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

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California Department of Public Health

CIHC Prof. Dev. Seminar – December 10, 2018

Overview

- Intro to the CDPH Occupational Health Branch
- Focus on work-related asthma
- Highlights from a few other projects
  - Wildfire response
  - Valley fever prevention
  - New injury prevention activities
- How to stay in touch & use our resources

Promoting safe and healthy workplaces across California

OHB Health & Safety Code mandates

Sections 105175-105180

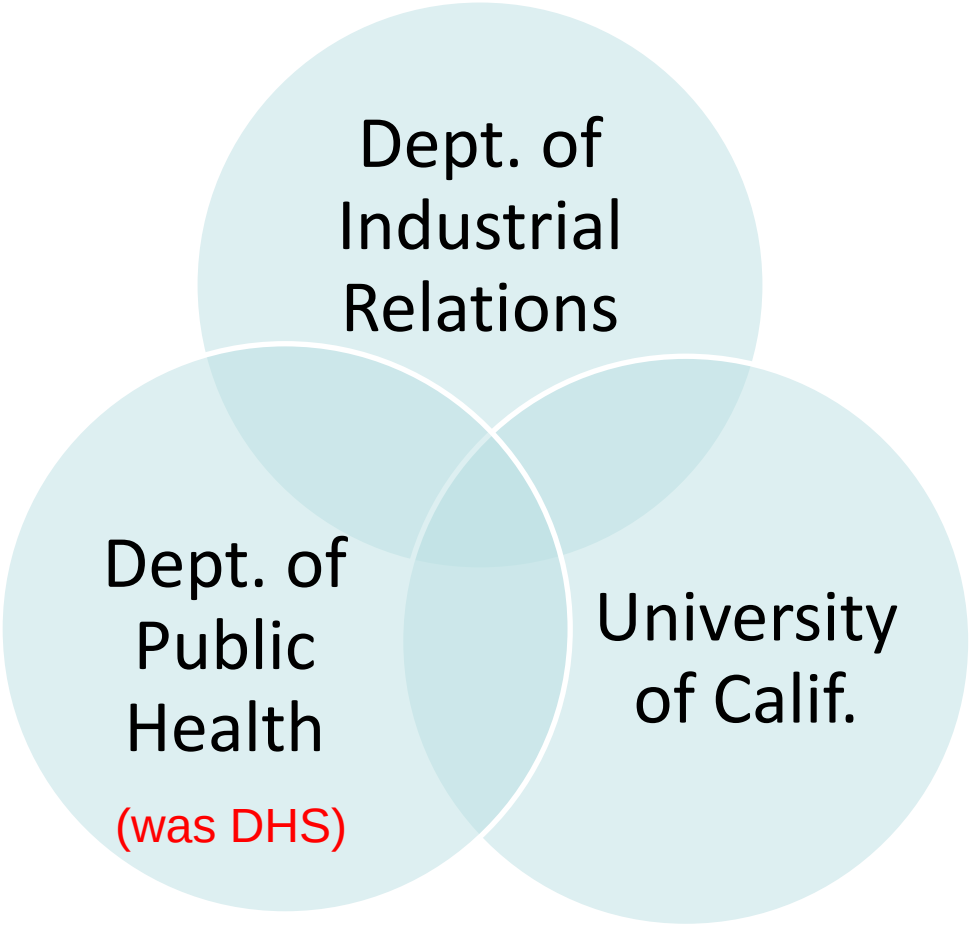
- Determine causes of work-related disease & injury
- Collect/summarize/analyze data
- Develop prevention recommendations
- Provide technical assistance
- Know how hazards and work processes impact health

OHB mandates added in 1978

- Evaluate scientific & other info to identify hazards
- Provide practical “early warning” on hazards & how to protect workers
- Recommend new/revised standards

Since 1978: CA gov't infrastructure for OH

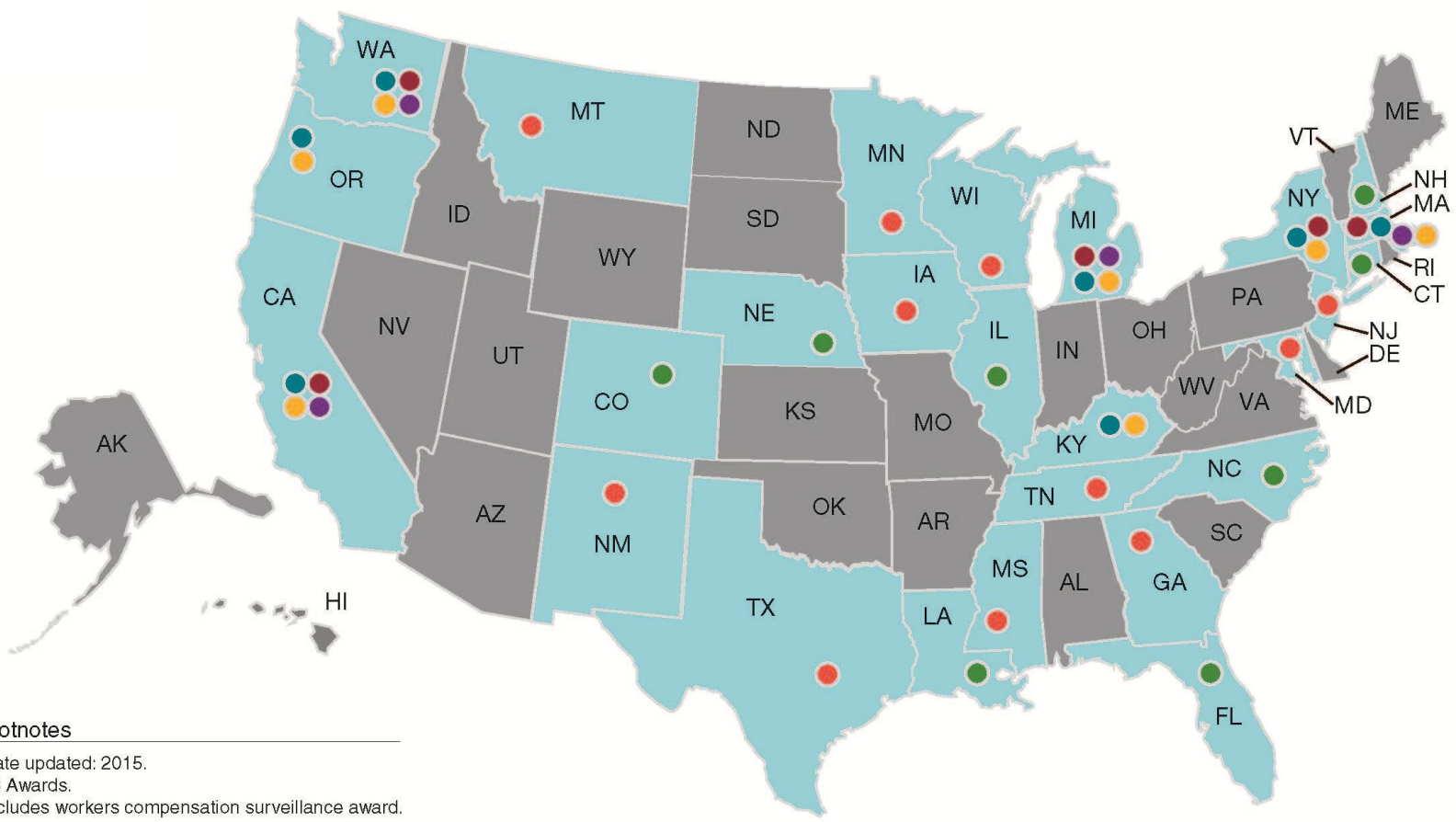
Regulations, enforcement,
workers' compensation



Surveillance, investigation, intervention

Research & training professionals

26 states funded by NIOSH for occupational public health

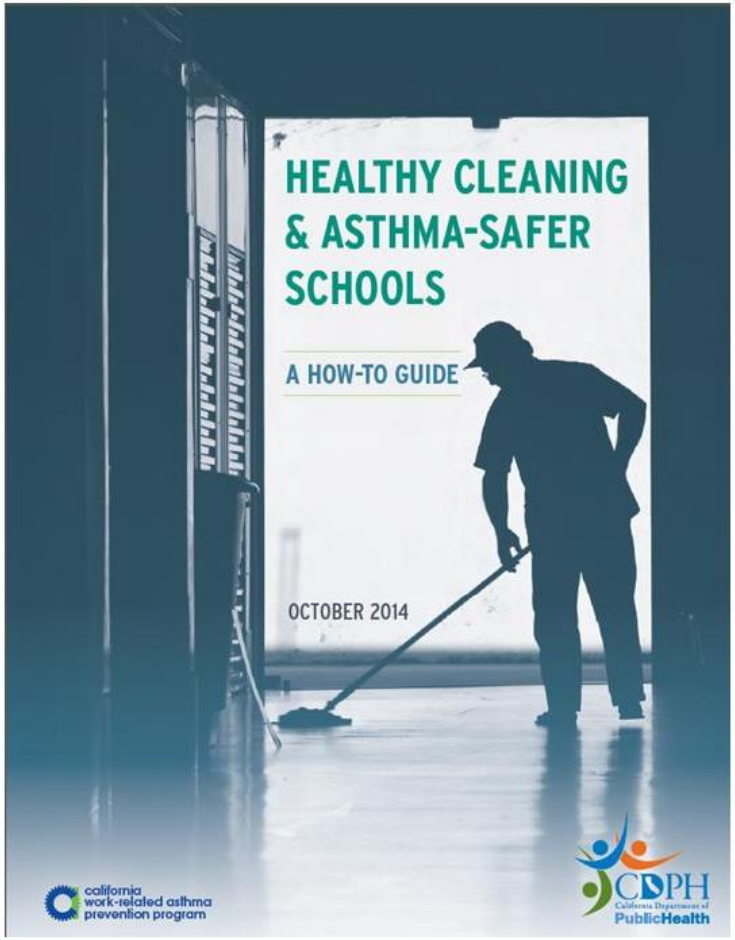


Footnotes

*Date updated: 2015.
†26 Awards.
‡Includes workers compensation surveillance award.

Health topics with specific funding

- Lead poisoning
- Asthma
- Acute pesticide-related illness
- Fatal/nonfatal injury
- Chemical emergencies & natural disasters
- Cosmetics safety



Meet OHB's industrial hygienists

Justine Weinberg

Jennifer McNary

Nina Townsend

Jackie Chan

This could be you!

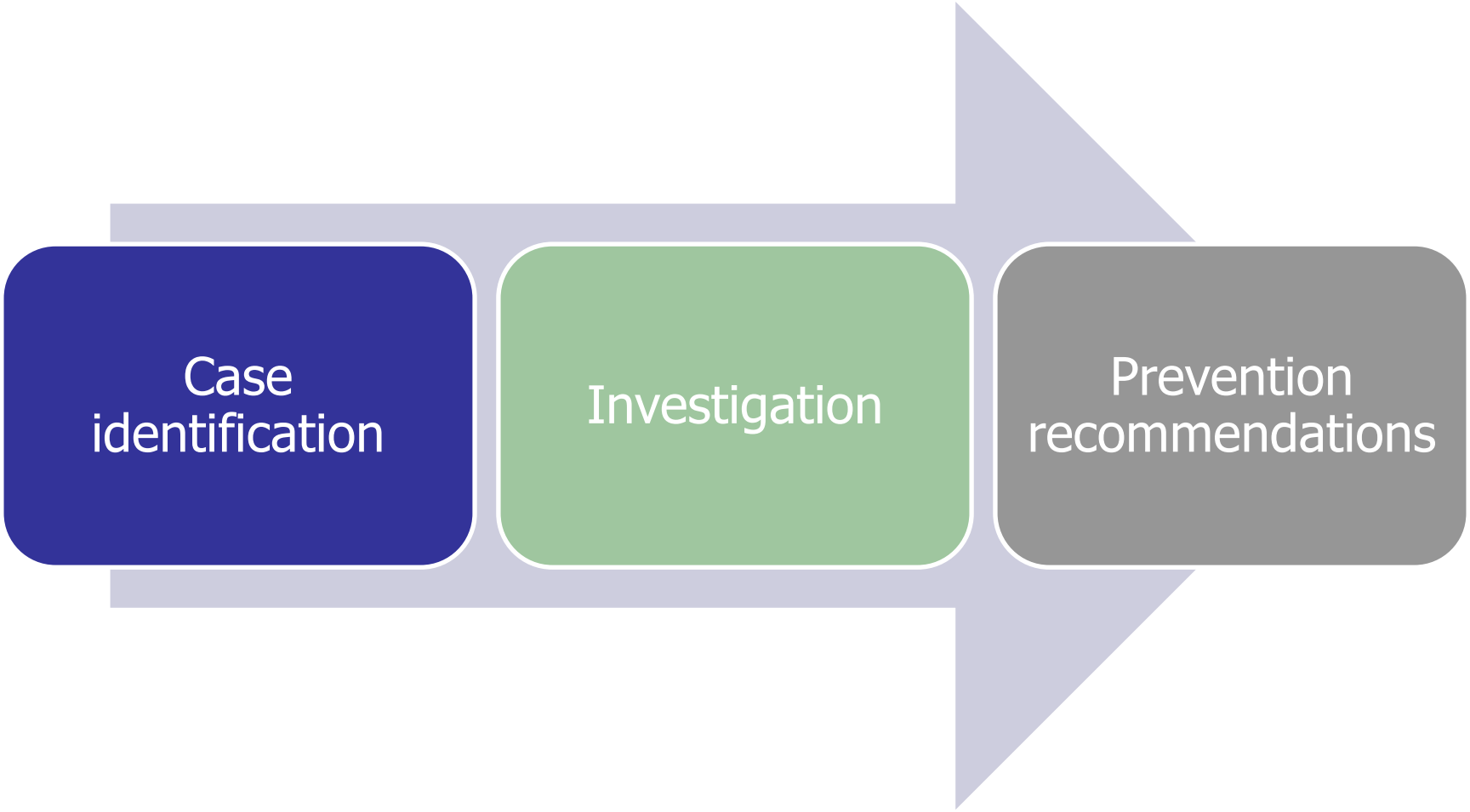
Focus on work-related asthma (WRA)

23 YEARS OF SURVEILLANCE AND PREVENTION

Case report: High school custodian

- 41-year-old custodian, worked at a high school 4 years, no asthma history
- Cleaned bathrooms, performed graffiti removal
- No safety training
- Developed difficulty breathing and coughing, >12 ER visits, diagnosed with bronchitis
- Symptoms improved when off work
- Transferred to elementary school

Case-based public health surveillance



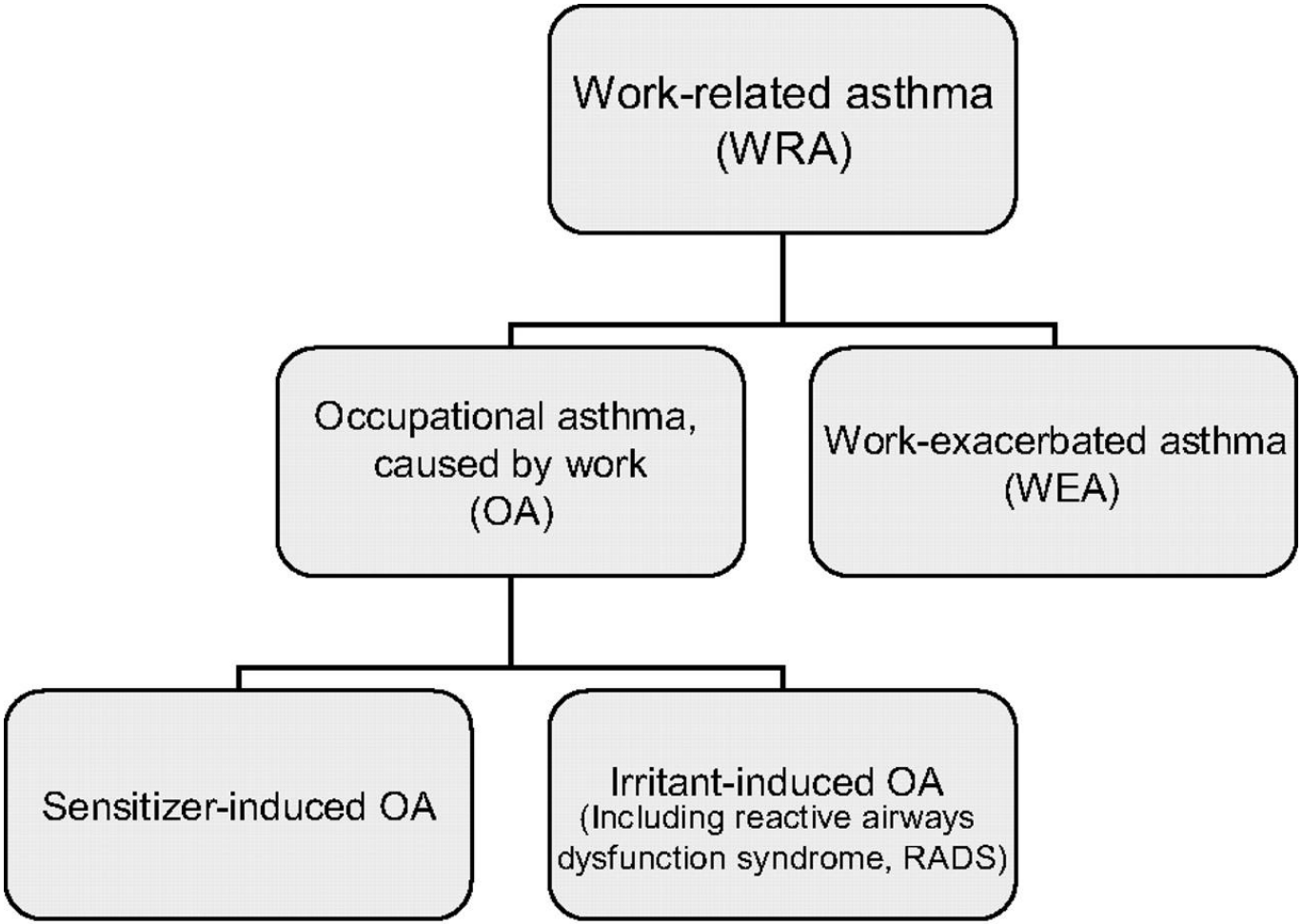
California's WRA surveillance

- Case data from 4 sources
  - Physician diagnosis + temporal association with work
- Conduct worker interviews & review medical records
- Selected worksite visits
- Identify risk factors – who's getting it and how
- Calculate rates by industry and occupation
- Case reports

State-based WRA surveillance

NIOSH funding for 5 states: CA, WA, MI, MA, NJ

Clinical classification of WRA

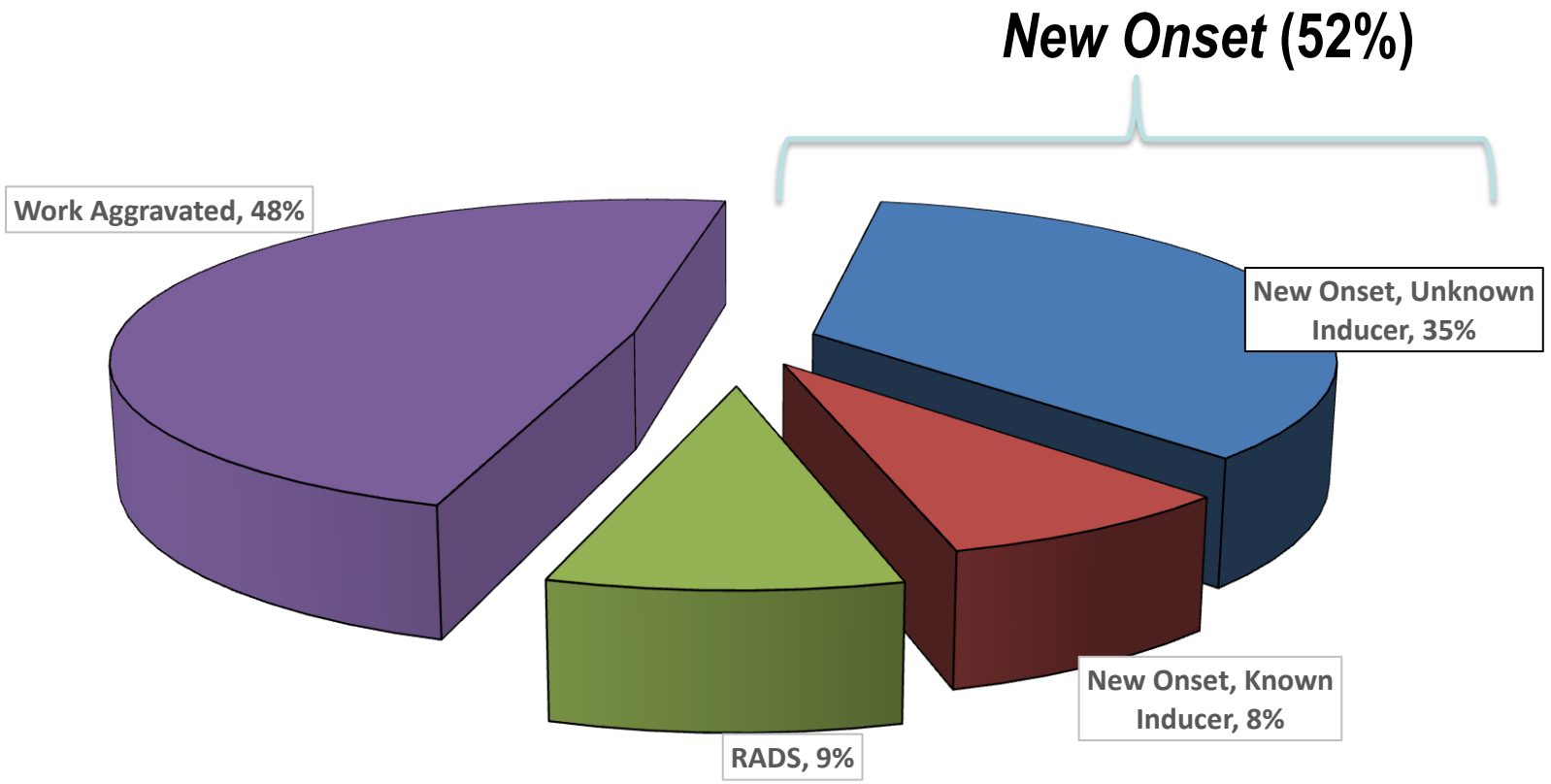


These groupings are not mutually exclusive; e.g. OA can be followed by WEA

Classification of confirmed cases

California Work-related Asthma Prevention Program (WRAPP) Surveillance Data, 1993-2015

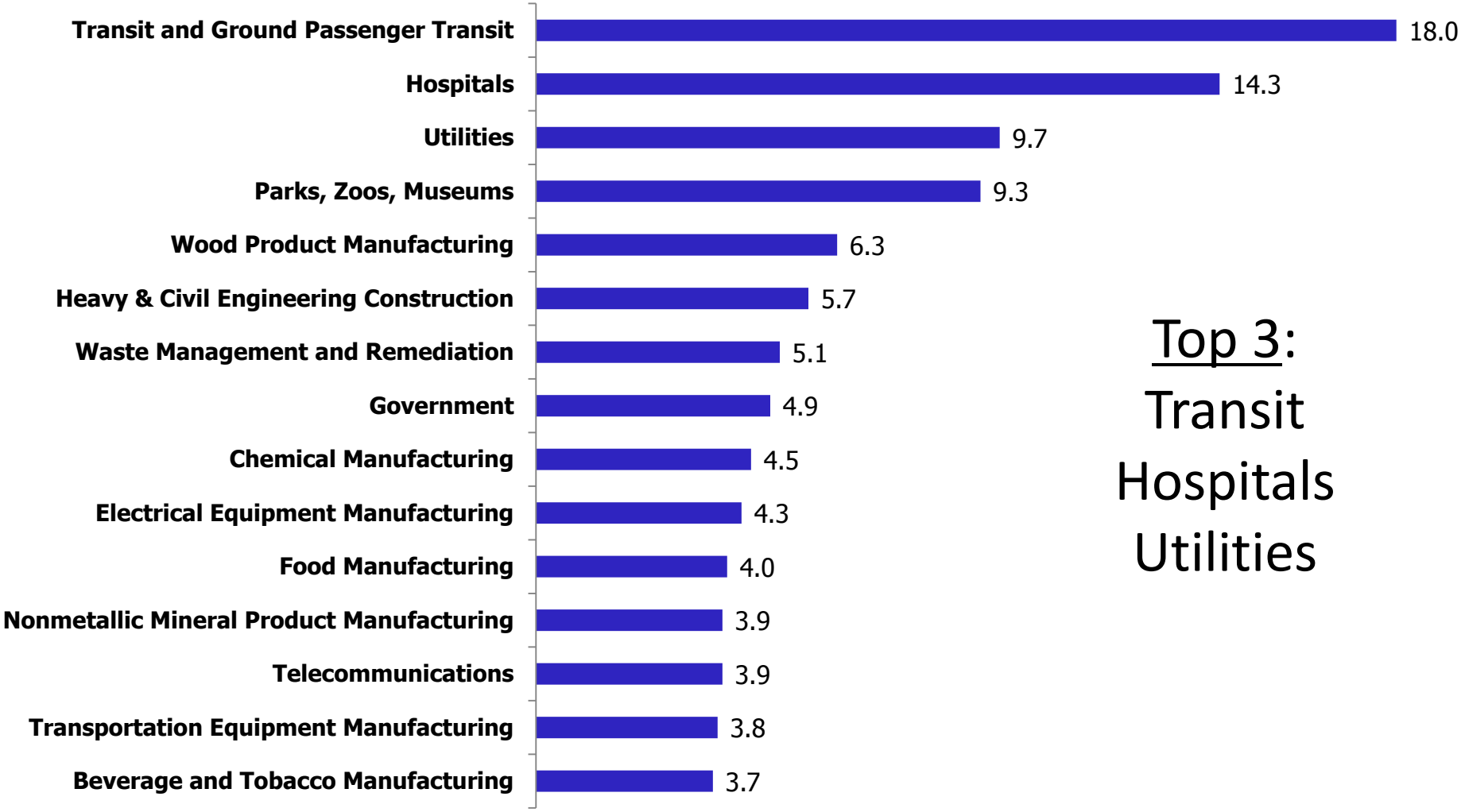
(n=3,740 classified cases*)



*Note: 5,335 (59%) additional cases were confirmed, but could not be classified

Industries with highest WRA rates

California Work-related Asthma Prevention Program (WRAPP) Surveillance Data, 1993-2015



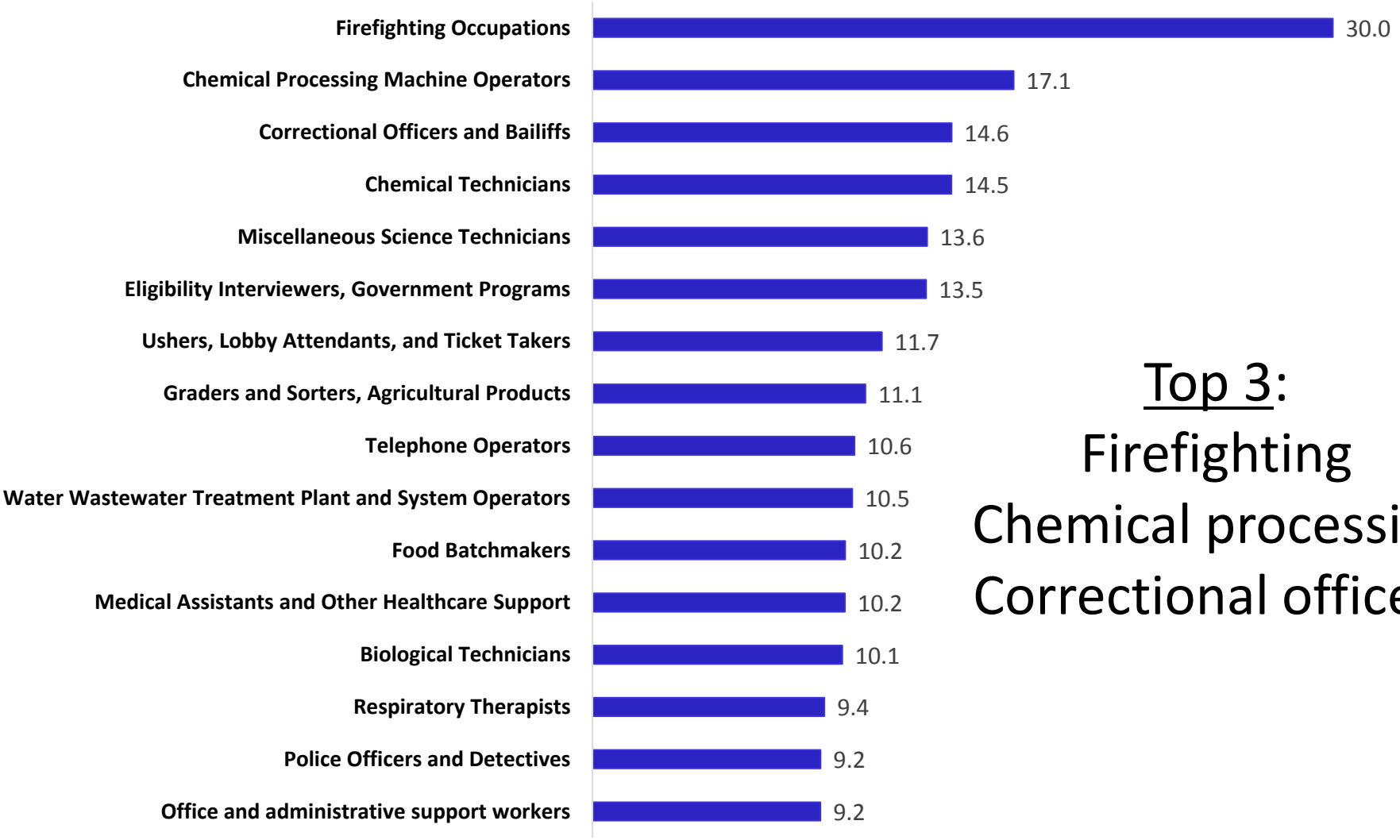
Top 3:
Transit
Hospitals
Utilities

N=9,075

Bus cleaner removing graffiti

Occupations with highest WRA rates

California Work-related Asthma Prevention Program (WRAPP) Surveillance Data, 1993-2015



Rate per 100,000 workers

N=9,075

<u>Top 3</u>:

Firefighting

Chemical processing

Correctional officers

Exposures reported by top 10 occupations with highest rates

Occupation	Most Common Exposures
Firefighting Occupations	Smoke, chemicals
Chemical Processing Machine Operators	Chemicals, bleach, acids, solvents, sulfur dioxide
Correctional Officers and Bailiffs	Pepper spray/mace, smoke, mold, cleaning chemicals
Chemical Technicians	Chemicals, solvents, acids
Miscellaneous Science Technicians	Animal antigens, dust, acids, chemicals
Eligibility Interviewers, Government Programs	Indoor air pollutants, smoke, paint
Ushers, Lobby Attendants, and Ticket Takers	Smoke, indoor air pollutants
Graders and Sorters, Agricultural Products	Chlorine, pesticides, cleaning materials, bleach
Telephone Operators	Dust, chemicals, perfume
Wastewater Treatment Plant and System Operators	Chemicals, dust, indoor air pollutants from building renovation

Most common exposures reported by cases

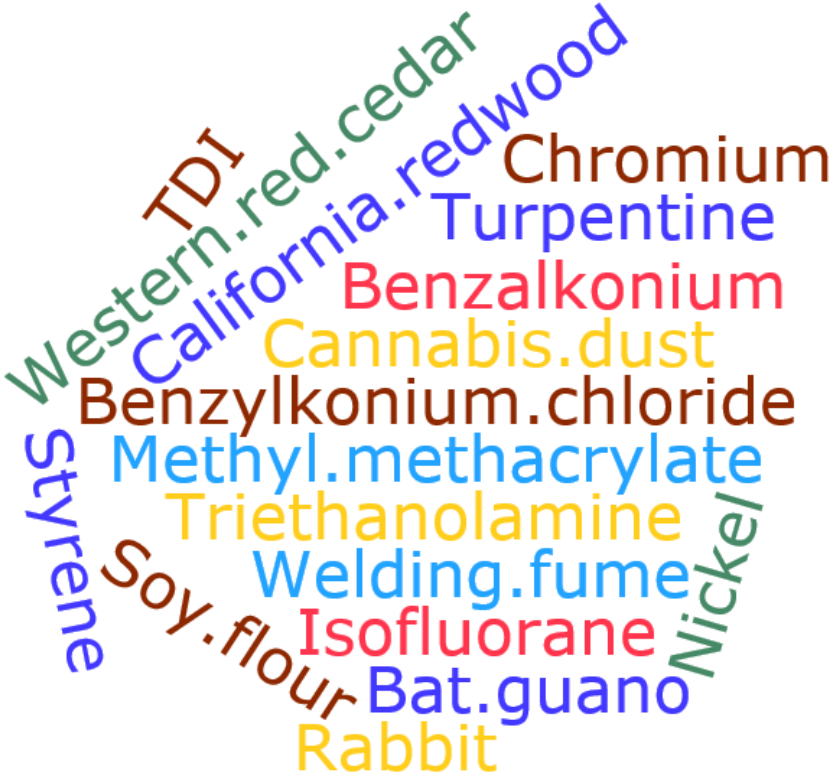
Dust
Unspecified Chemicals
Smoke
Mold
Indoor Air Pollutants
Cleaning Agents
Paint
Indoor Air Pollutants from Building Renovation
Perfume
Pesticides
Bleach
Cigarette Smoke
Glues
Plant Materials
Asphalt

Most common asthmagens reported by cases

Bleach
Chlorine
Ammonia
Latex
Formaldehyde
Sulfuric Acid
Glutaraldehyde
Diisocyanates
Rat Antigens
Quaternary Ammonium Compounds
Flour
Epoxies
Hydrochloric Acid
Cat
Mice

List of 346 recognized occupational asthmagens

Compiled by the Association of Occupational and Environmental Clinics (AOEC) www.aoecdata.org



Limitations of WRA surveillance

Known undercount – many affected workers don't get into the system

- Workers
  - Don't make the connection to work
  - Don't know hazards of chemicals they're working with
  - Afraid to report symptoms to employer
- Health care providers
  - Don't think or ask about work
  - Don't know about health effects of chemicals

Population data on WRA in California

- Population-based survey data show an estimated 1,210,487 CA adults have asthma that has been caused or made worse by work
- This represents nearly half of all adults with current asthma
- WRA is not rare

2012 Behavioral Risk Factor Surveillance System Asthma Call Back Survey

WRA and disability

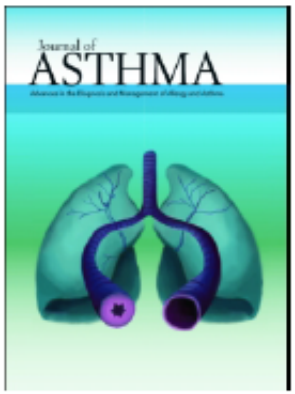
- High rates of job loss/job change determined by working conditions
- Substantial income reduction after 3 years in >50% affected
- Impaired quality of life:
  - increased symptoms
  - activity limitation
  - emotional dysfunction

Preventing WRA

- Primary prevention
  - Identify hazards, follow hierarchy of controls
  - PELs less relevant
- Secondary prevention
  - Detect early to minimize severity and duration
- Tertiary prevention
  - Provide appropriate health care: follow asthma management guidelines for adults
  - Workers' compensation claims & required reporting
  - Early removal from exposure & long-term follow-up

Fragrance related WRA

A real issue for many workers – more needs to be done to prevent exposures



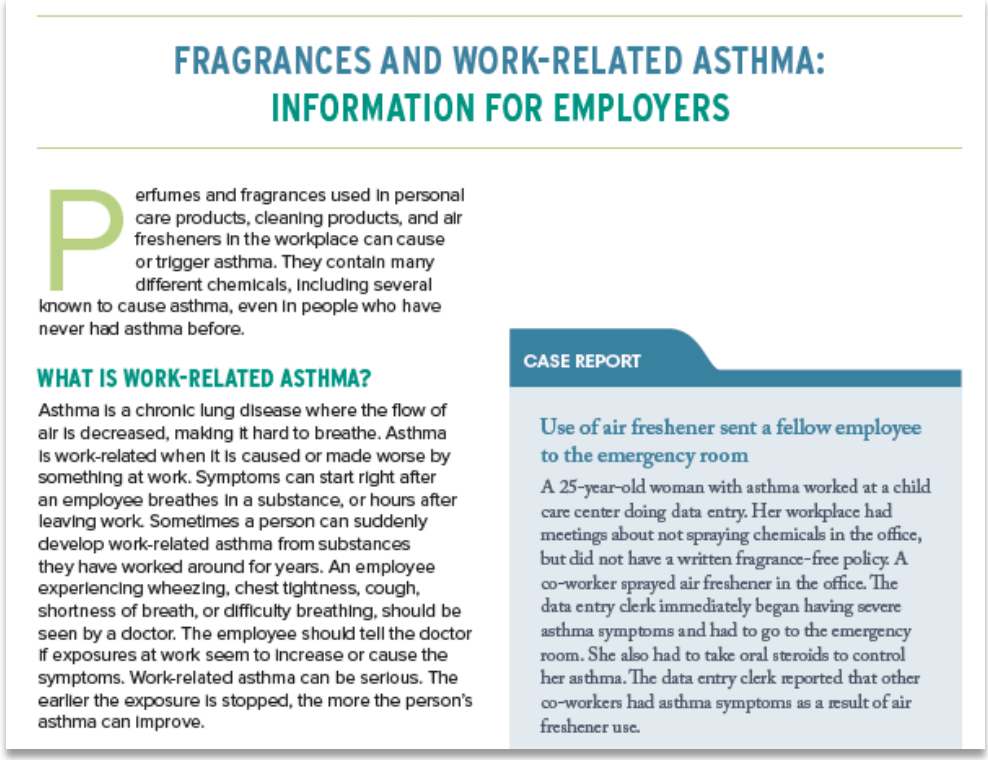
Journal of Asthma

ISSN: 0277-0903 (Print) 1532-4303 (Online) Journal homepage: http://www.tandfonline.com/loi/ijas20

Fragrances and work-related asthma–California surveillance data, 1993–2012

Justine Lew Weinberg MSEHS, CIH, Jennifer Flattery MPH & Robert Harrison MD, MPH

Workplace resources



FRAGRANCES AND WORK-RELATED ASTHMA: INFORMATION FOR EMPLOYERS

Perfumes and fragrances used in personal care products, cleaning products, and air fresheners in the workplace can cause or trigger asthma. They contain many different chemicals, including several known to cause asthma, even in people who have never had asthma before.

WHAT IS WORK-RELATED ASTHMA?

Asthma is a chronic lung disease where the flow of air is decreased, making it hard to breathe. Asthma is work-related when it is caused or made worse by something at work. Symptoms can start right after an employee breathes in a substance, or hours after leaving work. Sometimes a person can suddenly develop work-related asthma from substances they have worked around for years. An employee experiencing wheezing, chest tightness, cough, shortness of breath, or difficulty breathing, should be seen by a doctor. The employee should tell the doctor if exposures at work seem to increase or cause the symptoms. Work-related asthma can be serious. The earlier the exposure is stopped, the more the person's asthma can improve.

CASE REPORT

Use of air freshener sent a fellow employee to the emergency room

A 25-year-old woman with asthma worked at a child care center doing data entry. Her workplace had meetings about not spraying chemicals in the office, but did not have a written fragrance-free policy. A co-worker sprayed air freshener in the office. The data entry clerk immediately began having severe asthma symptoms and had to go to the emergency room. She also had to take oral steroids to control her asthma. The data entry clerk reported that other co-workers had asthma symptoms as a result of air freshener use.

- Employer & worker fact sheets
- Workplace fragrance-free policy template

Case report: Teacher

- 54-year-old special ed teacher, history of mild asthma
- Returned from spring break, carpets cleaned, lingering strong chemical odor
- Immediate breathing problems, left work, out 1 week
- 2 years later, still many meds, reacts to many triggers daily
- Now carpets cleaned with water

Resources for asthma-safe schools

Cleaning for Asthma-Safe Schools

The Cleaning for Asthma-Safe Schools project helps school districts transition to healtheir and asthma-safer cleaning products and practices.

Healthy Cleaning & Asthma-Safer Schools Guidelines

Video: Healthy Cleaning & Asthma Safer Schools

Cleaning with Microfiber Project (PDF)

Cleaning for Asthma-Safe Schools

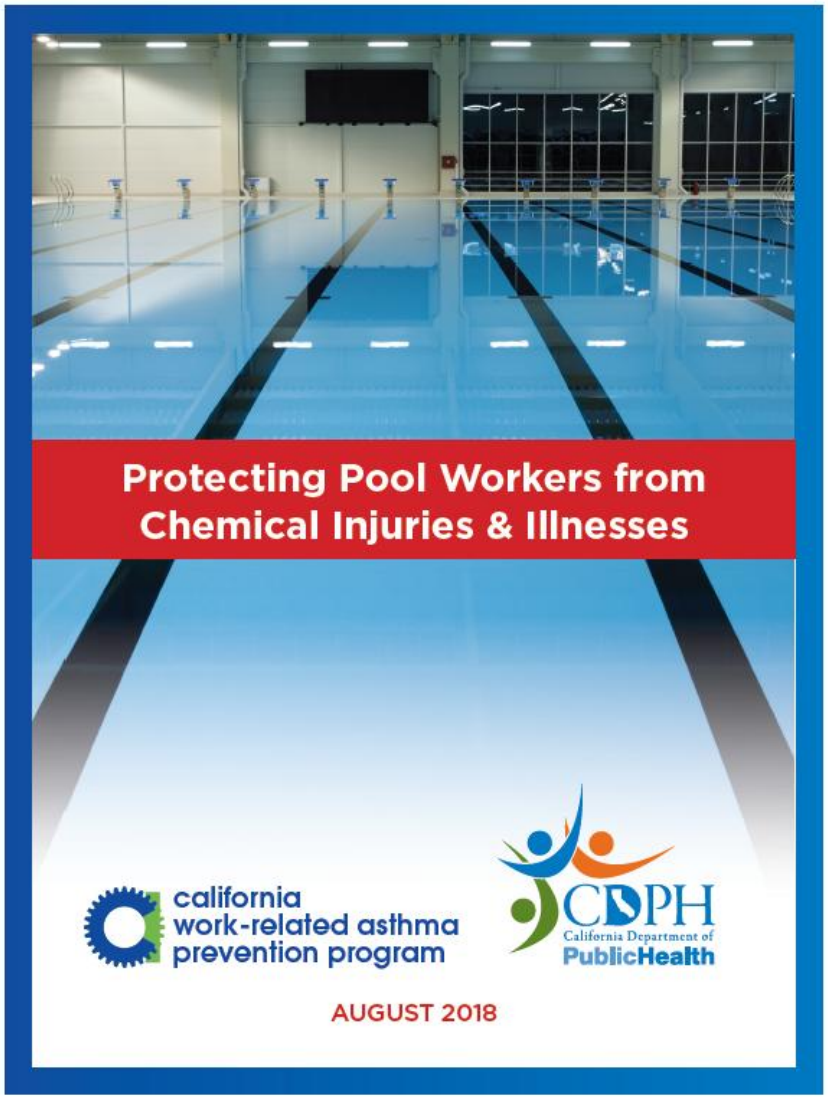
Case Report: Teen lifeguard

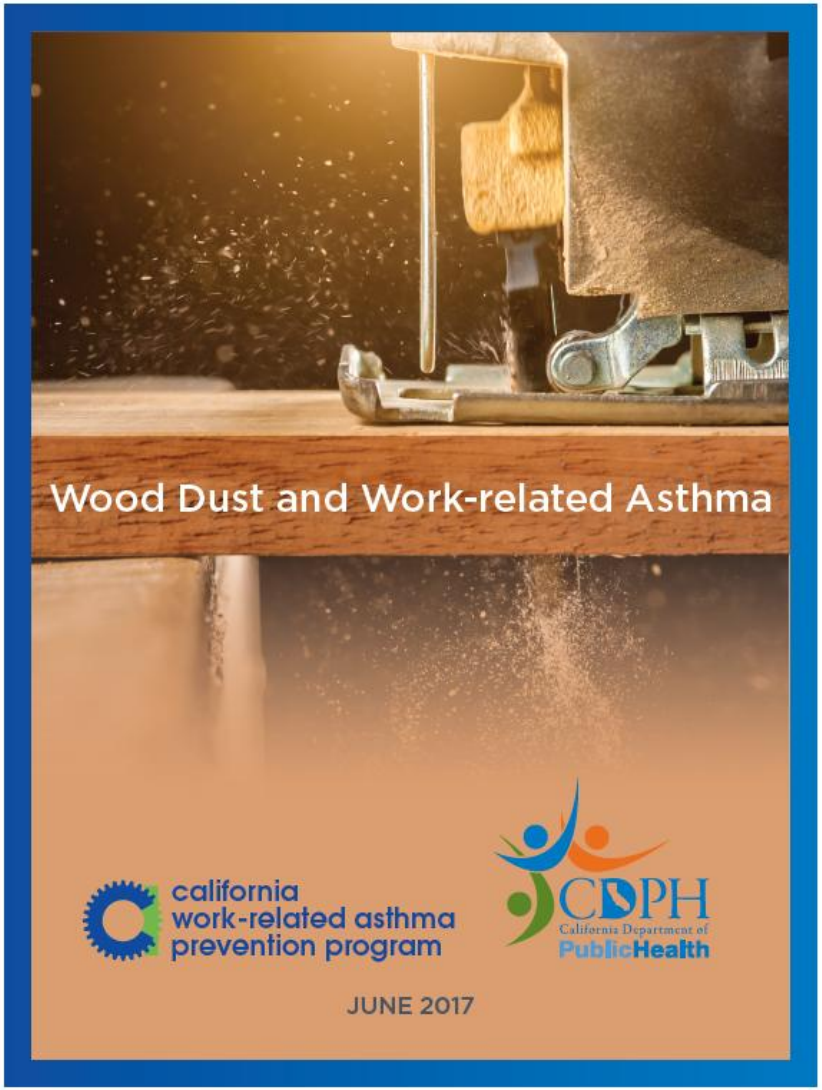
- 17-year-old lifeguard with preexisting asthma, worked at indoor pool
- Sometimes added pool chemicals, mostly lifeguarded
- One day pool's retractable roof was closed, led to attack
- From then on symptoms much worse
- Now uses daily medications (previously intermittently)

Case Report: Carpenter

- 37-year-old carpenter, built houses and buildings. No asthma history.
- Visited MD for nail gun injury. Doctor heard wheezing, asked about work. Only used painter's dust mask, bought on his own.
- Wood dust in air at work, couldn't breathe.
- Diagnosed with asthma, reported 5/20 co-workers had similar breathing problems.
- Changes made at work.

Resources on pool chemicals, wood dust





Disinfectants & asthma

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

california work-related asthma prevention program

Occupational Health Branch
California Department of Public Health

DISINFECTANTS AND WORK-RELATED ASTHMA: INFORMATION FOR EMPLOYERS

Some 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

WHAT IS WORK-RELATED ASTHMA?

Asthma is a chronic lung disease where the flow of air is decreased, making it hard to breathe. Asthma is work-related when it is caused or made worse by something at work. Symptoms can start right after an employee breathes in a substance or hours after leaving work. Sometimes a person can suddenly develop work-related asthma from substances they have worked around for years. An employee experiencing wheezing, chest tightness, cough, shortness of breath, or difficulty breathing should be seen by a doctor. The employee should tell the doctor if exposures at work seem to increase or cause the symptoms. Work-related asthma can be serious. The earlier the exposure is stopped, the more the person's asthma can improve.

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.

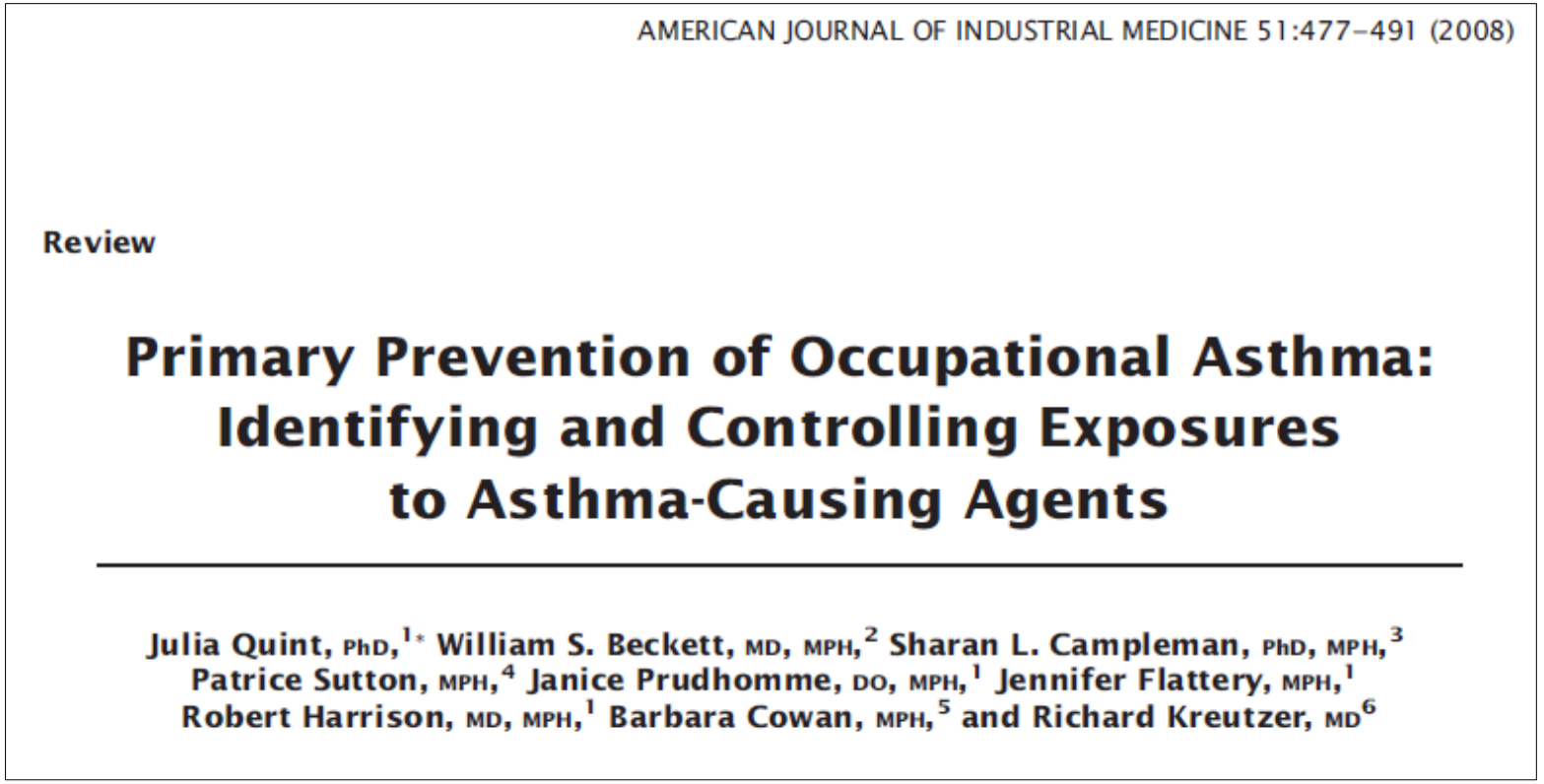
FEBRUARY 2017

Policy efforts:
Safer cleaning products & processes

- Third party certification programs now consider asthmagens under health criteria
- Promoting safer school policies

Efforts toward a sensitizer standard

- Julia Quint review of how asthmagens are regulated



AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 51:477–491 (2008)

Review

Primary Prevention of Occupational Asthma: Identifying and Controlling Exposures to Asthma-Causing Agents

Julia Quint, PhD,[1*] William S. Beckett, MD, MPH,[2] Sharan L. Campleman, PhD, MPH,[3] Patrice Sutton, MPH,[4] Janice Prudhomme, DO, MPH,[1] Jennifer Flattery, MPH,[1] Robert Harrison, MD, MPH,[1] Barbara Cowan, MPH,[5] and Richard Kreutzer, MD[6]

- Cal/OSHA Sensitizer Advisory Committee process around 2005 was discontinued

Conclusions about WRA

- A significant public health problem in California, affecting >1 million adults
- Largely under-recognized and diagnosed
- Clinicians should **always** ask adults about work
- Ask if asthma symptoms are worse at work and better during time off
- Opportunities for prevention are frequent and achievable

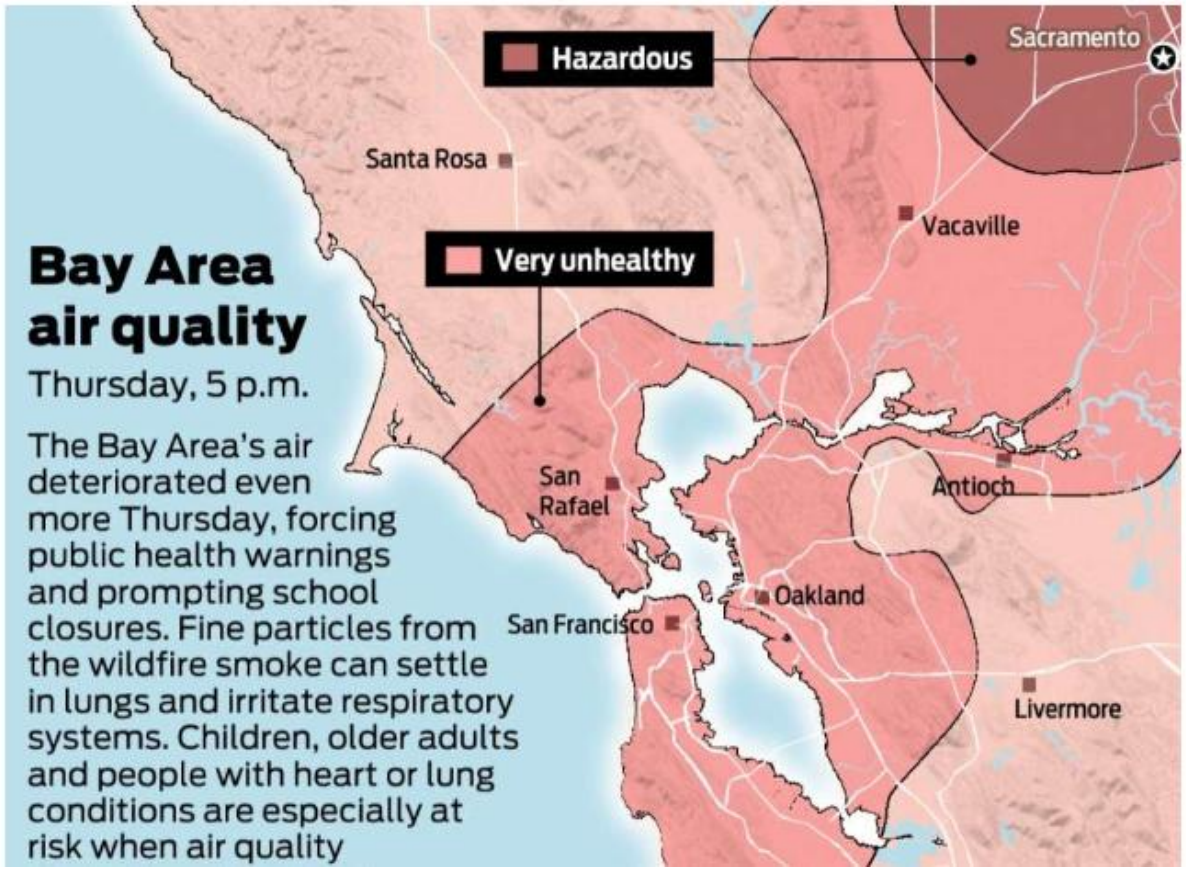
WRAPP website

www.cdph.ca.gov/WRAPP

A few more highlights of OHB work in 2018

Wildfire response

Northern California air quality rated the worst in the world, conditions 'hazardous' SF Chronicle, 11/16/2018



Occupational Valley fever prevention

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

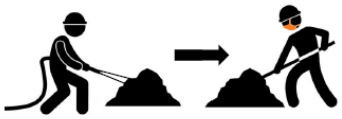
Valley Fever is caused by a fungus that lives in soil or dirt in some areas of California.
You can get it by breathing in dust where the fungus grows.

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/cdphvfwork
or call the CDPH Workplace Hazard Helpline (866) 282-5516

California Department of Public Health
www.cdph.ca.gov

www.cdph.ca.gov/workrelatedVF

New injury prevention project

- Targeting 5 topics
  - Landscaping/tree work
  - Residential construction
  - Warehousing
  - Violence in healthcare
  - Young workers in career technical training programs
- Investigating serious traumatic injuries
- Partnering to promote safety

Stay in touch with OHB

E-newsletter:

Occupational Health Watch

Subscribe:
OHW@cdph.ca.gov

YouTube Channel: @CAPublicHealth

Digital stories about death, injury, illness on the job

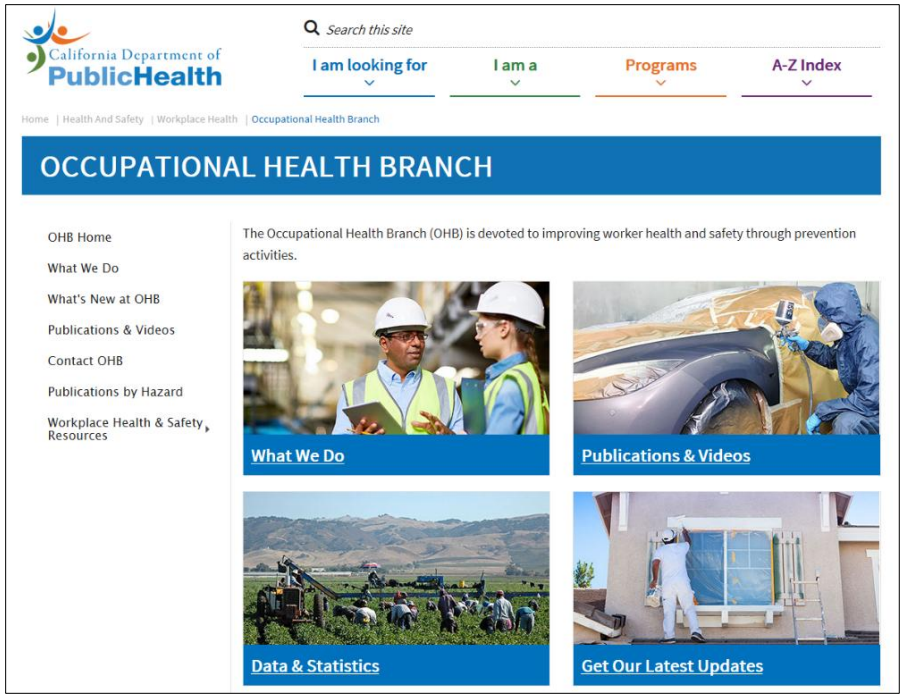
Use OHB's resources & services

OHB website

www.cdph.ca.gov/OHB

Workplace hazard helpline

1-866-282-5516 (toll-free in CA)



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