



BIOMONITORING CALIFORNIA

Program Update

Scientific Guidance Panel Meeting
November 10, 2011
Sacramento, CA

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Biomonitoring California

California Department of Public Health

Program Updates

- 1) Funding
- 2) Staffing
- 3) Pilot Projects
 - Maternal Infant Environmental Exposures Project
 - Firefighter Occupational Exposures Project
 - Biomonitoring Exposures Study
- 4) Other Activities
- 5) Coming Next

Funding Stable

- Toxic Substances Control Account (TSCA)
 - Funding maintained for 2010-2011 at \$1.9 million
- CDC Cooperative Agreement
 - Year 3 of 5
 - Renewed for 2011-2012 at \$2.6 million

CDC Cooperative Agreement

Objectives

- 1) Expand laboratory capability and capacity
- 2) Demonstrate success of laboratory quality management system
- 3) Apply biomonitoring methods to assess and track exposure trends
- 4) Assess exposures in a representative group of Californians
- 5) Collaborate with stakeholders, communities

CDC Cooperative Agreement Award Recipients

- California, New York, Washington states
- State Biomonitoring Network
 - Quarterly telephone calls
 - First in-person meeting November 8-9, 2011
 - Berkeley and Richmond, CA
- Special guests in attendance today
 - Ken Aldous, PhD and staff (NY)
 - Blaine Rhodes and staff (WA)
 - Lovisa Romanoff, PhD and Antonia Calafat, PhD (CDC)

New Staff

- Sabrina Crispo-Smith, Ph.D.
 - Laboratory Scientist
- Laura Fenster, Ph.D.
 - Research Scientist
- Jeff Fowles, Ph.D.
 - Staff Toxicologist
- Anthony Zhou
 - Laboratory Assistant

Thanks For Your Contributions

- Frank Barley, Ph.D.
 - Research Scientist Supervisor
- Robert Ramage, Ph.D.
 - Research Scientist
- Josie Alvaran
 - Specimen Management Specialist
- Ngozi Erondy, MPH
 - CDC Public Health Prevention Specialist

Maternal and Infant Environmental Exposure Project (MIEEP)



Chemicals in Our Bodies Project

MIEEP

- Collaboration
 - UCSF
 - UC Berkeley
- Convenience sample
 - Mother-infant pairs recruited at SFGH

MIEEP Status

Recruitment	Collection	Data	Results
✓ Recruit, enroll, and consent participants	✓ Maternal urine	Analyze samples	Return results (Two Phases)
✓ Preliminary interview	✓ Interview participant	Abstract medical records	Analyze participant understanding
	✓ Take-home questionnaire	Data entry: questionnaires, medical records	
	✓ Maternal blood	Analyze data	
	✓ Umbilical cord blood		

Firefighter Occupational Exposures (FOX)






FOX Project

- Collaboration
 - UC Irvine Center for Occupational and Environmental Health (COEH)
 - Orange County Fire Authority (OCFA)
- Convenience sample
 - Recruited at UC Irvine COEH Clinic during wellness and fitness evaluations
- 101 firefighters enrolled

FOX Status

Recruitment	Collection	Data	Results
✓ Recruit, enroll, and consent participants	✓ Blood and urine	✓ Data entry: questionnaires, other instruments	Return results (Two phases)
	✓ Exposure assessment questionnaire	Analyze samples	Evaluation survey
	✓ Abstract medical records	Analyze data	
	✓ Firehouse dust samples		
	✓ Fire station checklist		

FOX Data Sources

University of California, Irvine	Informed Consent
	Exposure Questionnaire
	Medical Record
	Lead Reporting Form 
	Participant Evaluation Survey
	Participant Log
Fire Station	Fire Station Checklist
Orange County Fire Authority	Fire Station Information
Biomonitoring CA Laboratories	Sample Processing Information 
	Analyte Levels 

FOX Data Management

Data Entry

- Entered data from all sources for 101 participants
- 100% double data entry for questionnaires

Quality Control

- Check accuracy and precision of data entry
- Logic checks/validate responses

Data Merge

- Link data from different sources to create a full dataset
- Check consistency of variables from different source

Environmental Sampling Update

- Dust sample collection completed
 - 27 samples from 20 fire stations
- Analyses in progress for:
 - Polybrominated diphenyl ethers (PBDEs)
 - Polycyclic aromatic hydrocarbons (PAHs)
 - Polychlorinated biphenyls (PCBs)



Biomonitoring Exposures Study (BEST)



A collaboration with Kaiser Permanente Northern California (KPNC),
Research Program on Genes, Environment, and Health (RPGEH)

BEST

Stratified random sample

- Adult KPNC members
- Seven California Central Valley counties *
- Goal: 100 participants



*Fresno, Madera, Merced, Sacramento, San Joaquin, Stanislaus, Yolo

BEST Status

Recruitment	Collection	Data	Results
Recruit participants from random sample	Blood and urine	Data entry	Return results (Two rounds)
Arrange for visit	Exposure assessment questionnaire	Analyze samples	Evaluation survey
Consent & enroll participant at visit	Abstract medical records		



Other Activities

- Chemical selection
 - Developing potential designated document for non-halogenated aromatic organophosphate flame retardants
 - Continuing to screen candidates for potential designation (e.g., pesticides)
- Public involvement
 - Finalizing Public Involvement Plan
 - Working on new ways to reach stakeholders
- Biomonitoring California Website revision
 - Revising structure, look, content
 - User-friendly interface, improved readability, increased relevance for general audience

Coming Next

- Return results to participants– MIEEP & FOX
- Issue Request for Information (RFI) for analysis of archived California samples
- Plan next phase of BEST
- Submit Report to the Legislature
 - Due January 2012

Thank you!

Josephine Alvaran	Ngozi Erondu	Farla Kaufman	Beverly Shen
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