

Protecting Workers from Infectious Diseases:

Assessing the impact of Cal/OSHA's Aerosol Transmissible Disease Standards

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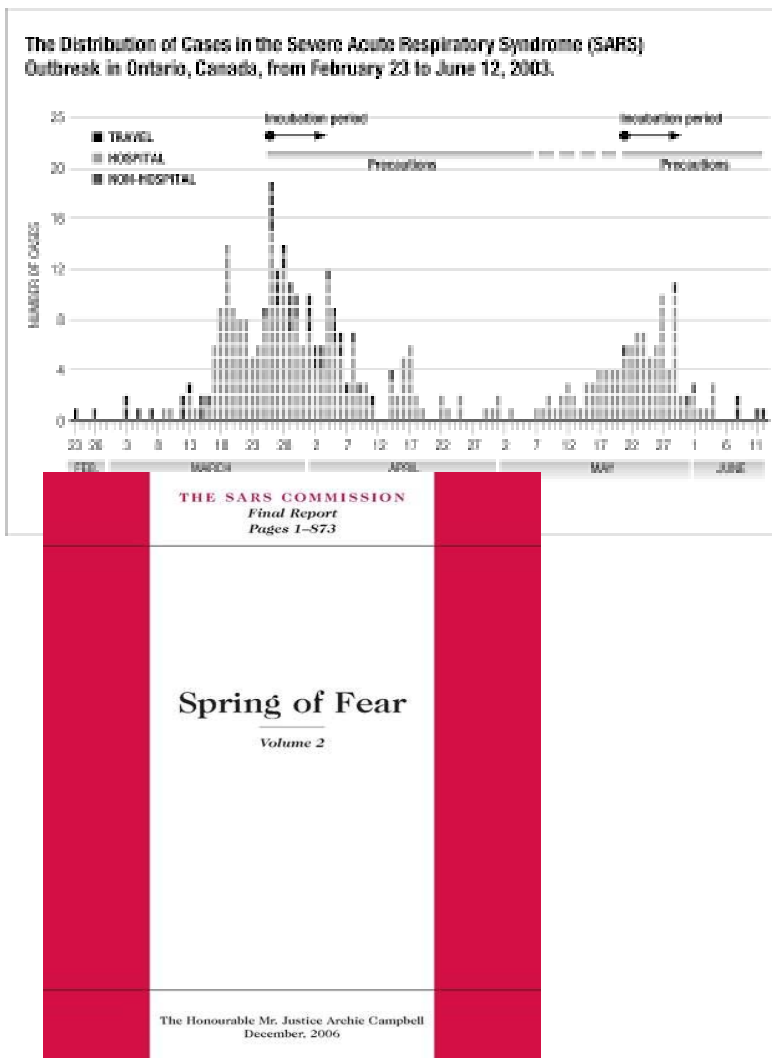
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Disclaimer

Deborah Gold retired from Cal/OSHA in 2014. Although they are now back working at the agency part-time, Deborah is not speaking for the agency in this presentation, and any opinions expressed are their own. These views do not necessarily represent the position of the State or the Department of Industrial Relations.

Ontario Health Care Workers and Cal/OSHA's ATD Standard



- Approximately 43% of 2003 Toronto SARS cases were in health care workers. (Percentages in Asia 13 to 41 percent)
- Identification of high hazard procedures.
- Impact on emergency medical services.
- SARS Commission Report “novel and unknown pathogens
- Calling HCWs “heroes” did not prevent disease

“One example was the debate during SARS over whether SARS was transmitted by large droplets or through airborne particles. The point is not who was right and who was wrong in this debate. When it comes to worker safety in hospitals, we should not be driven by the scientific dogma of yesterday or even the scientific dogma of today. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.” *SARS*

Commission Final Report, Volume 3, p. 1157

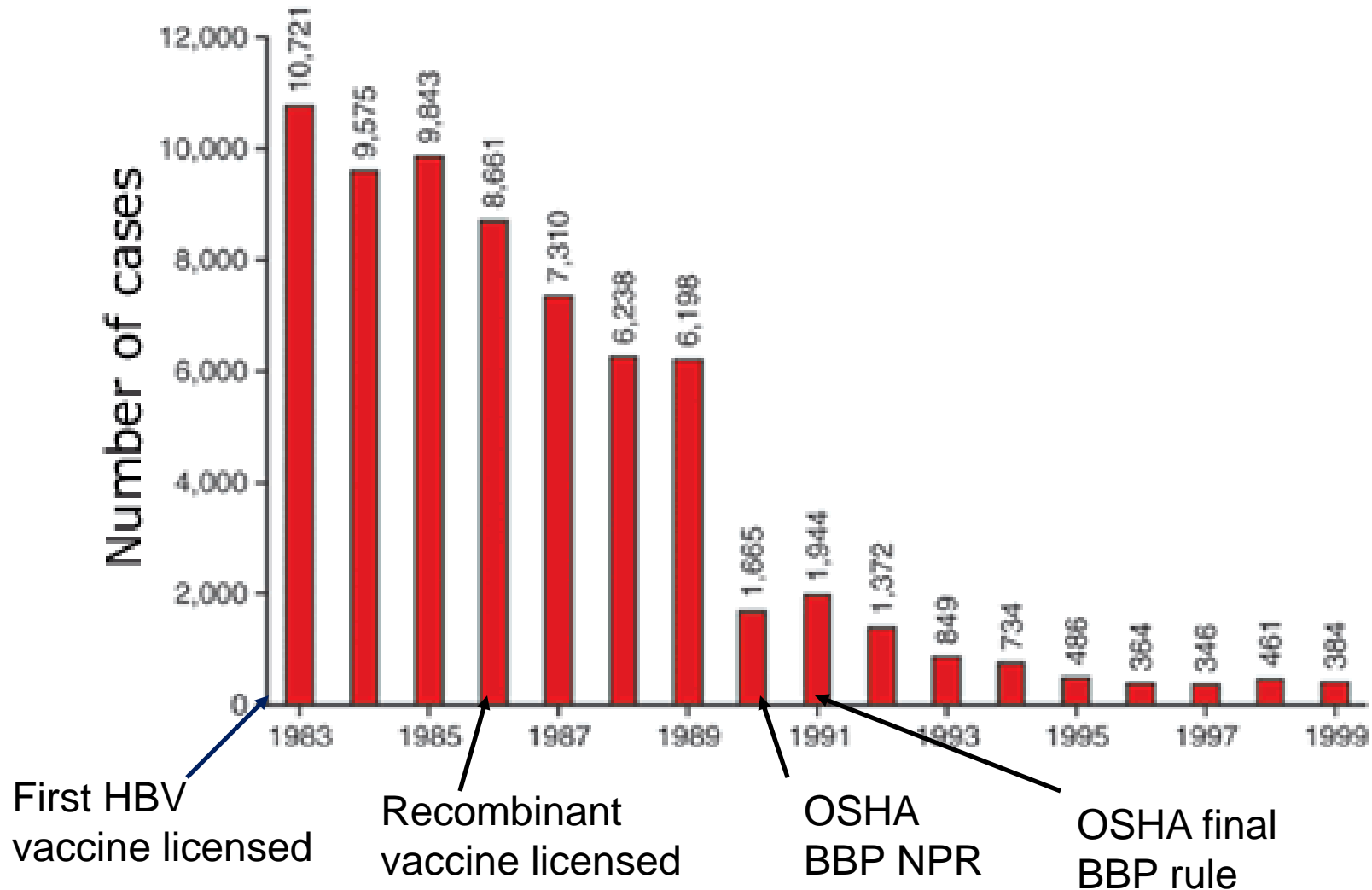
Once in a (US) Lifetime

- 2003 SARS
- 2009 H1N1
- [2012 MERS – Arabian Peninsula]
- 2014 Ebola [Africa: 1976, 1995, 2007, 2008, 2012, 2014-16, 2018-19, 6/20]
- 2019 COVID-19

Protecting Workers from Infectious Diseases

- Work exposes employees to infectious diseases
- Without an OSH standard, there is no enforceable mandate for specific worker protections
- Communicable disease emergencies normally “run” by public health agencies without OSH
- The bloodborne pathogens regulation shows that OSHA regs can make a difference
- TB, SARS, MERS, Ebola, varicella, measles, are occupational hazards in health care
- Pandemic disease risks in many environments

New HBV Infections in Healthcare Workers (CDC 2002)



Key Questions

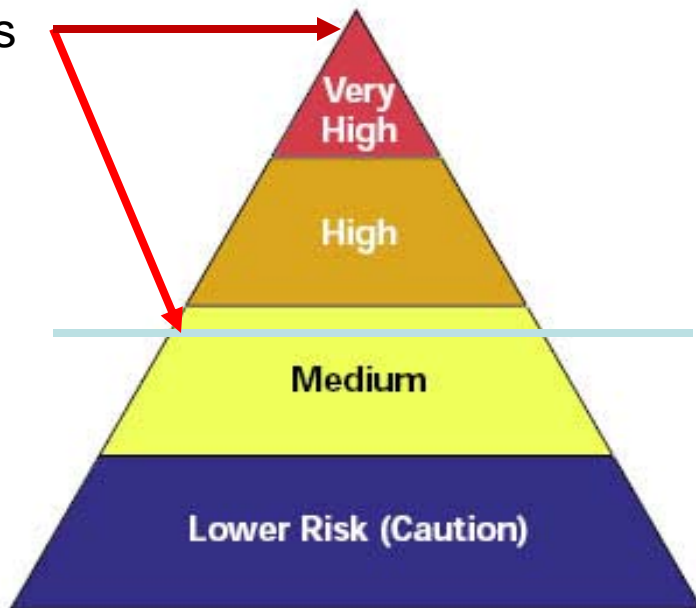
- Who to include
- What diseases to address
- What control measures in what environments
 - Specifications for airborne infection isolation
 - Non hospital facilities, recognition and transfer
- What medical services

ATD Standard Elements

- Administrator
- Written procedures/plans
- Source control
- Engineering, work practice, administrative controls and PPE
- Respirators
- Communication
- Medical services
 - Annual TB testing
 - Vaccinations (flu for everyone, others HCW only)
 - Post exposure follow up
 - Precautionary Removal
- Training
- Recordkeeping

OSHA Risk Pyramid

ATD Standard
applies



HCW – Aerosol Generating
Procedures

HCW

High Frequency Contact with
General Population

Minimal contact with general
public and other co-workers

How Do You Know it's a
pyramid?

ATD Application (1)

- Health care facilities, services and operations, including:
 - Hospitals, skilled nursing, long term care, facilities where high hazard procedures are performed
 - Clinics, medical offices, other outpatient operations
 - Home care
 - Medical outreach services
 - Paramedics, EMTs (including firefighters) and medical transport
- First receiver from biological releases
- Biological laboratories (research, clinical, academic)

ATD Application (2)

- Specified law enforcement and public health
- Identified high hazard environments
 - Corrections
 - Homeless shelters
 - Drug treatment programs
- High hazard procedures on cadavers:
 - Coroners, pathologists, medical examiners, mortuaries
- Certain environmental services operations
 - Maintenance, renovations, service or repair in areas or equipment reasonably anticipated to contain ATPs or ATPs-L
- Order to take special action for other workplaces

Which diseases?

- Infection control professionals distinguish between diseases primarily spread by:
 - larger droplets (near field) >5 microns (droplet precautions)
 - Small droplets, droplet nuclei, dusts containing the pathogen (airborne isolation)
- Not consistent with what is known about aerosols
- There is evidence for an “airborne route” for many diseases
 - E.g Roy CJ, Milton DK NEJM 350;17 April 22, 2004

Airborne Infectious Diseases

- Airborne spore release (e.g. anthrax) until decon
- Chickenpox (Varicella)
- Avian influenza capable of causing serious human disease
- Herpes zoster (varicella-zoster, disseminated disease, per CDC)
- Measles (rubeola)
- Monkeypox
- SARS (Severe Acute Respiratory Syndrome)
- Smallpox
- Tuberculosis
 - **Ca/OSHA added:**
- **Novel or Unknown pathogen**
- Any other disease or pathogen for which CDPH or local health officer recommends All

Some Droplet Diseases

- Diphtheria
- Influenza
- Meningococcal disease
- Mumps
- Mycoplasma pneumonia
- Pertussis
- Plague (pneumonic)
- Rubella
- SARS
- Viral hemorrhagic fevers
- Any other disease or pathogen for which CDPH or LHO recommends droplet precautions

Some Good Decisions

- Require respirator use independent of vaccination status for all contact with AirID cases and suspected cases, e.g. measles
- Strong requirements for All, and for exposures to infected animals
- Biological labs must treat incoming pathogens as virulent or “wild type” until verified
- Public health agencies can add pathogens to standard or increase protections, but can't decrease below standard
- Addressed all transmission-based precautions for covered diseases

And Some Questionable Ones

- Doesn't require respirators for droplet diseases (even for aerosol generating procedures)
- Does not cover environmental pathogens (except in labs)
 - Legionella
 - Coccidioides (Valley Fever) and other soil borne
- Does not cover diseases not spread by aerosols (e.g. MRSA)
- Doesn't cover contact with the presumed "healthy" public, e.g. retail, schools or coworkers
- Only congregate living included: health care facilities, jails, prisons, and homeless shelters

Some ATD Accomplishments

- 2009 H1N1 clearly required respirator use and cited UCSF for refusal; most hospitals complied
 - Cal/OSHA included in emergency management
 - Project with CDPH to train primary and long term care on respirator use and standard
- Hospitals cited for failure to investigate and report to local health department meningitis exposures, measles
- Vaccination requirements for pertussis (Tdap) came into effect just in time to support vaccination of HCWs
- Many problems found and corrected in airborne infection isolation ventilation systems

Cal/OSHA and COVID

- Cal/OSHA standard clearly required All and respirator use for all exposures to COVID-19 cases and suspected cases
 - Early and repeated attempts to reduce precautions
 - Many hospitals choose noncompliance
 - Respirator shortage prevents full enforcement?
 - Exception designed for pandemic addresses feasibility of transfer to AIIR
- Lack of respirators puts employee lives at risk
 - Hospitals/employers did not stockpile
 - Local agencies, state did not stockpile
 - Feds did not stockpile
- Governor's order required "compliance assistance" in most cases

Cal/OSHA and COVID

- Existence of standard and advocacy by unions, Cal/OSHA and advocates in CDPH prevented state from going to droplet precautions
- Supports including Occ Health in emergency response
- Cal/OSHA has now opened over 100 inspections
 - Can cite 5199 where applicable
 - Can cite general regs in other environments
 - Injury and Illness Prevention Plan to enforce health department orders
 - Respiratory Protection Program in some situations
 - Injury and illness reporting and recording

What is Preparedness

- ATD Standard requires hospitals to have procedures to ensure a sufficient supply of PPE including in emergencies
- For almost 20 years hospitals have received federal grants for preparedness
- Hospitals are also required to have a surge plan
- By February hospitals were already saying they did not have respirators
- There are now two bills in the state legislature to require hospitals to stockpile

ATD Standard on the Web

Standards

- <http://www.dir.ca.gov/Title8/5199.html>
- <http://www.dir.ca.gov/Title8/5199-1.html>