The CDC/CSTE Applied Epidemiology Fellowship Experience

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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
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
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
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
Main Projects

- Respirator use Evaluation in Acute care California Hospitals (REACH)
- Flame Retardant Exposure in Flight Attendants (FREFA)
- Multi-source surveillance of workplace injury
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
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
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
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 serum\(^1\)...
  - Or maybe not\(^2\)?
- FREFA – more participants, more analytes
  - Target is 40 participants
  - PBDEs, OH-PBDEs, chlorinated tris, HBCD

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
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 SOII in order to determine the relative “capture” of each reporting system and the amount of overlap
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
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
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
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
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
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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Any Questions?