Laboratory System Improvement Program (L-SIP)

Assessment Report

Orange County
Public Health Laboratory
January 15, 2026

OC health CARE AGENCY
PUBLIC HEALTH SERVICES

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Executive Summary

Laboratory System Improvement Program (L-SIP) is a program of the Association of Public Health Laboratories (APHL), an organization that represents the interests of public health laboratories nationally and internationally. Although not a requirement, the purpose of the L-SIP is to improve the quality of public health laboratory practice and performance and strengthen our public health laboratory system to ensure we're serving the community according to the highest national standards.

On January 15, 2026, the OC Health Care Agency (HCA) Public Health Laboratory (OCPHL) completed its second Laboratory System Improvement Program (L-SIP) assessment. The assessment applied the Centers for Disease Control and Prevention's (CDC) 10 Essential Public Health Services framework to evaluate the performance, capacity, and coordination of Orange County's public health laboratory (PHL) system (The System). This reassessment, conducted after the initial 2014 evaluation, brought together 54 participants from Local and State Public Health Laboratories, Clinical Partners, Environmental Health, Mosquito and Vector Control, Public Works, Animal Care, Community and Nursing Services, Emergency Medical Services, International Responder Systems, Law Enforcement, University and Research, and Public Health Services (PHS) Leadership.

The event, held at the HCA Marine Way Campus in Irvine, CA, included a plenary session focused on Essential Service #2 and structured breakout discussions facilitated by APHL experts, with support from OCPHL and APHL Fellows. Participants evaluated system strengths, identified gaps, and scored performance covering all 10 Essential Services. Key themes emerging from the assessment included data interoperability, standard communication, quality improvement, workforce development, emergency readiness, and partnership coordination.

Across all Essential Services, The System was most frequently scored within the Significant and Optimal performance ranges. Participants emphasized strong surveillance systems, effective cross-sector collaboration, and a solid foundation for emergency response, regulatory compliance, community education, and innovation. Additional strengths identified included robust electronic reporting, active participation in surveillance networks, engaged leadership, rapid disease investigation, legislative involvement, and workforce training opportunities.

The assessment also identified aspects for improvement to direct future planning. The System partners emphasized the necessity to improve bidirectional data sharing, formalize

memoranda of understanding (MOUs) and emergency protocols, expand workforce recruitment and retention, strengthen inter-laboratory coordination, and secure sustainable funding for laboratory modernization, environmental research, and staffing. Additional opportunities include expanding community outreach, increasing the visibility of laboratory services, and streamlining communication platforms across agencies.

This L-SIP reassessment demonstrates OCPHL's strong performance and sustained commitment to advancing PHL services in Orange County (OC). Findings from the 2026 assessment will inform quality improvement initiatives, guide strategic planning, and support efforts to develop a more coordinated, resilient, and responsive PHL system that serves current and emerging community needs.

OC Health Care Agency, CDPH, and APHL

Orange County Public Health Services Director Jenna Sarin

Introduction

The OC Health Care Agency (HCA) Public Health Laboratory (OCPHL) is the third-largest public health laboratory in California. In early 2025, OCPHL moved to a new, state-of-the-art facility in Irvine, CA. One year later, OCPHL launched its second Laboratory System Improvement Program (L-SIP) assessment.

OCPHL L-SIP Planning Committee

On January 15, 2026, the L-SIP assessment evaluated The System performance and identified emerging needs. This was OCPHL's second L-SIP evaluation, following its initial assessment in 2014.

The one-day facilitated session brought together 54 participants representing Public Health Leadership, public health laboratories from across the nation, clinical partners, university and research and various departments including: Environmental Health, Mosquito and Vector Control District, Public Works, Animal Care, Emergency Medical Services, FBI, International Responder Systems, and Community and Nursing Services. Through plenary and breakout sessions, participants evaluated Orange County's public health laboratory system's (PHL System) performance across all 10 Essential Public Health Services (Fig. 1).

The Association of Public Health Laboratories (APHL), in partnership with the Centers for Disease Control and Prevention (CDC), developed the L-SIP framework to provide a nationally recognized structure for assessing and strengthening PHL systems. Based on CDC's 10 Essential Public Health Services (Fig. 1) and the 11 Public Health Laboratory Core Functions (Fig. 2), L-SIP enables system partners (Fig. 3) to evaluate performance, enhance coordination, and support continuous improvement.

This report summarizes the 2026 assessment findings, highlights system strengths, identifies gaps and opportunities for improvement, and provides discussion summaries for each essential service to inform future strategic planning. The evaluation supports the development of a more effective, integrated, and resilient PHL system that is prepared for emerging threats, strengthened through partnerships, and aligned with local, state, and national public health priorities.

The 10 Essential Services of Public Health

Figure 1. The 10 Essential Services establish a framework outlining how public health agencies, organizations, and partners collaborate to enhance population health outcomes.

The 11 Core Functions of a Public Health Laboratory

Figure 2. The 11 core functions exist to ensure public health labs can detect threats, protect communities, support public health actions, and maintain a strong, reliable laboratory system.

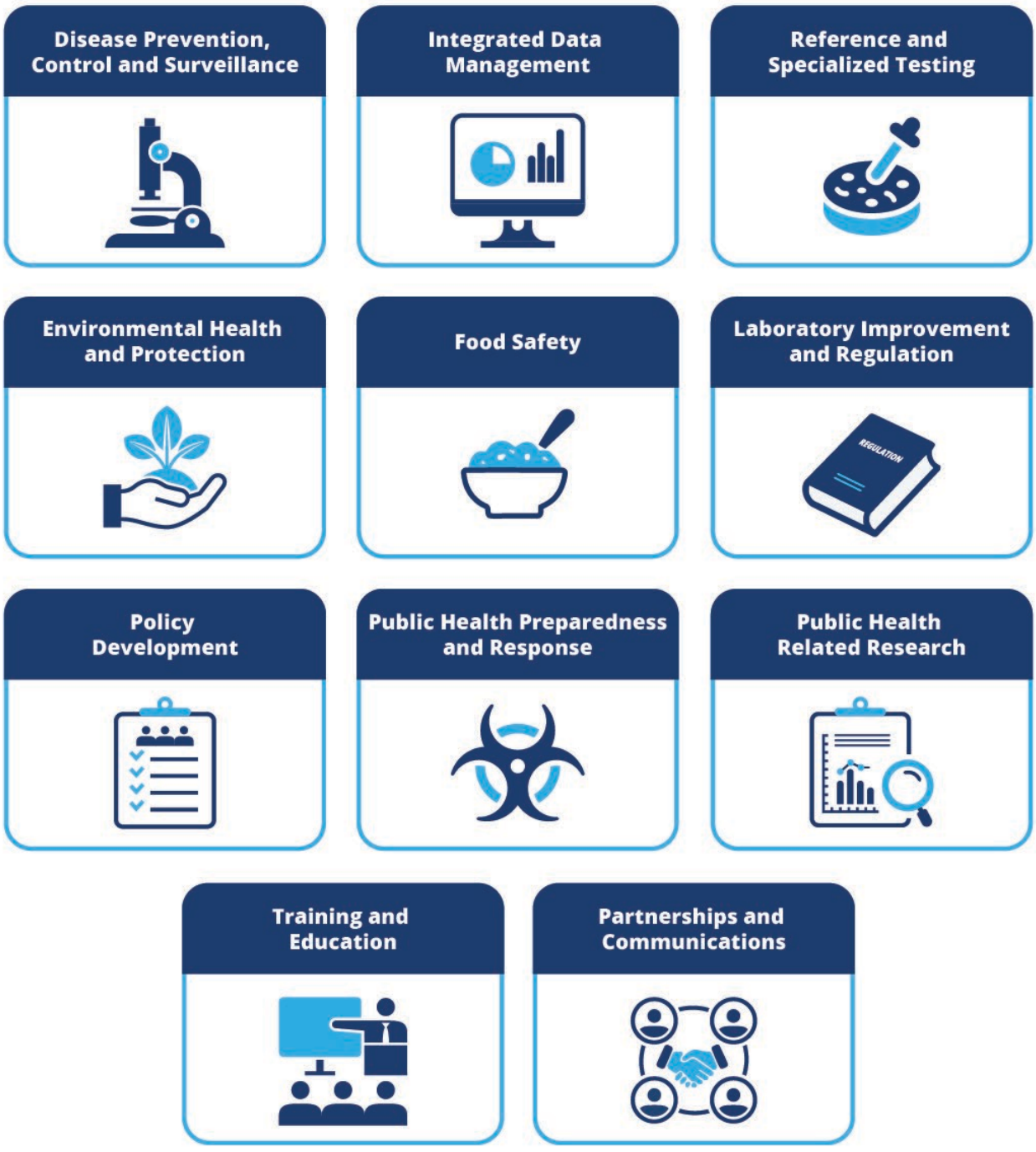

Figure 3. Partners in attendance.

Assessment Day Process

The L-SIP assessment was a structured, one-day event evaluating The System performance in relation to the 10 Essential Public Health Services. Upon arrival, participants checked in, received refreshments, and were provided assessment materials, including the APHL toolkit, voting cards, name tags, and public health educational items.

Public Health Services (PHS) leadership and OCPHL management, including Jenna Sarin and Dr. Megan Crumpler, led the Welcome and Introduction session. APHL Quality Manager Tina Su then presented an overview of the L-SIP framework, outlining the scoring methodology and participation expectations. Her plenary session on Essential Service #2 guided attendees in assessing the system's capacity to investigate and diagnose public health problems.

Plenary session led by Tina Su (APHL)

Participants joined breakout groups for structured discussions on the remaining Essential Services. Facilitators Andrew Cloyd (Colorado Public Health Laboratory), Marie Gosselin (Wyoming Public Health Laboratory), and Vanessa Telles (Texas Public Health Laboratory) led the groups. OCPHL staff and APHL Fellows documented key discussion points and consensus scores.

Attendees vote using voting cards during the plenary session on key ideas for essential service #2

Breakout groups met in three rounds - each focused on specific Essential Services (Fig. 4). Scheduled breaks and lunch provided opportunities for cross-group discussion, reflection, and networking.

The event concluded with a group session to review emerging themes, discuss scoring outcomes, and summarize key findings. Participants completed an evaluation survey to support ongoing improvement of the assessment process and the public health laboratory system. The day fostered strong cross-sector collaboration and generated valuable insights for future quality improvement initiatives.

Figure 4. Attendees were assigned to groups, and each group had three essential services to discuss.

Group A	**Essential Service #1** - **Monitor Health:** Assess and monitor population health status, factors that influence health, and community needs and assets. **Essential Service #3 - Inform and Educate:** Communicate effectively to inform and educate people about health, factors that influence it, and how to improve it. **Essential Service #7 - Assure Equitable Access to Health Services:** Assure an effective system that enables equitable access to the individual services and care needed to be healthy.
Group B	**Essential Service #5 - Create, Champion and Implement Policies and Plans:** Create, champion and implement policies, plans, laws that impact health. **Essential Service #9 - Improve and Innovate Public Health Functions:** Improve and innovate public health functions through ongoing evaluation, research and continuous quality improvement. **Essential Service #10 - Build and maintain Infrastructure:** Build and maintain a strong organizational infrastructure for public health.
Group C	**Essential Service #4 - Strengthen, Support and Mobilize Partnerships:** Strengthen, support and mobilize communities and partnerships to improve health. **Essential Service #6 - Utilize Legal and Regulatory Actions:** Utilize legal and regulatory actions designed to improve and protect the public's health. **Essential Service #8 - Build and Support Workforce:** Build and support a skilled public health workforce.

Participants Discuss Key Ideas in Breakout Groups

Results

Figure 5. Scoring guidelines rate The System's performance relative to the key idea and the Points for Discussion for each Essential Service, as outlined in the APHL L-SIP Toolkit.

Score	Rating
Optimal	Greater than 75% of the performance described is met within the public health laboratory system.
Significant	Greater than 50%, but no more than 75%, of the performance described is met within the public health laboratory system.
Moderate	Greater than 25%, but no more than 50%, of the performance described is met within the public health laboratory system.
Minimal	Greater than zero, but no more than 25%, of the performance described is met within the public health laboratory system.
None	0% or absolutely none of the performance described is met within the public health laboratory system

An APHL fellow is recording the score for Essential Service #2.

Figure 6. Essential Service and Key Idea Results.

Essential Services		Ratings				
		Optimal	Significant	Moderate	Minimal	None
1	Key Idea 1.1.1		x			
	Key Idea 1.1.2					x
2	Key Idea 1.1.3		x			
	Key Idea 2.1.1	x				
	Key Idea 2.1.2		x			
3	Key Idea 3.1.1		x			
	Key Idea 3.1.2	x				
4	Key Idea 4.1.1		x			
	Key Idea 4.2.1		x			
5	Key Idea 4.3.1			x		
	Key Idea 5.1.1		x			
6	Key Idea 6.1.1	x				
	Key Idea 6.1.2	x				
7	Key Idea 7.1.1	x				
	Key Idea 7.1.2	x				
8	Key Idea 8.1.1		x			
	Key Idea 8.2.1		x			
	Key Idea 8.2.2		x			
9	Key Idea 9.1.1		x			
	Key Idea 9.2.1	x				
	Key Idea 9.2.2	x				
10	Key Idea 10.1.1	x				
	Key Idea 10.1.2	x				
	Key Idea 10.1.3		x			

ESSENTIAL SERVICE #1: ASSESS AND MONITOR POPULATION HEALTH STATUS, FACTORS THAT INFLUENCE HEALTH, AND COMMUNITY NEEDS AND ASSETS

KEY IDEA 1.1.1

The System identifies infectious disease and environmental sentinel events, monitors trends, and participates in state and federal surveillance systems.

Score: Significant

Summary of Discussion

- Enhance bidirectional data interoperability among laboratories, epidemiology teams, and partner organizations

Evidence of Success

- Strong surveillance capacity using CalREDIE, PulseNet, CEDRIC, SHARP, and LRN for communicable disease monitoring
- Integration of state viral disease data into CalREDIE strengthens the system
- Local health department efficiently pulls metrics, trends, and surveillance data
- California Department of Public Health (CDPH) and CDC response is timely and effective when escalation is needed
- State laboratory support is robust, especially for testing services
- Monitoring activities occur consistently, with health events recorded and tracked

Gaps & Opportunities

- Improve interoperability between laboratory, epidemiology, and partner agencies
- Reduce reliance on multiple portals by developing shared or automated interfaces
- Strengthen Whole Genome Sequencing (WGS) integration across systems
- Address slow turnaround times for certain samples
- Increase access to epidemiological data for local partners
- Shift from reactive outbreak detection to proactive surveillance and prevention
- Improve data sharing through clearer MOUs and data governance agreements
- Evaluate whether chemical toxin testing should be referred externally rather than handled in-house environmental health laboratories (OC Environmental Health)
- Expand in-house testing capacity like CDC capabilities

KEY IDEA 1.1.2

The system monitors congenital, inherited and metabolic diseases of newborns and participates in state and federal surveillance systems.

Score: N/A
(Not Applicable - there was no discussion of this key idea since OCPHL does not perform newborn screenings)

KEY IDEA 1.1.3

The System has a secure, accountable and integrated information management system for data storage, analysis, retrieval, reporting and exchange. Partners collaborate to strengthen electronic surveillance systems.

Score: Significant

Summary of Discussion

- Establish an interoperability and data-sharing MOU (Memorandum of Understanding)
- Strengthen bidirectional electronic reporting between hospitals and public health systems to replace fax-based processes and improve timeliness and accuracy

Evidence of Success

- Transition to electronic reporting for influenza subtyping improved timeliness and accessibility
- COVID-19 funding supported enhancements to public health information systems
- Increased use of electronic systems strengthened reporting capacity
- Electronic Laboratory Reporting (ELR) is functioning well
- OCPHL Laboratory Web Portal implemented successfully

Gaps & Opportunities

- Improve WGS data linkage and bidirectional interoperability for laboratory results between hospitals and public health labs (some still rely on fax)
- Enhance system interfaces and conduct regular audits for accuracy
- Reduce turnaround time for CalREDIE results
- Address usability issues with external systems (e.g., CSTOR complexity)
- Plan for future preparedness with sustainable funding

Overall Takeaway

Essential Service #1 has established a strong surveillance foundation through effective systems and partnerships. To make progress, the system should:

- Improve data interoperability and bidirectional exchange
- Integrate WGS data more effectively
- Adopt a proactive approach to outbreak detection

These actions will reduce turnaround times, address testing gaps, and enhance early response capabilities.

ESSENTIAL SERVICE #2: INVESTIGATE, DIAGNOSE, AND ADDRESS HEALTH PROBLEMS AND HAZARDS AFFECTING THE POPULATION

KEY IDEA 2.1.1

The System assures the effective provision of services at the highest level of quality to assist in the detection, diagnosis and investigation of all significant health problems and hazards.

Score: Optimal

Summary of Discussion

- Strengthen standardized communication and data-sharing systems across counties, hospitals, and agencies to improve surveillance and response times

Evidence of Success

- Multiple agencies (CDC, UCI, and PHLs) actively participate in system improvement discussions and collaborate effectively during outbreak response
- Established reporting pathways for certain diseases and emergencies
- Strong communication between CDC and PHL
- Partners demonstrate willingness to share expertise and resources
- L-SIP assessment shows engagement and cross-sector involvement
- Timely sample processing at the Water Quality Laboratory
- The county provides resources efficiently, and there is strong teamwork between organizations
- Modernization of workflows and automation; improvements in laboratory safety
- Successful investigations (e.g., Legionnaires' disease, Gecko incident)

Gaps & Opportunities

- Improve county-to-county communication for samples from other jurisdictions (e.g., Los Angeles, San Diego, Orange)
- Establish shared communication systems across agencies, PHL, CDPH, CDC, counties, and hospitals for better institutional knowledge retention
- Replace email with a secure, real-time communication platform
- Improve communication with PHS staff when PHL changes are implemented

KEY IDEA 2.1.2

The System has the necessary capacity and authority in place to rapidly respond to public health events.

Score: Significant

Summary of Discussion

- Develop standardized emergency sample-handling protocols and formalize statewide coordination

Evidence of Success

- Cooperative training among groups for emergency situations
- Hazardous materials (HazMat) response capability
- CDPH partnership with International Responder Systems (IRS)
- Effective testing of food and water samples

Gaps & Opportunities

- Strengthen statewide coordination and standardized preparedness for unknown or high-risk samples, including clear protocols for communication, shipping, and surge testing
- Need for a state courier system for rapid specimen transport
- Formalize MOUs/MOAs between counties to avoid delays during emergencies
- Improve preparation for major events (e.g., World Cup, LA28 Olympics)
- Enhance shipment and handling processes; explore mobile specimen testing
- Address radiological and chemical testing coordination with third-party laboratory
- Coordinate quarterly training for staff and partners; regular meetings to maintain communication

Overall Takeaway

Essential Service #2 emphasizes effective communication and rapid response. While strong collaboration and training exist, the system needs:

- Implement standardized communication platforms for all agencies and counties
- Establish formal emergency protocols and memoranda of understanding for specimen handling
- Develop statewide coordination and courier systems to address surge capacity

These improvements will ensure timely surveillance, efficient outbreak investigations, and a resilient public health response during emergencies and large-scale events.

ESSENTIAL SERVICE #3: COMMUNICATE EFFECTIVELY TO INFORM AND EDUCATE PEOPLE ABOUT HEALTH, FACTORS THAT INFLUENCE IT, AND HOW TO IMPROVE IT

KEY IDEA 3.1.1

The System develops and disseminates accurate and consistent information to community partners about relevant health issues associated with laboratory services.

Score: Significant

Summary of Discussion

- Develop and maintain a social media presence to share website content, press releases, and health alerts; prioritize translated posts for high-need communities

Evidence of Success

- OCPHL maintains sentinel laboratory list on all clinical laboratories in OC catchment area and distributes relevant information with these contacts
- OCPHL Laboratory services manual is posted on the website
- The Public Information Office (PIO) is responsible for sending out multiple versions of press releases with different headlines in different languages

Gaps & Opportunities

- Public information and website translation can now be obtained using any AI chatbot, such as ChatGPT, Gemini, or Copilot, instead of creating a separate document for each language

- Improve social media outreach for OCPHL and others, and residents may not know about resources or what OC provides; there are constraints on developing social media websites

KEY IDEA 3.1.2

The System creates and provides educational opportunities to community partners.

Score: Optimal

Summary of Discussion

- Increase outreach in schools to inform youth, high school students, and undergraduates about public health career opportunities
- Provide additional opportunities to educate legislators to support informed policy and resource decisions

Evidence of Success

- Communicable Disease Control Division (CDCD) shares educational materials on diseases/specimens with partners
- Meetings like today's achieve partner education goals
- OC Water Quality Laboratory hosts Earth Day events; tours for faculty/public health staff; college/university engagement about OCPHL
- Public websites, translation, education, open houses; youth outreach (e.g., Take Your Child to Work Day)
- Laboratory tours for legislators and schools
- Work career fairs and internships

Gaps & Opportunities

- Launch a quarterly Partner and Policy Briefing Series, offered virtually and in person, for legislators, city officials, school districts, and health partners. Highlight current testing, emerging threats, and community impact
- Provide BSL-3 training to Fire department and law enforcement
- Provide media training for staff to improve interviews and messaging
- Legislative education to inform policy and resource decisions
- Expand high-school pipeline programs to grow the future laboratory workforce
- Expand education and "open house" opportunities
- Introduce "Take your child to work" and get the youth interested early
- Increase outreach initiatives to promote career opportunities in schools

Overall Takeaway

The public health system is well established, offering resources such as a public website, a laboratory manual, health alerts, press releases, tours, and community events. The next priority is to implement structured and consistent outreach. First, develop a sustainable social media and translation workflow to better reach residents. Second, formalize a Partner and Policy briefing program to inform decision-makers and strengthen collaboration.

These actions will enhance current initiatives, address awareness gaps, and build long-term support for the laboratory's mission.

ESSENTIAL SERVICE #4: STRENGTHEN, SUPPORT, AND MOBILIZE COMMUNITIES AND PARTNERSHIPS TO IMPROVE HEALTH

KEY IDEA 4.1.1

Partners in the System develop and maintain relationships to formalize and sustain an effective system.

Score: Significant

Summary of Discussion

- Conduct regular Water Quality Laboratory check-ins with OC Environmental Health to strengthen collaboration
- Enhance Emergency Medical Services disaster preparedness
- Propose a quarterly "Laboratory Connect" meeting for OC clinical laboratory staff, using the sentinel laboratory list. The agenda will include technical updates, new OCPHL tests, case studies, and updates on reportable diseases
- OCPHL should create and distribute a satisfaction survey to sentinel labs and partners; the Sentinel Laboratory email list will be updated annually by the Bioterrorism (BT) coordinator, and the partner list will be generated from the L-SIP invitation list; establish a routine process for maintaining both lists

Evidence of Success

- OCPHL calls with CDPH and CA Association of Public Health Laboratory Directors (CAPHLD)
- Regular convenings with partners (CDCD, OC Animal Care, Correctional Health Services (CHS), OC Mosquito and Vector Control)
- Informal agreements are currently in place

Gaps & Opportunities

- Create a structured framework for laboratory systems and responsibilities with community health partners (e.g., San Diego PHL's Laboratory Connect model)
- Formalize MOUs
- Clarify the responsibilities of different organizations
- Initiate check-ins with laboratory staff regarding current activities
- Establish formal clarification of points of contact for procedures
- OCPHL should create and distribute a satisfaction survey to sentinel labs and partners
- Propose a quarterly "Laboratory Connect" meeting for OC clinical laboratory staff

KEY IDEA 4.2.1

System members communicate in regular, timely, and effective ways to support collaboration.

Score: Significant

Summary of Discussion

- Implement a unified 24/7 emergency phone number

Evidence of Success

- Emergency on-call procedures in place (CD alerts to providers and sentinel labs).
- Press releases issued during events
- On-call numbers and chains of command established

Gaps & Opportunities

- Coordinate an on-going "mini-LSIP" annually to bring partners together and share progress made on L-SIP priorities
- Develop a written communication plan (topic-specific or umbrella coverage)
- Organize round tables for communication planning
- Include multiple modes: alerts, press releases, social media, in-person updates
- Create a feedback system for clinical partners
- Conduct annual needs and satisfaction surveys (consider APHL resources)

KEY IDEA 4.3.1

The PH Laboratory System works together to share existing resources and identify new resources to address health issues.

Score: Moderate

Summary of Discussion

- Collaboration among partners has been positive, but it can be strengthened by establishing a formal resource-sharing protocol with government agencies and partners

Evidence of Success

- Collaboration with partners (shared resources and equipment during laboratory move and mini-laboratory setup)
- Effectiveness is measured through turnaround time (TAT), testing volumes, and test types

Gaps & Opportunities

- Establish mechanisms to share resources among government agencies
- Conduct drills with partners (Federal Bureau of Investigation (FBI), HazMat) to measure effectiveness
- Define clear roles and responsibilities to balance resources
- Opportunities for grants and funds that add overtime
- Possibly sharing turnaround times with clinics and organizations

Overall Takeaway

Essential Service 4 emphasizes formalizing partnerships, improving communication, and sharing resources. While strong informal relationships and emergency protocols exist, the next step is to institutionalize these practices:

- Formalize partnerships and clarify roles (e.g., MOUs, structured check-ins).
- Create a unified communication system and a written plan for consistent outreach.
- Develop resource-sharing agreements and conduct joint drills to ensure readiness.

These actions will strengthen collaboration, improve efficiency, and enhance the resilience of the public health system.

ESSENTIAL SERVICE #5: CREATE, CHAMPION, AND IMPLEMENT POLICIES, PLANS, AND LAWS THAT IMPACT HEALTH

KEY IDEA 5.1.1

The System obtains input from diverse partners to develop new policies, plans and laws and modify existing ones, using scientific evidence to inform and influence policy.

Score: Significant

Summary of Discussion

- Establish monthly infection prevention meetings that include private-sector clinical labs and physicians to improve communication and gather input on policy changes.

Evidence of Success

- Dr. Megan Crumpler serves as liaison to public health labs on the CAPHLD Legislative Committee and has spoken to the legislative analyst's office
- Strong participation from the County of Orange in CHEAC
- Weekly "Legislative Corner" updates at the county level
- Systems are in place to monitor local and state infectious disease policy
- CAPHLD representation on annual workgroup to update Title 17 section 2505
- MDRO exchange allows labs to see what is happening in other facilities
- Preparedness for dengue cases was well executed, even though it was not needed in OC

Gaps & Opportunities

- Gain input from the private sector; monthly meetings with infection prevention are needed
- Improve communication from PHL to external clinics regarding reportable diseases
- Provide education to physicians on reporting requirements
- Adjust processes to ensure teams have sufficient time or improve preparation time for required send-outs (e.g., hepatitis C virus (HCV) reflex testing)
- Strengthen the involvement of clinical labs (e.g., UCI) ensuring their insights help shape future improvements in the system
- Water quality objectives for fecal indicator bacteria are outdated (over 100 years old); changing environmental law would be difficult

Overall Takeaway

Essential Service 5 shows strong engagement in legislative processes and policy monitoring, but private sector and clinical voices are missing. To strengthen the system, focus on:

- Building structured input channels (monthly infection prevention meetings with private labs and physicians)
- Improving communication and education on reportable diseases for clinicians
- Advocating updates to outdated environmental standards (e.g., water quality laws)

These steps will make policy development more inclusive, evidence-based, and responsive to current health needs.

ESSENTIAL SERVICE #6: UTILIZE LEGAL AND REGULATORY ACTIONS DESIGNED TO IMPROVE AND PROTECT THE PUBLIC'S HEALTH

KEY IDEA 6.1.1

The System is actively engaged in the review and revision of laws and regulations pertaining to laboratory practice.

Score: Optimal

Summary of Discussion

- The system regularly reviews and updates laboratory laws and regulations. Adherence to Title 17 and Clinical Laboratory Improvement Amendments (CLIA) requirements is a key strength. Additional strengths include collaboration with OC Environmental Health, staff familiarity with regulations, and active participation in CAPHLD and APHL legislative committees. The OCPHL also provides policy recommendations and updates. Continued engagement and clearer enforcement are needed.

Evidence of Success

- Compliance with Title 17 and CLIA requirements
- The Water Quality Laboratory works closely with OC Environmental Health
- All staff are aware of the rules and regulations
- CAPHLD Legislative Committee liaison and APHL roles are active
- PHL provides recommendations and updates to system policy holders

Gaps & Opportunities

- Ongoing engagement and clarity in enforcement

KEY IDEA 6.1.2

The System promotes compliance by all laboratories with regard to applicable laws and regulations.

Score: Optimal

Summary of Discussion

- Continue and enhance annual internal audits to ensure compliance and identify gaps

Evidence of Success

- Proficiency testing is conducted regularly
- Pop quizzes by OCPHL Assistant Director to reinforce staff knowledge
- Compliance with ELAP and CLIA standards
- Reference laboratory manuals and consultations provided
- Internal audit tool in use

Gaps & Opportunities

- Resume in-person packaging and shipping training for system partners
- Enforcement of Title 17 (currently, there is no official enforcement or consequences)
- Incorporate PHL representation into the CLTAC committee

Overall Takeaway

Essential Service 6 demonstrates strong compliance and engagement with regulatory frameworks (Title 17, CLIA, ELAP), but enforcement and partner training need improvement. Key priorities include:

- Maintain and strengthen internal audit processes to ensure continuous compliance
- Resume in-person packaging and shipping training for system partners
- Advocate for clearer enforcement mechanisms for Title 17 to ensure accountability

These actions will sustain high compliance standards and improve system-wide readiness.

ESSENTIAL SERVICE #7: ASSURE AN EFFECTIVE SYSTEM THAT ENABLES EQUITABLE ACCESS TO THE INDIVIDUAL SERVICES AND CARE NEEDED TO BE HEALTHY

KEY IDEA 7.1.1

The System identifies laboratory service needs and collaborates to fill gaps.

Score: Optimal

Summary of Discussion

- Evaluate and implement a dedicated courier service contract to ensure timely and secure specimen transport

Evidence of Success

- Water Quality Laboratory provides timely sample results
- Easy communication between public health clinics and laboratories
- CDC support is readily available when needed

Gaps & Opportunities

- Possible need for a more reliable courier service for specimen transport

KEY IDEA 7.1.2

The System provides timely and accessible quality services.

Score: Optimal

Summary of Discussion

- Develop a centralized service directory and emergency protocol for partners' quick reference

Evidence of Success

- Internally, there is a strong understanding of services provided
- Hospitals feel comfortable reaching out to PHL for service information
- HCA's HIV/STI clinic consult OCPHL for guidance on unique tests and specimen handling
- Underserved communities are well served by OCPHL and HCA clinics

Gaps & Opportunities

- Need more discussion with external partners about services they offer and how to share this information effectively with stakeholders

- For emergencies, procedures should be in place to handle situations instead of relying on multiple phone calls

Overall Takeaway

Essential Service 7 shows strong internal communication and service delivery, but external coordination and emergency readiness need improvement. Key priorities include:

- Secure a reliable courier service for specimen transport
- Develop a centralized service directory for partners and stakeholders
- Establish clear emergency protocols to reduce delays during crises

These actions will enhance system efficiency, improve partner collaboration, and ensure equitable access to services.

ESSENTIAL SERVICE #8: BUILD AND SUPPORT A SKILLED PUBLIC HEALTH WORKFORCE

KEY IDEA 8.1.1

The System maintains an environment to attract and retain highly qualified staff.

Score: Significant

Summary of Discussion

- Use social media and AI tools to raise awareness of vacancies and shorten the application process. Advertising county benefits also attracts candidates.

Evidence of Success

- APHL professional development opportunities (education and travel support)
- Succession development and knowledge retention are improving under new management
- Organization exploring succession planning

Gaps & Opportunities

- Overcome challenges and motivate staff with CEU requirements, “step” increases, or time flexibility
- Overcome compensation challenges: cannot meet market needs; lengthy hiring timelines
- Revisit government classifications to enable career growth; update job descriptions
- Improve bandwidth to support engagement in workforce development

- Remove Public Health Microbiologist (PHM) training bottlenecks; unclear placement for trainees post-training
- Increase continuing education requirements for PHM roles
- Improve the design and communication of feedback for exit interviews for laboratory positions
- Increase collaboration with academia; students are unaware of the field
- Establish clear succession planning timelines

KEY IDEA 8.2.1

The System works to assure a competent workforce by encouraging and supporting staff development through training, education, coaching and mentoring.

Score: Significant

Summary of Discussion

- Create a structured training calendar and allocate protected time for staff development

Evidence of Success

- Use of State PHM training resources and distance learning opportunities
- Cross-training rotations implemented

Gaps & Opportunities

- Need to re-evaluate system bandwidth to allow staff time for education and professional development training
- Improve collaboration with academia; unclear ROI and follow-up on student interns and clinical placements
- Close skills gaps; improve job promotion strategies

KEY IDEA 8.2.2

The System identifies and addresses current and future workforce shortage issues

Score: Significant

Summary of Discussion

- Launch social media outreach campaigns featuring laboratory tours and career opportunities, partnering with HCA Communications for photos and posts

Evidence of Success

- Water Quality Laboratory demos and tours for academia groups (e.g., Earth Day events)

Gaps & Opportunities

- Improve monitoring and sharing of workforce trends
- Improve communication and outreach using social media subject matter experts (SMEs)
- Overcome limitations in requiring PHM training for academia participants

Overall Takeaway

Create a structured training calendar and allocate protected time for staff to complete education and professional development opportunities and similar activities. This should include identifying priority training modules, assigning responsible trainers, and communicating the schedule to all staff.

Essential Service 8 highlights strong professional development foundations but faces recruitment, retention, and training challenges. Key priorities include:

- Modernize recruitment with social media and AI tools to shorten hiring timelines
- Allocate time for structured training and cross-training to close skills gaps
- Expand outreach to academia and the public via social media campaigns and events to build future workforce pipelines

These actions will help attract talent, retain staff, and ensure a competent workforce for the future.

ESSENTIAL SERVICE #9: IMPROVE AND INNOVATE PUBLIC HEALTH FUNCTIONS THROUGH ONGOING EVALUATION, RESEARCH, AND CONTINUOUS QUALITY IMPROVEMENT

KEY IDEA 9.1.1

The effectiveness, accessibility and quality of the individual- and population-based laboratory services provided throughout the state is regularly evaluated.

Score: Significant

Summary of Discussion

- Create a formal outbreak response evaluation process and share “Situation Summaries” on SharePoint

Evidence of Success

- Processes exist between vocations, but nothing is formalized
- Personnel are in place to establish a formal evaluation system

Gaps & Opportunities

- Improve communication between clinical and public health labs (e.g., PHL should notify clinical labs before assays go live)
- Formalize a system for sharing information on services provided
- Develop knowledge transfer processes to prevent loss when key staff leave
- PHL should send reports on outbreak response and evaluate resource adequacy
- Begin "Situation Summaries" on SharePoint for cross-agency collaboration

KEY IDEA 9.2.1

The System has adequate expertise and capacity to plan research and innovation activities.

Score: Optimal

Summary of Discussion

- Secure additional funding or partnerships for environmental research projects

Evidence of Success

- The County of Orange has access to Institutional Review Board (IRB) for research approvals
- Water Quality Laboratory actively engages in research projects
- University of California, Irvine (UCI) collaborates with OCPHL (e.g., whole genome sequencing)
- OCPHL supports other labs validating new tests by sharing positive specimens
- Grant funds are available to hire additional staff for projects

Gaps & Opportunities

- Improve support and attention on environment-based projects; they are limited by funds and staffing

KEY IDEA 9.2.2

The System promotes research and innovative solutions.

Score: Optimal

Summary of Discussion

- Implement a feedback mechanism for Laboratory Information System (LIS) and portal improvements and encourage staff innovation

Evidence of Success

- OCPHL utilizes APHL resources to promote research projects
- The Water Quality Laboratory supervisor has driven impactful research initiatives

Gaps & Opportunities

- Overcome potential generational communication gaps (e.g. Gen X to Gen Z)
- Improve and enhance LIS
- Overcome challenges with the OCPHL Web Laboratory Portal implementation: staff should provide feedback, and managers should encourage input
- Overcome funding and staffing resource challenges

Overall Takeaway

Essential Service 9 demonstrates strong research capacity and collaboration but needs formalized evaluation processes, improved communication, and support for innovation. Key priorities include:

- Establish outbreak response evaluations and SharePoint summaries for transparency and improvement
- Secure funding for environmental research projects and expand partnerships
- Enhance LIS and portal functionality through structured feedback and staff engagement

These actions will strengthen system accountability, foster innovation, and ensure continuous improvement.

ESSENTIAL SERVICE #10: BUILD AND MAINTAIN A STRONG ORGANIZATIONAL INFRASTRUCTURE FOR PUBLIC HEALTH

KEY IDEA 10.1.1

The System is composed of different entities that work together effectively on public health activities and are transparent and accountable to the community it serves.

Score: Optimal

Summary of Discussion

- Formalize MOUs across all public health labs and schedule quarterly collaboration meetings

Evidence of Success

- "Strikeforce" collaboration among multiple agencies for investigations in OC
- Southern CA Bight Monitoring Program for habitat quality and microbial research
- UCI clinical laboratory infection prevention meetings
- Agreements established for bomb-related incidents and rabies testing
- MOUs granting electronic medical record (EMR) access for waived health cases (public/private partnerships)

Gaps & Opportunities

- More discussions are needed between clinical and public health labs to review progress and identify areas for improvement
- MOUs needed across public health labs; partnerships and roles are not fully solidified

KEY IDEA 10.1.2

The System's leadership acts ethically and strategically and communicates proactively to the public through different mechanisms.

Score: Optimal

Summary of Discussion

- Develop a leadership ethics and transparency dashboard for internal and external stakeholders.

Evidence of Success

- Collaborative leadership during COVID (e.g., Lab Director from OCPHL).

- Email communication to private entities on key contacts.
- Leadership at OC is ethics-forward.
- Monthly HCA-Matters agency wide meetings improve transparency.

Gaps & Opportunities

- Excessive regulatory standards in CA.
- Provide ethics training for HCA Executive Leadership and strengthen accountability measures for HCA

KEY IDEA 10.1.3

The System has the necessary resources (e.g. financial, technological, physical (facilities), human) to perform and sustain public health activities.

Score: Significant

Summary of Discussion

- Request additional funds and staff resources through formal budget proposals

Evidence of Success

- Job fairs for networking between academia and public health
- Efficiency measures (staff picking up specimens to improve turnaround time if courier is not available)
- Successful launch of a new state-of-the-art laboratory facility
- The OCPHL Laboratory Web Portal improves efficiency over the previous paper-based system
- Periodic needs assessments are conducted to allocate and plan budget funds efficiently, which is especially important given current budget cuts

Gaps & Opportunities

- Additional financial and staffing resources are needed

Overall Takeaway

Essential Service 10 shows strong collaboration, ethical leadership, and resource management, but formalization and resource expansion are critical next steps. Key priorities include:

- Standardize MOUs and strengthen inter-laboratory collaboration
- Enhance leadership transparency through dashboards and proactive communication
- Secure additional financial and staffing resources to sustain operations and innovation

These actions will reinforce organizational infrastructure and ensure long-term system resilience.

Summary

The 2026 L-SIP assessment finds that Orange County's public health laboratory system performs well across the 10 Essential Public Health Services and demonstrates a strong commitment to continuous improvement. Participants highlighted strengths including robust disease surveillance, effective partnerships with clinical, academic, and government agencies, clear communication during routine and emergency events, and strong regulatory compliance. The System also benefits from engaged leadership, a focus on modernization, and growing capacity for research and innovation.

Most scores fell within the *Significant* and *Optimal* ranges, reflecting a well-coordinated public health laboratory system. Key achievements include rapid disease investigation and response, high-quality and accessible laboratory services, meaningful legislative engagement, and effective cross-sector collaboration. Workforce development and the transition to a modern laboratory facility have further strengthened The System's ability to meet community needs.

The assessment also identified areas for improvement. Priorities include enhancing data interoperability and information sharing, formalizing communication structures and emergency protocols, expanding workforce recruitment and training, strengthening MOUs with partners, and securing sustainable funding for staffing, research, and technology. Participants also emphasized expanding community outreach, improving communication between clinical and public health laboratories, and using digital tools to increase visibility and efficiency.

The 2026 assessment confirms OCPHL's strong commitment to delivering high-quality laboratory services and protecting public health in Orange County. These findings will guide strategic planning, inform quality improvement initiatives, and support long-term investments to maintain a coordinated, resilient, and responsive public health laboratory system.

Participant Feedback & Evaluation

Ratings

Responses are graded on a 5-point scale and there was a total of 38 responses

Utility of Meeting	Poor		Good		Superb
	1	2	3	4	5
Stated objectives of meeting were met				12	26
Dialogue was useful				7	31
I support the efforts being made				5	33
Next steps are clear			5	18	14
Meeting was a good use of my time			1	9	28
Meeting Arrangements	**Poor**		**Good**		**Superb**
	1	2	3	4	5
Advance notice of the meeting				7	31
Meeting room accommodations			1	3	34
Advance materials for meeting were useful			4	8	26
Advance materials were received with time to review			4	6	28
Flow of Meeting	**Poor**		**Good**		**Superb**
	1	2	3	4	5
Started on time			1	4	33
Clear objectives for meeting			1	5	32
Agenda followed or appropriately amended				4	34
Facilitation was effective			1	6	31
The "right" people were at the meeting			1	6	31

Would you participate in this process again? (Yes/No)	
Yes	29
No	1

Was this a helpful tool? (Yes/No)	
Yes	30
No	0

Themes from open-ended feedback

Most respondents reported being **satisfied** or **very satisfied** with services. Common themes in comments include communication, timeliness, and staff professionalism.

References

1. Association of Public Health Laboratories. (2022). *Laboratory System Improvement Program (L-SIP) Fact Sheet.*
2. Association of Public Health Laboratories. (2023). *Laboratory System Improvement Program (L-SIP) User Guide.*
3. Association of Public Health Laboratories. (2022). *Laboratory System Improvement Program (L-SIP) Performance Measurement Tool.*
4. Association of Public Health Laboratories. (2010). *Definition of a state public health laboratory system.*
5. U.S. Centers for Disease Control and Prevention. (2024). *10 Essential Public Health Services.*

Acronymns

GLOSSARY	ACRONYM
Association of Public Health Laboratories	APHL
Bioterrorism	BT
CA Association of Public Health Laboratory Directors	CAPHLD
Centers for Disease Control and Prevention	CDC
Communicable Disease Control Division	CDCD
California Department of Public Health	CDPH
Continuing Education Unit	CEU
Correctional Health Services	CHS
Clinical Laboratory Improvement Amendments	CLIA
Clinical Laboratory Technology Advisory Committee	CLTAC
CDC Specimen Test Order and Reporting	CSTOR
Environmental Laboratory Accreditation Program	ELAP
Electronic Medical Record	EMR
Federal Bureau of Investigation	FBI
Health Care Agency	HCA
Hepatitis C	HCV
Human immunodeficiency virus / sexually transmitted infection	HIV/STI
Institutional Review Board	IRB
International Responder Systems	IRS
Laboratory Information System	LIS
Laboratory System Improvement Program	L-SIP
Laboratory Response Network	LRN
Multidrug-resistant Organisms	MDRO
Memorandum of Understanding / Memorandum of Agreement	MOU/MOA
Orange County Public Health Laboratory	OCPHL
Public health laboratory system	PHL System
Public Health Microbiologist	PHM
Public Health Services	PHS
Strengthening Healthcare-Associated Infection and Antimicrobial Resistance Program	SHARP
Subject Matter Expert	SME
Turnaround Time	TAT

Appendix A: OCPHL L-SIP Agenda

Breakfast and Registration	8:00-8:30 AM
Welcome and Introductions	8:30-8:45 AM
Overview of Assessment Day	8:45-9:30 AM
Plenary Essential Service (ES) #2: Investigate and Diagnose Health Problems	9:30-10:15 AM
Break	10:15-10:45 AM
Breakout Group: **Group A:** ES #1 - Monitor Health **Group B:** ES #9 - Improve and Innovate Public Health Functions **Group C:** ES #8 - Build and Support Workforce	10:45-11:45 AM
Lunch	11:45 AM-12:45 PM
Breakout Group: **Group A:** ES #7 - Assure Equitable Access to Health Services **Group B:** ES #10 - Build and maintain Infrastructure **Group C:** ES #4 - Strengthen, Support and Mobilize Partnerships	12:45 PM – 1:45 PM
Break	1:45 PM – 2:00 PM
Breakout Group: **Group A:** ES #3 - Inform and Educate **Group B:** ES #5 - Create, Champion and Implement Policies and Plans **Group C:** ES #6 - Utilize Legal and Regulatory Actions	2:00 PM - 3:00 PM
Summary, Evaluation and Next Steps	3:00 PM – 4:00 PM
Adjourn	4:00 PM

Appendix B: Partners in Attendance

Orange County & Partner Agencies

County of Orange Health Care Agency Divisions and Programs

Health Care Agency Leadership:
Public Health and Nursing Services Director
Public Health Services Assistant Deputy Director

Health Care Agency Communications:
Communications Manager

Public Health Laboratory:
Laboratory Director, Sr. Medical Services Manager - LSIP Lead Manager
Assistant Laboratory Director - LSIP Lead, Theme taker Group C
Laboratory Manager – Theme taker for Group B
Laboratory Informatics Manager - Theme taker for Group A
Supervising Public Health Microbiologist – Molecular
Supervising Public Health Microbiologist – Mycobacteriology/Mycology/Parasitology
Supervising Public Health Microbiologist – Virology/Serology
Supervising Public Health Microbiologist – Bacteriology/Bioterrorism
Public Health Microbiologist II – Clinic Site
Public Health Microbiologist II – Water Quality Laboratory
Laboratory Information Systems & Quality Specialist
APHL Fellow – Quality Management and Laboratory Operations - Group A Theme Taker
APHL Fellow – Validation of MTB WGS for DST - Group B Theme Taker
APHL Fellow – Developing and Implementing crAssPhage marker for ddPCR-Group C Theme Taker
APHL Fellow– Quality Management and Laboratory Operations - LSIP Coordinator

Clinical Services:
Communicable Disease Control Division (CDCD) - Deputy Medical Director
Communicable Disease Control Division (CDCD) - Clinical Services Manager
Communicable Disease Control Division (CDCD) EDT - Sr. Epidemiologist
HIV/STI Testing, Treatment, and Care (TTC) Clinic - Program Manager
HIV/STI Testing, Treatment and Care (TTC) Clinic – Supervising Public Health Nurse
Pulmonary Disease Services (PDS) Clinic – Supervising Public Health Nurse

Community and Nursing Services:

Correctional Health Services - Nursing Supervisor

Correctional Health Services, Juvenile Hall - Supervising Comprehensive Care Nurse

Environmental Health:

Director of Environmental Health

Food & Pool Safety – Supervising Environmental Health Specialist

Water Quality Rec Waters - Supervising Environmental Health Specialist

Environmental Health Specialist III

Supervising Hazardous Materials Specialist

Emergency Medical Services:

Health Disaster Preparedness - Program Supervisor II

Assistant Administrator

Orange County Partners:

Orange County Public Works:

Sr. Environmental Resources Specialists

Orange County Mosquito & Vector Control District:

Microbiologist

Orange County Animal Care:

Rabies Desk Staff Specialist

State Public Health Laboratories

California Department of Public Health Laboratory - Laboratory Director and Deputy Director, Center for Laboratory Sciences

Colorado Public Health Laboratory, Laboratory Testing Coordinator- Facilitator for Breakout Group A

Wyoming Public Health Laboratory - Toxicology Program Manager– Facilitator for Breakout Group B

Texas Public Health Laboratory - Senior Advisor- Facilitator for Breakout Group C

Local Public Health Laboratories

Long Beach Public Health Laboratory - Laboratory Director

Riverside Public Health Laboratory - Laboratory Director

San Diego Public Health Laboratory - Senior Public Health Microbiologist

Clinical Laboratories

Hoag Memorial Hospital Presbyterian - Executive Director Laboratory Services

Hoag Memorial Hospital Presbyterian - Microbiology Manager

Rady's Children Health of Orange County - Microbiology Supervisor

University of California, Irvine – Pathology Microbiology Director

University of California, Irvine – BSL-3 Training Program Director

University of California, Irvine – BSL-3 Training Program Associate Director

Other System Partner Programs

Association of Public Health Laboratories - Quality Systems & Analytics Program Manager - LSIP Lead Manager

International Responder Systems – Regional Public Health Laboratory Coordinators

FBI Los Angeles – Special Agent Weapons of Mass Destruction Coordinator

Orange County Public Health Laboratory

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