



CDPH LIMS Evolution and the California Biomonitoring Program (CecBP)

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CDPH Richmond Laboratory Campus LIMS

- Evolution of the CDPH Laboratory Information Management System (LIMS)
- LIMS Advances to Meet Lab Business Objectives
- CECBP and Role in Health IT and Data Exchange
- Expanded Primary Role of LIMS in CECBP
- Remedy for Gaps in LIMS Interoperability and Connectivity



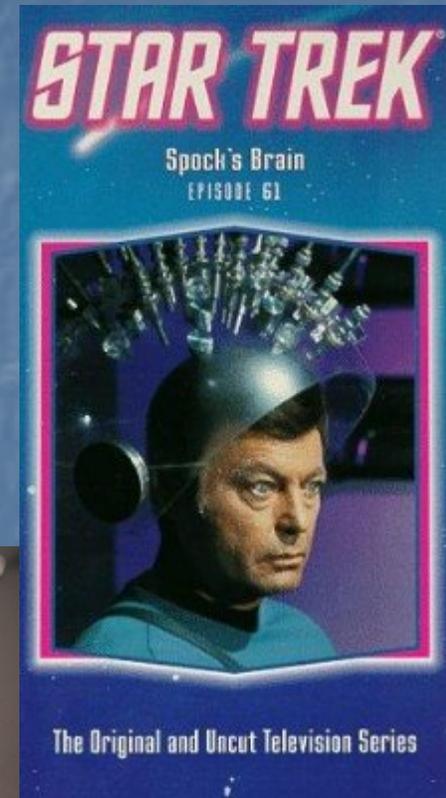
LIMS Evolutionary Path



Past - Hard
copy and
Spreadsheets



Present – Paperless
internal Data sharing &
management



Future – Secure web
based bi-directional
data xfer with external
partners



Attaining Meaningful Use

CDPH strategic goal to prepare for, respond to, and recover from emerging public health threats and emergencies

- Increase to 80% the percentage of laboratory tests supported by the CDPH enterprise-wide Laboratory Information Management System by *6/30/09*.
- Increase to 100% the percentage of laboratory tests supported by the CDPH enterprise-wide Laboratory Information Management System by *06/30/10*.



Staff StarLIMS V9 Interface

Production Status for all Six RLC Laboratory Programs



STARLIMS CA DHS v.9.61.01 (PROD) , User Name - SWALL, Lab - EHLB

File Receive HL7

Receive Packages Create Package Delete Package Hold/Unhold Reopen/Close Print Labels Search

PACKAGE/BATCH											
>>	Package ID	Batch ID	Package Submit	Tracking #	Method of Tran	Batch Condition	Batch Priority	CDC	Status	Site Status	Comm
	2009001340	E0903019			GSO	Passed	Normal		PreLog	In Transit	
	2009003270	E0906003			UPS	Passed	Normal		Open	In Lab	Box 5
	2009003271	E0906004			UPS	Passed	Normal		Open	In Lab	Box 5
	2009003272	E0906005			UPS	Passed	Normal		Open	In Lab	Box 5
	2009003273	E0906006			UPS	Passed	Normal		Open	In Lab	Box 5

Add Batch Delete Batch Process Upload Image Attachment

Warning/Comment

Summary Client Sample Data Clinical Data

Samples Summary			
>>	Container ID	Team	Subr
	E0903019-001	EHLB QAQ Micro	UNC
	E0903019-002	EHLB QAQ Micro	UNC
	E0903019-003	EHLB QAQ Micro	UNC
	E0903019-004	EHLB QAQ Micro	UNC

Client ID: EHLB QAQ
 Company: Environmental Health Laboratory Branch/Outdo
 Street Address: 850 Marina Bay Parkway Mailstop 7522
 City: Richmond State: CA
 Zip: 94804 County: Contra Costa

Project #: Ag Burn PO#:
 Name: Agricultural Burning Exposure Reduction
 Project Location: Imperial Valley
 Billing ID: EHB
 Billing Company: Environmental Health Investigations Branch

Contacts					
>>	Contact Type	Name	Title	Street Address	Address 2
	Reporting	Martha Hamly		850 Marina Bay Parkway	

00:56:25 INS CAPS NUM SCROLL



Business Objectives

- To Unify Information System Across CDHS Public Health Laboratories
- Advanced Configuration to meet Individual Laboratory evolving business requirements
- To Centralize Laboratory Testing Information (Hub)
- Laboratory Programs & Services Interoperability
- To Integrate with the Lab Data Interchange (LDI) System
- Secure Transmittal of Results To Public Health Partners
- Migration Path to the Web-based LIMS Version Consistent with APHL Best Practices Approach



LIMS Migration Path

STARLIMS V10
(completely web-based)

MyLIMS
(Web-based Component)

STARLIMS V9
(Client Server)

MS SQL SERVER 2000

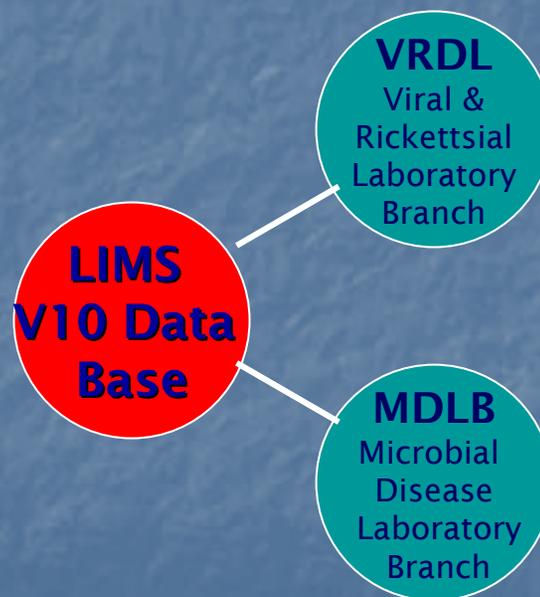
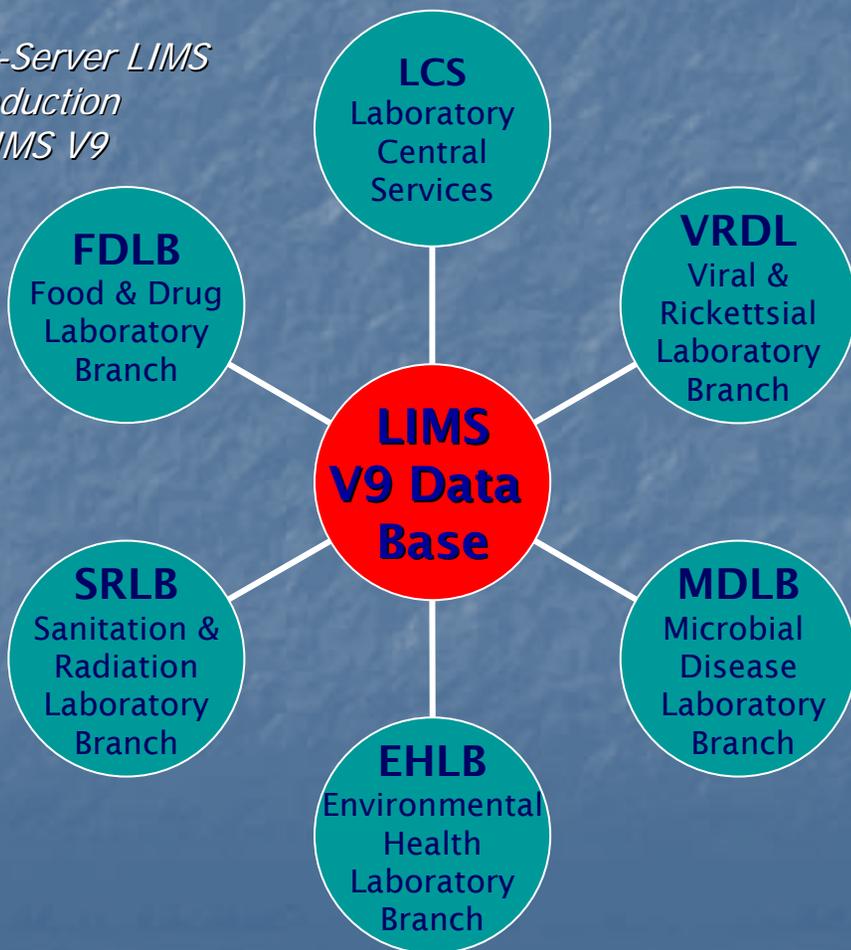


Interoperability

Intra-Laboratory Synergy: Independent laboratory workflow configurations with a shared data base warehouse

*Client-Server LIMS
in Production
StarLIMS V9*

*Web-based LIMS
Implementation
StarLIMS V10*





Laboratory Data Exchange

- Laboratory data serves as the sentinel reporting mechanism for outbreak recognition, bio-surveillance, and emerging threats.
- CDPH projects for electronic laboratory reporting include lead exposure reporting (RASSCLE), infectious disease reporting (ELR), genetic disease reporting (SIS), and electronic laboratory data management (LIMS for Richmond labs) among others.
- *Specific example of LIMS Role in the California Environmental Contaminate Biomonitoring Program*



California Environmental Contaminant Biomonitoring Program (CECBP)

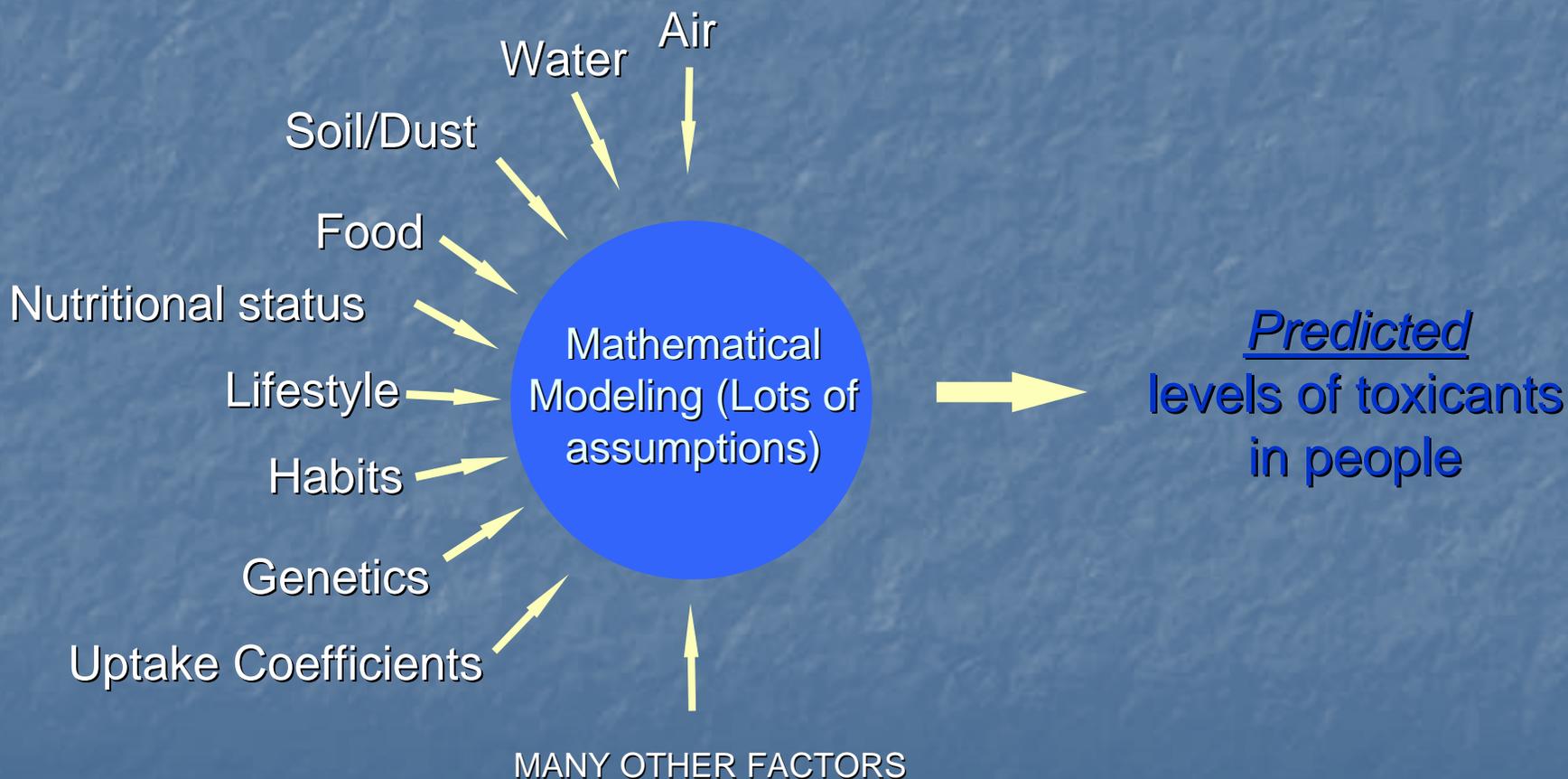
- Will systematically collect and archive blood and other human biological samples, physiological measurements, questionnaire information
- Participants will comprise sample of Californians (2,000 over 2-year cycles)
- Will coordinate with CDC's biomonitoring program
- Communicate findings to participants, communities, and the general public.



SB 1379,
Perata.

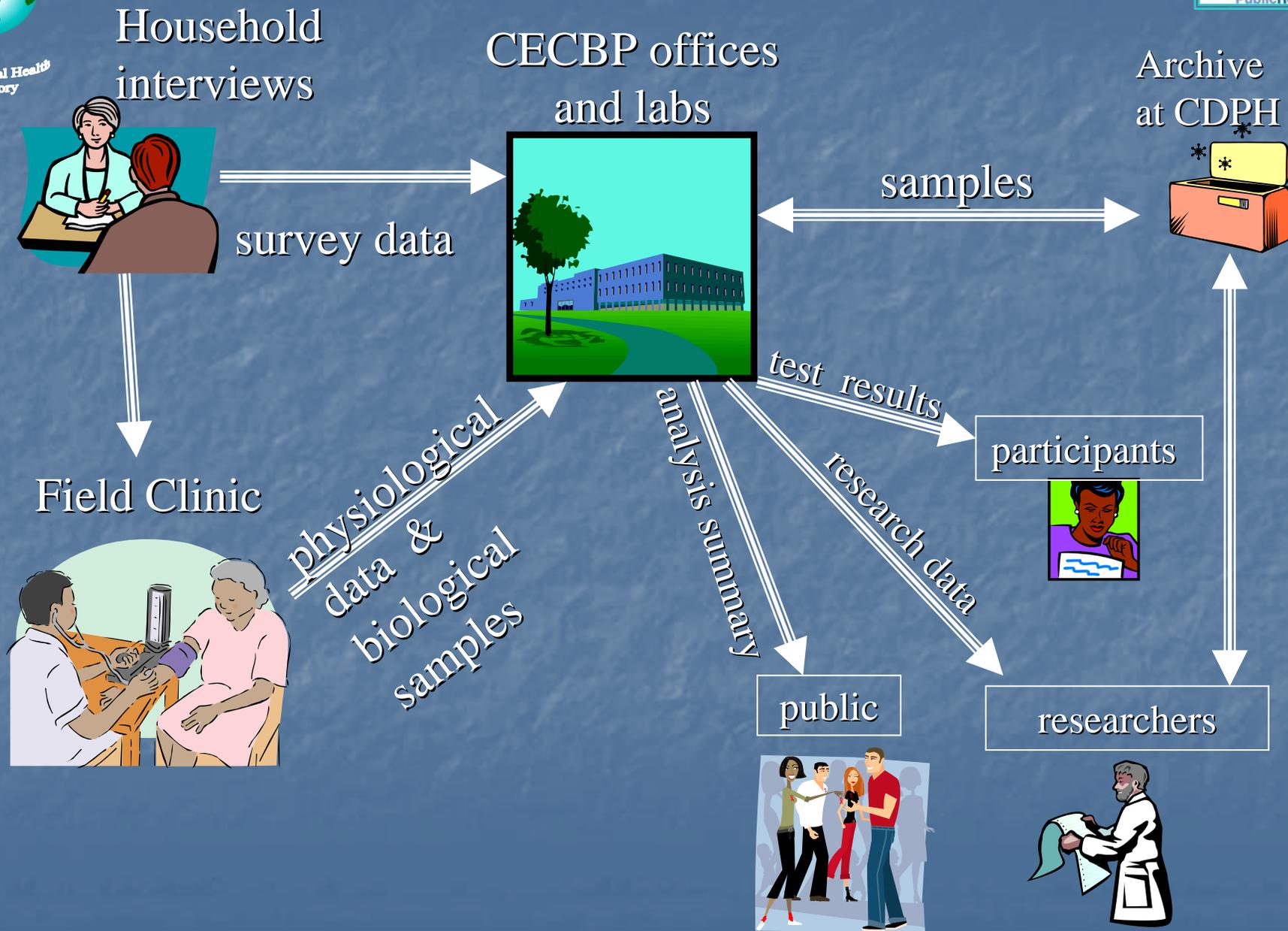


Biomonitoring can provide integrated exposure information that traditional environmental monitoring cannot



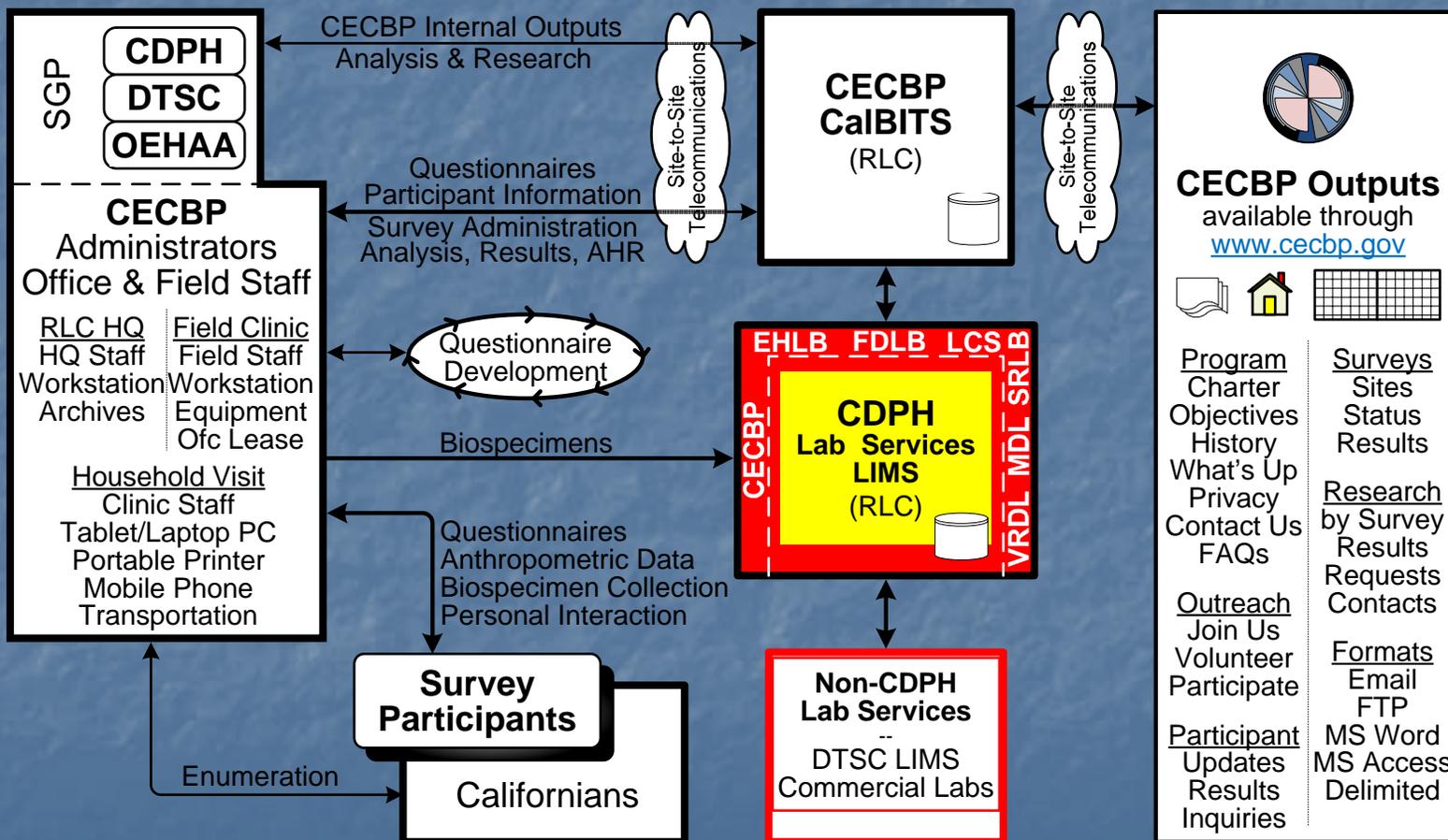


CECBP Process Pathways





CECBP Overall Technology Concept





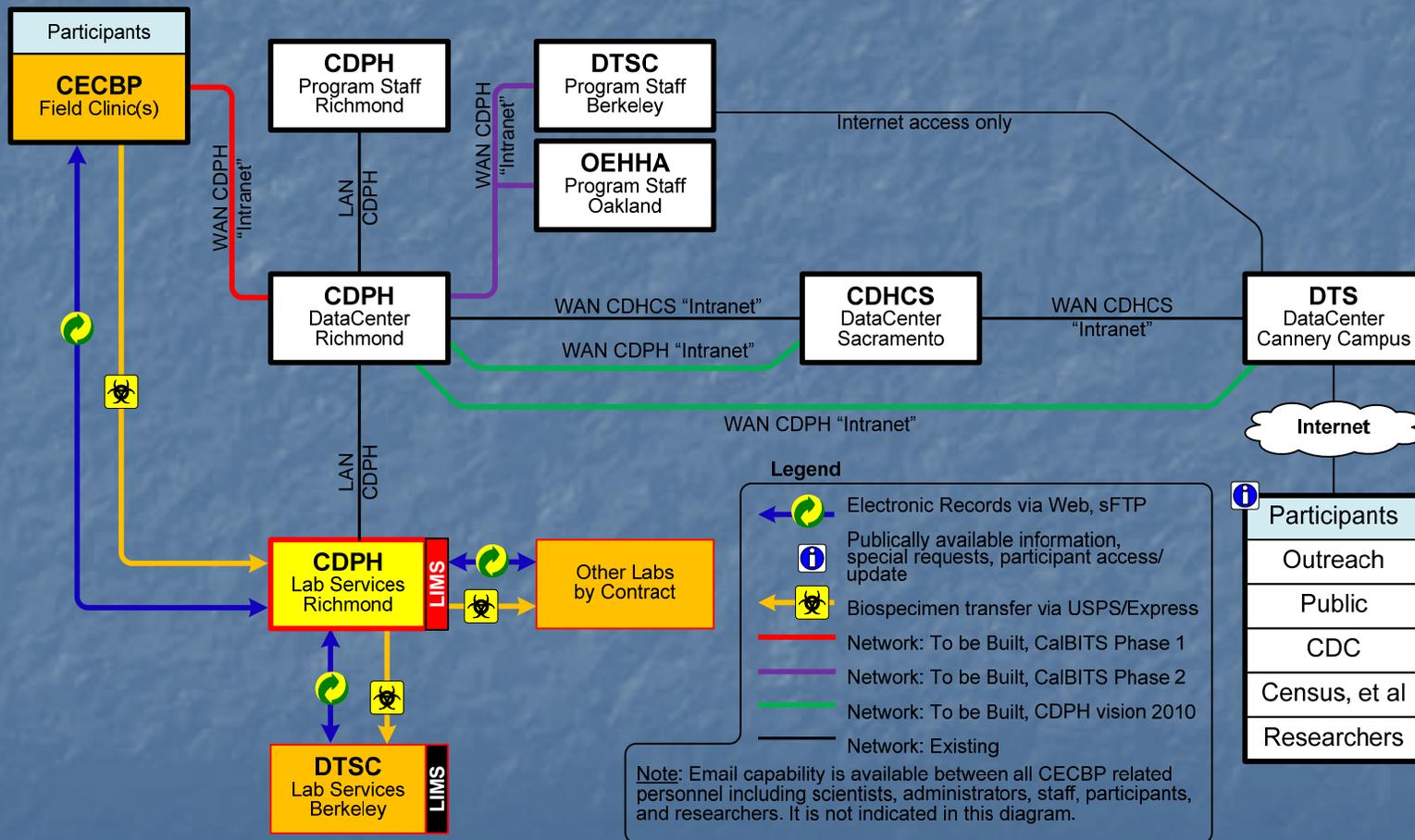
California Health IT and Exchange Objectives

- To improve public and population health through stronger public health program integration, bio-surveillance and emergency response capabilities
- Health IT and HIE can support public health goals by monitoring population health outcomes, increasing outreach for and identifying priority prevention services, and supporting bio-surveillance and emergency response services.



CECBP Connectivity

CA Biomonitoring IT System (CaBITS) FSR





CECBP IT Implementation

LIMS Central Role in Health IT and Exchange

(Applicable Pathway Elements for other CDPH Laboratory Programs)



Current Obstacles:

- Unified CalBITS system well beyond current funding resources
- Advanced configuration of LIMS for complex workflow
- Enhancement of LIMS for Secure data exchange including HL7
- Migration of LIMS to Web-based StarLIMS V10

Near Term Remedy: \$\$ funding source required

- Migration to web-based LIMS as CECBP primary IT solution
- Configure LIMS for CECBP data exchange via LDI with HL7
- Implement data exchange protocols with CECBP partners

Longer Term Remedy: \$\$\$\$ funding source required

- Adapt CDC NHANES ISIS as COTS interfaced with LIMS
- Implement complete CECBP CalBITS Intra-Agency Connectivity
- Plan for continuous upgrades to adopt new IT advances