
The CDC/CSTE Applied Epidemiology Fellowship Experience

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WestON

September 23, 2010

Council of State & Territorial Epidemiologists

- Member organization of ~900 epidemiologists working in public health agencies
 - Advocate for public health practice in state health departments
 - Develop recommendations for state based public health surveillance
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CDC/CSTE Applied Epidemiology Fellowship Goal

- Using a mentorship model, Fellows will receive rigorous training and develop applied epidemiologic skills during this high quality on-the-job training experience.
 - 3 central concepts
 - Create and train a core group of public health workers
 - Strengthen capacity in applied epidemiology across public health agencies
 - Provide service to sponsoring agency
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My Background

- University of California, Davis
 - Bachelor of Science 2007, Environmental Toxicology
 - University of California, Berkeley School of Public Health
 - Master of Public Health 2009, Epidemiology & Biostatistics
 - Occupational Health Internship Program
 - Alliance of Forest Workers and Harvesters
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Why I chose the CSTE fellowship

- Transition between MPH program and working as an epidemiologist
 - Opportunity to gain experience in a subject area of interest to me
 - “Foot in the door” at California Department of Public Health
 - Challenge of applying to competitive fellowship program
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Main Projects

- Respirator use Evaluation in Acute care California Hospitals (REACH)
 - Flame Retardant Exposure in Flight Attendants (FREFA)
 - Multi-source surveillance of workplace injury
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REACH – Program evaluation

- Respirator use Evaluation in Acute care California Hospitals
 - Assessment of respirator use by healthcare workers (HCWs) during the H1N1 pandemic
 - 297 in-person interviews in 16 facilities
 - 721 responses to online survey
 - Aerosol Transmissible Diseases Standard enforceable in August 2009
 - Requires use of N95 or better respirator by HCWs in close contact with H1N1 patients
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REACH - Conclusions

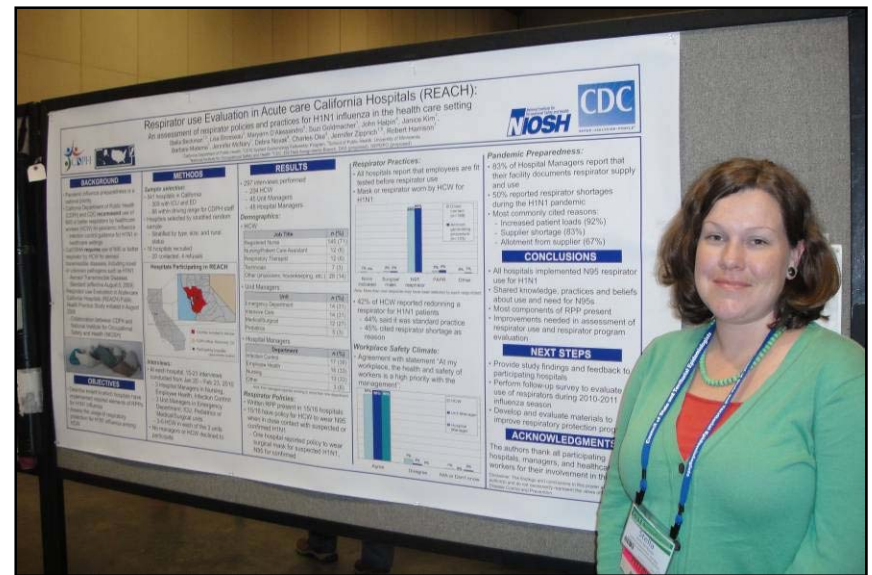
- All hospitals implemented N95 use for H1N1
 - Managers and HCWs shared knowledge, practices, and beliefs about use of and need for N95s
 - Most components of respiratory protection programs present
 - Improvements needed in respirator selection and program assessment
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REACH

- Drafted questionnaires for hospital managers and HCWs & developed online survey
 - Selected stratified sample of CA hospitals
 - Performed interviews and observations
 - Created databases for survey data entry
 - Analyzed survey data
 - Currently working on reports to participating hospitals and collaborators
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REACH

- NIOSH PPT Program Stakeholder Meeting, Pittsburgh, March 2-3 2010
- CSTE Annual Conference, Portland, June 6th 2010
- APHA Annual Meeting, Denver, November 7th 2010



FREFA – Biomonitoring

- Flame Retardant Exposure in Flight Attendants
- Assessment of airline flight attendants' exposure to flame retardants
 - Frequent flyers and cabin crew may have higher levels of PBDEs in their serum¹...
 - Or maybe not²?
- FREFA – more participants, more analytes
 - Target is 40 participants
 - PBDEs, OH-PBDEs, chlorinated tris, HBCD

1. Christiansson A et al. 2008. Polybrominated diphenyl ethers in aircraft cabins – A source of human exposure? *Chemosphere* 73:1654-1660.
2. Schechter A et al. 2010. Discussion of “Polybrominated diphenyl ethers in aircraft cabins – A source of human exposure?” by Anna Christiansson et al. [*Chemosphere* 73(10) (2008)1654–1660]. *Chemosphere* 78:206-208.

FREFA

- 2009 & 2010 – a rough start
 - Delay in receiving IRB approval
 - Difficulty recruiting non-California residents at SFO
- September 2010 – Success!
 - Blood and urine specimens collected from 16 participants in one day on 9/21/10



FREFA

- Drafted proposal for approval by Committee for the Protection of Human Subjects
 - Worked with lab to ensure appropriate specimen preparation and shipping
 - Coordinated specimen collection in Atlanta
 - Contract with phlebotomy service
 - Recruiting
 - Informed consent
 - Supervision of specimen collection
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Multi-source Surveillance Project – Complex analysis

- BLS Survey of Occupational Injuries and Illnesses is thought to underestimate the true numbers and rates of workplace injury/illness
 - 3 states (CA, WA, MA) funded to:
 - Count the number of amputations and the incidence of carpal tunnel syndrome (CTS) obtained from various sources (e.g. WCIS) for 2 years (2007 and 2008)
 - Match cases obtained from these sources to those obtained from SOI in order to determine the relative “capture” of each reporting system and the amount of overlap
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Multi-source Surveillance

- Capture-recapture analysis of work-related CTS cases and amputation cases identified in 4 data sets
 - Challenges
 - Matching data sets with different contents and formats
 - Matching survey data to census data
 - Deriving medical information from administrative data
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Multi-source Surveillance

- Managing multiple large data sets
 - Understanding and using record linkage programs
 - Training of temporary staff hired to enter DFR data
 - Quality control of data entry
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Value of the fellowship - fellows

- Experience working as an epidemiologist at the state or local level
 - Training in CDC/CSTE Applied Epidemiology Competencies
 - Opportunity to make connections
 - Mentors with successful careers in public health
 - Other fellows throughout the U.S.
 - Professional development
 - Funding for conferences and classes
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Value of the fellowship - sponsors

- Epidemiologic capacity
 - A full-time epidemiologist for your state
 - Professional development funds available to fellows for conferences and classes
 - CSTE provides fellows' stipends, health departments provide only support
 - At smaller health departments, fellows have opportunities to work on many types of projects
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What I have learned so far

- I still want to be an epidemiologist when I grow up
 - Having mentors to learn from and ask for guidance is important
 - Flexibility to participate in different projects helped clarify my goals and interests
 - Periodic evaluations of my progress keep me on track with competencies
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Future plans

- Stay involved with research I worked on as a fellow
 - Considering epidemiology Ph.D
 - Interests:
 - Epidemiologic methods
 - Building research capacity in epidemiology at the state level
 - Promoting occupational health research
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Acknowledgements

■ Mentors

- Robert Harrison
- Dennis Shusterman

■ CSTE Staff

- Amanda Masters
- Erin Simms

■ Multi-source surveillance

- Rachel Roisman
- John Beckman
- Matt Frederick

REACH

Maryann D'Alessandro
Debra Novak
Charles Oke

FREFA

Dina Dobraca
Judith Murawski
Michael Lipsett
Mary Turyk
Heather Stapleton
Myrto Petreas

Any Questions?
