urgency of maintaining health equity in an emergency preparedness plan, as have local health officials [77, 78]. Perhaps most poignantly, a “Pandemic Playbook” produced by the National Security Council in 2016 “repeatedly (advises) officials to question the numbers on viral spread, ensure appropriate diagnostic capacity and check on the US stockpile of emergency resources” [79]. What we have seen is the consequence of not heeding that advice.

All cases and deaths cannot be prevented—that clearly is not possible with a novel pandemic—but the evidence suggests that ineffective national policies and responses

[13], especially as compared to those of other wealthy nations or compared to the intricate preparation and planning by previous administrations of both parties, have been driving the terrible toll of COVID-19 and its inequities in the US. This country—and its political leaders, who bear responsibility—can and must do better.

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Authors’ contributions W.P. Hanage co-conceptualized the paper, led its writing, and helped frame the analyses and interpret results. C. Testa co-conceptualized the analyses, helped obtain the data and conducted the data analyses for the occupational health and health inequities sections, and contributed to manuscript preparation. J. Chen co-conceptualized the analyses, helped obtain the data and helped oversee the data analyses and interpretation for the occupational and health inequities sections, and contributed to manuscript preparation. P. Seminario, E. Pechter, and L. Davis led acquisition and interpretation of the OSHA complaint data, and contributed to manuscript preparation. M. Santillana co-conceptualized and assisted with implementing the analyses and interpreting them and contributed to manuscript preparation. N. Krieger initiated the paper, led assembling the team, contributed to framing the paper and drafting each section, and guided the data acquisition, data analyses, and data interpretation for the sections pertaining to occupational health and health inequities. All co-authors contributed to the final manuscript and approved its content before submission.

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