DTSC Laboratory Update

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Report to Scientific Guidance Panel
Oakland
July 28, 2009

DTSC Equipment

HRGC/MS

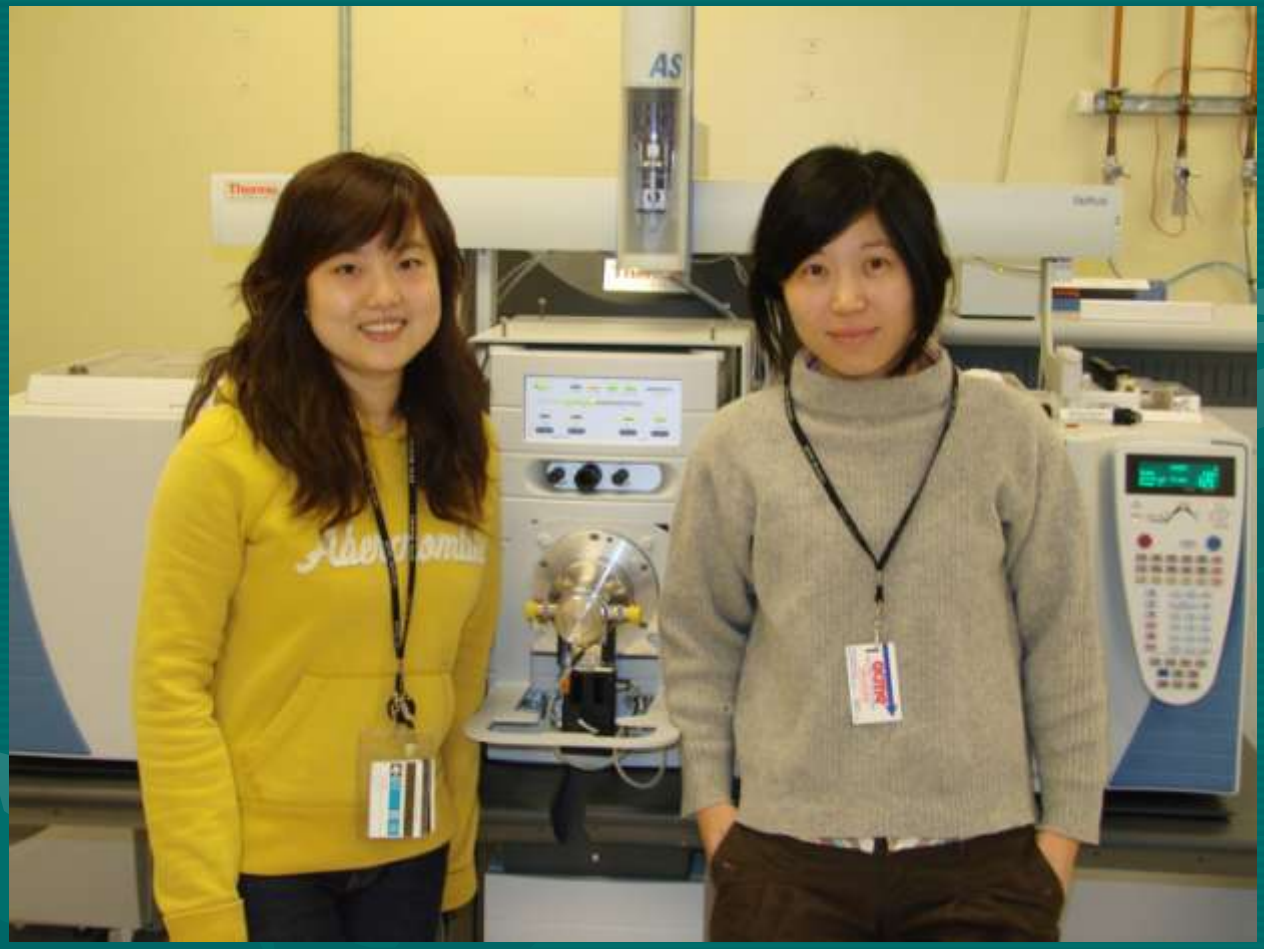
DTSC Equipment

LC/MS

DTSC Equipment

Automated Sample Preparation

DTSC CECBP Staff

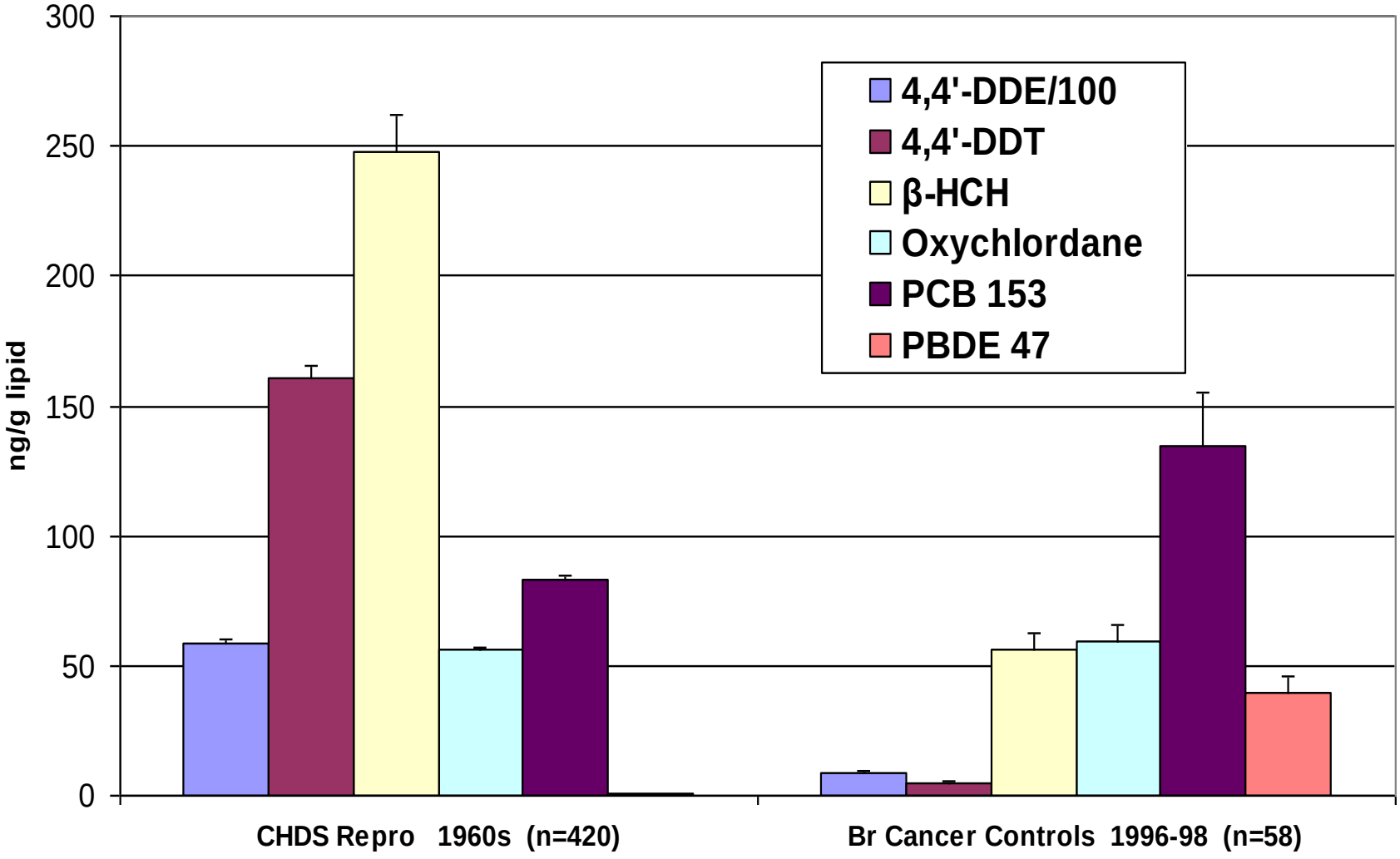


Current DTSC Activities Feed into CECBP Implementation

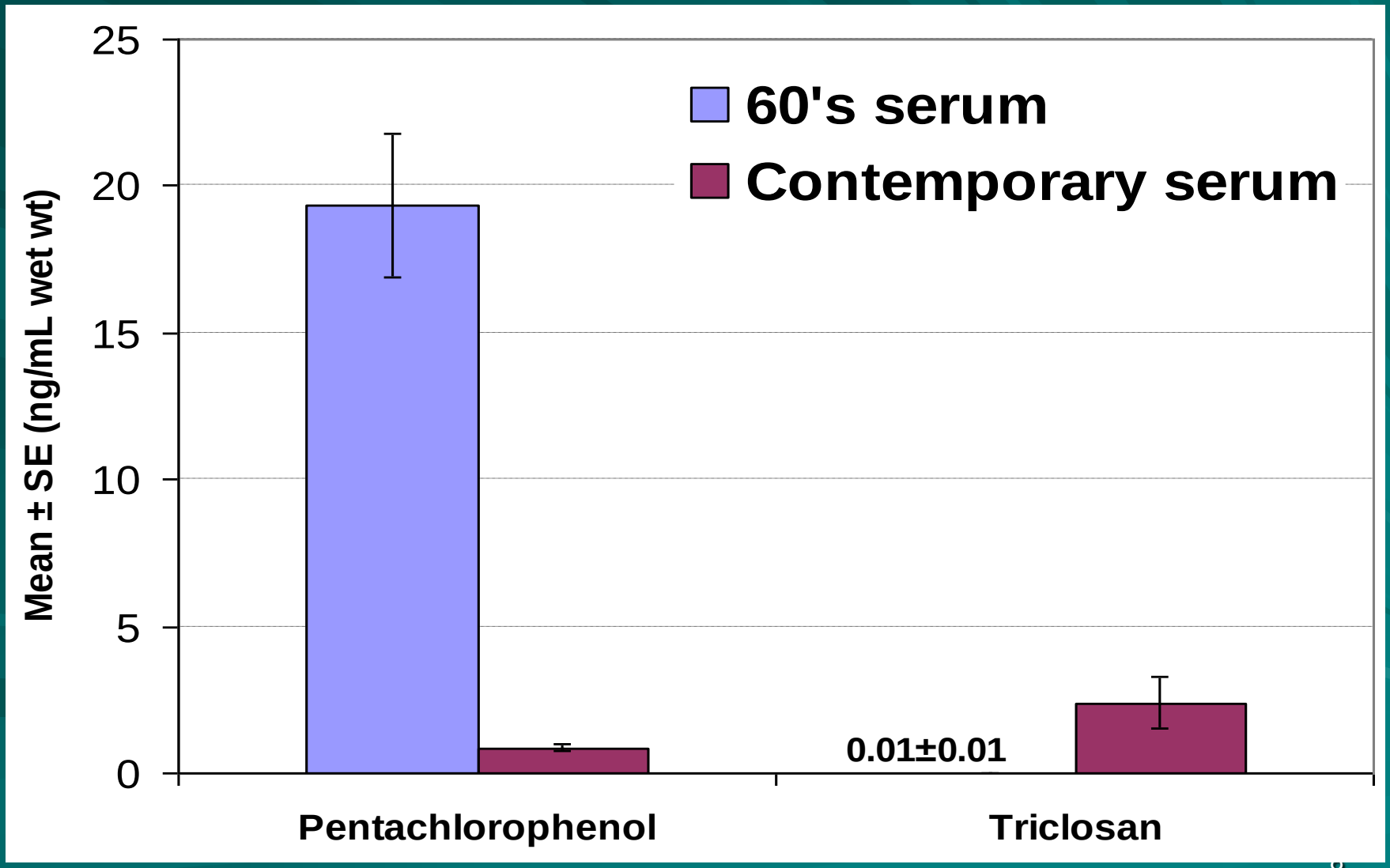
- Method development for new brominated flame retardants
- Wildlife samples (serum, eggs, adipose) provide testing material
- On-going studies on persistent organic pollutants in human serum
  - OCPs, PCBs, PBDEs, Hydroxy-PCBs, Hydroxy-PBDEs, Triclosan, Phenols
  - Temporal comparisons (1960s vs. 2000s)

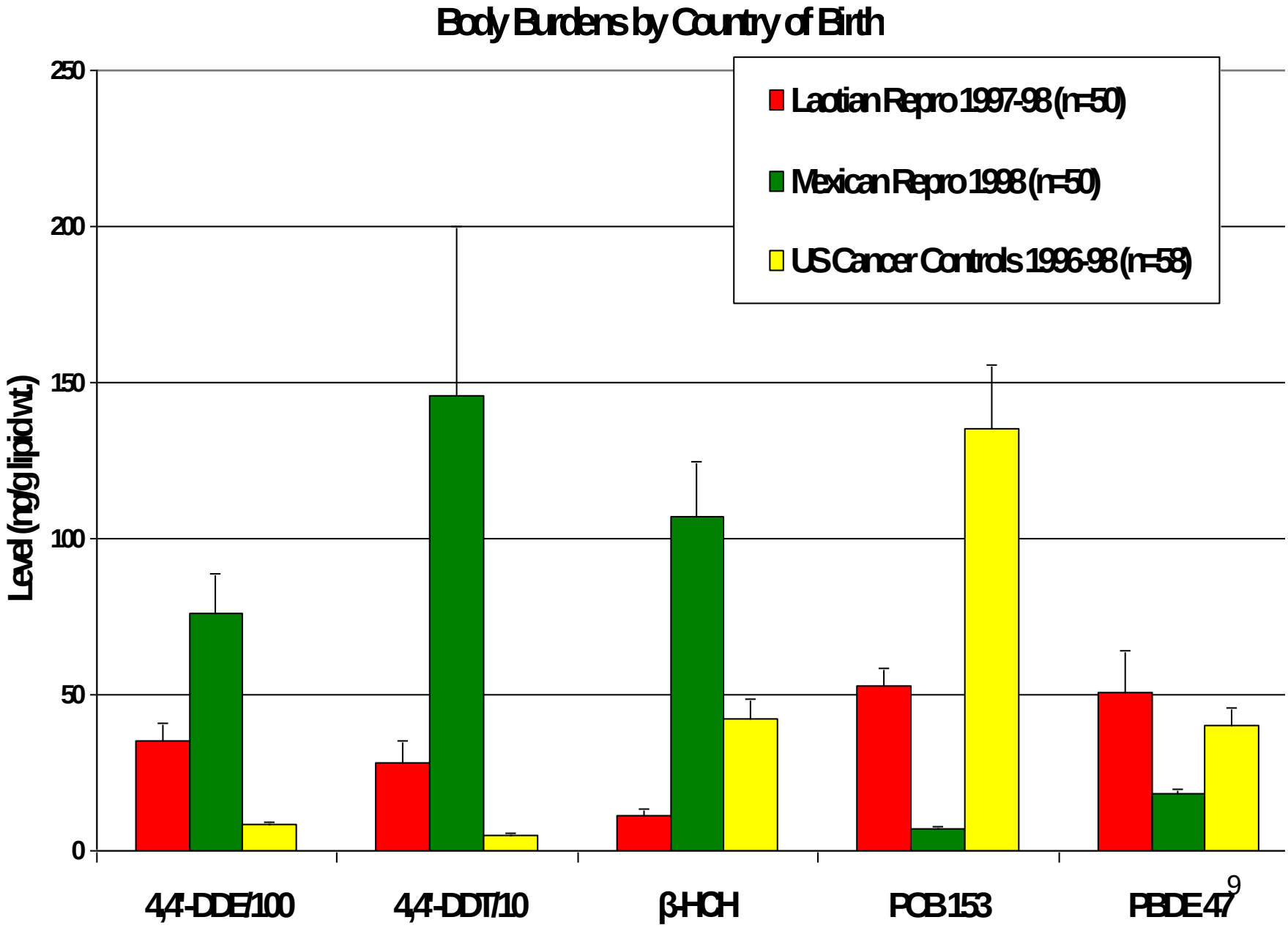
Temporal Changes

1960s vs. 1990s



Park JS et al. 2009



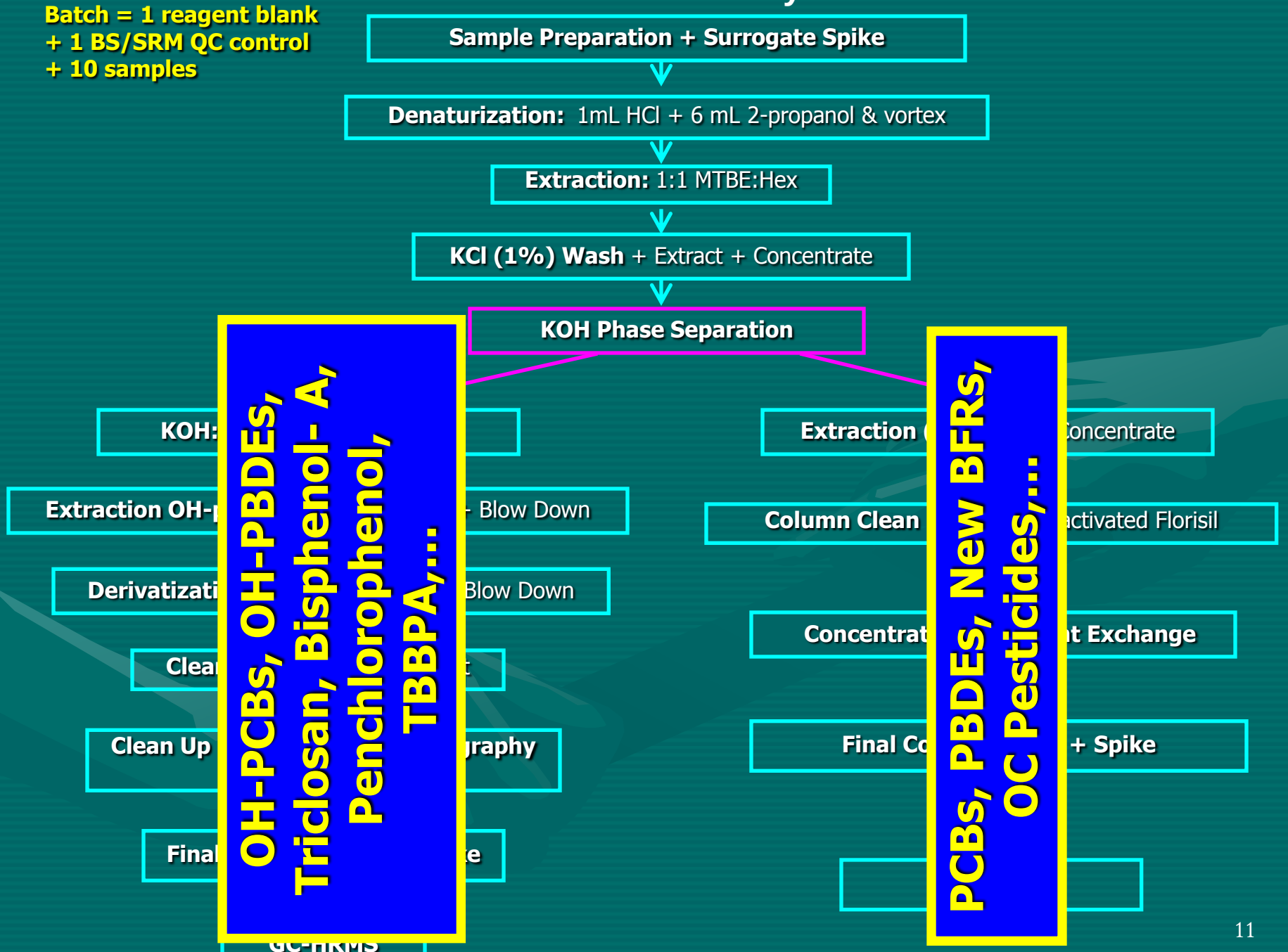

Body Burdens by Country of Birth
Laotian Repro 1997-98 (n=50)
Mexican Repro 1998 (n=50)
US Cancer Controls 1996-98 (n=58)
Level (ng/g lipid wt.)
250
200
150
100
50
0
4,4-DDE/100
4,4-DDT/10
β-HCH
PCB 153
PBDE 47

DTSC Timetable for CECBP

- Spring 2009: Set up and training on:
  - HRGC/MS
  - LC/MS
  - Automated sample preparation systems
- June 2009: Staff training at CDC
- July 2009: Start using new equipment:
  - HRGC/MS system for POPs
  - LC/MS system for Perfluorinated Chemicals (PFCs)

Human Serum Analysis

Batch = 1 reagent blank
+ 1 BS/SRM QC control
+ 10 samples



Best Case Lab Capacity with Base $

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CECBP in DTSC Lab

Able to do ONE of the following...		
Tests (in Serum)	When?	No./Yr.
POPs (PBDES, some new BFRs)	Dec 09	800 640
OR		
Perfluorinated chemicals	Dec 09	1000 800
20% Reduction in numbers due to furloughs		

RFI Collaboration with Columbia University

- Serum PBDEs in contemporary CA men (N=230)
  - Trans-generational study
  - Partially funded

CECBP Lab Summary (CDPH and DTSC)

- Initial staff on-board and equipment in place
- Ongoing Concerns
  - Need staff, operating expenses
  - After warranty, equipment repairs will be costly
- Progress with method development
- Once methods validated, labs can start analyzing samples and providing data