



# Looking Back on 2020: Occupational Health and the COVID-19 Response

Barbara Materna, PhD, CIH  
Chief, Occupational Health Branch

*California Industrial Hygiene Council Monthly Webinar  
January 12, 2021*





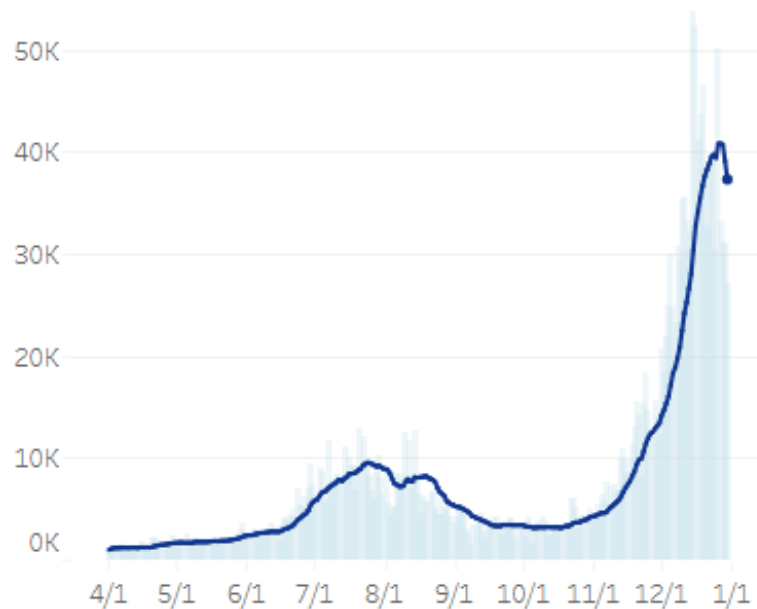
# Deepest sympathy



# The toll of COVID-19 in 2020

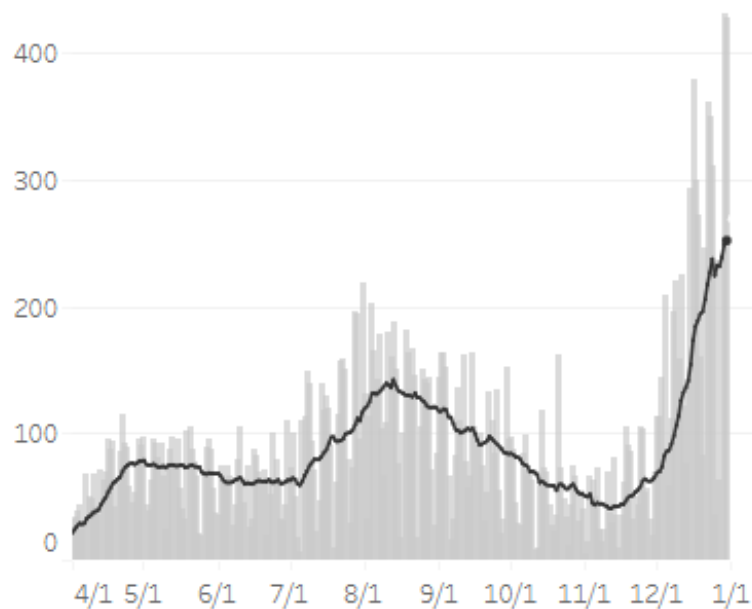
Total cases in California

**2,245,379** positive cases  
27,237 new cases  
1.2% increase from prior day total



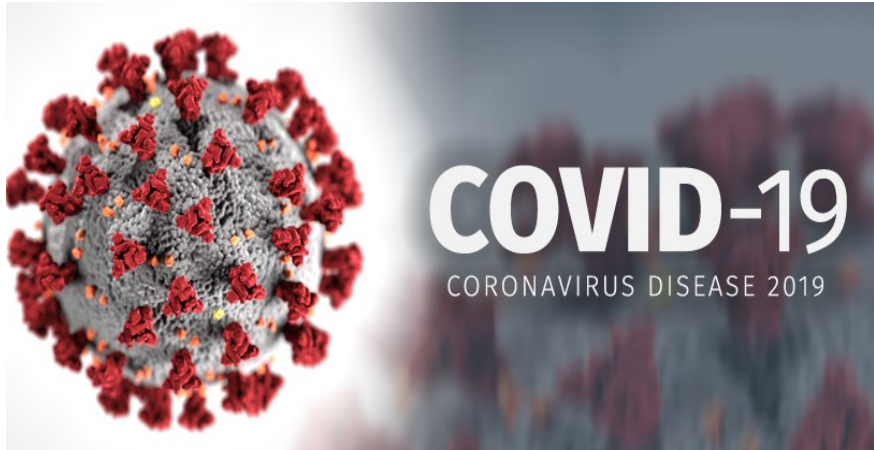
Total deaths in California

**25,386** total deaths  
428 new deaths  
1.7% increase from prior day total



<https://covid19.ca.gov/state-dashboard/>

# Emergency responses: Why involve OHB?







# Expertise within OHB

## Occupational health disciplines

- Industrial hygiene
- Epidemiology
- Medicine
- Health education & communications

## Knowledge about the workplace

- Cal/OSHA regulations
- Familiarity with multiple industries & risks of different occupations
- How to interact with employers
- OH stakeholders

# Investigation of the earliest known **occupational transmissions** of COVID-19 infection

Centers for Disease Control and Prevention

# MMWR

Morbidity and Mortality Weekly Report

Early Release / Vol. 69

April 14, 2020

## Transmission of COVID-19 to Health Care Personnel During Exposures to a Hospitalized Patient — Solano County, California, February 2020

Amy Heinzerling, MD<sup>1,2</sup>; Matthew J. Stuckey, PhD<sup>3</sup>; Tara Scheuer, MPH<sup>4</sup>; Kerui Xu, PhD<sup>2,3</sup>; Kiran M. Perkins, MD<sup>3</sup>; Heather Resseger, MSN<sup>5</sup>; Shelley Magill, MD, PhD<sup>3</sup>; Jennifer R. Verani, MD<sup>3</sup>; Seema Jain, MD<sup>1</sup>; Meileen Acosta, MPH<sup>4</sup>; Erin Epton, MD<sup>1</sup>

On February 26, 2020, the first U.S. case of community-acquired coronavirus disease 2019 (COVID-19) was confirmed in a patient hospitalized in Solano County, California (1). The patient was initially evaluated at hospital A on February 15; at that time, COVID-19 was not suspected, as the patient denied travel or contact with symptomatic persons. During a 4-day hospitalization, the patient was managed with standard precautions and underwent multiple aerosol-generating proce-

recognition and isolation of patients with possible COVID-19 and use of recommended PPE to minimize unprotected, high-risk HCP exposures and protect the health care workforce.

HCP with potential exposures to the index patient at hospital A were identified through medical record review. Hospital and health department staff members contacted HCP for initial risk stratification and classified HCP into categories of high, medium, low, and no identifiable risk, according to



# Exposure identification & follow-up

- 121 Hospital A healthcare personnel (HCP) exposed to patient
- Low-risk self-monitored for symptoms for 14 days
- Medium & high-risk furloughed and actively monitored
- 43 developed symptoms & were tested for COVID-19
- 37/43 were interviewed by phone; responses compared for those with & without infection



## What would we have done differently today?

Exclude exposed workers & test regardless of symptoms.



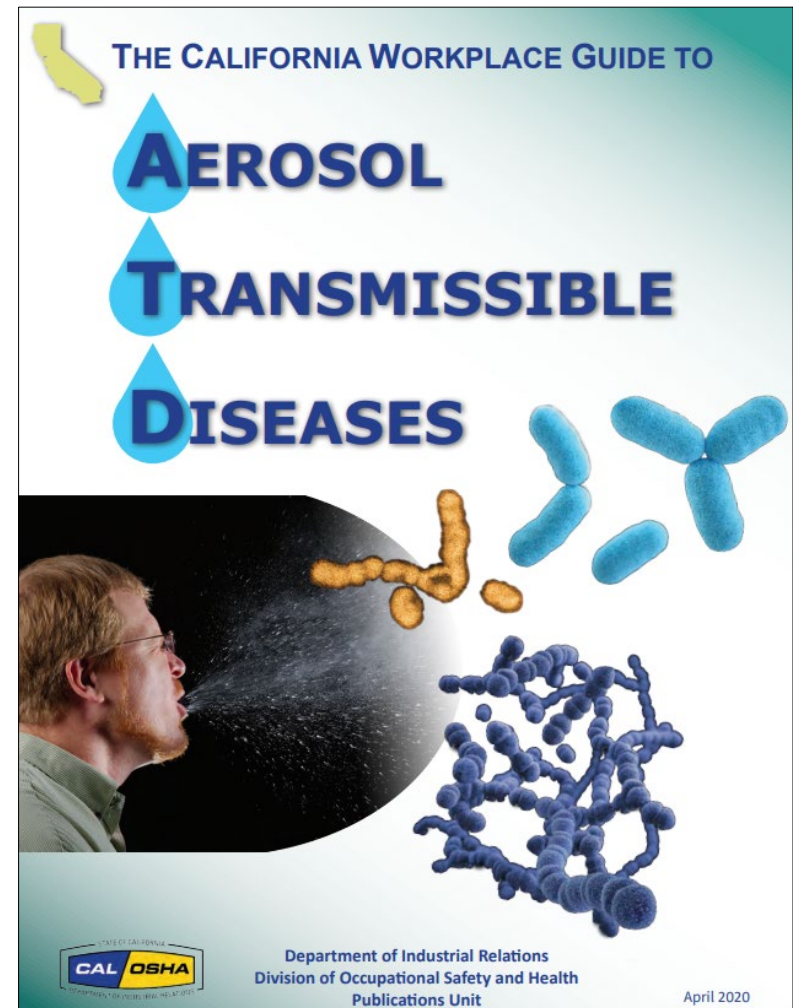
# Findings

- 3 HCP tested positive for COVID-19
- Performing physical exams and nebulizer treatments more common among HCP who tested positive
- All 3 had unprotected patient contact
- No reported use of eye protection, gowns, N95 respirators, or powered air purifying respirators (PAPRs)



# Clear guidance from Cal/OSHA's ATD standard

- SARS-CoV-2 is a novel pathogen
- Use airborne precautions
  - Airborne infection isolation
  - Respiratory protection for confirmed/suspected cases
  - PAPR for aerosol generating procedures





## Was the U.S. ready for COVID-19?

Unfortunately, we were not as prepared  
as we could have been.



# Shortage in supply of respirators and PPE





# New kinds of NIOSH-approved N95 respirators



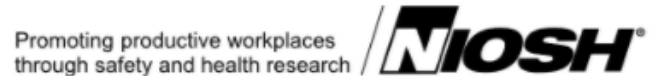
And what about KN95s  
(not NIOSH-approved)?





# NIOSH National Personal Protective Technology Laboratory

Promoting productive workplaces  
through safety and health research



## NPPTL Respirator Assessments to Support the COVID-19 Response

Updated December 22, 2020

### International Assessment Results – Not NIOSH-approved

NPPTL has completed International Assessments for the products listed below.

<https://www.cdc.gov/niosh/npptl/respirators/testing/NonNIOSHresults.html>





# NIOSH National Personal Protective Technology Laboratory

## Counterfeit Respirators / Misrepresentation of NIOSH- Approval

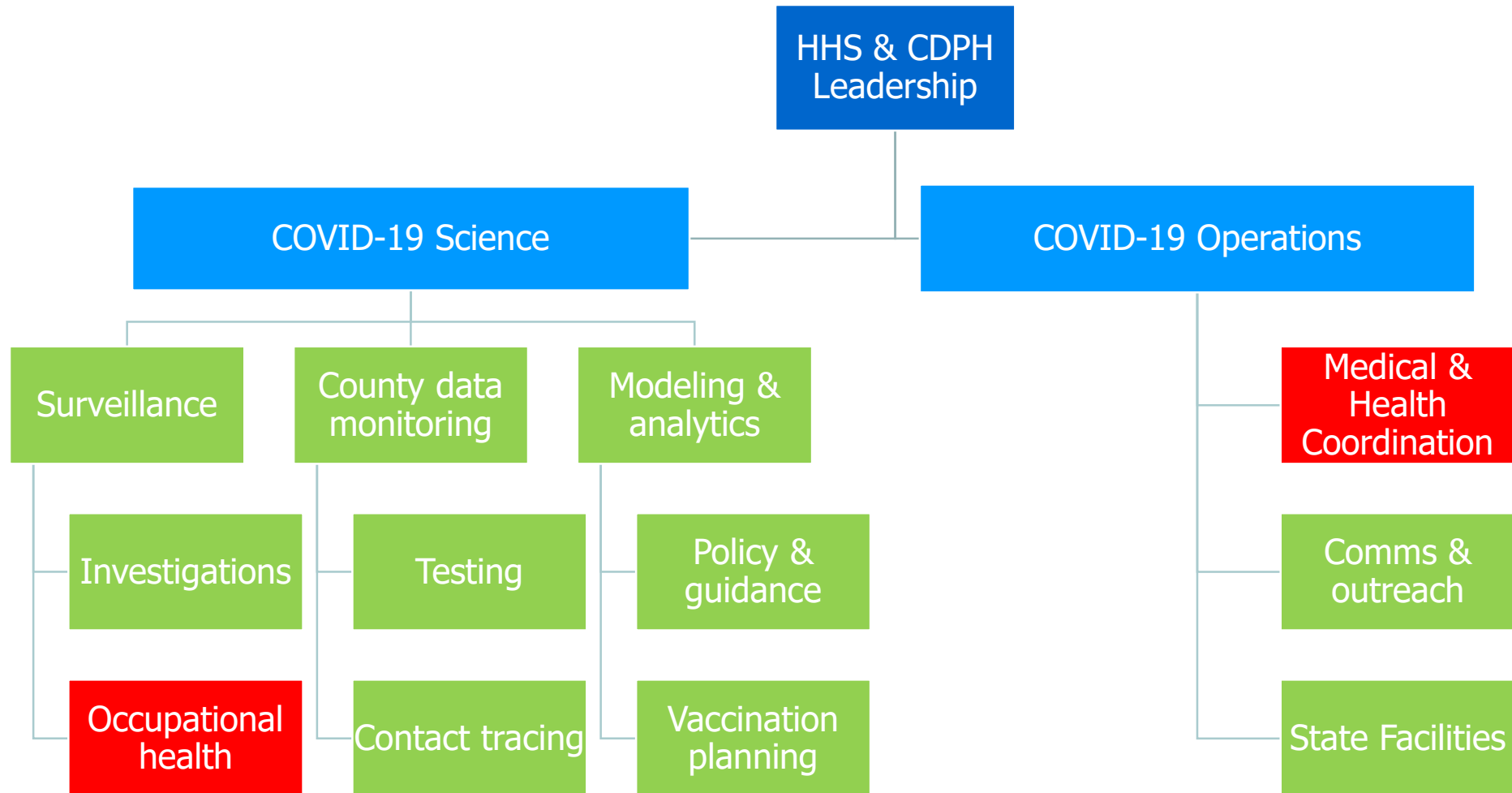
Updated December 21, 2020

Counterfeit respirators are products that are falsely marketed and sold as being NIOSH-approved and may not be capable of providing appropriate respiratory protection to workers.

**When NIOSH becomes aware of counterfeit respirators or those misrepresenting NIOSH approval on the market, we will post them here to alert users, purchasers, and manufacturers.**

<https://www.cdc.gov/niosh/npptl/usernotices/counterfeitResp.html>

# CDPH's COVID-19 Response Structure

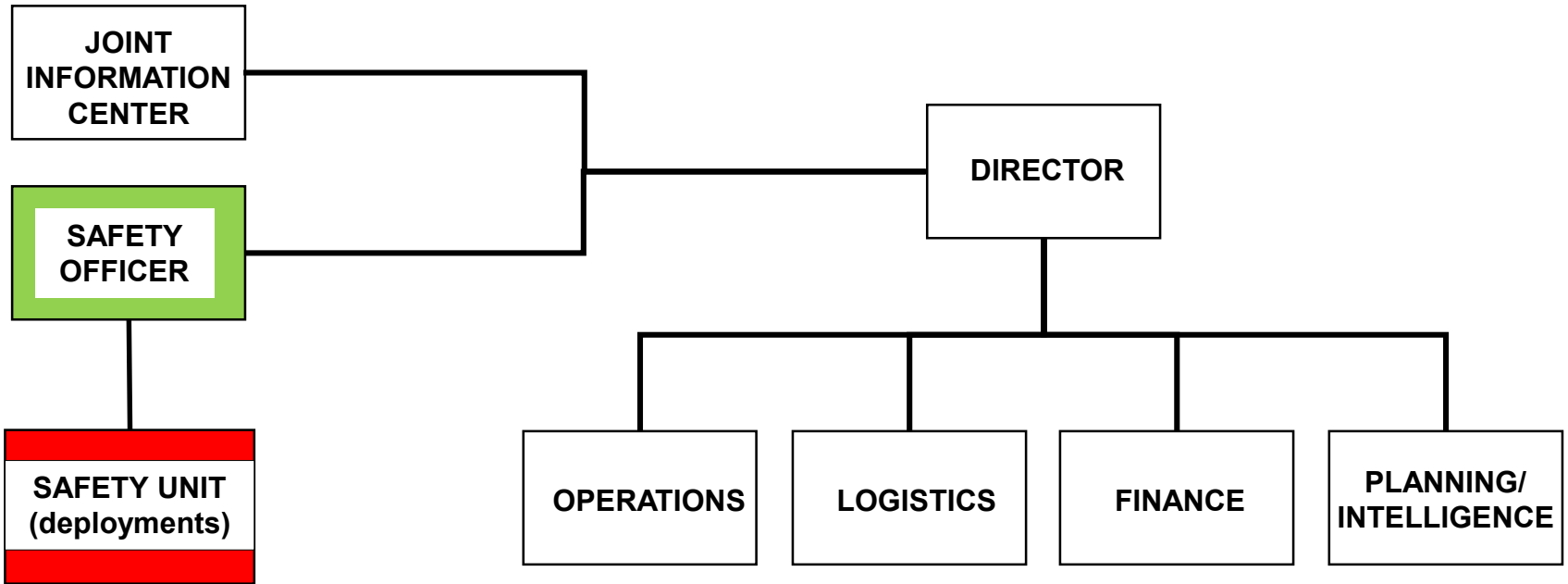


# Explaining and requiring face coverings



**Your cloth face covering may protect them Their cloth face covering may protect you**

# Keeping deployed CDPH staff safe & healthy



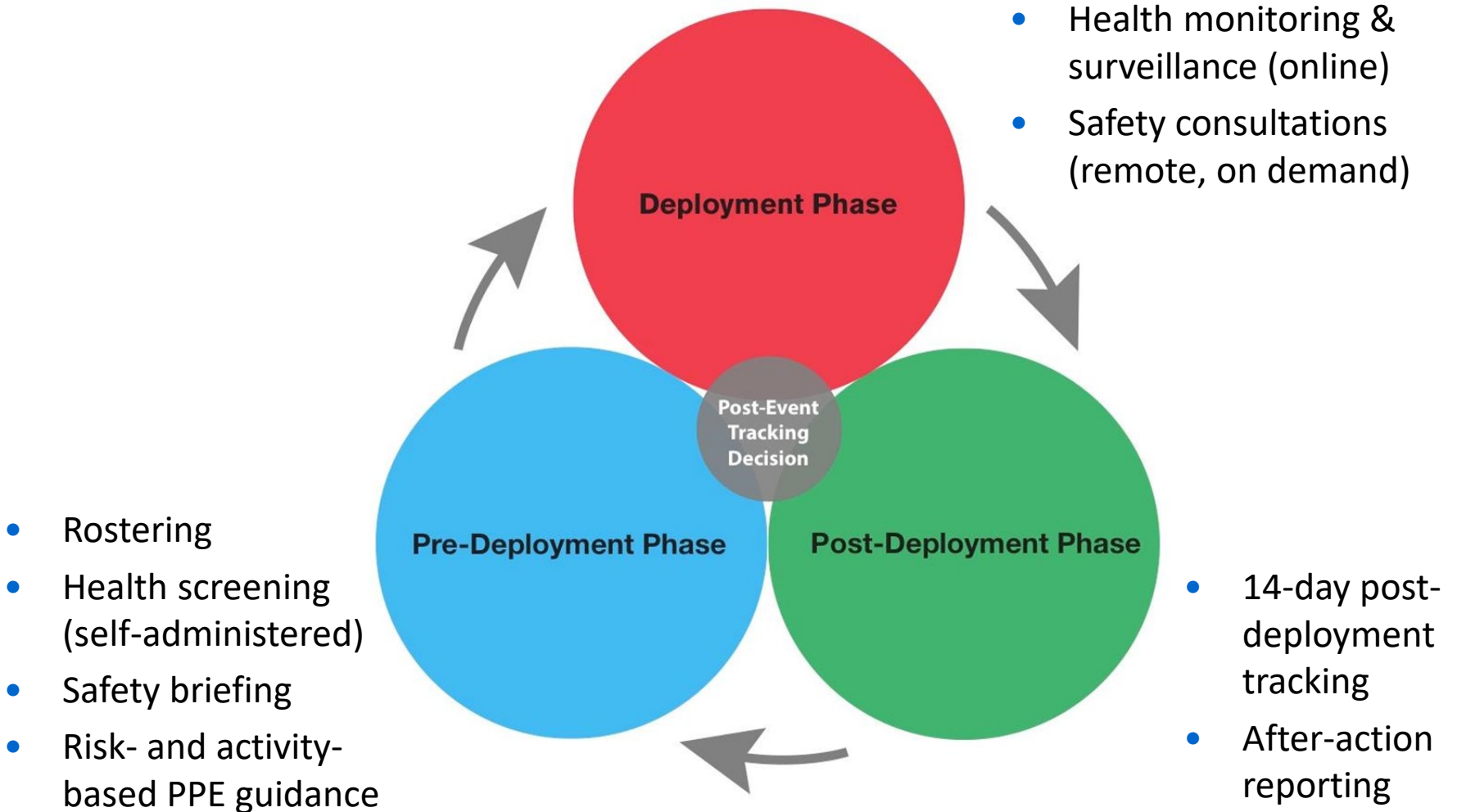
# Emergency Responder Health Monitoring & Surveillance (ERHMS)

- Ensure only qualified, trained, and properly equipped personnel are selected for deployment
- Ensure all receive sufficient health and exposure monitoring and surveillance





# Deployment Safety Unit responsibilities





# Legacy for future emergencies

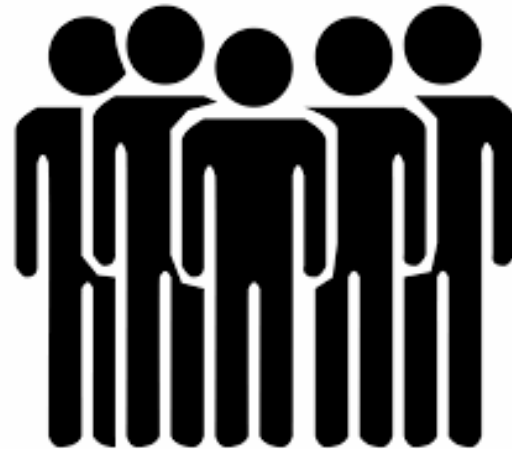
- Positive results
- Safety officer part of every emergency activation
- Safety Unit infrastructure to support deployed staff
- Department-wide respiratory protection program

“[Safety unit] provided adequate training and assistance in ensuring I was prepared for deployment in the fieldwork”

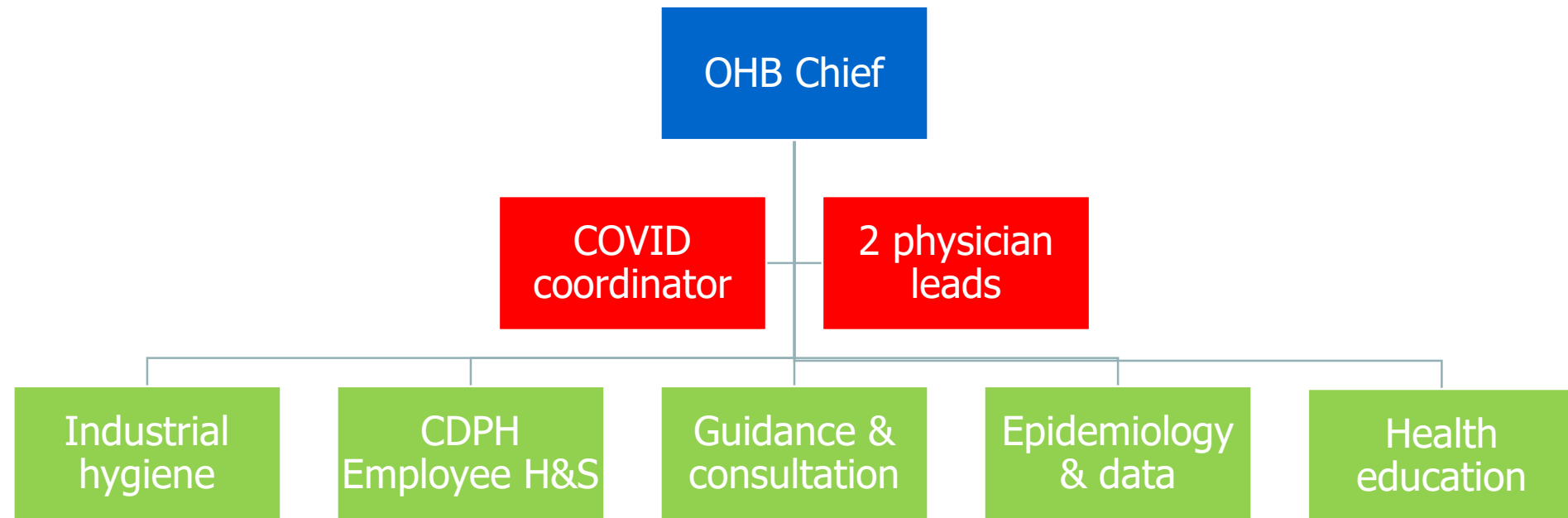
“Thank you so much for checking in on me!”

“[Safety unit] has changed the way CDPH thinks about safety”

# Grant writing, contracting, hiring, etc.



# OHB's COVID-19 Response Teams



# Meet OHB's industrial hygienists

Justine Weinberg



Jennifer McNary



Kyle Peerless



Elon Ullman



Jackie Chan







# Training on how to do qualitative fit testing



# Webinars & resources on respirator programs

## Respiratory Protection Programs in Long Term Care Facilities During the COVID-19 Pandemic

January 7, 2021

Elon Ullman

California Department of Public Health



1

Center for Healthy Communities  
Occupational Health Branch

## Implementing Respiratory Protection Programs in Hospitals

A GUIDE FOR RESPIRATOR PROGRAM ADMINISTRATORS

August 2015



[Guide link](#)

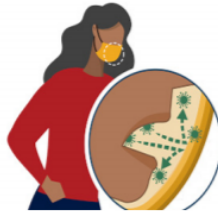
# Face Shield

## Frequently Asked Questions



### What are face shields, and how are they used for protection from COVID-19?

A face shield is a transparent barrier that covers the face and is typically open at the sides and bottom. A face shield is a form of personal protective equipment (PPE) primarily used by health care workers to protect their face (eyes, nose, and mouth) from splashes and sprays of body fluids. Face shields are not commonly used alone, but are often worn with other protective equipment, such as respirators or surgical masks, to protect the wearer from COVID-19. Examples include a nurse caring for a hospitalized COVID-19 patient or a health professional collecting a nasal sample from a person being tested for COVID-19.



In contrast, face coverings (cloth or surgical masks) that fit snugly over the nose and mouth are used to prevent the spread of COVID-19 to other people in the event that the wearer of the mask is infected with COVID-19 and doesn't know it, as well as to provide some protection for the wearer.

### Can a face shield be used alone as a substitute for a face covering to prevent the spread of COVID-19?

No, **a face shield alone cannot be substituted for a face covering** under guidance of the California Department of Public Health (CDPH). Studies have found that SARS-CoV-2 can spread through small, airborne particles known as “aerosols” that are emitted when people talk, cough, or sneeze. These aerosols have been shown to remain suspended in the air for varying periods of time, depending on their size and air flow in the area. We expect, based on what is known about how aerosols behave, that the aerosols exhaled through the nose and mouth of someone wearing a face shield can easily travel around the open sides of a face shield.



Source: MIT Medical





# State guidance on protecting workers





# Industry guidance

[See guidance in other languages](#)

 **Agriculture and livestock**



 **Amusement parks and theme parks – New**



 **Auto dealerships**



 **Cardrooms and racetracks – updated September 10**



 **Childcare**



<https://covid19.ca.gov/industry-guidance/>



# Helping local health departments address outbreaks





# Responding to COVID-19 in the Workplace for Employers

September 18, 2020

**Released June 16, 2020**

- Revised on September 18, 2020 to:
  - (1) require all employers to notify local health departments when they meet the reporting threshold of three or more cases of COVID-19 in their workplace within a two-week period.
  - (2) align return to work criteria with updated guidance from CDC on release from isolation, issued on July 17, 2020.
  - (3) provide employers information on how COVID-19 exposure or infection in the workplace may impact operations.

## Responding to COVID-19 in the Workplace

This checklist is intended for use by employers identifying cases of COVID-19 in their workplace. In non-healthcare or non-residential congregate setting workplaces, CDPH requires employers to report cases of COVID-19 to the local health department (LHD) in the jurisdiction in which they are located and the LHD where the infected workers

<https://files.covid19.ca.gov/pdf/responding-to-covid19-workplace--en.pdf>



# Racetrack outbreak investigation

- OHB staff supporting local health department
- Of ~550 workers, >300 infected, 1 death
- “Backstretch” workers care for horses
- Many live onsite







# Racetrack outbreak investigation

- After initial November cases, testing 1-2x/week of all negative workers
  - PCR and antigen test comparison
  - Whole genome sequencing
- Site visit
- Worker phone survey to assess risk factors

# Implementing AB 685

effective January 1, 2021

Employers  
report  
outbreaks to  
LHDs

LHDs report  
data to CDPH

CDPH displays  
data by  
industry on  
website

Under  
construction

Employer Questions About AB 685:

<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Employer-Questions-about-AB-685.aspx>

# Cal/OSHA emergency COVID-19 standard



## NEWS RELEASE

Release Number: 2020-98

November 20, 2020

### Standards Board Unanimously Adopts Emergency Temporary Standards to Protect Workers from COVID-19

*The new Cal/OSHA standards are expected to go into effect by the end of the month*

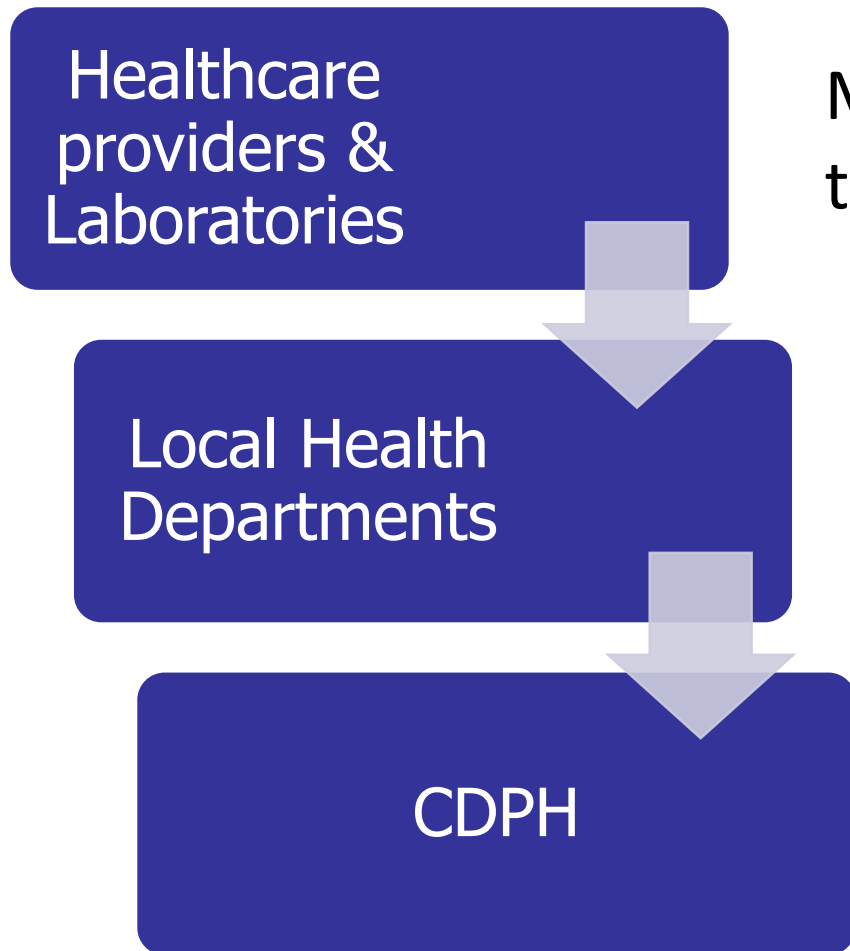
**Sacramento** — The Department of Industrial Relations' (DIR) Occupational Safety and Health Standards Board unanimously adopted emergency temporary standards to protect workers from hazards related to COVID-19. The emergency standards will be in effect immediately if approved by the Office of Administrative Law in the next 10 calendar days.

Effective November 30, 2020 <https://www.dir.ca.gov/dosh/coronavirus/ETS.html>

**Which workers are impacted by COVID-19?**  
**Getting & analyzing the data**



# Disease reporting in California



March 2020: COVID-19 added to list of reportable diseases





# NIOSH Science Blog

## Collecting Occupation and Industry Data in Public Health Surveillance Systems for COVID-19

Posted on June 11, 2020 by Sara Luckhaupt, MD; Sherry Burrer, DVM; Marie de Perio, MD; and Marie Haring Sweeney, PhD

*This is the first blog in the series "COVID-19 Surveillance among Workers: What we know and what are we doing to learn more".*


### What we know

Though the COVID-19 pandemic continues, critical infrastructure industries are operating and other types of businesses are beginning to reopen. Recent studies have reported outbreaks of COVID-19 in several types of workplaces, including long-term care facilities, meatpacking plants, correctional facilities, and homeless shelters. The media have also reported outbreaks in law enforcement agencies, airport screening agencies, construction sites, manufacturing plants, and other workplaces.

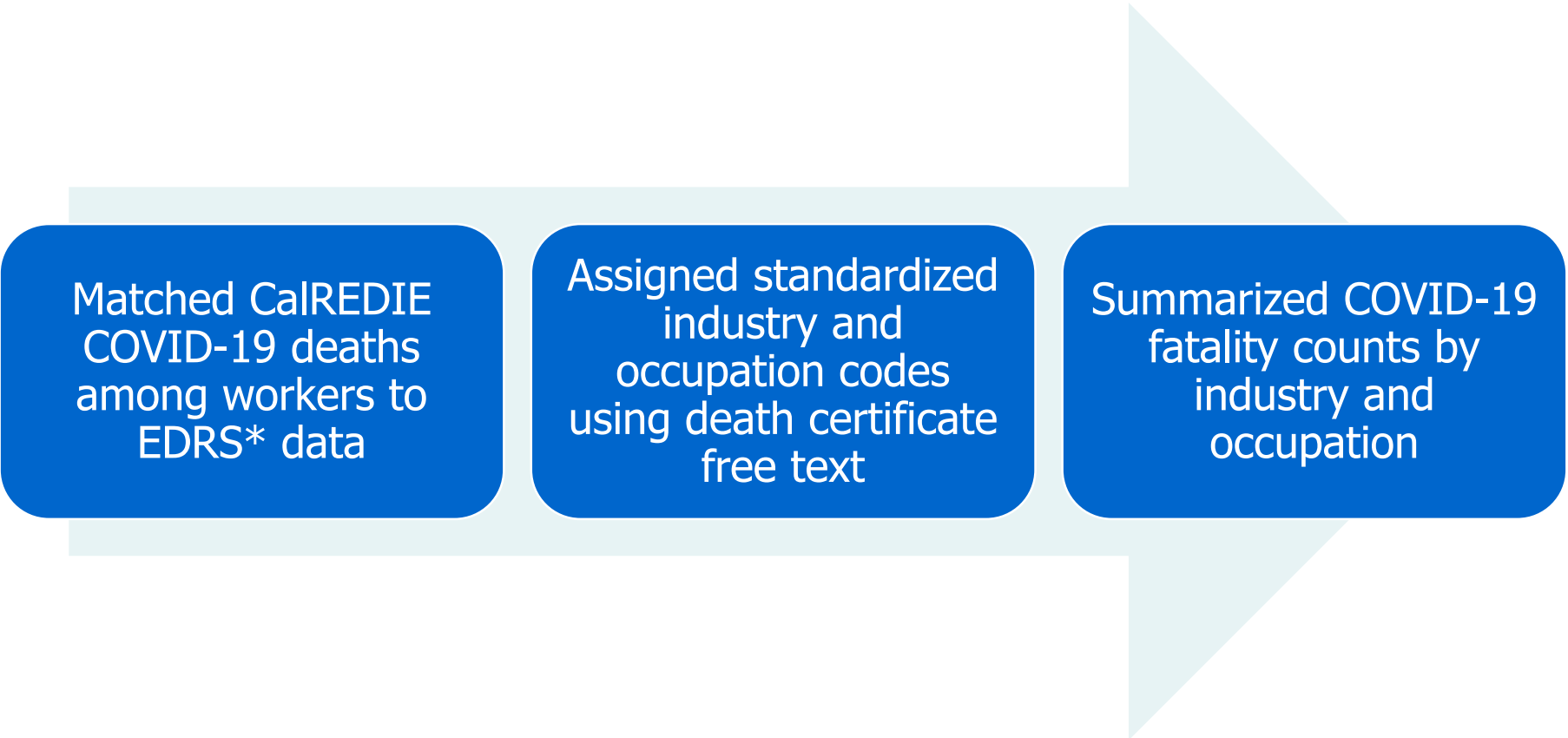
Without good surveillance data on the jobs of all workers with COVID-19, it's hard to tell what groups are at higher risk because of their jobs.

**Ideally, occupation and industry data should be collected on all workers with COVID-19.**

<https://blogs.cdc.gov/niosh-science-blog/2020/06/11/covid-surveillance/>



# Approach to analyzing **COVID-19** deaths of working-age people **by industry and occupation**



Matched CaREDIE COVID-19 deaths among workers to EDRS\* data

Assigned standardized industry and occupation codes using death certificate free text

Summarized COVID-19 fatality counts by industry and occupation

\*EDRS = California Electronic Death Registration System maintained by CDPH Center for Health Statistics & Informatics



# Additional data sources under investigation

- Workers' Compensation Information System
- Doctor's First Reports of Occupational Injury or Illness
- Workplace outbreak data – to be enhanced by reporting requirements under AB 685 & Cal/OSHA Emergency Temporary Standard



# Partnering to reach workers





# OHB's COVID-19 website topic page

## OCCUPATIONAL HEALTH BRANCH

### Stay informed!

#### CDPH COVID-19 Updates

OHB Home

What We Do ▶

Publications & Videos

Contact OHB

A-Z Index of Workplace Health Topics

Newsletter

Workplace Health & Safety Resources ▶

## Protecting Workers from COVID-19 on the Job

This webpage provides information for workers and employers about the evolving coronavirus pandemic. It includes links to the websites of major workplace health and safety agencies and organizations where you can find guidance and other resources for preventing work-related COVID-19.

The Occupational Health Branch is working with our colleagues in CDPH and our partners in the health and safety community to provide information and guidance for protecting workers from COVID-19.

*If your organization would like to work with us to help protect workers from COVID-19, or if you need help, email us at [occhealth@cdph.ca.gov](mailto:occhealth@cdph.ca.gov).*

### What ALL employers should do

**To prevent the spread of COVID-19 at your workplace:**

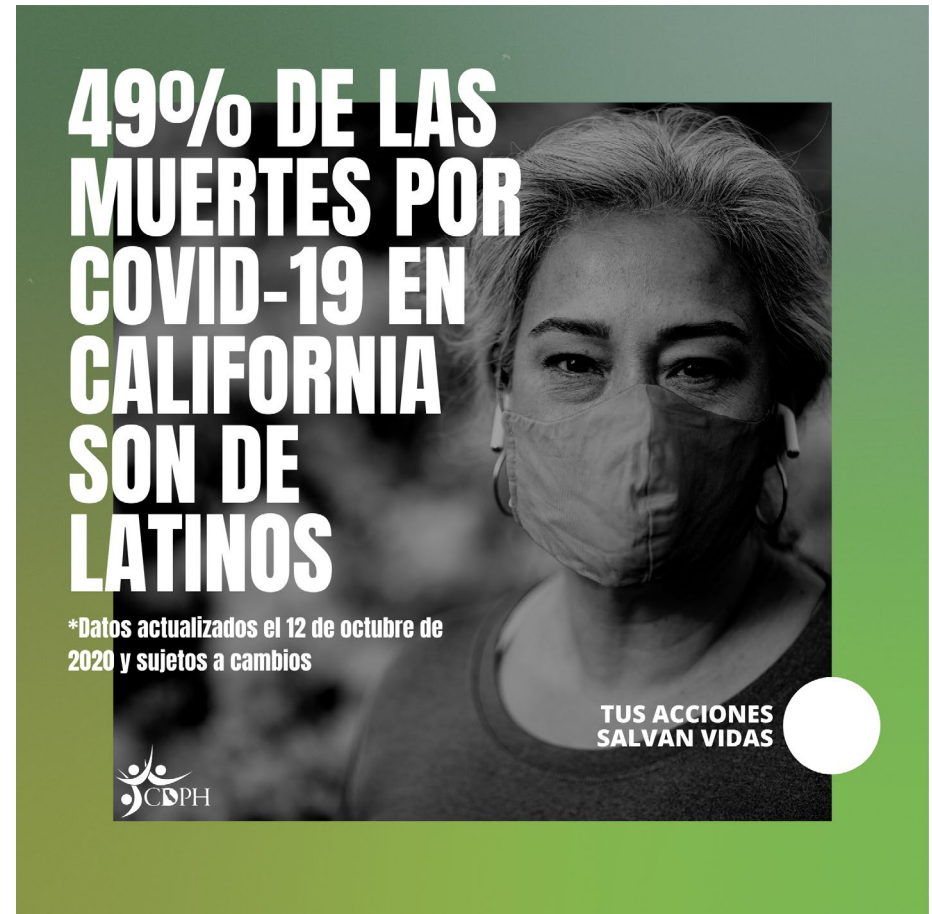


<https://www.cdph.ca.gov/ohb>

↑  
TO TOP

# Worker communication toolkit

- Working with media/design/animation firm
- Partnering on dissemination channels
- “Creative deliverables”
  - Social media cards
  - Digital banners
  - Scrollable scenario
  - Educational comic
  - Motion graphic video



# Collaborating across CDPH and beyond



# What's the latest? **Vaccinating workers**





# What's the latest? Reopening schools





# In conclusion

[artwork removed]



# Acknowledgements

- *IH* – Jackie Chan, Jennifer McNary, Kyle Peerless, Elon Ullman, Justine Weinberg
- *Medical* – Christina Armatas, Kristin Cummings, Robert Harrison, Amy Heinzerling, Cameron Stainken, Krishna Surasi
- *Epidemiology* – John Beckman, Elena Chan, Carolina Espinelli, Jennifer Flattery, Matt Frederick, Kathryn Gibb, Andrea Rodriguez, Ximena Vergara, Jessie Wong
- *Health education* – Mary Deems, Scott Kessler, Sara Nelson, Debbie Shrem, Laura Styles, Monice Wong
- *Emergency preparedness* – Svetlana Smorodinsky, Jason Wilken
- *Admin* – Rick Votava, Laurie Lim, Thien Phan, Angela Williams-Bell
- ...and our other staff redirected to non-OHB COVID-19 work and keeping our non-COVID programs going



# Stay in touch

- Email [occhealth@cdph.ca.gov](mailto:occhealth@cdph.ca.gov) to subscribe to OHB's monthly electronic newsletter



- OHB website [www.cdph.ca.gov/OHB](http://www.cdph.ca.gov/OHB)
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