

Respirator use Evaluation in Acute care California Hospitals (REACH):

An assessment of respirator policies and practices for H1N1 influenza in the health care setting

Stella Beckman^{1,2}, Lisa Brosseau³, Maryann D'Alessandro⁴, Suzi Goldmacher¹, John Halpin⁴, Janice Kim¹, Barbara Materna¹, Jennifer McNary¹, Debra Novak⁴, Charles Oke⁴, Jennifer Zipprich¹, Robert Harrison¹

BACKGROUND

- Pandemic influenza preparedness is a national priority
- California Department of Public Health (CDPH) and CDC **recommend** use of N95 or better respirators by healthcare workers (HCW) for the 2009-2010 H1N1 influenza pandemic
- Cal/OSHA **requires** use of N95 or better respirator by HCW for aerosol transmissible diseases, including novel or unknown pathogens such as pandemic H1N1
 - Aerosol Transmissible Diseases Standard (effective August 5, 2009)
- Respirator use Evaluation in Acute-care California Hospitals (REACH) Public Health Practice Study initiated in August 2009
 - Collaboration between CDPH and National Institute for Occupational Safety and Health (NIOSH)

OBJECTIVES

- Describe extent to which hospitals have implemented required elements of respiratory protection programs (RPP) for H1N1 influenza
- Assess the usage of respiratory protection for H1N1 influenza among HCW

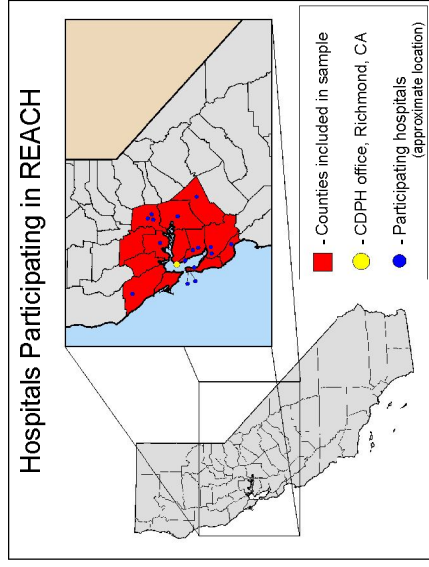
METHODS

- **Sample:**
 - 16 hospitals selected by stratified random sample
 - Represent all facilities in California based on type of ownership, size, and rural status
- **Hospital Visits:**
 - Jan 20 – Feb 23, 2010, 15-21 interviews conducted at each hospital
 - 3 Hospital Managers in Nursing, Employee Health, Infection Control
 - 3 Unit Managers in Emergency Department, ICU, Pediatrics or Medical/Surgical units
 - 3-5 HCW in each of the 3 units
 - Written RPP materials collected from each facility
 - No managers or HCW declined to participate
- **Analysis:**
 - Descriptive statistics used to identify best practices and limitations of RPP

RESULTS

Respondent Characteristics:

- 297 interviews performed
 - 204 HCW
 - 45 Unit Managers
 - 48 Hospital Managers



Respirator Policies:

- Written RPP present in 15/16 hospitals
 - 8/16 missing one or more element
 - 15/16 have one or more incomplete elements
- 15/16 have policy for HCW to wear N95 when in close contact with suspected or confirmed H1N1
 - One hospital reported policy to wear surgical mask for suspected H1N1, N95 for confirmed
- Minimum required level of respiratory protection for HCW caring for H1N1 patients (hospital manager responses):

| Close contact | Aerosol generating procedures |
|----------------------|-------------------------------|
| 11% - Surgical mask | 0% - Surgical mask |
| 89% - N95 respirator | 94% - N95 respirator |
| 0% - PAPR | 0% - PAPR |
| 4% - Don't know | 6% - Don't know |

- 7/16 have missing or incomplete procedures for RPP evaluation
 - Regular program evaluation including input from respirator users required

RESULTS

Respirator Practices:

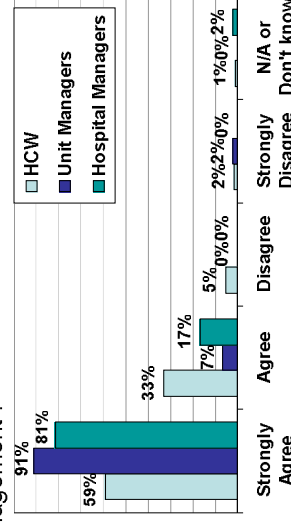
- 78% of HCW stated that N95 respirators were always available when needed
- 42% of HCW reported redonning a respirator for H1N1 patients
 - 44% said it was standard practice
 - 45% cited respirator shortage as reason
- 29% of unit managers audit proper use of respirators by HCW on their unit
- All hospital managers reported that employees are fit tested before respirator use, 94% "always" and 6% "sometimes"

Pandemic Preparedness:

- 67% of unit managers were aware of a plan at their facility to conserve respirators in the event of a shortage
- 50% of hospital managers reported respirator shortages during the H1N1 pandemic, due to:
 - Increased patient loads (92%)
 - Supplier shortage (83%)
 - Allotment from supplier (67%)
- 54% of hospital managers said that their facility received a different brand or model of respirator due to unavailability of previously used brands
 - Of these, 48% reported that all employees were fit tested with the new respirator before use

Knowledge & Beliefs:

- 96% of HCW agreed that N95s protected them from on-the-job exposure to influenza
- Agreement with statement "At my workplace, the health and safety of workers is a high priority with the management":



CONCLUSIONS

- Use of N95 respirators by HCW is feasible during a pandemic
 - All hospitals implemented N95 use for H1N1
- Managers and HCW were willing to share knowledge, practices and beliefs about use and need for N95s
- Most facilities had a written RPP with at least some of the required elements addressed
- Shortcomings were common in recordkeeping, fit testing, training, and program evaluation components
- Hospital managers receptive to feedback and interested in receiving assistance in improving RPP

NEXT STEPS

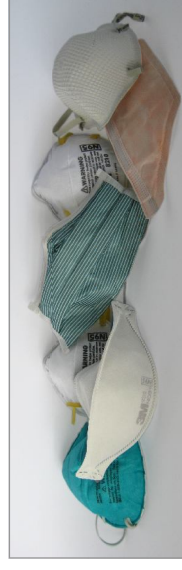
- Work with REACH study participants to develop and implement materials to address shortcomings
- Participate in multi-state collaborative project with NIOSH to evaluate use of respirators in acute care facilities during the 2010-2011 influenza season (REACH II)
- Use results to inform future CDC and CDPH guidance on HCW use of respiratory protection for influenza and other aerosol transmissible diseases

AUTHOR AFFILIATIONS

1. California Department of Public Health
2. Council of State and Territorial Epidemiologists Applied Epidemiology Fellowship Program
3. School of Public Health, University of Minnesota
4. National Institute for Occupational Safety and Health

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