Laboratory Program Overview

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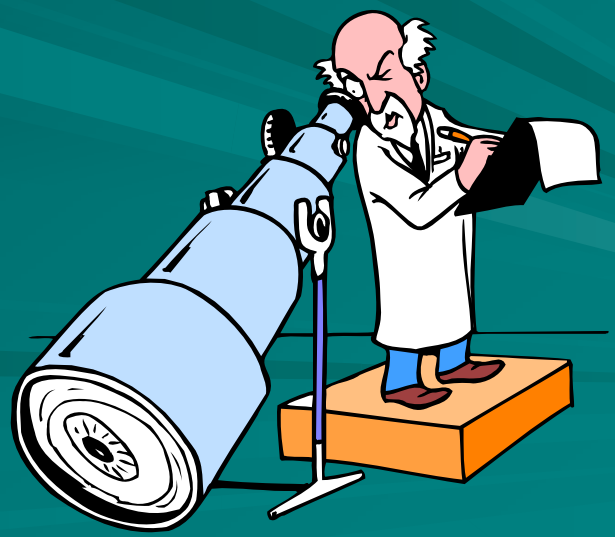
Lab's Role: Test Human Specimens for Environmental Contaminants

Apply advanced instrumental methods to measure chemical contaminants in human specimens at low levels (parts per billion).



Two State Labs Share Role: CDPH and DTSC

- Long history of collaboration
- Highly skilled core staff
- Two locations
  - ↗ CDPH in Richmond
  - ↗ DTSC in Berkeley
- Constant interaction

State Labs Experienced in Testing Human Specimens

- CDPH Lab expert in metals testing (e.g., reference laboratory for lead in blood).
- DTSC Lab expert in testing dioxins, flame retardants, industrial and agricultural chemicals in blood, milk and fat.

Lab Approach

- Build on our strengths
- Start with blood and urine
- Start small and grow as expertise and resources become available
- Quality first!

Labs to be Modeled on CDC's Biomonitoring Program

- Build upon CDC methods.
- Train State lab staff at CDC on methods.
- Consult regularly with CDC and other experts.
- Compare our results to CDC's.
- Continue participation in national and international quality control studies to assure data comparability and accuracy.

Two State Labs with Different Functions – CDPH

- CDPH Lab will receive specimens from the field, and dispense subsamples for analysis to CDPH, DTSC and clinical labs.
- CDPH Lab will test for metals and non-persistent organics (organic chemicals that leave the body quickly).
- CDPH Lab will archive portions of specimens for possible future research as new concerns arise.

Two State Labs with Different Functions – DTSC

- DTSC Lab will test for persistent organics (organic chemicals that accumulate in the body).
- DTSC will use data to assess efficacy of pollution prevention and regulatory programs.

Lab Challenges – Analysis

Need to measure small amounts of many contaminants in limited volume of blood from participants.

- Modify methods to use less specimen.
- Combine tests on same specimen.
- Improve instrument sensitivity.

Lab Challenges – Throughput

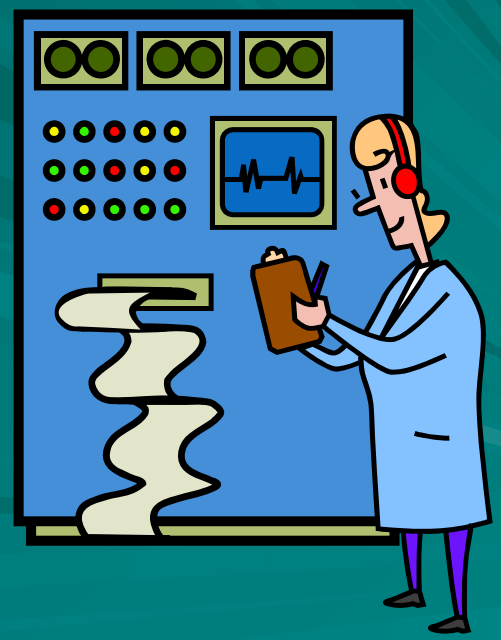
Need to deliver high quality data and high throughput (test for low levels of many chemicals in thousands of complex samples).

- Scale up from small studies.
- Automate procedures.

Lab Challenges – Tracking

Need to track thousands of specimens from collection, through several testing labs, to and from archive and compile results.

- Expand existing electronic Laboratory Information Management System (LIMS) to meet program needs.



Current tasks

- Hiring initial staff.
- Selecting major testing equipment to purchase this fiscal year.
  - Equipment will enable labs to test for many chemical classes
- Selecting specific chemicals for study.
  - SGP recommendations will influence method development work

We’re ready to start!