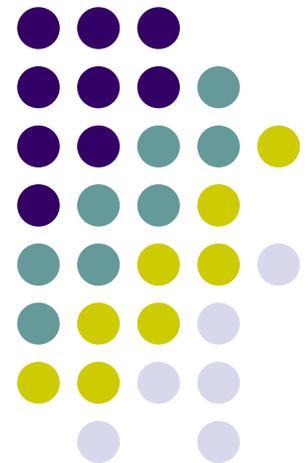


Update on Biomonitoring California (CECBP) Activities

Rupali Das, MD, MPH
California Department of Public Health

Biomonitoring California
California Environmental Contaminant
Biomonitoring Program (CECBP)
Scientific Guidance Panel Meeting
May 24, 2010
Oakland, California



Overview

- Public Name
- Staff changes
- Program goals
- Funding status
- Progress toward CDC Cooperative Agreement objectives

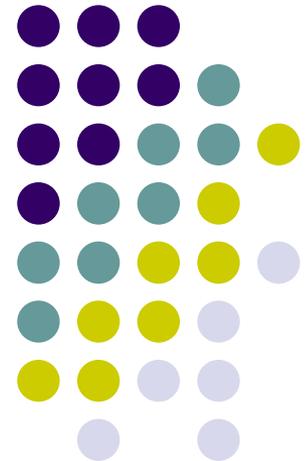


<http://www.sxc.hu/profile/clix>



Biomonitoring California

California Environmental
Contaminant Biomonitoring
Program





Newly Hired Staff

- CDC Cooperative Agreement
 - Binfeng Xia, Environmental Laboratory Scientist
 - Dongli Wang, Environmental Laboratory Scientist (to begin June 1)
 - To be hired: Laboratory Information Management System Specialist
- State Staff:
 - Berna Watson, Research Scientist II (CDPH)

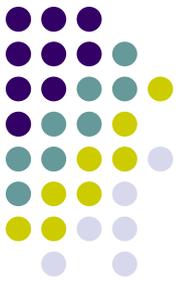


Biomonitoring California Goals

- Program goals:
 - Determine levels of environmental chemicals in a representative sample of Californians;
 - Establish trends in levels of chemicals over time;
 - Assess effectiveness of public health efforts and regulatory programs to reduce Californians' exposures to chemicals.
- The Program is committed to providing opportunities for meaningful public participation through activities and materials that are understandable and sensitive to the diverse needs of Californians.



State Funding



- Base level funding (\$1.9 million) for 3 departments
- Toxic Substances Control Account (TSCA)
 - Funding maintained for 2009—2010
 - Funding anticipated to be maintained for 2010—2011
- State funded positions: 13 full-time equivalent (FTE)
- In-kind contributions
 - State staff ~4 FTE
 - Fellows:
 - Association of Public Health Laboratories
 - Council of State and Territorial Epidemiologists
 - CDC Public Health Prevention Specialist
- Workload adjustments: mandatory furloughs, due to end June 2010

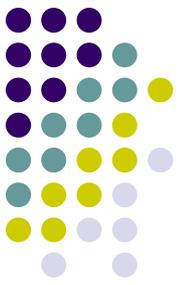


CDC Cooperative Agreement

- 5-year cooperative agreement
- \$2.6 million to CA for first year
- September 1, 2009 start date
- Continuing application submitted
May 21, 2010



CDC Cooperative Agreement: Objectives



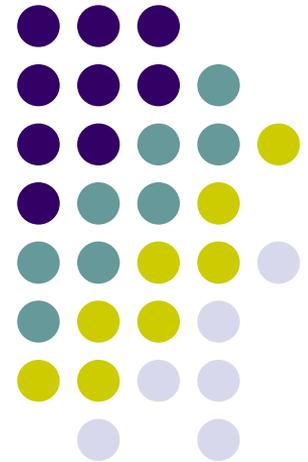
- 1) Expand laboratory capability and capacity
- 2) Demonstrate success of laboratory quality management system
- 3) Apply biomonitoring methods to assess and track exposure trends
- 4) Assess exposures in a representative group of Californians
- 5) Collaborate with stakeholders, communities



Objectives 1 & 2

Expand laboratory capability and capacity

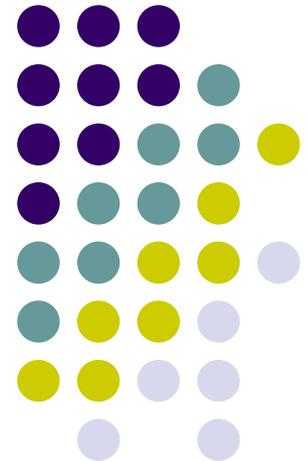
Demonstrate success of laboratory quality management system





Objective 3

Apply biomonitoring methods to
assess and track exposure
trends





Assess and track exposure trends

1. Environmental Health Tracking*

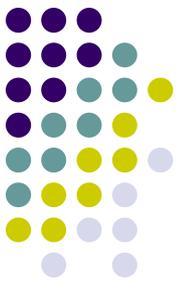
- Tulare – Chlorpyrifos metabolites
 - Results not yet available
 - Results will be returned to participants later this year
- Imperial - Perchlorate
 - Urine perchlorate, thiocyanate, nitrate, and iodine (analyzed by CDC Labs)
 - Perchlorate in food and water samples (other State labs)
 - Split samples retained by EHL
 - Results to be returned to participants by EHTP
- Additional collaborations to be defined

*Environmental Health Tracking Program (EHTP)



Assess and track exposure trends

2. CYGNET



Cohort of Young Girls' Nutrition, Environment, and Transitions

- Environmental, genetic, other factors during onset of female puberty as breast cancer risks
- Baseline blood and urine collected in 2005
 - > 400 girls (6-8 yrs) in SF Bay Area
- Whole blood and urine samples from baseline cohort
 - ~ 350 available now
 - Subsequent urine samples available over time
- Current analytes of interest – metals in blood
- Memorandum of Understanding completed



Assess and track exposure trends

3. Maternal and Infant Environmental Exposure Project (MIEEP)

- “Chemicals in Our Bodies” Project
- Measure and compare levels of chemicals in pregnant women and newborn infants
 - Recruit at San Francisco General Hospital
 - Collect biological samples:
 - Blood and urine from ~50-75 pregnant women
 - Newborn umbilical cord blood samples
 - Analyze chemicals at Biomonitoring California labs
 - Return results to participants



28-34 weeks gestation

34-38 weeks gestation

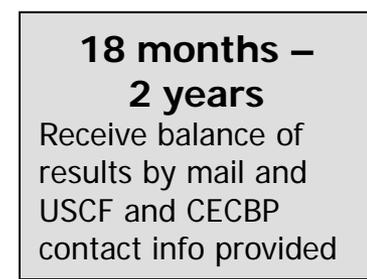
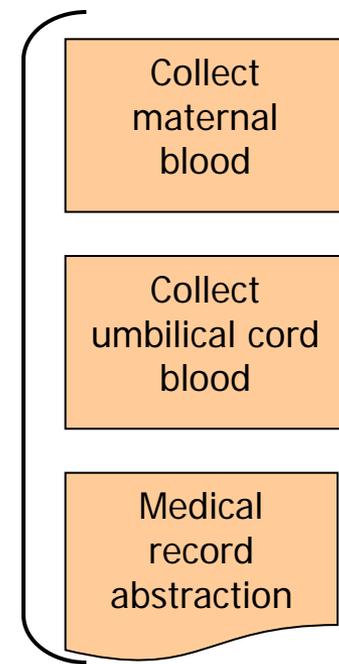
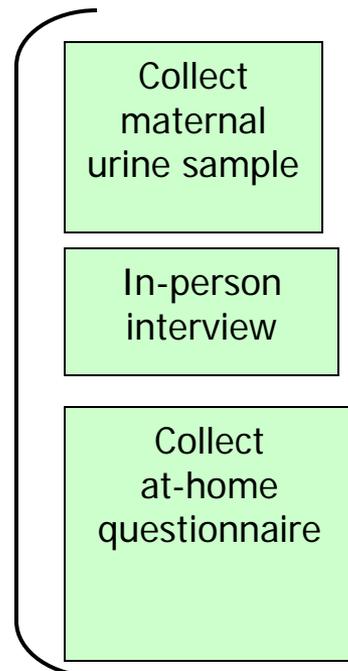
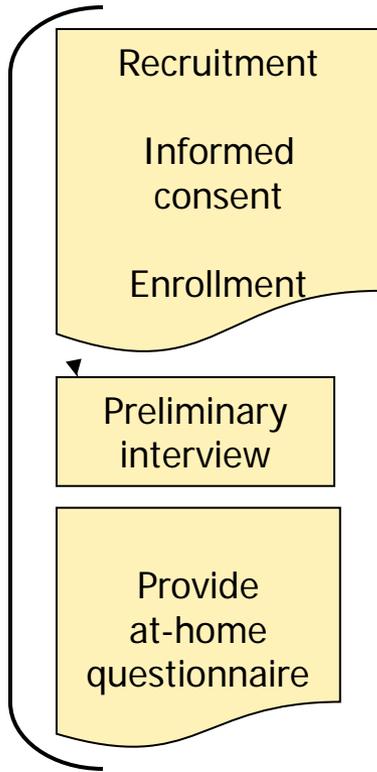
At delivery

After delivery

First Encounter

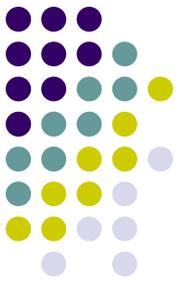
Second Encounter

Third Encounter



Chemicals in Our Bodies Project Design

Chemicals in Our Bodies Project (MIEEP): Progress to Date



- IRB approval gained from both UCSF, CDPH
- Field testing May-June 2010
- Dry run June 2010
- Participant recruitment and specimen collection scheduled for July 2010



Assess and track exposure trends

4. Firefighter Occupational Exposure (FOX) Project

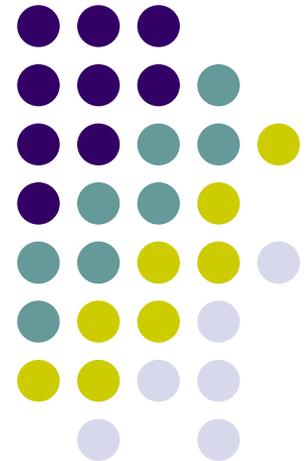


- Collaboration
 - UC Irvine
 - Orange County Fire Authority
 - Wellness and Fitness Program Oversight Committee
- Collect
 - Blood and urine from 50-100 firefighters
 - Dust samples from 3 firehouses
 - Limited data through an exposure survey
- Data analysis, report back, project evaluation



Objective 4

Assess exposures in a
representative group of
Californians



Assess Exposures in a Representative Group of Californians



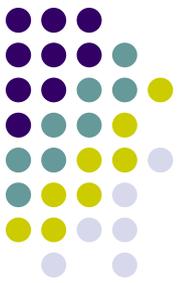
- Explore feasibility of accessing stored biospecimens collected statewide or regionally
 - Utility of biospecimens for chemical analysis
 - Costs to obtain and analyze
 - Appropriate sampling strategies





Assess Exposures in Californians

Exploring Collaborations

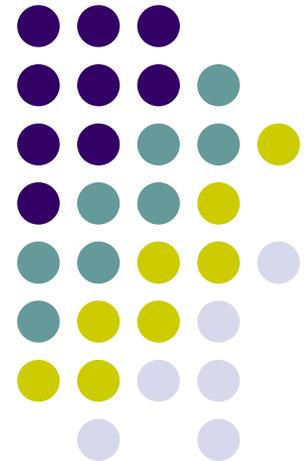


- Kaiser Research Program on Genes, Environment, and Health (RPGEH)
 - Subcontract September 2010 will include
 - Biobank Repository
 - Pregnancy Cohort
- Genetics Disease Screening Program (GDSP)
 - Maternal serum, newborn screening blood spots
 - Labs will explore methods development related to blood spots over the next 18 months



Objective 5

Collaborate with stakeholders,
communities





Engage and Collaborate With Stakeholders and Communities

- Contract with Health Research for Action (HRA), UC Berkeley School of Public Health
 - Website review (May 2010)
 - Biomonitoring brochure (September 2010)
- Upcoming activities
 - Improve website
 - Translate materials into Spanish and Chinese



Summary

- Increase capacity and capability to analyze chemicals in urine and blood
- Collaborations to obtain, analyze samples
 - Environmental Health Tracking Program
 - CYGNET
 - MIEEP
 - FOX
 - Planned: Kaiser RPGEH, GDSP
- Results communication and outreach

Biomonitoring California



California Department of Public Health

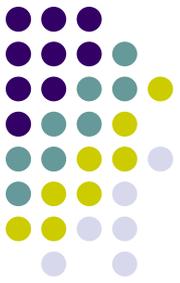
- **Environmental Health Investigations**

- Rupali Das
- Diana Lee
- Sandy McNeel
- Berna Watson
- Phillip Gonzaga
- Robin Christensen
- Rebecca Chung
- Ngozi Erundu
- Dina Dobraca

- **Environmental Health Laboratory**

- Jed Waldman
- Jianwen She
- Frank Barley
- Robert Ramage
- R. Gajek
- M. Rafol
- Pami Behniwal
- Rana Zahedi
- B. Xia
- Indranil Sen
- J. Alvaran
- Shirley Cao
- Yangzhou Long

Biomonitoring California Staffing



- **Office of Environmental Health Hazard Assessment**
 - Lauren Zeise
 - Sara Hoover
 - Kristin Gottschalk
 - Amy Dunn
 - Gail Krowech
 - Farla Kaufman
- **Department of Toxic Substances Control (Environmental Chemistry Laboratory)**
 - Bruce LaBelle
 - Myrto Petreas
 - M. Wang
 - Y. Want
 - R. Brown
 - Suhash Harwani
 - J. Park

Questions?

