

# California Biomonitoring Program Overview

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California Biomonitoring Program  
Public Involvement Workshop  
April 3, 2008  
Oakland, California

# Overview

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- Definitions
- Legislative background
- Program organization
- Possible program components
- Provisional timelines/milestones

We are what we...

Eat...

Drink ...

Breathe ....

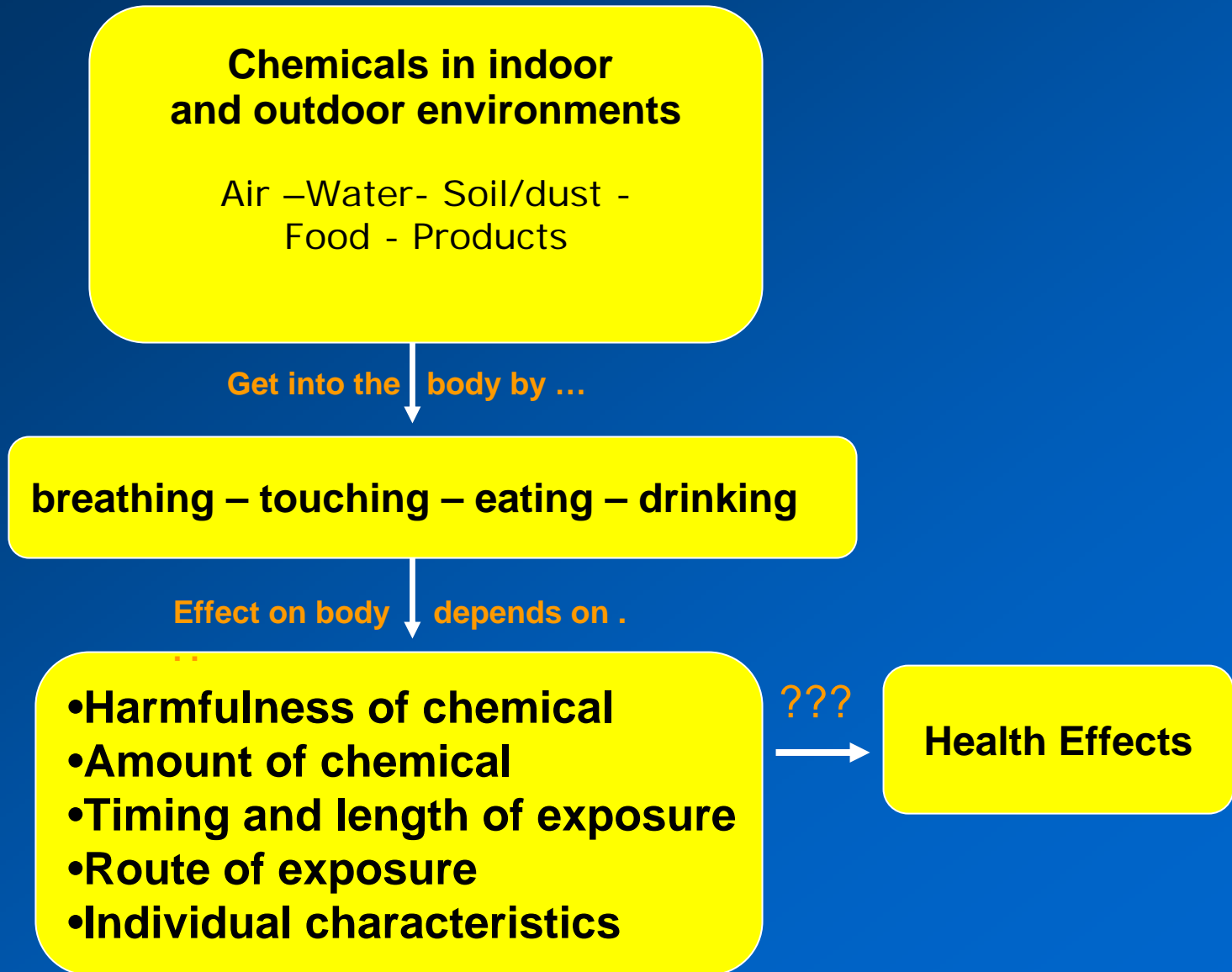
Lather ...

Spray ....



# How do chemicals get into our bodies?

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# What is biomonitoring?

- Biomonitoring is a means of evaluating exposure to chemicals by measuring the chemicals or their metabolites in blood, urine, or other human biological specimens, such as breast milk, hair, or saliva



# Limitations of biomonitoring

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- May cause unfounded anxiety; just because a chemical can be measured, doesn't automatically mean that it causes harm.
  - Health-based comparison values for many chemicals have not been established
- May result in people modifying their behavior in negative ways
- By itself, biomonitoring does not provide information about sources of exposure

# Biomonitoring can help answer important public health questions

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- What are we exposed to and how much?
- Are some groups more highly exposed than others?
- Do public health policies and regulatory programs reduce exposures over time?
- Are there relationships between exposure and health conditions?



# CDC's National Biomonitoring Program

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- Added onto the National Health and Nutrition Examination Survey
- Ongoing assessment of exposure of general US population to selected environmental chemicals in blood and urine
- Establishes national reference ranges
- Tracks trends over time
- Includes detailed history, physical and lab exam
- Returns limited chemical exposure (e.g., mercury, lead) data to participants





# Need for Statewide Biomonitoring Program

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- CDC's program not representative of individual states
- California has greater ethnic diversity (e.g., Asian Americans) and larger proportion of immigrants
- California's exposures differ
  - Diet
  - Exercise
  - Some environmental exposures (e.g., pesticides)
- California's exposure reduction efforts differ
  - Air pollution control efforts
  - Ban on some brominated flame retardants in consumer products

# California Environmental Contaminant Biomonitoring Program (CECBP)

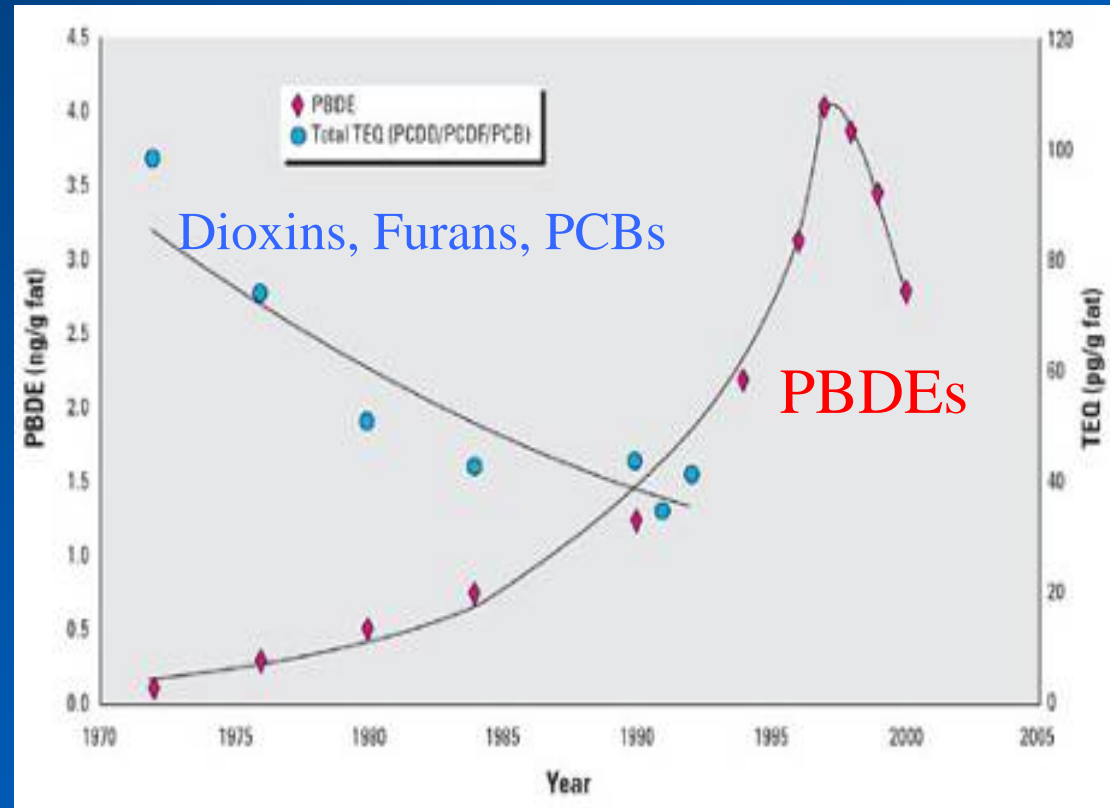
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- Established by SB 1379 (Perata, 2006 Legislative session), signed by Governor Schwarzenegger 9/06
- Mandate to assess and track levels of environmental chemicals in the bodies of Californians



# Program findings will be used to:

- Determine baseline levels of environmental chemicals in a representative sample of Californians
- Establish time trends in chemical levels
- Assess effectiveness of public health efforts and regulatory programs to reduce exposures of Californians to specific chemicals



*(Levels in Swedish breast milk; Hooper and She, EHP 111: 109-114 (2003). Data from Noren and Mieronyte, 1998 and Guvenius and Noren, 2001)*

# Program findings will be used to:

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- Identify potential sources of environmental chemicals
- Enable individuals to make informed choices about exposure reduction
- Encourage researchers to explore linkages between chemical exposures and health conditions (e.g., obesity, diabetes, cancer, autism)
- Plan for community studies



# CECBP Organizational Components

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## Scientific Guidance Panel

### CDPH

- Environmental Health Investigations Branch
- Environmental Health Laboratory Branch

### DTSC

- Environmental Chemistry Laboratory

### OEHHA

- Reproductive and Cancer Hazard Assessment Branch

## Public Participation

## Centers for Disease Control and Prevention

# CECBP Organizational Components

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**CDPH**

**DTSC**

**OEHHA**

CDPH – Program lead, sampling design\*, questionnaire development\*, field and clinic work, participant recruitment and enrollment, data management and analysis, results to participants upon request

DTSC, CDPH labs – Laboratory methods development, processing and analyzing biological samples, data analysis

OEHHA – Scientific Guidance Panel support, public outreach efforts, data analysis

*\*With input from OEHHA and DTSC*

# CECBP : Organizational Components

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## Scientific Guidance Panel

CDPH

DTSC

OEHHA

- Provides scientific peer review and recommendations on program design and specific chemicals for analysis (program staff make final decisions)
- Meetings open to the public, next: **June 10, 2008**
- Staffed by OEHHA



# CECBP Organizational Components

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Scientific Guidance Panel

CDPH

DTSC

OEHHA

## Public Participation

Provide opportunities for meaningful public participation through stakeholder workshops and meetings, develop materials that are understandable and sensitive to the diverse needs of Californians; build community capacity

# Environmental Justice Considerations

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- “As appropriate, the program shall utilize the principles of the agency’s Environmental Justice Strategy and Environmental Justice Action Plan...”  
(H&SC Ch 8; SB 1379)
- “Fair treatment, accessibility and protection regardless of race, age, income, culture, or geographic location”

# Guidance and Input from CDC

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Scientific Guidance Panel

CDPH

DTSC

OEHHA

## Centers for Disease Control and Prevention

- Consultation and technical assistance – sampling strategy, data collection and management
- Methods transfer
- Training of state laboratory staff
- Quality assurance and quality control (QA/QC)

Comments???

Questions??

# California Environmental Contaminant Biomonitoring Program (CECBP)

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- Will systematically collect, analyze and archive blood and other human biological samples
- Combine results of chemical analysis with participants' physiological measurements and questionnaire responses
- Initial focus – statewide representative sample
  - 2000-3000 (?) participants every 2 years (i.e., 2 year cycle)
- Plan for community studies

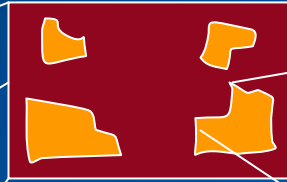


# Overview of Sample Selection Stages

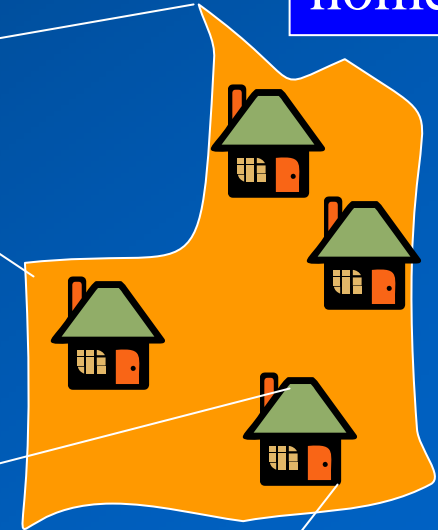
Stage 1 - counties



Stage 2 - segments



Stage 3 - homes



Stage 4 - study participants



# Possible Biomonitoring Process

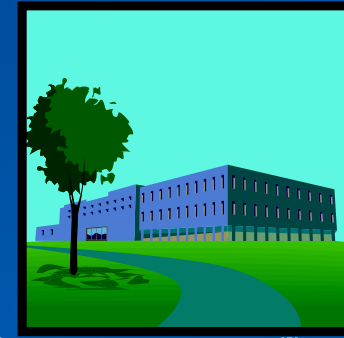
Household  
interviews



survey data



CECBP offices and labs



physiological data &  
biological samples



Test  
results



Field Clinic



Test  
results



participants



# CECBP: Results Communication to Participants

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- “Individual participants may request and shall receive their complete results.” (105443(a))
  - *Differs from CDC’s national biomonitoring program*
- Identifying information will be kept confidential
- Program staff “shall consult” and recommend follow-up, as appropriate
- Will be testing models for communicating results
- Future opportunities for input

# Possible Biomonitoring Process

CECBP offices  
and labs



Archive  
at CDPH



samples



samples



research data



analysis  
summaries



public

researchers



legislators and decision-makers

# CECBP: Reports and public information

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- Reports to the Legislature to be produced every two years, with the first due 1/1/10
  - This report will also be made available to the public
- CDPH and OEHHA are to disseminate findings “in a manner that is understandable to the average person”
- Health and exposure data will be made available in summary form by 7/1/10 and at least every two years thereafter

# Provisional Timeline/Milestones

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- 10/07 – 6/08: hire initial staff
- 1/08 – 6/08: obtain bids, purchase and install initial lab equipment
- 1/08 – 10/08 – *with public and Scientific Guidance Panel input, develop initial list of selected chemicals*
- 2008-2010 – develop laboratory methods, quality assurance/control (QA/QC) and standard operating procedures

# Provisonal Timeline/Milestones (cont.)

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- 10/07 – 6/09 –develop statewide sampling plan
- 2008-2010 – field survey instruments and protocol development, field testing
- 10/08 - 6/09 – develop initial criteria for community studies
- 2009-2010 – develop and test CA Biomonitoring Information Technology System (CalBITS)
- 2010-11 – dress rehearsal to test all methods and procedures
- 2011-12 – full program rollout, i.e., begin first year of two-year sampling cycle

Comments?

Questions???