

# Update from the California Department of Public Health's Occupational Health Branch

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Chief, Occupational Health Branch

*California Industrial Hygiene Council*  
December 4, 2017 – San Francisco



# Overview

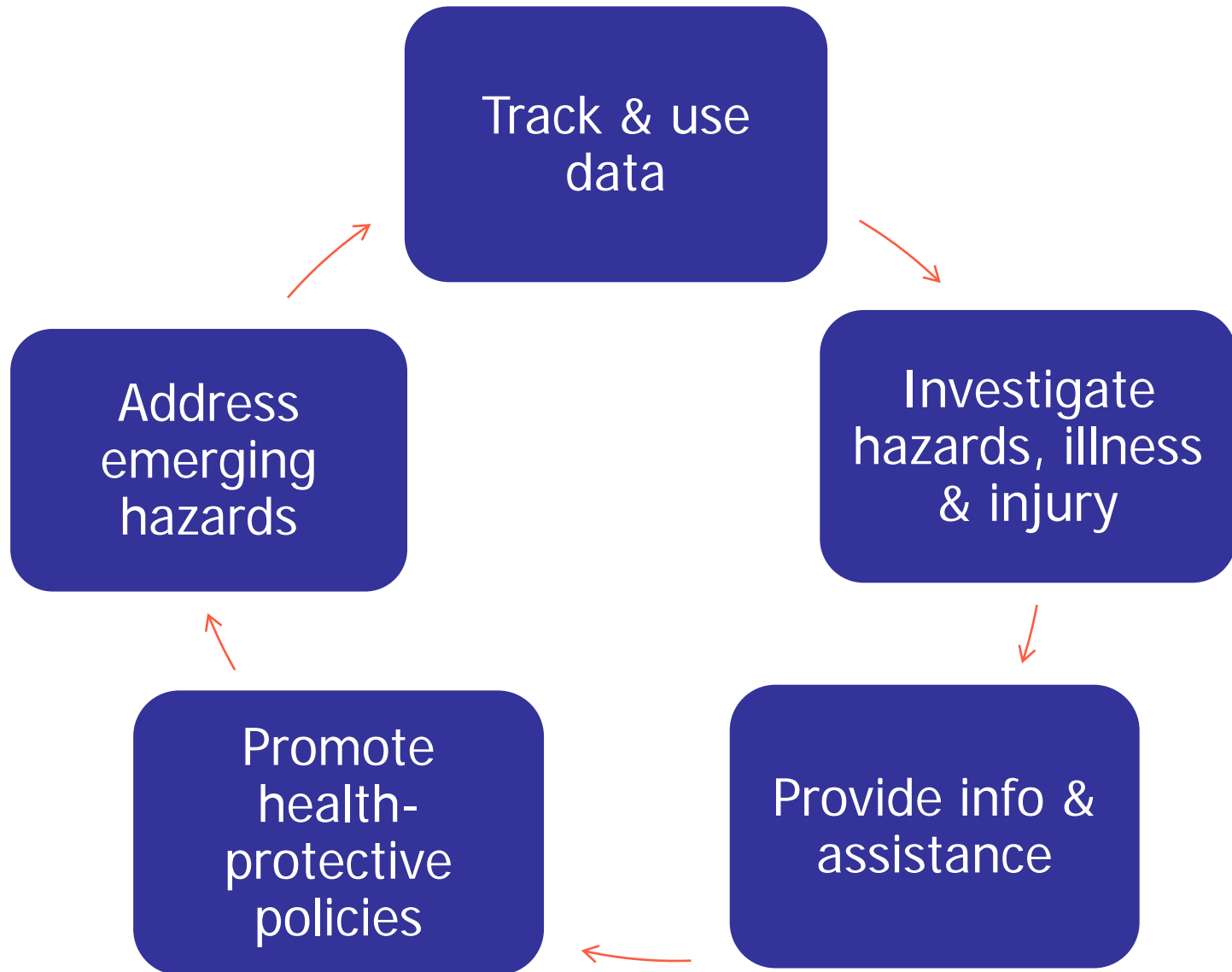
- Intro to the Occupational Health Branch
- Chemical hazard: 1-Bromopropane
- Biological hazard: Valley Fever fungus
- Emergency responses: Wildfires, Hepatitis A
- Emerging issue: Cannabis
- Outreach & educational resources
- Data reports
- How you can stay in touch & use our resources



# *Promoting safe and healthy workplaces across California*

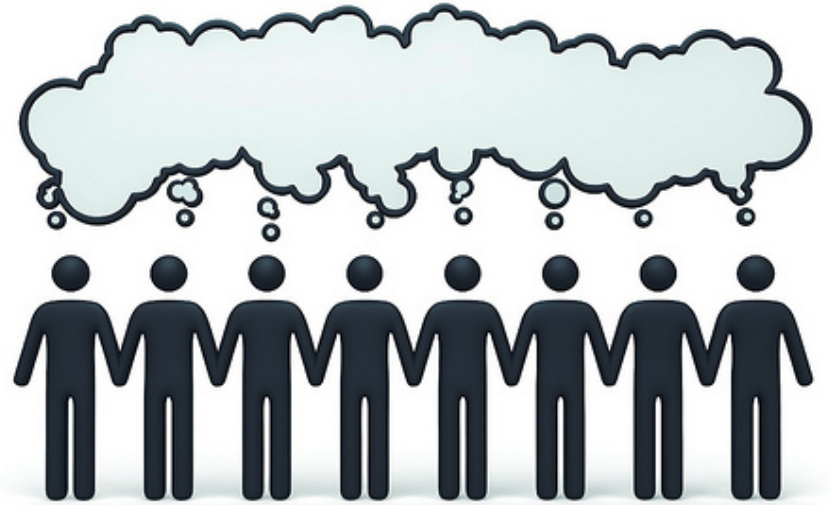


# Promoting safe & healthy workplaces



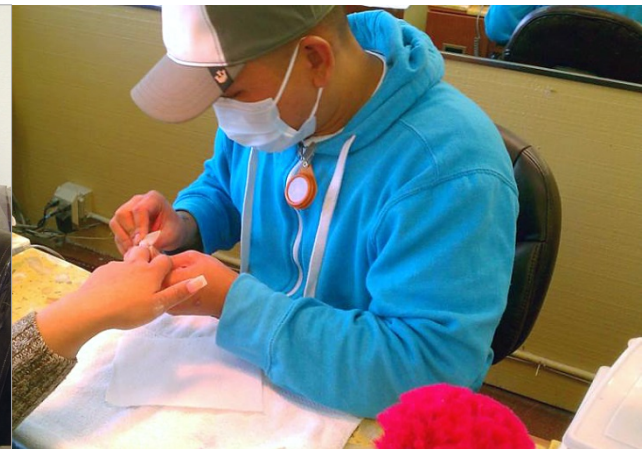
# OHB values

- Utilize & contribute to the science
- Collaborate across disciplines
- Mentor future occupational health workforce
- Partner with others



# Promoting racial & health equity

Transforming the conditions in which people  
are  
BORN, GROW, LIVE, **WORK** and AGE  
For optimal health, mental health &  
well-being





# Meet OHB's industrial hygienists

Justine Weinberg



Jennifer McNary



Occ Lead Chief  
Nina Townsend



Michael Cooper



This could be you!

# Seeking Associate IH for Emergency Preparedness Team

- To focus on readiness & response to chemical incidents and natural disasters that may affect workers and communities
- **December 15<sup>th</sup>** deadline for applying to take civil service exam
  - <https://calcareers.ca.gov/JOBGEN/8H1AR02.PDF>
  - Contact me: [Barbara.Materna@cdph.ca.gov](mailto:Barbara.Materna@cdph.ca.gov)



Early warning & investigation:

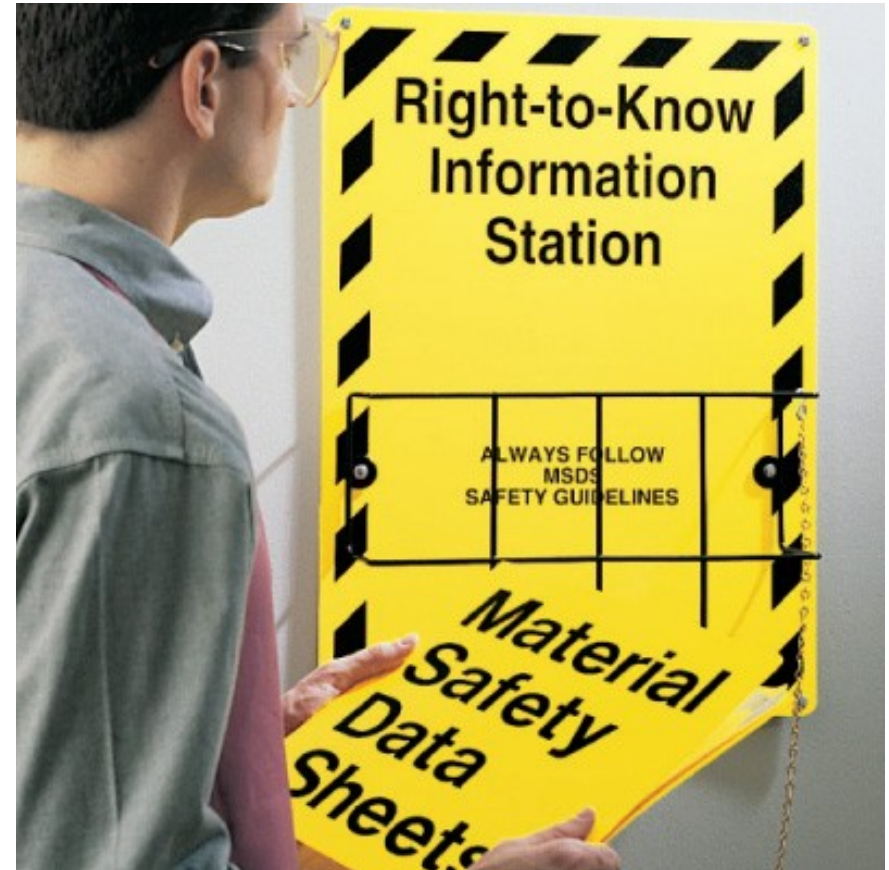
1-Bromopropane  
(n-propyl bromide)



# Why a HESIS mandate for early warning?

- Chemical toxicity info constantly evolving
- SDSs often deficient
- Rapid warning can limit exposure

**Issue:** Identifying which workers are at risk



# SB 193: New authority for HESIS-OHB

effective January 1, 2016

New info on a chemical prompts a Hazard Alert

CDPH & DIR confer on use of authority

CA customer lists must be provided to HESIS on request

- Chemical used in workplaces
- Poses serious new or unrecognized health hazard

- Exempt from disclosure except to gov't agencies

# 1-BP new toxicity information

- Carcinogenicity
- Non-cancer effects at lower levels
- ACGIH lowered TLV to 0.1 ppm
- Cal/OSHA PEL still at 5 ppm (w/skin notation)

## 1-Bromopropane (n-Propyl Bromide)

1-Bromopropane, also called 1-BP, is a solvent used in degreasing, spray adhesives, aerosol solvents, and dry cleaning that can cause **serious health damage**. We have known for some time that 1-BP harms the reproductive and nervous systems. **There is now evidence that shows that 1-BP may also damage the genes and cause cancer.** Cal/OSHA has a legal limit on how much 1-BP can be in the air workers breathe, but it was set before this cancer risk became more evident. HESIS is issuing this Hazard Alert so workers who use or come in contact with 1-BP can be protected.

Health  
Hazard  
ALERT

### Do you work with 1-bromopropane?

1-Bromopropane is a solvent used to dissolve fats, waxes, and resins. Two of its main uses are in degreasing and in spray adhesives. In recent years, 1-BP has been used as a replacement for other organic solvents that damage the ozone layer. You may use 1-BP at work if you:

- Do vapor or other types of degreasing
- Use adhesives for foam cushion or furniture fabrication
- Perform dry cleaning)
- Do precision cleaning)
- Use aerosol (spray) solvents)
- Clean electronics or metal items)
- Apply coatings to pipes or other fixtures)

Page 5 has examples of common products that contain 1-BP.

### How 1-bromopropane enters your body

1-Bromopropane enters your body when you breathe its vapor or drops of spray in the air. Some can enter your body through your skin.

### How 1-bromopropane can affect your health

Your risk of health effects depends on the amount of 1-BP that enters your body. That depends mainly on the amount (the concentration) of 1-BP in the air, and how long you are exposed.

As with many chemicals, our information about how 1-BP can affect your health comes from both human and animal studies. HESIS uses both kinds of information to determine how a chemical might affect worker health. In the case of 1-BP, it is now well established from animal and human studies that 1-BP has serious effects on human health.

HEALTH HAZARD



HAZARD EVALUATION SYSTEM & INFORMATION SERVICE

California Department of Public Health • Occupational Health Branch  
850 Marina Bay Parkway, Bldg. P, 3rd Floor, Richmond, CA 94804  
510-620-5757 • Occupational Health Branch ([www.cdph.ca.gov/ohb](http://www.cdph.ca.gov/ohb))

DECEMBER 2016

California Department of Public Health • California Department of Industrial Relations

# 1<sup>st</sup> SB 193 focus: 1-Bromopropane

Degreasing



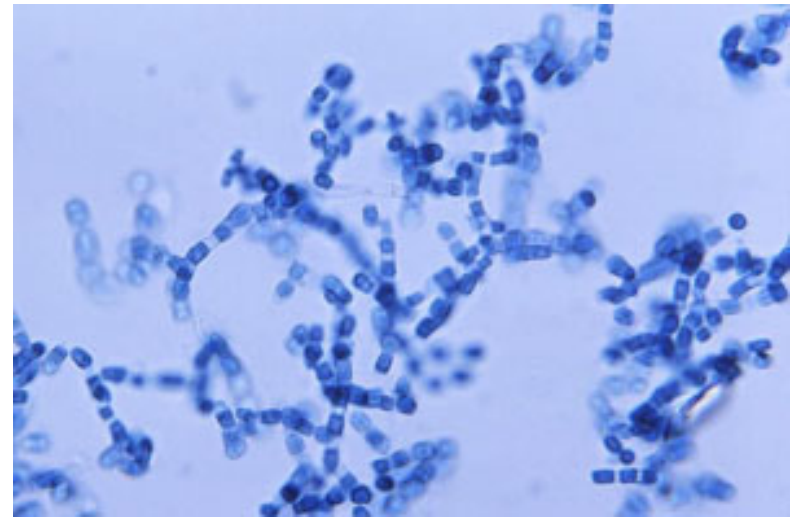
Spray adhesives



Illness investigation:  
Valley Fever (coccidioidomycosis)

# Valley Fever (coccidioidomycosis)

- Infection in lungs from inhaled *Coccidioides immitis* fungus
  - Thrives in areas with hot summers, mild winters, desert climate
  - Sporadically distributed in top layers of soil – no feasible test
  - Infectious dose less than 10 spores
- Incubation period 1 to 3 weeks; Valley Fever is not spread person to person.





# Occupational exposure risks

- Workers disturbing soil in endemic areas are at risk
  - Construction workers
  - Archeologists
  - Wildland firefighters
  - Military personnel
  - Mining, quarrying, oil & gas extraction jobs
  - Agricultural workers
- Exposure during wind, dust storms, travel



# Petroleum engineer now has half his lung capacity: Jerry Walker, Bakersfield, 59



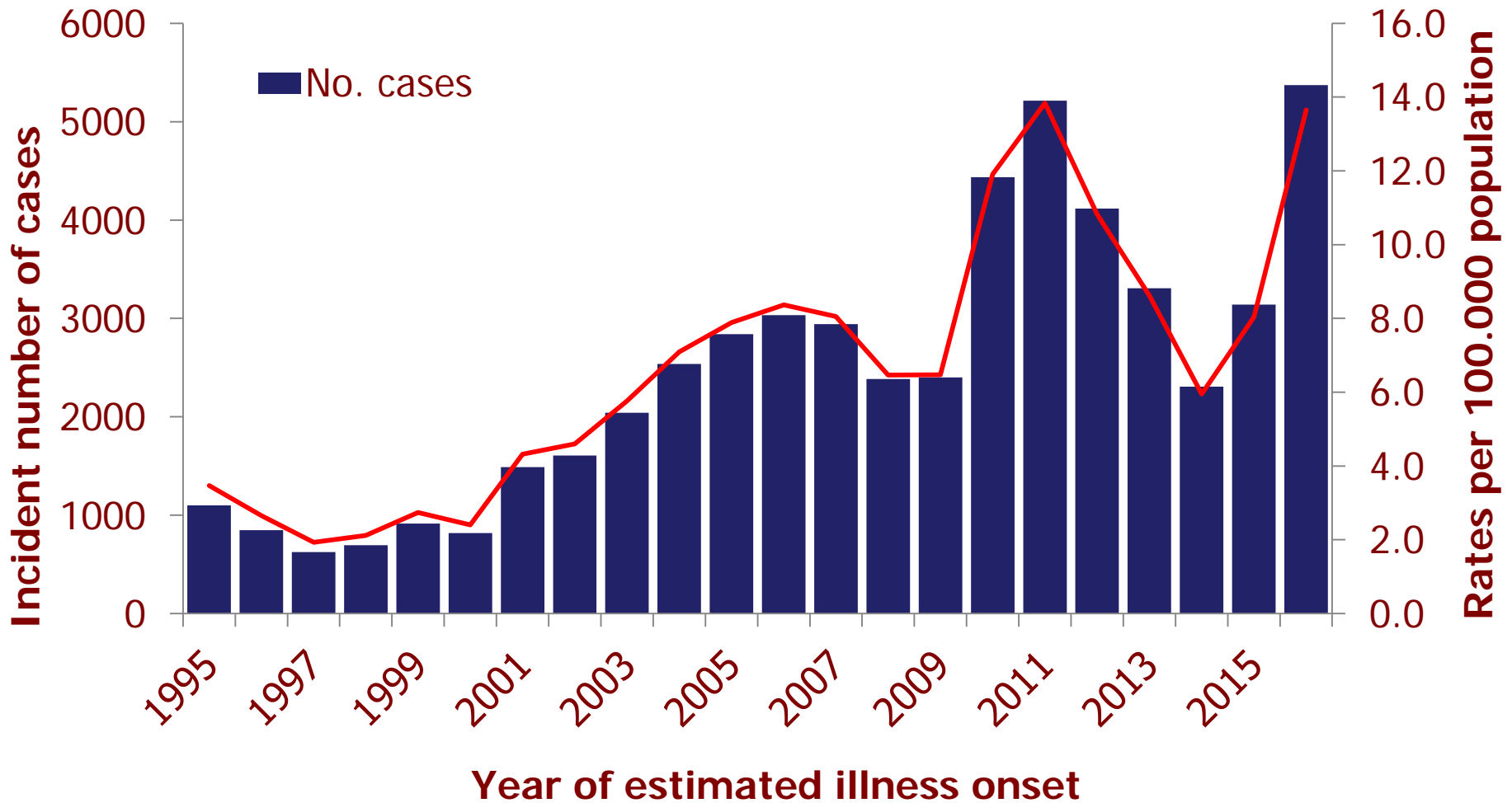
“In late 1991, I was working as a petroleum engineer for one of the largest oilfield service companies in the world. Around the second week of November, I was working on the west side of the valley and experienced a very windy day with blowing sand.

...hospitalized until August 1992, and went back to work in September. But my energy level has never returned.

I also believe that companies should educate their employees about valley fever, especially people that are being brought in from other states. They ought to be forewarned about it.”



# Valley fever cases and rates, CA, 1995–2016

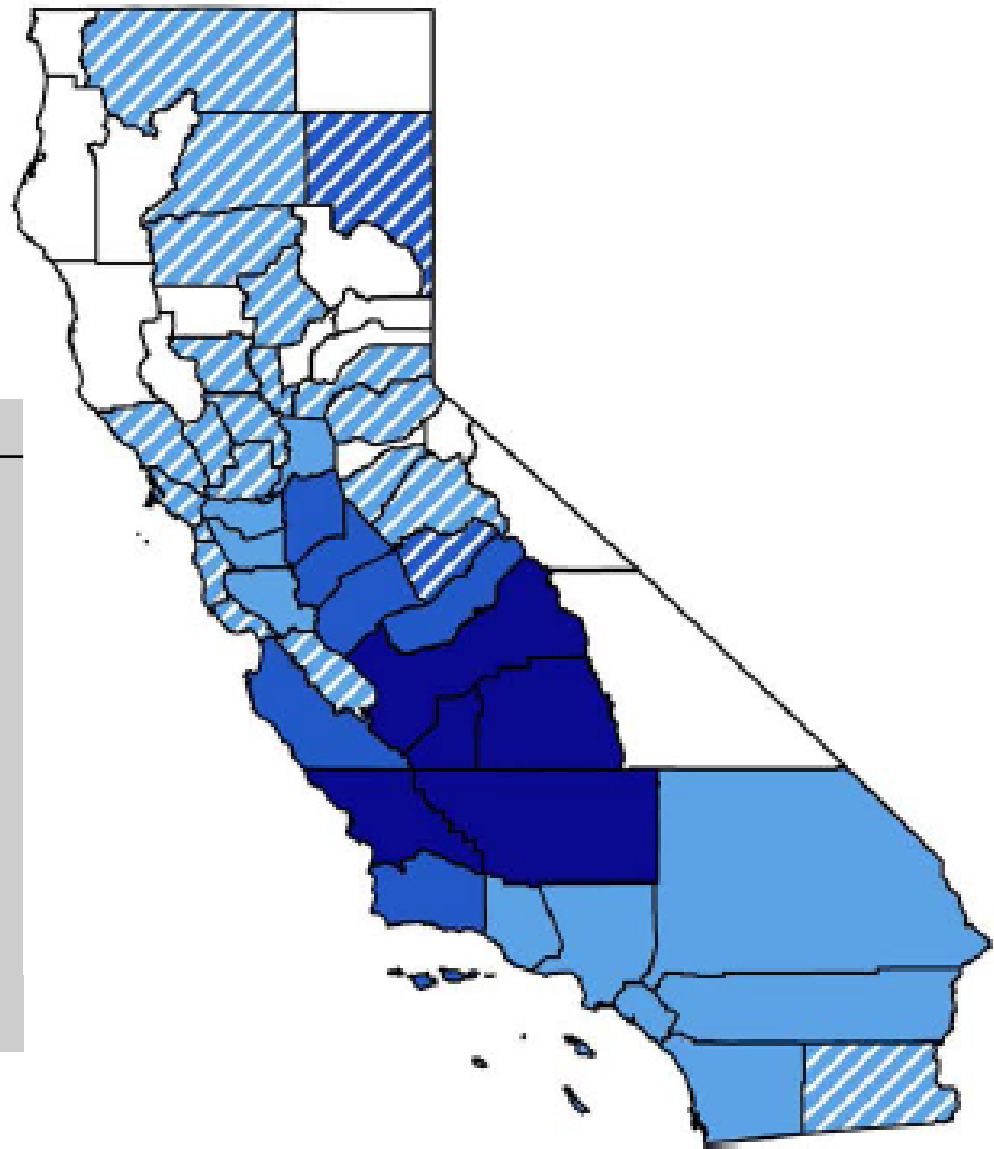


Sondermeyer Cooksey et al (2017). Increase in coccidioidomycosis — California, 2016. *Morb Mortal Weekly Rep.* 66(31): 833–834

# Incidence by county, 2016

High rate counties*	Rate
Kern	251.7
Kings	157.3
San Luis Obispo	82.8
Fresno	60.8
Tulare	45.3
Madera	31.5
San Joaquin	25.3

\*70% of CA cases



Cases per 100,000 population

0.0

14.0—41.0

Potentially unreliable rate,

0.1—13.0

42.0—252.0

relative standard error 23 percent or more

# 2<sup>nd</sup> investigation in solar farm construction: Cal Flats, Monterey County

- Alert local health depts. ID'd initial cases
- 7 illnesses confirmed as linked to site + 2 probable
- Missed work 1 day to 10 months, 1 hospitalized
- Multiple job titles
- Cal/OSHA citations for inadequate training, respirator programs: >\$240,000, 6 employers



# Clear need for more education & discussion with industry

## VALLEY FEVER

Coccidioidomycosis or "cocci"

**Do you work outdoors?**

**Have you had a cough, fever, or painful breathing for more than two weeks?**

**REPORT SYMPTOMS TO YOUR EMPLOYER AND SEE A DOCTOR ABOUT VALLEY FEVER**

Valley Fever is caused by a fungus that lives in soil or dirt in some areas of California.

You can get it by breathing in dust where the fungus grows.

**ANYONE** can get Valley Fever. Even healthy people.

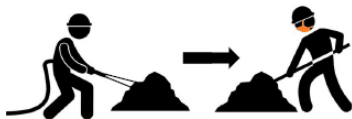
People who work outdoors in dirt or dusty areas where the Valley Fever fungus grows may be at more risk of getting sick, especially those who do activities such as:

- Digging
- Truck driving
- Construction work
- Operating heavy machinery



If you work outdoors in such areas:

- Stay upwind of dirt disturbance,
- Wet soil before digging,
- Wear a respirator, or
- Ask your employer about other ways to keep dust down



For more information, visit <http://bit.ly/cdphvwork> or call the CDPH Workplace Hazard Helpline (866) 282-5516

California Department of Public Health  
[www.cdph.ca.gov](http://www.cdph.ca.gov)



## Preventing Work-Related Coccidioidomycosis (Valley Fever)

Valley Fever is an illness that usually affects the lungs. It is caused by the fungus *Coccidioides immitis* that lives in soil in many parts of California. When soil containing the fungus is disturbed by digging, vehicles, or by the wind, the fungal spores get into the air. When people breathe the spores into their lungs, they may get Valley Fever.

### Is Valley Fever a serious concern in California? YES!

Often people can be infected and not have any symptoms. In some cases, however, a serious illness can develop which can cause a previously healthy individual to miss work, have long-lasting and disabling health problems, or even result in death.

This fact sheet describes actions employers can take to prevent workers from getting Valley Fever and to respond appropriately if an employee does become ill.



➤ In October 2007, a construction crew excavated a trench for a new water pipe. Within three weeks, 10 of 12 crew members developed coccidioidomycosis (Valley Fever), an illness with pneumonia and flu-like symptoms. Seven of the 10 had abnormal chest x-rays, four had rashes, and one had an infection that had spread beyond his lungs and affected his skin. Over the next few months, the 10 ill crew members missed at least 1660 hours of work and two workers were on disability for at least five months.



**HAZARD EVALUATION SYSTEM & INFORMATION SERVICE**  
California Department of Public Health, Occupational Health Branch  
850 Marina Bay Parkway, Building P, 3rd Floor, Richmond, CA 94804  
510-620-5757 • [www.cdph.ca.gov/programs/ohb](http://www.cdph.ca.gov/programs/ohb)

JUNE 2013

California Department of Public Health • California Department of Industrial Relations

Public health emergencies:  
Wildfires and Hepatitis A



# Wildfire smoke and ash: Respirator use by the general public

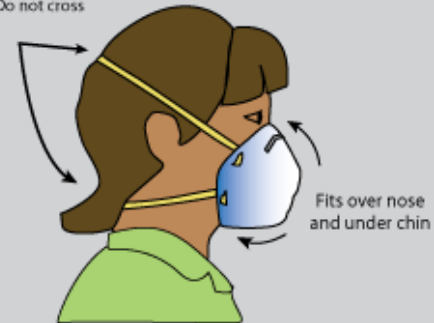


The right respirator\* and proper fit can reduce your exposure to wildfire smoke.

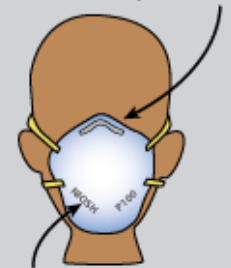
Cloth (wet or dry), paper masks, and tissues will **NOT** filter out wildfire smoke. Look for respirators (masks) marked NIOSH with N95 or P100. They can be found online, or in hardware, home repair, or drugstores.

\* Respirators are not designed to fit children. Facial hair prevents proper fit and reduces effectiveness.

1 strap above and 1 strap below ears  
Do not cross



Pinch bar to shape of nose



NIOSH with N95 or P100

Respirator should collapse as you breathe in and not let air in from the sides.

Ask your doctor before using if you have heart or lung health issues.

Throw mask away if it's dirty or you find it difficult to breathe.

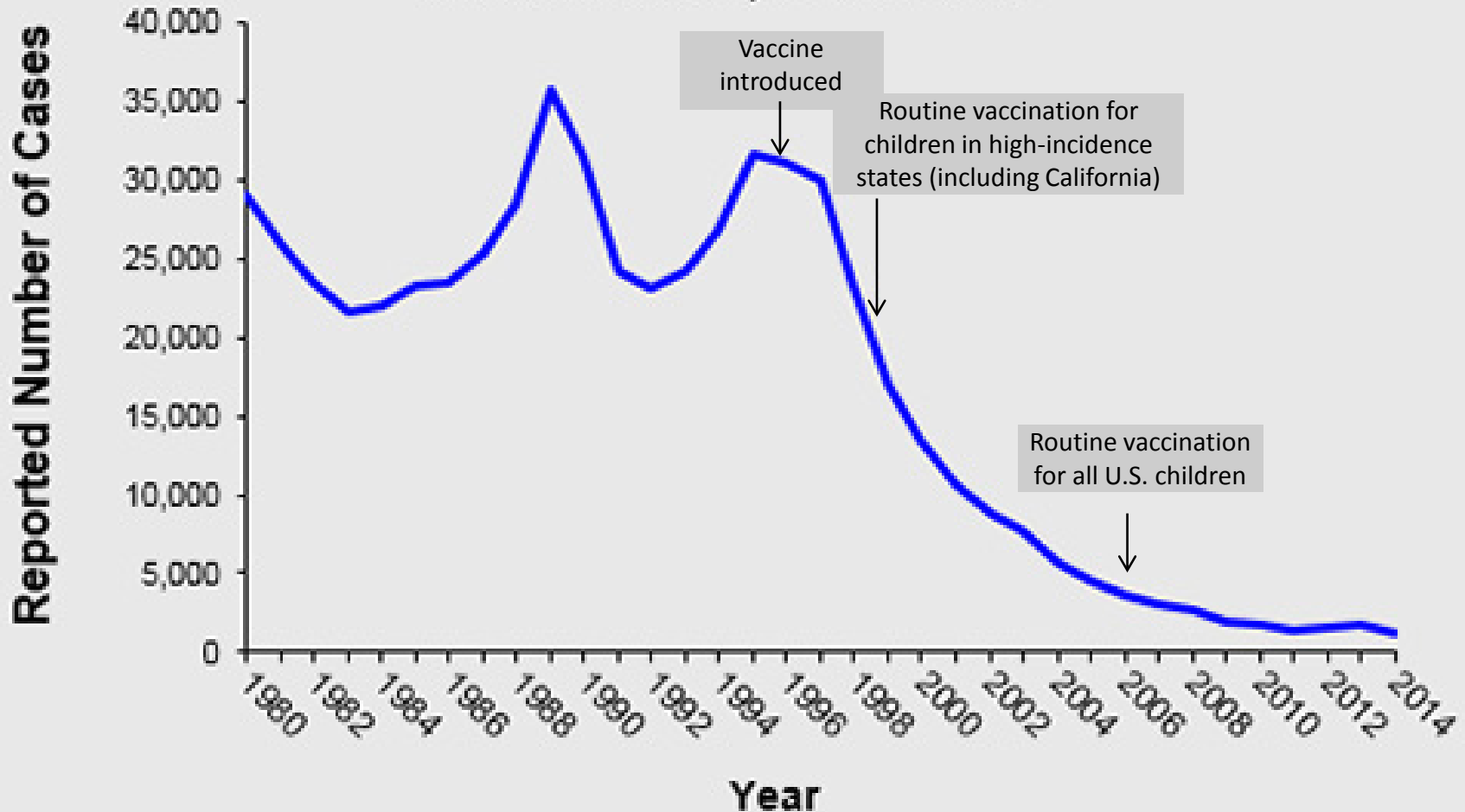
If you are dizzy or nauseous, go to where there is less smoke and seek medical attention.

Use a respirator only after first trying other, more effective methods to avoid smoke. That includes staying indoors and reducing activity. When possible, people at risk should move away from the smoky area.

# Hepatitis A outbreak, California, 2016-2017

- Groups disproportionately affected:
  - People who are experiencing homelessness and/or
  - Use illicit drugs in a setting of limited sanitation
- Virus genotype associated with the outbreak is IB
- Three jurisdictions have declared outbreaks: San Diego, Santa Cruz, Los Angeles
  - Outbreak-associated cases also identified in other jurisdictions

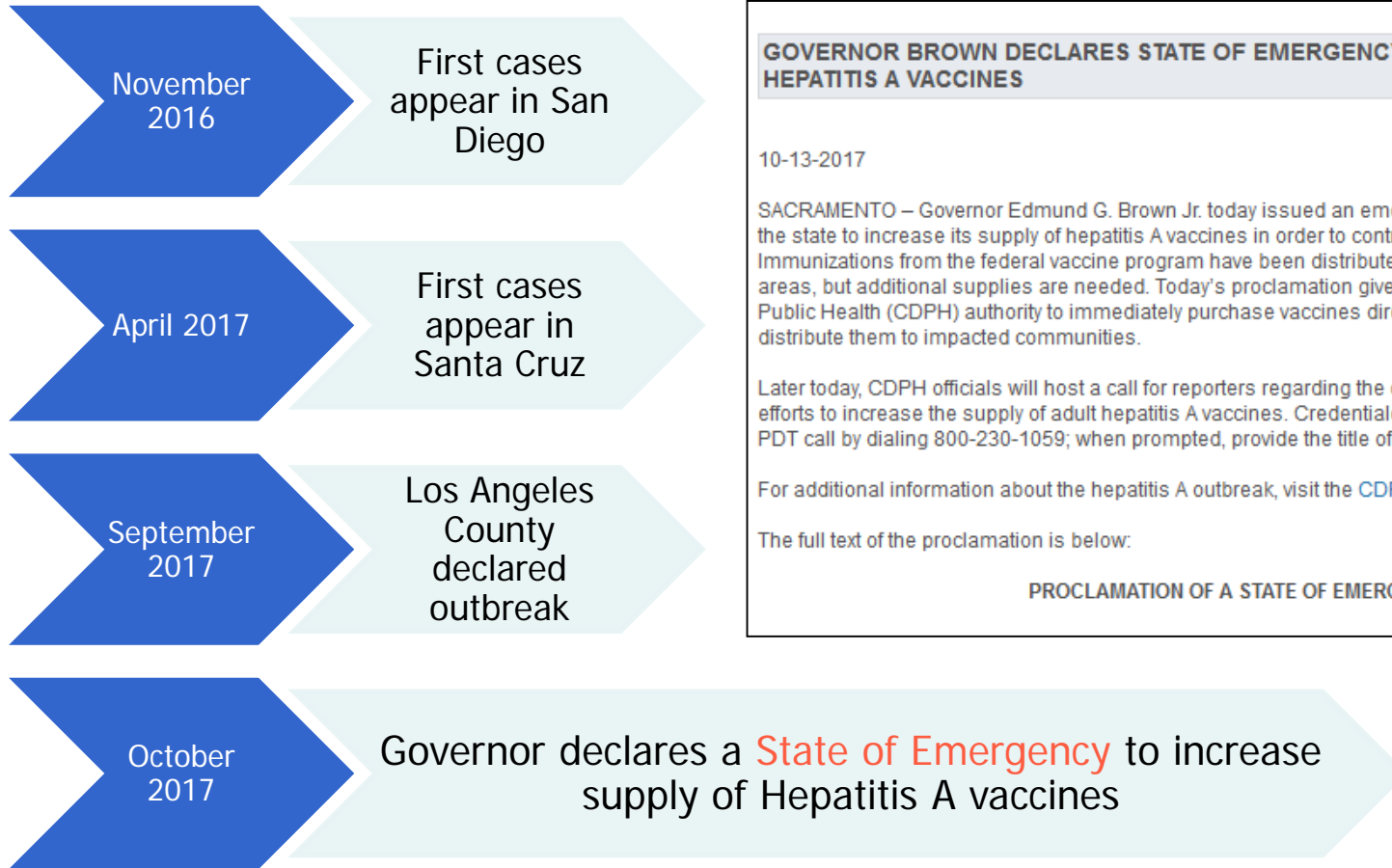
## Incidence of hepatitis A, by year United States, 1980-2014



Source: CDC (adapted)

<https://www.cdc.gov/hepatitis/hav/havfaq.htm>

# Hepatitis A outbreak timeline



## GOVERNOR BROWN DECLARES STATE OF EMERGENCY TO INCREASE SUPPLY OF HEPATITIS A VACCINES

10-13-2017

SACRAMENTO – Governor Edmund G. Brown Jr. today issued an emergency proclamation that allows the state to increase its supply of hepatitis A vaccines in order to control the current outbreak. Immunizations from the federal vaccine program have been distributed to at-risk populations in affected areas, but additional supplies are needed. Today's proclamation gives the California Department of Public Health (CDPH) authority to immediately purchase vaccines directly from manufacturers and distribute them to impacted communities.

Later today, CDPH officials will host a call for reporters regarding the current hepatitis A outbreak and efforts to increase the supply of adult hepatitis A vaccines. Credentialed media may join the 2:00 p.m. PDT call by dialing 800-230-1059; when prompted, provide the title of the call: "Hepatitis A CDPH."

For additional information about the hepatitis A outbreak, visit the [CDPH website](#).

The full text of the proclamation is below:

**PROCLAMATION OF A STATE OF EMERGENCY**

# Hepatitis A transmission

- Person-to-person through fecal-oral route
- Common source outbreaks
  - Food contaminated with feces
- Rarely transmitted via blood or blood products
  - Thus **healthcare workers** are not typically vaccinated

# Hepatitis A outbreak summary data through November 24, 2017

Jurisdiction	Cases	Hospitalizations	Deaths
San Diego	561	378	20
Santa Cruz	76	33	1
Los Angeles	11	8	0
Other	17	7	0
Total	665	426	21

Largest person-to-person outbreak in the U.S.  
since vaccine has been available

# Hepatitis A virus control

- Virus can be stable for months in the environment
- Inactivated by bleach & disinfectants effective for norovirus
- Alcohol hand sanitizers not effective
- **WASH YOUR HANDS!**





# Sanitation interventions

- Handwashing stations and bathroom facilities
- Effective cleaning of public restroom facilities
- Housing for hepatitis A cases who are still infectious



# Vaccination is an essential component of the response in outbreak areas

- Homeless and illicit drug users in:
  - Health facilities: emergency departments, clinics
  - Jails, transitional housing, substance use disorder treatment facilities, needle exchange programs, behavioral health centers
  - Homeless encampments, parks
- **Workers** in close contact with these clients & their environments, including:
  - Homeless service providers
  - Healthcare personnel, jail staff
- Food handlers county-wide



Emerging issue:  
Cannabis

# Cannabis: New CDPH roles

- Educate public
- Regulate manufactured cannabis products
- OHB: Consider risks to workers
  - Grow/production industries
  - Use in the workplace



# OHB: Cannabis industry risks to workers



Site visit to indoor grow operation



- Small operation w/o H&S staff
- Generally using safer pesticides
- Ergonomics (bud trimming) may be greatest hazard



# Resources for employers

- Colorado: **Guide to Worker H&S in the Marijuana Industry**

<https://www.colorado.gov/pacific/cdphe/marijuana-occupational-safety-and-health>

- Canada: **Workplace Strategies: Risk of Impairment from Cannabis**

<http://www.ccohs.ca/products/publications/cannabis/>

- UC COEH: Upcoming event



<https://www.regonline.com/builder/site/Default.aspx?EventID=2062246>

Education & outreach:  
Some highlights from 2017



# New/improved CDPH & OHB websites

The screenshot shows the homepage of the Occupational Health Branch (OHB) website. At the top left is the California Department of Public Health logo. To its right is a search bar with the text "Search this site". Below the search bar are four navigation tabs: "I am looking for", "I am a", "Programs", and "A-Z Index". A breadcrumb trail reads "Home | Health And Safety | Workplace Health | Occupational Health Branch". A large blue banner at the top of the main content area contains the text "OCCUPATIONAL HEALTH BRANCH". On the left side, there is a vertical menu with the following items: "OHB Home", "What We Do", "What's New at OHB", "Publications & Videos", "Contact OHB", "Publications by Hazard", and "Workplace Health & Safety Resources". The main content area features a paragraph: "The Occupational Health Branch (OHB) is devoted to improving worker health and safety through prevention activities." Below this text are four image-based sections: "What We Do" (two workers in hard hats), "Publications & Videos" (a worker in a hazmat suit), "Data & Statistics" (a vineyard with workers), and "Get Our Latest Updates" (a worker in white overalls).

California Department of  
**PublicHealth**

Search this site

I am looking for  
I am a  
Programs  
A-Z Index

Home | Health And Safety | Workplace Health | Occupational Health Branch

## OCCUPATIONAL HEALTH BRANCH

OHB Home  
What We Do  
What's New at OHB  
Publications & Videos  
Contact OHB  
Publications by Hazard  
Workplace Health & Safety Resources

The Occupational Health Branch (OHB) is devoted to improving worker health and safety through prevention activities.

**What We Do**

**Publications & Videos**

**Data & Statistics**

**Get Our Latest Updates**

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

# Disinfectants & asthma

- Focus of OHB programs on asthma & pesticides
- Fact sheets for employers & workers (5 languages)
- Messages:
  - Avoid disinfectant use where unnecessary
  - Choose safer products

[www.cdph.ca.gov/WRAPP](http://www.cdph.ca.gov/WRAPP)

 **california work-related asthma prevention program**

Occupational Health Branch  
California Department of Public Health 

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## DISINFECTANTS AND WORK-RELATED ASTHMA: INFORMATION FOR EMPLOYERS

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**S**ome ingredients found in disinfectants and sanitizers can trigger work-related asthma. They may also cause new asthma. Avoid ingredients that are known to cause asthma, like bleach (sodium hypochlorite), quaternary ammonium compounds (benzalkonium chlorides), and glutaraldehyde. Disinfectants and sanitizers are classified as pesticides so there are extra regulations to keep in mind—the label must be followed exactly. Usually, regular cleaning with asthma-safer cleaners and microfiber is adequate to maintain a clean and healthy workplace. Disinfecting is often unnecessary.



Photo: Custodian using a microfiber cloth

**WORK-RELATED ASTHMA IN CALIFORNIA**  
The Work-Related Asthma Prevention Program (WRAPP) tracks information about Californians with asthma related to their work and helps reduce asthma in the workplace. WRAPP has found over 250 work-related asthma cases associated with disinfectant exposures in many indoor work settings—including schools, hospitals, offices, and manufacturing.

**CASE REPORTS**

**Use of disinfectant sent a fellow employee to the emergency room**  
A 48-year-old woman with asthma worked as an office clerk at a training center. A coworker sprayed a disinfectant to clean a reception counter near the office clerk's desk. The office clerk right away began having severe asthma symptoms and had to be taken to the hospital by ambulance. To prevent another reaction, the office changed products, but used an even stronger disinfectant. The clerk had to go to the emergency room again. The office finally switched to non-disinfectant cleaning products that are safer for the clerk's asthma.

**A medical records clerk developed asthma from disinfectant wipes**  
A 57-year-old woman worked as a medical records clerk and had no history of asthma. A coworker repeatedly used disinfectant wipes on their shared workstation, and the clerk developed asthma that worsened over several months. Her asthma was triggered whenever anyone used a disinfectant in her area. She had to leave her job due to her breathing problems.

FEBRUARY 2017

# Wood dust & asthma

- Updated booklet for exposed workers
- Highlights wood types that cause asthma
- Cal/OSHA standards
  - Wood dust PEL: 2 mg/m<sup>3</sup> (8-hr), 5 mg/m<sup>3</sup> STEL
  - Western red cedar PEL: 0.5 mg/m<sup>3</sup>





Latest digital story:  
Protecting oil & gas workers from  
hydrocarbon gases & vapors



# Online, free Continuing Medical Education: Occupational/environmental health topics

- Adult lead poisoning overview (updated)
- Adult lead poisoning for occupational medicine providers (new!)
- Childhood lead poisoning
- Occupational coccidioidomycosis (updated)
- Mercury exposure and health effects
- Benefits & risks of seafood consumption

(content relevant for ABIH certification maintenance)

**OHB:** Source of data on  
injuries, illnesses, hazards

# Occupational Health Indicators

- Data on OHIs produced by ~25 NIOSH-funded state programs
- OHB has access to numerous data sources
- Responds to data requests

## California Occupational Health Indicators

Annual measures of worker health and safety  
for years 2008-2013

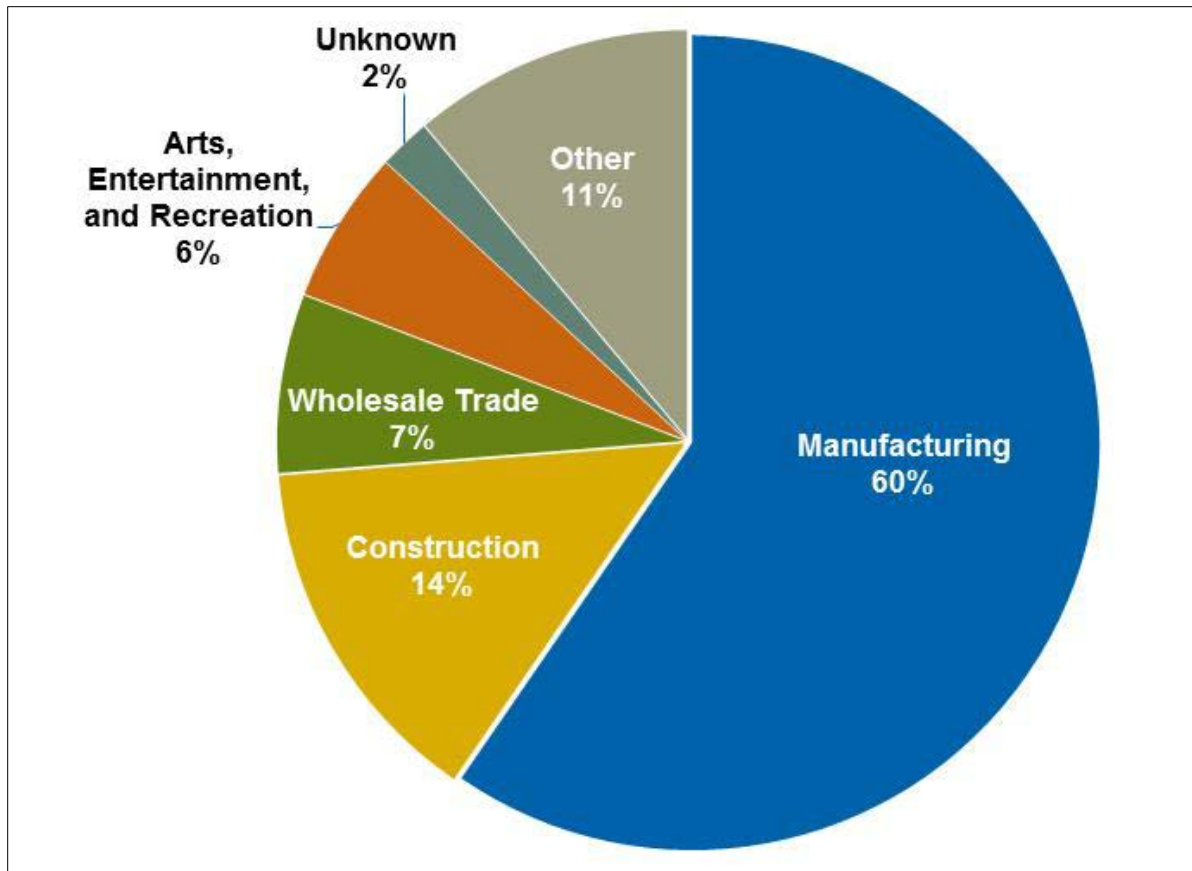


March 2017



# Occupational lead poisoning data

Worker blood lead levels  $\geq 10$  ug/dL by industry sector, CA, 2012-2014



# Hazardous ingredients in cosmetic products

- 1<sup>st</sup> data report issued by CA Safe Cosmetics Program
- Products with ingredients known to cause cancer or reproductive or developmental harm
- Data reported by manufacturers & distributors

## Cosmetics Containing Ingredients Linked to Cancer or Reproductive Harm

*Data Reported to the  
California Safe Cosmetics Program  
2009-2015*



# Stay in touch with OHB

E-newsletter:

*Occupational Health  
Watch*

Subscribe:

[OHW@cdph.ca.gov](mailto:OHW@cdph.ca.gov)

October 2017

**OHB** Occupational Health Watch  
An Update from the Occupational Health Branch • California Department of Public Health

**Focus on...**

## Prevent Lead Exposure at Work

Lead Poisoning Prevention Week (October 22-28) reminds us that too many workers are still exposed to lead on the job [\[see our 2012-14 report \(PDF\)\]](#). See the resources below and [contact us](#) if you would like more information or hard copies of [printed materials](#) to share with workers.


CDPH has a NEW free [continuing medical education course \(CME\)](#) for occupational medicine providers, designed for physicians who oversee blood lead testing programs. This course provides a comprehensive review of occupational lead exposure, and highlights medical management guidelines and efforts to update the Cal/OSHA lead standards.

Visit the [Occupational Lead Resources web page](#) to learn how to recognize and prevent lead poisoning in the workplace. Download resources to educate workers, employers, medical providers, advocates, and policymakers about prevention, such as:

- a newly updated [Worker Hazard Alert – Health Dangers from Lead \(PDF\)](#) in English and [Spanish](#)
- and the classic video, [Lead's Revenge](#), a telenovela style training video about lead and ladder safety.

You can also use social media to spread the word about the video and resources for workers and providers. Be sure to include the [#LeadPoisoning hashtag](#).

[Forward to a Friend](#)



A worker attaches sampler for lead dust on a painter.

## Resources

[Free Online CME](#)


[Online Lead Resources](#)

[Worker Hazard Alert | Spanish \(PDF\)](#)

["Lead's Revenge" Video](#)

[BLLs in CA Workers \(PDF\)](#)

[OHB](#) improves California worker health and safety through prevention activities. We gather information on job hazards, test new approaches to prevent worker injury and illness, and help make changes at the workplace.



# Use our resources & services

- OHB website: [www.cdph.ca.gov/OHB](http://www.cdph.ca.gov/OHB)
- Workplace hazard helpline:  
1-866-282-5516 (toll-free in CA)
- Invite us to speak at your events
- Barbara Materna, PhD, CIH  
Chief, Occupational Health Branch  
California Department of Public Health  
850 Marina Bay Pkwy, P-3  
Richmond CA 94804  
[barbara.materna@cdph.ca.gov](mailto:barbara.materna@cdph.ca.gov) or 510-620-5730