



LABORATORY SYSTEM IMPROVEMENT PROGRAM: RIVERSIDE COUNTY PUBLIC HEALTH LABORATORY ASSESSMENT REPORT

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Laboratory System Improvement Program: Riverside County Public Health Laboratory Assessment

Table of Contents

Executive Summary	3
Cross-Cutting Challenges.....	4
Introduction	6
Riverside University Health System - Public Health Laboratory Mission.....	6
Laboratory System Improvement Program (L-SIP) Mission & Vision	6
What is an L-SIP assessment?	6
Why conduct an L-SIP assessment?	6
Assessment Process	7
Assessment Day.....	7
Funding & Provided Materials	7
Organization: Participants, Facilitators, and Theme takers.....	8
Venue & Catering.....	8
Scoring System	9
Overall Assessment	11
Essential Service #1	12
Key Idea 1.1.1	12
Key Idea 1.1.2	13
Key Idea 1.1.3	13
Essential Service #2	15
Key Idea 2.1.1	15
Key Idea 2.1.2	16
Essential Service #3	18
Key Idea 3.1.1	18
Key Idea 3.1.2	18
Essential Service #4	20
Key Idea 4.1.1	20
Key Idea 4.2.1	21
Key Idea 4.3.1	21
Essential Service #5	23
Key Idea 5.1.1	23
Essential Service #6	24

Key Idea 6.1.1	24
Key Idea 6.1.2	24
Essential Service #7	26
Key Idea 7.1.1	26
Key Idea 7.1.2	27
Essential Service #8	29
Key Idea 8.1.1	29
Key Idea 8.2.1	30
Key Idea 8.2.2	31
Essential Service #9	33
Key Idea 9.1.1	33
Key Idea 9.2.1	34
Key Idea 9.2.2	35
Essential Service #10	37
Key Idea 10.1.1	37
Key Idea 10.1.2	38
Key Idea 10.1.3	39
NEXT STEPS AND PRIORITIES	41
CONCLUSION	47
APPENDICES	48

Executive Summary

The Riverside County Public Health Laboratory (RPHL) conducted an assessment called the Laboratory System Improvement Program (L-SIP) on January 24, 2024, with 58 diverse stakeholders. This assessment aimed to assess how well the RPHL laboratory system performs based on the Ten Essential Services of Public Health Laboratories, using tools provided for the L-SIP process. The Riverside County Public Health Laboratory L-SIP was the first for the county and the seventh for local laboratories nationally. Participants from various areas, including out-of-state facilitators, state-level representatives, neighboring counties, and internal county partners, collaborated for this thorough examination.

During the review, we scored our current laboratory system against the Ten Essential Services for Public Health Laboratories and then combined the results as the foundation of this report. This executive summary gives an overview of the main aspects assessed, providing a basis for the detailed findings in the subsequent sections. In this report, results are explored in more detail, highlighting specific strengths, pinpoint areas for improvement, and outlining priority actions identified during discussions. The results of this assessment serve as a roadmap to refine and enhance our laboratory system, ensuring it remains effective to safeguard public health.

ASSESSMENT SCORES	0	1	2	3	4
	No Activity	Minimal Activity	Moderate Activity	Significant Activity	Optimal Activity
Essential Service #1: Monitor health status to identify and solve community health problems			x		
Essential Service #2: Diagnose and investigate community health problems and health hazards in the community			x		
Essential Service #3: Inform, educate, and empower people about health issues			x		
Essential Service #4: Mobilize community partnerships and action to identify and solve health problems		x			
Essential Service #5: Develop policies and plans that support individual and community health efforts			x		
Essential Service #6: Enforce laws and regulations that protect health and ensure safety				x	
Essential Service #7: Link people to needed personal health services and assure the provision of health care when otherwise unavailable				x	
Essential Service #8: Assure competent public and personal health care workforce			x		
Essential Service #9: Evaluate effectiveness, accessibility, and quality of personal and population-based health services		x			
Essential Service #10: Research into new insights and innovative solutions to health problems			x		

Cross-Cutting Challenges

Across the ten Essential Services evaluated during the Riverside County Public Health Laboratory (RPHL) L-SIP assessment, several systemic, recurring challenges emerged. These themes were identified consistently by participants and reflect opportunities for system-wide improvement that extend beyond any single program area. Addressing these cross-cutting issues will strengthen the overall effectiveness, responsiveness, and resilience of the laboratory system.

1. Communication Gaps Across the System

Communication challenges were the most frequently cited issue across Essential Services. While high-level communication among leadership is strong, inconsistent communication occurs at the bench level, between departments, and with external partners. This includes difficulty disseminating state-level updates to frontline staff, inconsistent channels for sharing critical information, delays in result reporting, and limited public awareness of laboratory functions. Strengthening internal communication structures, improving feedback mechanisms, and standardizing communication with partners and submitters are essential for a coordinated public health response.

2. Workforce Capacity, Turnover, and Training Needs

Staff turnover, burnout, and challenges related to recruitment and retention were noted in multiple sections of the assessment. These issues disrupt knowledge continuity, slow operations, and place additional demands on existing staff. Participants also highlighted inconsistent onboarding, limited mentorship structures, and the need for expanded training for both laboratory personnel and external submitters. A system-wide workforce development strategy—including professional development, clearer career pathways, and improved coordination with Human Resources—will be critical to maintaining a competent, sustainable workforce.

3. Resource Limitations and Infrastructure Constraints

Insufficient or unstable funding, IT infrastructure challenges, limitations in equipment and supplies, and bureaucratic barriers to procurement were common concerns across Essential Services. Delays in technology implementation (e.g., LIMS enhancements and the Laboratory Web Portal), inconsistent IT support, and shortages caused by supply chain disruptions impact operational efficiency. Addressing these issues will require advocacy for stable funding, modernization of technology systems, streamlined procurement, and improved coordination with fiscal and administrative partners.

4. Need for Enhanced System Integration and Collaboration

The assessment revealed repeated challenges in establishing and maintaining effective partnerships. Opportunities exist to strengthen collaboration with hospitals, community organizations, academic institutions, and other public health laboratories. Participants emphasized the need for formalized partnerships (e.g., MOUs), regular interdepartmental meetings, joint training initiatives, and more consistent engagement with community stakeholders. Improved coordination across agencies will enhance outbreak response, knowledge sharing, and service accessibility.

5. Public Awareness and Visibility of the Public Health Laboratory

Limited community understanding of the role and value of the Public Health Laboratory surfaced across several discussions. The public and some partners are not fully aware of the laboratory's capabilities, services, or impact. Improving public-facing communication—including simplifying technical language, enhancing website content, and expanding outreach initiatives—will support greater engagement, transparency, and trust in public health services.

Introduction

Riverside University Health System - Public Health Laboratory Mission

The Riverside University Health System - Public Health Laboratory is to provide accurate, timely, and cost-effective laboratory testing to aid in the diagnosis and control of communicable diseases.

Laboratory System Improvement Program (L-SIP) Mission & Vision

Mission: Create a system that assesses the performance of public health laboratory systems and facilitates continuous improvement.

Vision: Envision a healthier world achieved through enhanced public health practices and the operation of highly functional and effective laboratory systems.

What is an L-SIP assessment?

The Laboratory System Improvement Program (L-SIP) by the Association of Public Health Laboratories (APHL) guides the effectiveness of state and local public health laboratory systems through a structured process of evaluating performance, implementing system enhancements, and conducting regular evaluations and reassessments. Participating member laboratories are equipped with resources and technical assistance, guiding them toward achieving excellence in their systems.

Why conduct an L-SIP assessment?

Taking part in an L-SIP assessment brings many benefits to state and local public health laboratories. First, it helps build a foundation for potential accreditation by the Public Health Accreditation Board (PHAB), signaling a commitment to high standards and quality services. The L-SIP assessment also acts as a useful benchmark, like a "gold standard," guiding laboratories toward ongoing improvement with clear goals. It promotes better communication and collaboration among partners, like first responders and public health laboratories, creating a more effective public health network. Overall, conducting an L-SIP assessment is a smart investment in refining public health laboratories, leading to better services and community health outcomes.

In summary, an L-SIP assessment gives state and local public health laboratories several benefits:

1. Lay the groundwork for accreditation by the Public Health Accreditation Board (PHAB).
2. Serves as a benchmark for continuous improvement.
3. Encourages enhanced communication and collaboration among diverse partners.

Assessment Process

Assessment Day

On January 24, 2024, the Riverside County Public Health Laboratory (RPHL) conducted a comprehensive one-day Laboratory System Improvement Program (L-SIP) assessment from 8:30 am to 4:30 pm. Approximately 150 professionals were invited to participate; of these, 75 confirmed attendance and 58 were present, representing a diverse range of sectors such as the Riverside County Emergency Management Department, Animal Services, Sheriff-Coroners, Office of Education, District Attorney's Office, as well as representatives from Orange County Public Health Laboratory, San Diego County Public Health Laboratory, Los Angeles County Public Health Laboratory, and the California Department of Public Health Center for Laboratory Sciences, among others.

Funding & Provided Materials

Supported by funding from the Association of Public Health Laboratories (APHL), this assessment was enhanced with instructional materials and voting tools generously. As the host, RPHL took measures to ensure a comprehensive experience for all participants. Each attendee received a folder containing essential reading materials, such as the agenda, a public health advisory notice, RPHL testing list, Title 17 California Code of Regulations (CCR) Section 2505 - reportable conditions, an RPHL laboratory brochure, the 10 essential public health laboratory services breakdown handout, the definition of a local public health laboratory system or network handout (courtesy of the City of Milwaukee), a CDC handout on Legionnaires' disease, Riverside County Enhanced Disease Detection and Investigation (EDDI) Digest, a handout from the County of Riverside Assessor-County Clerk-professional's RPHL activity Recorder, and a handout (Figure 1).



Figure 1. Picture of materials

In addition, participants were provided with a complimentary participant directory, available to those who agreed to provide contact information to share. A hard copy of the participant survey and an accessible QR code for an electronic version of the survey were made available, allowing attendees to choose their preferred option for providing feedback. Furthermore, accessible reading materials for the presentation, including copies of the APHL and RPHL PowerPoints, were provided as references. Each participant also received a name tag with their title upon signing in. As a gift, RPHL provided purple travel-size notebooks with a pen, along with a science sticker and science lapel pin to all attendees.

Organization: Participants, Facilitators, and Theme takers

To facilitate organization, participants were grouped by color—Purple, Lime Green, and Royal Blue—and their assignments were indicated on the folders. This system facilitated a structured assessment process, and each folder featured the organizer's business card for easy contact. As an added bonus, RPHL extended an offer of a complimentary tour of the public health laboratory, located just 20 minutes from the venue, providing participants with a firsthand understanding of the laboratory's operations and functions. The assessment was facilitated by four experts from Glen F. Baker Public Health Laboratory and Arkansas Department of Health, Dallas County Public Health Laboratory, North Carolina Public Health Laboratory, and Association of Public Health Laboratories (APHL). The facilitator from APHL introduced the L-SIP process and guided the entire participant group in an initial plenary session. Afterward, the groups were divided among the remaining facilitators, each leading smaller groups for the rest of the day. Two theme takers were assigned to each facilitator, ensuring there was at least one available throughout the day. This setup allowed theme-takers to take breaks, rest, participate in discussions, capture notes, or attend to other needs.

Venue & Catering

The chosen venue played a pivotal role in facilitating a successful L-SIP event. Secured through a County partner at no cost, this generous provision enabled more funds to be allocated towards catering and supplies, enhancing the overall experience. The complimentary venue offered free and ample parking to ensure convenience for participants and volunteers that was also strategically located near an accessible freeway for easy accessibility. Nearby hotels provided convenient accommodation options for travelers, further adding to the event's accessibility. Upon arrival, guests were welcomed by two signs, one at the entrance and another guiding them to the assigned rooms. The L-SIP was in a large, open space. The three participant groups were strategically arranged in three areas of the room that would be conducive for interactions and discussions. The organization of the registration table featured all necessary handout materials and three designated collection boxes. These boxes facilitated the seamless return of items, with specific bins allocated for voting cards, paper evaluations, and unused toolkits.

Breakfast from Panera and lunch from Flame Broiler were served, with dietary restrictions accommodated to support participant engagement.

Scoring System

A structured scoring tool was introduced to assist participants in evaluating the laboratory system's performance across essential services. The activity levels were structured to range from no activity, signifying absolute non-participation or the absence of service, to optimal activity, indicating high-level compliance at 75% or more. In between these two extremes, participants could utilize three additional levels to precisely identify areas for improvement. The scoring categories were color-coded for clarity, and participants were provided with colored cards to cast their votes during indicator discussions. For each essential service, the facilitator initiated the session by introducing the service, presenting relevant indicators, and opening the floor to discussion. In cases where essential services comprised multiple indicators, each was sequentially presented for discussion. Once the discussion concluded, participants were prompted to score the key idea, reflecting their assessment of RPHL current performance.

No Activity	0	0 % or absolutely no activity
Minimal Activity	1% to 25%	Greater than zero, but no more than 25% of the activity described within the question is met within the state public health laboratory system
Moderate Activity	26% to 50%	Greater than 25% but no more than 50% of the activity described within the question is met within the state public health laboratory system
Significant Activity	51% to 75%	Greater than 50% but no more than 75% of the activity described within the questions is met within the state public health laboratory system
Optimal Activity	76% to 100%	Greater than 75% of the activity described within the question is met within the state public health laboratory

In-Depth Review of Each Essential Service

Overall Assessment

ASSESSMENT SCORES	0	1	2	3	4
	<i>No Activity</i>	<i>Minimal Activity</i>	<i>Moderate Activity</i>	<i>Significant Activity</i>	<i>Optimal Activity</i>
Essential Service #1: Monitor health status to identify and solve community health problems					
Key Idea 1.1.1			x		
Key Idea 1.1.2	Not Applicable (Newborn Screenings are not conducted)				
Key Idea 1.1.3			x		
Essential Service #2: Diagnose and investigate community health problems and health hazards in the community					
Key Idea 2.1.1			x		
Key Idea 2.1.2			x		
Essential Service #3: Inform, educate, and empower people about health issues					
Key Idea 3.1.1			x		
Key Idea 3.1.2			x		
Essential Service #4: Mobilize community partnerships and action to identify and solve health problems					
Key Idea 4.1.1		x			
Key Idea 4.1.2			x		
Key Idea 4.1.3			x		
Essential Service #5: Develop policies and plans that support individual and community health efforts					
Key Idea 5.1.3			x		
Essential Service #6: Enforce laws and regulations that protect health and ensure safety					
Key Idea 6.1.1				x	
Key Idea 6.1.2				x	
Essential Service #7: Link people to needed personal health services and assure the provision of health care when otherwise unavailable					
Key Idea 7.1.1				x	
Key Idea 7.1.2				x	
Essential Service #8: Assure competent public and personal health care workforce					
Key Idea 8.1.1			x		
Key Idea 8.1.2			x		
Key Idea 8.1.3			x		
Essential Service #9: Evaluate effectiveness, accessibility, and quality of personal and population-based health services					
Key Idea 9.1.1			x		
Key Idea 9.1.2			x		
Key Idea 9.1.3		x			
Essential Service #10: Research into new insights and innovative solutions to health problems					
Key Idea 10.1.1			x		
Key Idea 10.1.2			x		
Key Idea 10.1.3			x		

Essential Service #1

Monitor health status to identify and solve community health problems.

Key Idea 1.1.1

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Collaborative Testing: Disease Control and the Public Health Laboratory have significantly strengthened their partnership. Through joint initiatives, they have expanded diagnostic and surveillance testing capabilities. Regular collaborative meetings and upcoming projects are set to further enhance surveillance programs, with a particular emphasis on respiratory illnesses and antimicrobial resistance. These coordinated efforts enable more rapid and effective responses to emerging health threats.
- Expanded Sequencing Projects: The laboratory has demonstrated resilience and adaptability by continuing SARS-CoV2 sequencing and initiating other sequencing projects. Despite SARS-CoV2 being the primary focus, the laboratory is diversifying its sequencing endeavors, showcasing versatility and a commitment to broader public health initiatives. The ongoing SARS-CoV2 sequencing underscores the laboratory's dedication to monitoring and understanding the virus's evolution.

Opportunities for Improvement

- Surveys for Partner Feedback: Partner feedback processes are addressed in Cross-Cutting Challenges section.
- Community Visibility: Public health laboratories currently face a challenge in terms of visibility within the community. To address this, there is an opportunity to develop a primary point of contact, making the laboratory's services more accessible to the public. This initiative aims to bridge the gap between the laboratory and the community, fostering awareness and engagement.
- Communication among line staff: See Cross-Cutting Challenges section for system-wide communication needs and staffing impacts.

Items Requiring Additional Discussion

- Limited Public Health Awareness: Public awareness issues are discussed in the Cross-Cutting Challenges section.

Key Idea 1.1.2

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Not Applicable (Newborn Screenings are not conducted)

Strengths

- Not applicable

Opportunities for Improvement

- Not applicable

Items Requiring Additional Discussion

- Newborn Screening Clarification: It is important to emphasize that newborn screenings for congenital, inherited, and metabolic diseases are exclusively administered at the state level in California. Therefore, the oversight and coordination of newborn screenings fall under the state public health system. Thus, the Riverside County Public Health Laboratory does not conduct newborn screenings locally.

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.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- StarLIMS Reliability: StarLIMS consistently delivers dependable performance across all aspects of data management, including storage, analysis, retrieval, reporting, and exchange. Contingency plans are established for manual result submission during any system downtime, ensuring uninterrupted operations. In addition, IT notifications provide immediate alerts regarding any system or server issues, allowing for rapid response and resolution.
- Electronic Health Record (EHR) System: EHR's such as EPIC at medical facilities effectively track testing processes, with routine maintenance notifications and backup systems in place to support disease control operations.

- Sustainable Funding: The laboratory proactively seeks and establishes additional funding sources to ensure continuity of operations once COVID-related funding ends, providing financial stability and resilience.
- Collaborative Efforts: There are ongoing efforts to improve collaboration and communication with external partners, demonstrated by advocacy for direct communication between public health laboratories and the CDC.
- Strategic Planning: Despite limited funding, the laboratory follows its plan to conduct surveys for surveillance development, targeting weaknesses in informatics and public education, and using innovative methods to engage diverse groups, especially younger generations.
- Stakeholder Engagement: Stakeholder meetings such as the quarterly liaison meetings held by the Epidemiology Branch of Public have been useful. Additionally, the Public Health Laboratory provides important updates and outreach initiatives that are aimed at enhancing communication and collaboration among different agencies and departments, fostering a more integrated and effective public health network.

Opportunities for Improvement

- Enhancing Informatics: Informatics continues to be an area of vulnerability within public health, underscoring the need for targeted investment in training and resources to improve data management and analytical proficiency.
- Direct Communication with CDC: Creating structured communication pathways between the Riverside County Public Health Laboratory to the CDC facilitates provides efficient information flow and enhances responsiveness to public health incidents.
- Funding Challenges: Limited funds make resource allocation difficult, demanding advocacy and strategic planning for essential operations.
- Public Education and Outreach: Addressing gaps in public education and outreach requires a targeted approach to ensure effective communication and engagement with diverse communities, including addressing concerns such as issues with report outs and failed communications, raised by stakeholders.
- Coordination with External Agencies: Enhancing collaboration with entities such as the District Attorney's office and clinical laboratories facilitates improved information exchange and collective efforts, particularly in the context of public health investigations and confirmatory testing.

Essential Service #2

Diagnose and investigate health problems and health hazards in the community.

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.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Effective Communication at Director Level: There is effective communication within public health at the leadership level, where more detailed information is communicated from the state and the executive team to the director, facilitating timely dissemination of information and updates.
- Timely Customer Communication: The organization maintains good communication with its customers, ensuring timely delivery of information and services.
- Strong Scientific Network: The laboratory has established a robust scientific network, fostering collaboration and cooperation with multiple laboratories for enhanced capabilities and knowledge sharing.
- Expertise and Testing Network: Riverside County Public Health Laboratory uses its expertise and partnerships to efficiently deliver comprehensive testing services.

Opportunities for Improvement

- Communication Gap at Bench Level: See Cross-Cutting Challenges section regarding internal communication.
- Addressing Customer Complaints: Although most customer communication is prompt, certain complaints regarding receiving results reveal opportunities to enhance processes and more effectively satisfy customer needs and expectations.
- Timely Dissemination of Results: Delays in receiving and sending results, particularly concerning STD testing for juveniles in care at the correctional health facility, need to be addressed to ensure timely notification of relevant parties.
- Community Trust and Testing: Community mistrust causes reluctance to get tested, hindering public health. Transparent communication and engagement are needed to build trust.

- Central Source for Supplies: Without a central supply repository, laboratories face inefficient exchanges, causing delays and frustration—especially evident during the COVID-19 pandemic.
- Need for Specialized Laboratories: There is a demand for more specialized laboratories to meet the diverse testing needs of the community, particularly in areas such as molecular diagnostics, infectious diseases, and environmental health testing. By identifying and addressing specific areas of specialization, the laboratory can enhance service provision, improve turnaround times, and reduce reliance on external laboratories, ensuring the community's needs are met more efficiently and comprehensively.
- Challenges in Staff Retention & Training: Workforce development issues are detailed in Cross-Cutting Challenges section.
- Communication Technology: System-wide technology and communication infrastructure challenges are summarized in Cross-Cutting Challenges section.
- Personnel Challenges: Significant personnel loss during the COVID-19 pandemic, followed by multiple new hires, has led to operational challenges and system slowdowns. Efforts to streamline workflows and provide adequate training and support to new staff are crucial for overcoming these challenges.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 2.1.2

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

Evaluation

How would you rate the performance of the system collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Effective Coordination During COVID: Despite challenges, the system demonstrated effective coordination among different departments during the COVID-19 pandemic, reflecting overall effectiveness.
- Coordination of Public Health Networks: The coordination of public health networks was noted as effective, indicating a strong foundation for rapid response to public health events.
- Adaptability During Low-Throughput Situations: Despite being low-throughput, the system was able to respond to the pandemic, even amidst difficult-to-control variables such as supply shortages.

- Existing Protocols and Networks: People expressed satisfaction with the existing protocols and networks in place, providing a solid framework for rapid response.
- Training Opportunities for Emergency Preparedness: System-wide training needs appear in Cross-Cutting Challenges section.
- Two-Phase Approach to Continuity of Operations (COOP): Using a two-phase strategy for COOP helps keep systems running during emergencies and strengthens their resilience. The first phase should focus on immediate response actions to sustain essential functions, while the second phase involves recovery and restoration of full operations once the emergency subsides.

Opportunities for Improvement

- Enhancing Communication for New Personnel: Communication processes for new employees require refinement to ensure they are fully informed regarding appropriate points of contact, especially in ambiguous circumstances. Comprehensive onboarding and guidance should be provided throughout their initial training period. Establishing clear communication protocols and robust support systems will assist new staff in efficiently navigating laboratory operations.
- Annual Evaluation of Emergency Preparedness Plans: Plans for evaluating emergency preparedness should be conducted annually, as opposed to the current state recommendation of every five years, to ensure readiness.
- Regular Drills and Tabletop Exercises: More frequent drills and tabletop exercises, ideally conducted yearly, are essential for practicing responses to diseases, both in-person and online.
- Cross-Communication Issues: Resolving cross-communication concerns like dependence on external laboratories helps streamline responses and reduce confusion.
- Expanding Training Opportunities: Additional training opportunities, such as in-depth workshops or specialized conferences, should be explored to enhance preparedness and broaden staff expertise.
- Establishing Generic Communication Channels: Although we use laboratory-wide email monitored by designated staff, the Public Health Laboratory should strengthen its presence so stakeholders are better informed and can depend on these channels for prompt communication during public health events.

Items Requiring Additional Discussion

- No additional discussions were noted.

Essential Service #3

Inform, educate, and empower people about health issues.

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.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Effective Communication Channels: The system communicates with the public, primarily focusing on public health updates relevant to specific outbreaks. These updates provide timely information on infectious diseases such as SARS-CoV2 and Mpox.
- Internal Newsletter: An internal department of public health newsletter is in place to disseminate information within the organization, fostering internal communication and awareness among staff members.

Opportunities for Improvement

- Broadening Educational Outreach: Communication with the public is good, but expanding educational outreach can further inform people about laboratory services, such as testing for TB, rabies, chlamydia, and gonorrhea, enhancing awareness of public health offerings.
- Improving Exposure Reporting: Exposure reporting challenges tie to communication themes (see Cross-Cutting Challenges section).
- Establishing Customer Feedback Mechanisms: Feedback mechanisms are addressed as a system-wide need in Cross-Cutting Challenges section.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 3.1.2

The System creates and provides educational opportunities to community partners.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Expansion of Laboratory Services: Efforts to expand laboratory capabilities to accommodate more testing reflects a commitment to meeting the evolving needs of the community and addressing public health challenges effectively.
- Recognition of Public Health Importance: The community and stakeholders recognize the critical role of the PHL in addressing public health threats, particularly in its ability to convey the severity of viruses, diseases, and epidemics. This recognition stems from the PHL's timely reporting of data, active participation in public health meetings, and collaboration with hospitals and other health agencies during outbreaks. Stakeholders appreciate the laboratory's transparency in sharing information and its role in protecting public health, which is reinforced by the laboratory's consistent efforts to provide accurate and up-to-date surveillance data.
- Advocacy for Public Health Awareness: Presenting public health as key to public safety emphasizes the value of early detection, prevention, and rapid response. Keeping communities informed about outbreaks, vaccination drives, and disease prevention helps protect individuals and limit infectious disease transmission.
- Legislative Support for Infrastructure Improvement: Successful advocacy efforts, such as garnering legislative support for laboratory expansion demonstrate effective collaboration and have secured resources for enhancing public health infrastructure.

Opportunities for Improvement

- Formation of Communications Team: Establishing a dedicated communications team to support communication efforts, particularly working in collaboration with the Riverside Public Health Laboratory's Health Information & Community Outreach Manager, can enhance the effectiveness of disseminating accurate and consistent information to community partners. This team can streamline messaging, develop engaging content, and ensure coordinated communication strategies are implemented.
- Simplifying Communication: Clear, accessible public communication themes are summarized in Cross-Cutting Challenges section.

Items Requiring Additional Discussion

- Simplifying Laboratory Language: Further exploration and discussion are needed to develop strategies for making laboratory language more accessible to the public. This could involve assessing current communication practices, identifying common barriers to understanding laboratory terminology, and exploring innovative approaches to simplify technical information without compromising accuracy. Collaborative efforts involving communication specialists, health educators, and community stakeholders can contribute to developing effective solutions for enhancing public understanding of laboratory services and health-related issues.

Essential Service #4

Mobilize community partnerships to identify and solve health problems.

Key Idea 4.1.1

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Minimal Activity

Strengths

- Specimen Submission Trainings: The PHL proactively organizes training with local hospitals and community health centers regarding specimen submission, addressing issues related to specimen collection. The Health Information & Community Outreach Manager provides training courses and tracks unaccepted specimens to identify and address any training gaps which demonstrates a commitment to quality improvement and collaboration with partners.
- Effective Communication Channels: Communication with partners is primarily through emails and the Laboratory Response Network (LRN) facilitating timely exchange of information and updates to ensure efficient communication and coordination within the public health system.
- Improved Connections: Significant improvements with partner connections have been noted, evidenced by a substantial increase in the number of specimens received in recent years. These proactive efforts to strengthen relationships contribute to enhanced public health surveillance and response capabilities.

Opportunities for Improvement

- Establishing Ongoing Meetings with Other Departments: Setting regular meetings creates a consistent space for communication, sharing updates, and addressing health issues and challenges among partners.
- Enhancing Training Accessibility: Training access is addressed broadly in Cross-Cutting Challenges section.
- Strengthening Collaboration Initiatives: Adopting best practices, such as specimen packaging, laboratory visits, and quick responses to inquiries, can improve engagement and collaboration in public health. These steps help stakeholders better understand laboratory services.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 4.2.1

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Interdepartmental Communication: Communication between the Public Health Laboratory, Epidemiology, and Disease Control departments within the Public Health system is established, facilitating collaboration and information sharing among key stakeholders.
- Active Social Media Presence: The Department of Public Health maintains an active social media account, providing a platform for disseminating information and engaging with the community on relevant health issues.

Opportunities for Improvement

- Timeliness of Communication and Collaborations: Communication timeliness is covered in Cross-Cutting Challenges section.
- Social Media Strategy: Public awareness and outreach improvements appear in Cross-Cutting Challenges.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 4.3.1

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Personnel Rotation: There is a rotation system for personnel across different positions, enhancing the laboratory's capacity to conduct a wider range of tests. This approach promotes skill diversification among staff members, fostering flexibility and adaptability within the laboratory workforce.

Opportunities for Improvement

- Resource Tracking System: The laboratory recognized the need to monitor shortages of supplies, reagents, and facilities. This has been resolved by implementing the Inventory Management System, which efficiently tracks resources, enables sharing, and quickly addresses shortages to prevent workflow disruptions.
- Communication of Resource Variations: Laboratories can share information about surplus reagents nearing expiration, allowing others to use them efficiently and reduce waste.
- Exploration of Mobile Laboratory Solution: Resource and infrastructure limitations are summarized in Cross-Cutting Challenges section.

Items Requiring Additional Discussion

- No additional discussions were noted.

Essential Service #5

Develop policies and plans that support individual and community health efforts.

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.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Partner-Laboratory Interaction: Collaboration between partners and the laboratory has facilitated the successful implementation of new programs and policies, such as disease surveillance enhancements, quality control improvements, and streamlined specimen submission protocols. This includes initiatives like joint public health education campaigns, standardized reporting procedures, and shared use of laboratory resources. These efforts indicate effective communication and coordination, helping to address public health challenges more efficiently while improving overall service delivery and public health outcomes.
- Centralized System Network: The Electronic Laboratory Network for Outbreak Response (ELENOR) serves as a centralized, CDPH-supported platform that streamlines test service requests and provides real-time alerts to laboratories. By facilitating rapid communication, coordinated resource allocation, and timely data sharing, ELENOR strengthens system responsiveness during routine operations and public health emergencies.
- Internal Response System: Collaborative efforts to develop Memorandums of Understanding (MOUs) across departments and jurisdictions demonstrate progress in establishing long-term suitability for public health laboratories and fostering interagency cooperation.

Opportunities for Improvement

- Inclusive Policy Development: Strengthen inclusive policy development by ensuring that diverse partners—internal and external—are consistently engaged in planning and decision-making. Enhance laboratory representation in these processes so that scientific, operational, and community needs are accurately reflected. Expand advocacy and strategic engagement with policymakers to ensure that public health laboratory priorities are understood, supported, and incorporated into policy decisions.

Items Requiring Additional Discussion

- No additional discussions were noted.

Essential Service #6

Enforce laws and regulations that protect health and ensure safety.

Key Idea 6.1.1

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Significant Activity

Strengths

- CLIA Compliance: The laboratory ensures that staff are not only aware but also familiar with the Clinical Laboratory Improvement Amendments (CLIA) and the importance of adhering to its standards, indicating a commitment to regulatory compliance and quality assurance.
- Supervisor Education and Support: Supervisors take responsibility for educating staff and ensuring adherence to CLIA standards, fostering a culture of accountability and continuous improvement within the laboratory.
- Inspection Preparation: Preparation for inspections and audits serves as an opportunity to review standard operating procedures, clarify interpretation of guidelines with the team, and ensure alignment with regulatory requirements, contributing to a culture of continuous improvement and adherence with compliance.

Opportunities for Improvement

- Awareness of Compliance and Continuous Education: Strengthen consistent, systemwide staff education on regulatory updates and CLIA requirements through structured refresher training and clear communication pathways.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 6.1.2

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Significant Activity

Strengths

- Liability Officer: Having a designated liability officer helps ensure that the laboratory remains compliant with regulations, minimizing legal risks and liabilities. In this case, the role falls under the contracts department, where they oversee adherence to legal regulations in contracts and agreements. They are responsible for managing risks, ensuring that all legal requirements are met, and providing guidance on legal matters related to the laboratory's operations and contractual obligations. This helps prevent legal disputes and ensures the laboratory's operations are in full compliance with applicable laws and regulations.
- Meetings and Reminders: Regular meetings provide opportunities for staff to collaborate, discuss ongoing projects, address challenges, and stay aligned with organizational goals. Additionally, reminders can help reinforce important messages, deadlines, and expectations, fostering a culture of accountability and awareness among team members.
- Competency Reminder System: Implementing a competency reminder system through platforms like Qualtrax helps ensure that staff maintain the necessary skills and knowledge to perform their roles effectively. By automating reminders and tracking competency requirements, this system supports ongoing professional development and compliance with regulatory standards.
- Equipment Maintenance: Regular inspection, cleaning, and maintenance of laboratory equipment are essential for ensuring the accuracy, reliability, and safety of test results. By prioritizing equipment maintenance, the laboratory can minimize downtime, prevent errors, and prolong the lifespan of valuable assets.

Opportunities for Improvement

- Newsletter Implementation Delay: While newsletters are planned for communication, delays in the implementation may result in missed opportunities to disseminate important updates and information to partners. Timely implementation is crucial to ensuring effective communication and engagement.
- Competency Reminder System: Enhance the reach and monitoring of existing competency and compliance systems to ensure they are uniformly applied and regularly evaluated for effectiveness.
- Quality Assurance Committee: The effectiveness of the quality assurance committee may be limited without sufficient empowerment and resources. Providing the committee with adequate support, authority, and resources can enhance its ability to drive meaningful improvements in quality assurance processes and outcomes.

Items Requiring Additional Discussion

- No additional discussions were noted.

Essential Service #7

Link people to needed personal health services and ensure the provision of healthcare when otherwise unavailable.

Key Idea 7.1.1

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Significant Activity

Strengths

- Collaborative Testing: The laboratory demonstrates strong collaboration with other public health laboratories, such as San Bernardino, for TB and HIV testing. This collaboration ensures continuity of services and fills gaps in testing capacity when needed, showcasing a robust network of support among laboratories.
- Turnaround Time Tracking: The laboratory tracks turnaround time (TAT) for test results in their Laboratory Information Management System (LIMS) and conducts monthly audits. Non-conformance reports are generated if TAT standards are not met, indicating a commitment to monitoring and improving testing efficiency.
- Utilization of Interns and Fellows: The laboratory utilizes interns and fellows to assist with testing procedures and contributes to the development of laboratory capabilities. This utilization of additional personnel enhances productivity and fosters collaboration with educational institutions.
- Laboratory Web Portal: The laboratory is working on implementing a Laboratory Web Portal which will help fill gaps in providing test results. The development of this portal will enhance communication and streamline processes within the laboratory system.

Opportunities for Improvement

- Packaging and Shipping Training: Training gaps are discussed in Cross-Cutting Challenges section.
- Awareness of Certified Shippers: Submitters often lack information about certified staff for specimen packaging and the shipping options available outside the PHL network, such as GLS, FedEx, USPS, and UPS. Keeping all submitters informed about personnel certification and carrier choices will improve specimen transport efficiency and regulatory compliance.
- Clarification of Stat vs. Non-Stat Specimens: Clear guidelines and staff training on STAT criteria are needed to improve understanding and ensure specimens are handled according to their urgency.

- Enhanced Communication with Couriers: Establish consistent communication channels between the laboratory, couriers, and submitters to support reliable and timely specimen transport.
- Implementation Delays of Laboratory Web Portal: While actively working on implementing a Laboratory Web Portal, there have been delays in the implementation process. Addressing these delays and expediting the implementation timeline can ensure timely access to the portal's benefits and functionalities.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 7.1.2

The System provides timely and accessible quality services.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Significant Activity

Strengths

- Established Processes: RPHL has established procedures and resources, such as a dedicated website with helpful forms. These resources enhance accessibility and streamline interactions with the laboratory system.
- Pre-Holiday Communication: The laboratory sends out memos before holidays to remind submitters not to collect or submit specimens during holiday periods to avoid specimen expiration before testing.

Opportunities for Improvement

- Weekend Services and Overtime Approval: Develop clear weekend and emergency service protocols, including streamlined overtime approval and standardized operational expectations.
- Public-Friendly Website: The current RPHL website primarily caters to individuals familiar with public health services, lacking user-friendliness for the general public. Enhancements such as adding an FAQ page and improving accessibility can clarify that the RPHL is a reference laboratory, not a clinical facility, and is distinct from the RUHS Medical Center is recommended. In addition, the website can share more information about the laboratory's programs or projects, including volunteer and outreach opportunities, and offer clear submission options for community events, making the website more informative and accessible to a broader audience.
- Community Engagement: The laboratory could benefit from increased community engagement efforts to raise awareness about its services and functions. Initiatives such as adding the laboratory to the Community Health Assessment event and conducting

customer service surveys can help assess communication needs and improve outreach strategies.

Items Requiring Additional Discussion

- Laboratory Communication Needs Assessment: Assessing communication needs in the laboratory helps pinpoint improvement areas and guides strategies to boost effectiveness.
- Annual Customer Service Survey: Implementing an annual customer service survey for submitters can gather feedback on their experiences and satisfaction levels, facilitating continuous improvement in service delivery and addressing any issues or concerns promptly.

Essential Service #8

Assure a competent public health and personal health care workforce.

Key Idea 8.1.1

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Training Programs: The laboratory offers training programs such as the public health microbiologist trainee program, which provides opportunities for career growth and development within the organization. These programs can attract candidates seeking entry-level positions with potential for advancement.
- Awareness of Incentives: The laboratory is aware of government incentives such as public loan forgiveness and educational incentives like textbook reimbursement and tuition discounts. This knowledge can be leveraged to attract potential candidates who may be interested in these benefits.
- Retention Efforts: Broader workforce challenges are addressed in Cross-Cutting Challenges.
- Integration of IT Positions: The laboratory has created two Laboratory Information Systems Administrator (LISA) positions and one bioinformatics position, incorporating the IT component into its workforce. This demonstrates a proactive approach to leveraging technology to enhance laboratory operations and meet evolving needs.
- Establishment of Health Information & Community Outreach Manager: The introduction of the Health Information & Community Outreach Manager position signifies a commitment to outreach and engagement efforts within the community. This role serves as a liaison for the public health laboratory, fostering relationships and promoting awareness of public health initiatives.

Opportunities for Improvement

- Job Description Review and Competitive Compensation: To improve recruitment and retention outcomes, there is a need to review and update all job descriptions so they accurately reflect current roles and responsibilities, aligning requirements with the skills and qualifications of prospective candidates. Additionally, strengthening recruitment and retention efforts requires offering competitive compensation, enhancing career pathways, and fostering collaboration with HR to streamline the hiring process.

- Strategic Workforce Planning: By adopting long-term strategic workforce planning, organizations can better predict their future staffing requirements and tailor recruitment to meet overall business objectives. Taking this proactive stance helps resolve staff shortages efficiently and maintains operational continuity.
- Technological Advancement: Invest in technology-supported training programs that ensure staff remain current with laboratory innovations and informatic

Items Requiring Additional Discussion

- No additional discussions were noted.

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.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Dedicated Health Information & Community Outreach Manager: The Health Information & Community Outreach Manager position demonstrates a commitment to serving as a liaison between the laboratory and external stakeholders. This role facilitates communication, educates providers, and creates outreach opportunities to bridge the gap between the laboratory and other departments.
- Collaboration with Local Universities: The laboratory actively collaborates with local universities and colleges to attract potential candidates and provide internship opportunities. By accepting interns and fellows from institutions, the laboratory fosters relationships with academic partners and cultivates future talent in the public health field.
- Public Health Microbiologist Trainee Program: The laboratory offers a Public Health Microbiologist Trainee Program, providing an opportunity for aspiring professionals to become certified and work in a public health laboratory. This program serves as a valuable entry point into the field and supports the development of future public health microbiologists within the organization.

Opportunities for Improvement

- Mentorship Plan Development: Develop a formal mentorship and professional development framework that supports staff growth and improves retention.
- Enhanced Training and Support: Broader workforce challenges are addressed in Cross-Cutting Challenges.

- Expansion of Internship Opportunities: While the laboratory offers internship positions to undergraduate students, there is room for expansion to meet the growing demand for workforce development. Increasing the availability of internship opportunities within the public health system can attract and nurture talent, addressing workforce shortages and promoting career pathways in public health.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 8.2.2

The System identifies and addresses current and future workforce storage issues.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Outreach Efforts: The laboratory participates in science fairs at middle and high schools as well as community health events to highlight careers in laboratory sciences and encourage potential applicants. By doing so, students learn about the available opportunities in this field and are motivated to consider public health laboratory careers.
- Training Programs: The laboratory offers training programs such as the Public Health Microbiologist Trainee Program, APHL internships, and APHL fellowships, providing hands-on experience and career development opportunities for aspiring professionals. These programs serve as valuable entry points in the field and help address workforce shortages by nurturing talent within the organization.
- Automation of Training Reminders: The laboratory is using an automated quality assurance system to streamline staff training and keep employees current with necessary skills. This system centralizes training materials and simplifies workflow, supporting staff development.

Opportunities for Improvement

- Work Schedule Flexibility: Evaluate flexible scheduling options to improve work-life balance while ensuring adequate coverage and operational continuity.
- Collaboration with IT Department: Enhance collaboration with IT to integrate training modules into COR Learning and standardize access to training materials.
- Daily Huddle Implementation: While the laboratory conducts huddles as needed, there is an opportunity to formalize and enhance these meetings to facilitate communication and information sharing among team members. Implementing structured daily huddles could promote efficiency and cohesion within the laboratory, fostering a culture of collaboration and continuous improvement.

Items Requiring Additional Discussion

- No additional discussions were noted.

Essential Service #9

Evaluate effectiveness, accessibility, and quality of personal and population-based services.

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.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Lab-to-Lab Communication: RPHL maintains effective communication with partner laboratories, facilitating resource allocation and collaboration. This communication was especially evident during the COVID-19 pandemic, as the RPHL engaged in constant dialogue with fellow public health laboratories and public health departments to ensure that community needs were met. This proactive approach significantly enhances the overall quality and accessibility of laboratory services.
- Evaluation & Implementation Committees: RPHL has established various groups dedicated to evaluating laboratory services and implementing necessary changes to enhance service quality. These groups focus on specific goals, including Key Performance Indicators (KPIs), lean measures, revenue practices, safety, and staff engagement.
- Non-Conformance Event (NCE) Evaluation: The laboratory reviews Non-Conformance Events (NCEs) to pinpoint and assess problems that could affect service quality. This process systematically examines cases where protocols or standards weren't followed, helping the lab uncover the root causes behind these issues. After these causes are determined, corrective actions are taken, such as updating procedures, improving staff training, or upgrading equipment and processes.
- Implementation of EPIC BEAKER: The introduction of BEAKER, a Laboratory Information System (LIS), is set to further improve communication by providing an interfaced system for transmitting results between laboratories and submitters, enhancing efficiency and accessibility of laboratory information. This system is reported to streamline workflows by automating data entry and result reporting, reducing the potential for errors and ensuring timely access to critical laboratory results for healthcare providers.

Opportunities for Improvement

- Point of Contact for Laboratory Services: Establish a clear point of contact such as the Health Information & Community Outreach Manager (HICOM) and strengthen

communication pathways to ensure timely, accessible information sharing with submitters and partners.

- Compliance with MOUs: Strengthening adherence to Memorandums of Understanding (MOUs) is essential to maintain effective communication between laboratories and external entities like animal control units. It is recommended to ensure compliance protects both parties' interests and fosters productive collaborations. Regular reviews and updates of these MOUs can help clarify roles and responsibilities, ensuring all stakeholders are aligned and aware of their commitments.
- Community Engagement and Feedback: Develop structured community feedback mechanisms to inform service improvements and ensure accessibility aligns with community needs.
- Broadening Communication Channels: Communication system improvements appear in Cross-Cutting Challenges section.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 9.2.1

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Collaboration Potential: RPHL recognizes the need to partner with academia and other institutions to pursue research projects. This acknowledgement indicates a willingness to leverage external expertise and resources to enhance research capacity.
- Engagement with Community Groups: There is an awareness of the importance of community-based research. While partnerships have not been established, the willingness to engage with community groups demonstrates a commitment to addressing local public health needs.

Opportunities for Improvement

- Research Project Identification and IRB Access Riverside PHL should proactively identify and pursue research projects that align with public health priorities, adopting a systematic approach to both recognizing research opportunities and securing funding. At the same time, the lack of access to an Institutional Review Board (IRB) poses a barrier to research efforts. To address this, Riverside PHL must establish mechanisms for IRB access—either by partnering with larger institutions or developing internal capacity—to facilitate research initiatives and ensure compliance with ethical standards. By maximizing resources and improving IRB accessibility, the laboratory can enhance its

capacity for research and innovation, effectively tackling pressing health issues and enabling more diverse, impactful studies.

- Streamlined Communication: Improving communication channels with external partners, such as community organizations and academic institutions, can facilitate collaboration on research projects. Clear communication pathways and responsive follow-up procedures are necessary to foster productive partnerships and address community research needs effectively. This aligns with the Health Information & Community Outreach Manager's role to expand the relationship between the RPHL and community and local academic institutions.
- Capacity Building for CLIA Waived Testing: Strengthening the capacity for CLIA waived testing is essential, especially for initiatives aimed at disadvantaged populations. Offering guidance and resources for obtaining CLIA waivers and managing regulatory requirements will enable RPHL to effectively support research focused on underserved communities.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 9.2.2

The System promotes research and innovative solutions.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Minimal Activity

Strengths

- Recognition of the Need for Research: RPHL values research and partners with APHL to offer fellowships, supporting innovative projects that strengthen public health responses and benefit communities.
- Potential for Partnerships: RPHL's willingness to partner with academia and other institutions to pursue research projects, leveraging additional expertise and resources to enhance the quality and scope of research endeavors. RPHL accepts interns and fellows from local academia to complete projects within the laboratory. These partnerships not only provide valuable real-world experience for students but also enrich the laboratory's research capabilities and foster a culture of learning and collaboration.

Opportunities for Improvement

- Proactive Engagement in Research: RPHL should take proactive steps to engage in research initiatives and prioritize identifying research opportunities that align with public health priorities and community needs. By actively seeking out funding sources that align

with academia while also contributing to significant public health advancements can be advantageous for both parties.

- Facilitating Community Partnerships: Improving communication and outreach efforts with community groups can facilitate partnerships and collaborations for research initiative, enhancing the relevance and impact of research activities. Strengthening these partnerships will ensure that research efforts are informed by community needs and perspectives, ultimately leading to more effective public health interventions.

Items Requiring Additional Discussion

- No additional discussions were noted.

Essential Service #10

Research for insights and innovative solutions to health problems.

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.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Partnerships with Academic and Government Institutions: RPHL values working together with academic organizations and government agencies, building relationships that support public health efforts and research projects.
- Fiscal Transparency and Accountability: RPHL actively communicates with the fiscal department, ensuring transparency in funding utilization and revenue generation. Monitoring Memoranda of Understanding (MOU)s and effectively managing county funds demonstrate a commitment to fiscal responsibility and accountability to taxpayers.
- Positive Experience with Epidemiology: RPHL has established positive working relationships with the Epidemiology branch in the Public Health Department, facilitating effective communication and collaboration on public health initiatives.
- Readiness for Mobilization: The system is prepared for rapid mobilization in response to public health emergencies, demonstrating readiness to address crisis situations such as outbreaks and pandemics.

Opportunities for Improvement

- Establishment of MOUs: Formalize partnership agreements and establish consistent collaboration frameworks to support coordinated public health activities.
- Grant Funding Stability: Develop a resource-stability plan that strengthens funding reliability and improves advocacy for long-term operational needs.
- Proactive Approach to Public Health: The existing system functions primarily in a reactive capacity, underscoring the necessity of transitioning towards a more proactive model in public health planning and intervention. This transition may require enhanced interdepartmental communication and the cultivation of a culture that prioritizes proactive engagement.
- Enhanced Communication Between Departments: Internal communication improvements are addressed in Cross-Cutting Challenges section.

- Accessibility of Data: Presenting information on funding utilization and its effects on testing in a format accessible to leadership without expertise in public health laboratory operations will enhance transparency and enable informed decisions about resource allocation and laboratory infrastructure investments.

Items Requiring Additional Discussion

- No additional discussions were noted.

Key Idea 10.1.2

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

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Upholding Clinical Standards: RPHL leadership recognizes the importance of upholding clinical standards established by the County, demonstrating a commitment to ethical practices and quality assurance in laboratory operations.
- Monthly Executive Meetings: The laboratory has monthly meetings with executives, providing a platform for communication of key information from leadership and updates regarding laboratory projects and initiatives.
- Hospital Communication: Feedback mechanisms for hospital communications appear to be effective, suggesting potential strengths in communication strategies that could be adapted for use within the laboratory setting.

Opportunities for Improvement

- Frontline Communication Channels: RPHL lacks effective communication channels for staff to provide feedback or raise concerns regarding policies or changes. Implementing mechanisms for RPHL staff to provide input and participate in decision-making processes can enhance transparency and engagement.
- Open Forums for Submitters: Following the example of San Diego PHL, Riverside could consider hosting open forums with other agencies to allow submitters to openly communicate with the laboratory, fostering collaboration and addressing concerns directly.
- Addressing Disconnects in Leadership: The unique position of Riverside County Animal Control as both a public health and code enforcement agency highlights the need to address disconnects between leaders and systems to prevent issues from arising and ensure effective coordination among the RPHL and submitters.

- Consideration of Anonymous Feedback Surveys: Create a unified feedback system using anonymous surveys and scheduled open forums to capture stakeholder input consistently.

Items Requiring Additional Discussion

- No additional discussions were noted.

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.

Evaluation

How would you rate the performance of the System collectively on achieving this key idea?

Score: Moderate Activity

Strengths

- Flexibility in Emergency Situations: The system proved its adaptability in crises like the COVID-19 pandemic, relaxing strict procedures such as Emergency Use Authorizations (EUAs) for clinical tests to quickly meet pressing public health demands.
- Advocacy for Resource Allocation: There is recognition for more advocacy to articulate the RPHL needs effectively to stakeholders who can provide necessary resources, demonstrating an awareness of the importance of securing financial, technological, and human resources for sustaining public health activities.
- Efforts for Education and Outreach: RPHL informs the community about laboratory roles and needs, promoting transparency and engagement in public health.

Opportunities for Improvement

- Communication and Timeliness: Implement structured communication channels that allow staff and partners to provide feedback, raise concerns, and receive timely updates
- IT Support and Infrastructure: The laboratory encounters some challenges related to IT support, notably with upcoming technology implementations such as the new Laboratory Information System (LIS). Strengthening IT infrastructure and support will help further enhance operational efficiency and effectiveness.
- Streamlining Human Resources Processes: Automated verification procedures may inadvertently exclude qualified candidates due to misinterpretations of application questions. This underscores the necessity for enhanced communication regarding the specific requirements of laboratory positions among recruitment personnel. By refining human resources processes and ensuring that applicants possess a comprehensive understanding of role expectations, the laboratory can more effectively attract and retain talented individuals, thereby minimizing the risk of overlooking capable professionals.

- Addressing Bureaucratic Barriers: The existing bureaucratic processes, which can sometimes delay the completion of tasks, highlight opportunities for systemic improvements to streamline procedures and support more efficient decision-making.
- Enhancing Advocacy and Leadership Engagement: Laboratory management should actively advocate for departmental needs, ensuring clear communication with leadership so that requirements are addressed promptly. This underscores the critical role of leadership engagement and support in achieving organizational objectives.
- Enhancing Efficiency and Process Optimization: Initiatives aimed at streamlining laboratory operations focus on specimen intake, accessioning, data entry, testing, and reporting of results. These processes are susceptible to strain during periods of high demand or emergencies. Mitigating inefficiencies such as communication lags or underutilized systems through comprehensive workflow redesign and strategic resource allocation is critical for alleviating staff workload and improving turnaround times.
- Facilitating Direct Interaction: Strengthening person-to-person communication and inviting collaborators to the laboratory for educational sessions regarding laboratory procedures can promote effective collaboration, reduce isolation, and enhance awareness of the laboratory's requirements and obstacles.

Items Requiring Additional Discussion

- No additional discussions were noted.

NEXT STEPS AND PRIORITIES

Essential Service #1: Monitor Health Status to Identify and Solve Community Health Problems

Next Steps:

- Implement Annual Surveys for Partner Feedback: The laboratory will establish a structured process to collect annual feedback from partners. This will enable continuous improvement by identifying strengths and areas needing enhancement in monitoring health status and solving community health problems.
- Develop a Primary Point of Contact for Community Engagement: To improve visibility and accessibility, the laboratory will designate a primary contact for community members and partners. This role will facilitate clearer communication and foster stronger relationships between the laboratory and the community.
- Streamline Communication Processes: Efforts will be made to clarify the order and channels of communication within the laboratory and with external stakeholders. This includes enhancing communication among line staff and addressing the turnover challenge to ensure consistent and effective exchange of information.

Priorities:

- Enhancing Communication and Collaboration: Prioritizing the development of clear, efficient communication channels both internally among staff and externally with partners and the community. This will support more effective monitoring and response to community health status changes.
- Increasing Community Visibility and Engagement: Making the laboratory's services more known and accessible to the community to improve public health monitoring and problem-solving capabilities.

Essential Service #2: Diagnose and Investigate Health Problems and Health Hazards in the Community

Next Steps:

- Improve Bench-Level Communication: The laboratory will enhance communication at the bench level to ensure all staff are aware of state-level public health information and updates. This includes developing a structured internal communication strategy that facilitates the timely sharing of critical information across all levels of the organization.
- Address Customer Complaints Efficiently: The laboratory will establish a more responsive system to handle customer complaints, particularly focusing on improving the timeliness of test results delivery. This system will involve setting clear protocols for addressing complaints, ensuring that all issues are resolved promptly and effectively.
- Expand Specialized Testing Capabilities: The laboratory will identify and pursue opportunities to expand its range of specialized tests to address community health problems more comprehensively. This includes seeking partnerships, funding, and

technical expertise to broaden testing services and reduce dependencies on external laboratories.

Priorities:

- Strengthening the Scientific Network: Building and enhancing a robust scientific network by fostering collaboration with multiple laboratories and health departments. This priority aims to improve the laboratory's ability to diagnose and investigate health hazards through shared knowledge, resources, and capabilities.
- Enhancing Timely and Effective Submitter Communication: Ensuring that communication with submitters is not only timely but also effectively addresses their needs and concerns. Prioritizing this aspect will improve the laboratory's responsiveness to community health issues and reinforce trust in the laboratory's services.

Essential Service #3: Inform, Educate, and Empower People About Health Issues

Next Steps:

- Broaden Educational Outreach: The laboratory will expand its educational outreach beyond specific viruses and diseases to include a wider range of laboratory services. This initiative will involve creating and disseminating materials that explain the laboratory's role in testing for diseases like TB, rabies, chlamydia, and gonorrhea, thereby increasing public awareness and understanding of available health services.
- Establish Formal Customer Feedback Mechanisms: To gather input from the public and community partners, the laboratory will implement formal channels for feedback. The feedback collected will guide improvements in how the laboratory informs, educates, and empowers the community about health issues.
- Enhance Reporting of Exposures: The laboratory will work with hospitals and other health care providers to ensure proper documentation and reporting of potential exposures to infectious diseases. By improving reporting mechanisms, the laboratory aims to facilitate timely public health responses and interventions.

Priorities:

- Improving Public Health Communication: Prioritizing communication with community partners is essential. This involves educating partners about the critical role of the RPHL in contributing to overall community wellness. By using clear, accessible language and engaging with diverse media channels, the RPHL can ensure that health information is effectively communicated and understood. This approach fosters a better understanding of public health initiatives and encourages collaboration among partners to enhance community health outcomes.
- Strengthening Community Partnerships for Health Education: Focus on building and enhancing partnerships with community organizations, educational institutions, and healthcare providers is crucial for effectively disseminating health information. These collaborations empower the community with the knowledge necessary to make informed health decisions. As the laboratory continues to grow and expand its' surveillance programs, it is responsible for sharing vital data for health education. Much of the data

generated by the laboratory is reported to the Public Health Disease Control and Epidemiology Branches, which has the capacity to disseminate critical information related to diseases tested in our laboratory on a larger scale.

Essential Service #4: Mobilize Community Partnerships to Identify and Solve Health Problems

Next Steps:

- Formalize Regular Meetings with Partners: The laboratory will establish a schedule for regular meetings with fellow departments and community partners. These gatherings will serve as a structured forum for discussing health issues, sharing updates, and collaboratively addressing challenges. The aim is to formalize and sustain effective systems through continuous dialogue and cooperation.
- Enhance Training Accessibility: To ensure all partners can benefit from training opportunities, the laboratory will address barriers related to time, location, and logistics. This may involve offering virtual training sessions, flexible scheduling to reach remote partners.

Priorities:

- Building and Sustaining Strong Partner Relationships: Prioritizing the development and maintenance of relationships with local hospitals, community health centers, and other health departments. By formalizing these relationships, the laboratory aims to create a robust network of partners committed to addressing public health challenges collaboratively.
- Improving Access and Engagement in Trainings: Making training programs provided by the RPHL more accessible and engaging for partners is a priority. This involves not only logistical improvements, such as flexible scheduling and online options, but also ensuring that the content is relevant and beneficial to all stakeholders. Tailoring training to meet the specific needs of community partners enhances their capacity to identify and solve health problems effectively within the community.

Essential Service #5: Develop Policies and Plans that Support Individual and Community Health Efforts

Next Steps:

- Incorporate Legislative Updates in Staff Meetings: Legislative updates relevant to public health and laboratory operations will be presented during regular staff meetings, as needed, ensuring the team stays informed about policy changes that could impact their work.

Priorities:

- Building Strong Partnerships for Policy Influence: Making it a priority to build and maintain strong relationships with a wide range of stakeholders, including other health departments, community organizations, and policymakers. These partnerships are crucial

for ensuring that the development and implementation of health policies that are collaborative, widely supported, and effectively address the needs of the community.

Essential Service #6: Enforce Laws and Regulations that Protect Health and Ensure Safety

Next Steps:

- Enhance Staff Awareness of Regulatory Changes: Regularly update and educate staff on new laws and regulations as well as revisions to existing ones that affect laboratory practices. This could involve creating a monthly newsletter or a dedicated topic in staff meetings for regulatory updates.
- Develop a Compliance Checklist: Create and maintain a checklist to help staff ensure that all laboratory practices comply with current laws and regulations. This tool will serve as a quick reference for staff to verify compliance across all operations.

Priorities:

- Maintaining High Standards of Regulatory Compliance: Prioritize the laboratory's ongoing commitment to adhere to CLIA and other regulatory standards, recognizing that compliance is foundational to ensuring the health and safety of the community. This includes a focus on education, process improvements, and accountability mechanisms to uphold these standards.

Essential Service #7: Link People to Needed Personal Health Services and Assure the Provision of Health Care When Otherwise Unavailable

Next Steps:

- Enhance Training on Specimen Packaging and Shipping: Develop and implement comprehensive training sessions for laboratory staff and external partners on proper specimen packaging and shipping practices. This step aims to improve the quality, efficiency, and safety of specimen transport, ensuring that tests are conducted without delay.
- Implement a Laboratory Web Portal: Finalize and launch the user-friendly Laboratory Web Portal to facilitate easy specimen submission, tracking of test results, and enhanced communication between the laboratory and healthcare providers. This portal will also serve as an educational resource for our external partners by providing training that improves their understanding of the laboratory processes. The transparency that the Laboratory Web Portal provides will enhance partner ability to track specimens in real-time. Instant report access further demonstrates the laboratory's efficiency and responsiveness.

Priorities:

- Improving Access to Laboratory Services: Ensuring timely and efficient access to laboratory services for all healthcare providers and the community. This involves enhancing the submission process, reducing turnaround times for test results, and providing comprehensive support and education to external partners.

- Streamlining Communication and Information Sharing: The RPHL is dedicated to developing and maintaining effective communication channels between the laboratory, healthcare providers, and community partners. By prioritizing the implementation of a Laboratory Web Portal and enhancing educational efforts, the laboratory aims to foster a more collaborative and informed network of care providers. The Laboratory Web Portal will serve as a crucial tool for real-time communication and information exchange. It will provide healthcare providers and community partners with direct access to laboratory services, testing protocols, and specimen tracking. This transparency helps reduce misunderstandings and improves coordination among all parties involved in patient care.

Essential Service #8: Assure a Competent Public and Personal Health Care Workforce

Next Steps:

- Enhance Recruitment and Retention Strategies: Focus on developing targeted recruitment and retention strategies that highlight the benefits and opportunities within the public health laboratory environment. This includes emphasizing career development programs, competitive benefits, and the impactful nature of work in public health.
- Expand Professional Development Opportunities: Increase access to training, education, and professional development opportunities for current staff. This will involve creating partnerships with educational institutions for continued education programs and certifications, as well as internal mentorship programs to foster skill development and leadership.

Priorities:

- Building and Maintaining a Skilled Workforce: Prioritize the development and implementation of initiatives aimed at building a workforce that is not only highly skilled but also diverse and adaptable to the changing needs of public health. This includes a strong emphasis on ongoing education, training, and career development opportunities.
- Fostering a Positive and Supportive Work Environment: Ensure that the laboratory is a workplace where employees feel valued, supported, and motivated. This involves recognizing staff contributions, providing opportunities for professional growth, and maintaining open lines of communication between management and staff to address concerns and feedback effectively.

Essential Service #9: Evaluate Effectiveness, Accessibility, and Quality of Personal and Population-Based Health Services

Next Steps:

- Establish a Regular Evaluation Framework: Develop and implement a structured framework for the regular evaluation of the laboratory's services' effectiveness, accessibility, and quality. This framework should include clear metrics, data collection methods, and analysis processes, engaging both internal stakeholders and external partners in the evaluation process.
- Initiate Community Feedback Mechanisms: Set up mechanisms to gather feedback from the community and healthcare providers regarding their experiences with the laboratory's

services. The feedback collected will be used to identify areas for improvement and to guide service enhancements.

Priorities:

- Continuous Improvement in Service Delivery: Prioritize the ongoing assessment and improvement of laboratory services to ensure they meet the highest standards of effectiveness, accessibility, and quality. This involves a commitment to leveraging data and feedback for making informed changes that enhance public health outcomes.
- Strengthening Stakeholder Engagement: Actively engage with a broad range of stakeholders, including healthcare providers, community organizations, and the public, to ensure the laboratory's services are responsive to community needs and challenges. This engagement will be crucial for developing services that are not only high quality but also accessible and effective at addressing the specific health concerns of the population served.

Essential Service #10: Research for New Insights and Innovative Solutions to Health Problems

Next Steps:

- Foster Partnerships for Research Initiatives: Actively seek and establish partnerships with academic institutions, healthcare organizations, and other research entities. These collaborations will aim to enhance the Public Health Laboratory's capacity for conducting research, especially in areas critical to public health, such as emerging infectious diseases, environmental health hazards, and public health informatics.

Priorities:

- Strengthening the Laboratory's Role in Public Health Research: Prioritize establishing the laboratory as a key player in public health research by leveraging partnerships, enhancing staff capabilities, and providing resources for innovative projects. This involves not just participating in research but leading efforts that contribute to new insights and solutions for health problems.
- Promoting Innovation in Public Health Practice: Focus on fostering an environment where innovative ideas are encouraged and tested. By supporting pilot programs and research projects internally, the Public Health Laboratory aims to develop and implement new technologies, methodologies, and practices that can significantly improve public health outcomes.

CONCLUSION

In January 2024, the Riverside Public Health Laboratory (RPHL) conducted its first-ever Laboratory System Improvement Program (L-SIP) assessment. This endeavor, a landmark for both Riverside County and the broader local laboratory community, has laid the groundwork for enhancing public health laboratory functionality. Through the collaborative efforts of 58 diverse stakeholders, including out-of-state contributors and representatives from neighboring counties, RPHL has now established a comprehensive baseline from which our laboratory system's performance, strengths, and opportunities for growth are clearly defined.

The L-SIP assessment meticulously evaluated our laboratory system across the Ten Essential Services of Public Health, providing a structured and insightful analysis that has been instrumental in shaping the laboratory's future. This report has not only highlighted our laboratory's achievements and resilience, particularly highlighting our laboratory's response to the COVID-19 pandemic but has also identified critical areas requiring our immediate attention and action.

Our findings are imperative to enhance communication and collaboration both within our laboratory and with our external partners. Recognizing the significance of clear, effective communication, we are committed to improving our communication strategies to facilitate better coordination and information sharing among our stakeholders. Moreover, the assessment highlights the importance of strengthening community partnerships, enhancing training accessibility, and prioritizing staff development. These elements are vital for the continuous improvement of our laboratory's capabilities and high-quality public health services.

Our next steps and priorities have been carefully formulated to address the identified needs across each of the Essential Services. From broadening educational outreach and establishing formal feedback mechanisms to fostering research initiatives and innovating solutions to health challenges, our action plan is both ambitious and achievable. We are set on a path to refine our existing strengths and bridge the gaps in our system through dedicated efforts in policy development, workforce competency, and the enforcement of health laws and regulations.

This report marks a significant milestone in the history of Riverside County's public health laboratory system. It is a testament to the dedication, expertise, and collaborative spirit of all those involved in the L-SIP assessment. We extend our deepest gratitude to all attendees, facilitators, note-takers, stakeholders, and readers for their invaluable contributions and insights. Your participation has been instrumental in paving the way for a brighter, healthier future for Riverside County.

As we move forward, the findings and recommendations outlined in this report will serve as a promise for our continuous journey towards excellence in public health laboratory services. Together, with commitment and collective action, we will advance our laboratory system to new heights, ensuring that it remains at the forefront of protecting and promoting the health and safety of our community.

APPENDICES

APPENDIX A:

LSIP Handouts and Outreach Materials

The following handouts were distributed to participants during the LSIP assessment held on January 24, 2024. These materials supported the discussions and reflected ongoing public health education efforts.

List of Items:

- LSIP Agenda
- Public Health Advisory Notice
- RPHL Testing List
- Title 17 – Reportable Conditions (CCR §2505)
- CDC Handout on Legionnaires’ Disease
- RPHL Laboratory Brochure
- 10 Essential Services Handout
- Definitions of a Public Health Lab System (Milwaukee Model)
- EDDI Digest
- Clerk-Recorder Informational Flyer
- RPHL Activity Handout
- Purple notebook, science sticker, science pin

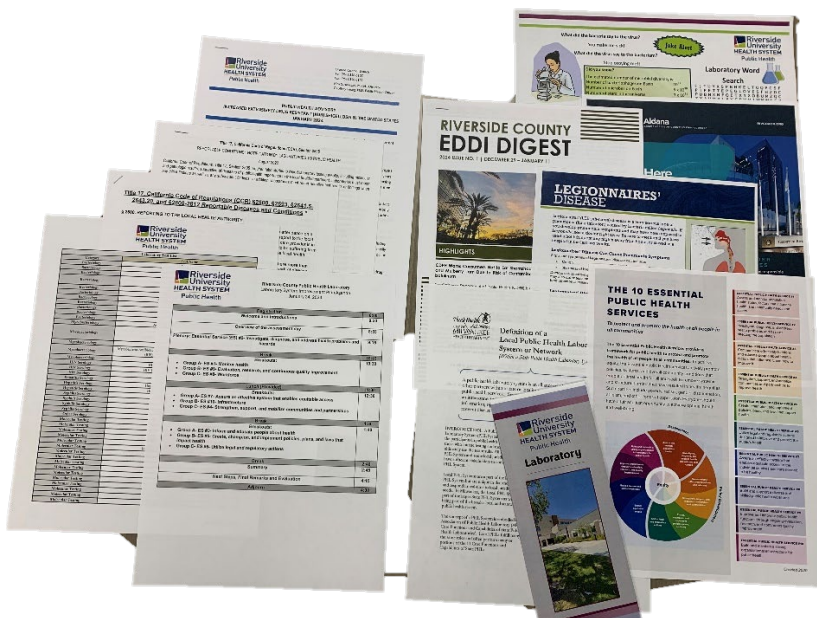


Figure A.0: Summary of LSIP Outreach Materials Distributed to Participants on January 24, 2024

Registration	8:00
Welcome and introductions	8:30
Overview of the assessment day	8:55
Plenary: Essential Service (ES) #2- Investigate, diagnose, and address health problems and hazards	9:15
Break	10:15
Breakouts:	10:30
- Group A- ES #1- Monitor health - Group B- ES #9- Evaluation, research, and continuous quality improvement - Group C- ES #8- Workforce	
Lunch (Provided)	11:30
Breakouts:	12:30
- Group A- ES #7- Assure an effective system that enables equitable access - Group B- ES #10- Infrastructure - Group C- ES #4- Strengthen, support, and mobilize communities and partnerships	
Break	1:30
Breakouts:	1:40
- Group A- ES #3- Inform and educate people about health - Group B- ES #5- Create, champion, and implement policies, plans, and laws that impact health - Group C- ES #6- Utilize legal and regulatory actions	
Break	2:40
Summary	2:45
Next Steps, Final Remarks and Evaluation	4:15
Adjourn	4:30

Figure A.1: LSIP Agenda

PUBLIC HEALTH ADVISORY
INCREASED EXTENSIVELY DRUG RESISTANT (XDR) SHIGELLOSIS IN THE UNITED STATES
JANUARY 2024

Riverside University Health System - Public Health (RUHS - PH) provides this guidance based on current information. Updated guidance will be issued as new information becomes available.

SITUATION UPDATE

During 2020-2023, there have been a total of fifteen (15) reported cases of extensively drug-resistant (XDR) *Shigella* infections (shigellosis) in Riverside County. All 15 cases occurred in men aged between 23-68 years and 93% (n=14) were residents of the Coachella Valley area. **Consider *Shigella* infection when diagnosing patients who present with cramps and/or bloody diarrhea, especially among men who have sex with men (MSM) living in the Coachella Valley area.**

Shigella is spread via the fecal-oral route through contaminated food or drink, water, fomites, or direct contact including intimate contact. CDC defines XDR *Shigella* bacteria as strains that are resistant to all commonly recommended empiric and alternative antibiotics – azithromycin, ciprofloxacin, ceftriaxone, trimethoprim-sulfamethoxazole (TMP-SMX), and ampicillin.

BACKGROUND

Shigella bacteria are transmitted by the fecal-oral route, directly through person-to-person contact including sexual contact, and indirectly through contaminated food, water, and other routes. *Shigella* bacteria are easily transmitted because of the low infectious dose (as few as 10–100 organisms), and outbreaks tend to occur among people in close-contact settings.

The Centers for Disease Control and Prevention (CDC) has been monitoring an increase in extensively drug-resistant (XDR) *Shigella* infections (shigellosis) reported through national surveillance systems.

In 2022, about 5% of *Shigella* infections reported to CDC were caused by XDR strains, compared with 0% in 2015. Clinicians treating patients infected with XDR strains have limited antimicrobial treatment options.

Figure A.2: Public Health Advisory Notice (Page 1 of 3)

Shigella bacteria are easily transmissible. XDR *Shigella* strains can spread antimicrobial resistance genes to other enteric bacteria. Given these potentially serious public health concerns, CDC asks healthcare professionals to be vigilant about suspecting and reporting cases of XDR *Shigella* infection to their local health department and educating patients and communities at increased risk about prevention and transmission. The CDC HAN is located at: <https://emergency.cdc.gov/han/2023/han00486.asp>

There has been an observed increase in antimicrobial resistant *Shigella* infections among adult populations especially:

- Gay, bisexual, and other men who have sex with men (MSM)
- People experiencing homelessness,
- International travelers,
- People living with HIV.

Most people with diarrheal illness require only supportive care and fluid replacement. Antimicrobial agents are not always needed for mild shigellosis, but they may be indicated to:

- Shorten the duration of illness (by about 2 days), or
- Reduce the likelihood of transmission, for example,
 - during outbreaks,
 - in institutional settings,
 - from food handlers,
 - to immunocompromised persons or those being treated with immunosuppressive drugs, and
 - to people living with HIV.

RECOMMENDATIONS FOR HEALTHCARE PROFESSIONALS

Consider shigellosis in the differential diagnosis of acute diarrhea, especially for patients at higher risk for *Shigella* infection including:

- Young children
- MSM
- People experiencing homelessness
- International travelers
- Immunocompromised persons
- People living with HIV

Figure A.2: (cont.) Public Health Advisory Notice (Page 2 of 3)

IF SHIGELLOSIS IS SUSPECTED

- Ask the patient about relevant exposures and social history, including sexual activity, housing status, and international travel.
- When ordering diagnostic testing for *Shigella*, stool culture is preferred for patients who will require antimicrobial treatment.
- Take a sexual history; test for other sexually transmitted diseases, including HIV, if indicated.

LABORATORY RECOMMENDATIONS

- If a culture-independent diagnostic test (CIDT) is performed instead of culture and *Shigella* bacteria are detected, request on sample submission that the clinical laboratory perform reflex culture.
- If a culture is positive for *Shigella*, order antimicrobial susceptibility testing (AST) to inform antimicrobial selection. CDC defines XDR *Shigella* bacteria as strains that are resistant to all commonly recommended empiric and alternative antibiotics – azithromycin, ciprofloxacin, ceftriaxone, trimethoprim-sulfamethoxazole (TMP-SMX), and ampicillin.
- All *Shigella* isolates or stool samples positive for *Shigella* by CIDT are required to be submitted to the local Public Health Laboratory per Title 17 as soon as possible. The isolate or specimen submission must include the patient's name, address, date of birth, identification number, specimen number or other unique identifier, specimen collection date, the name, address, and telephone of the health care provider. It must also include the name of the submitting laboratory, address, telephone number and the name of the laboratory director. Once identified, *Shigella* isolates are sent to the Microbial Diseases Laboratory of the California Department of Public Health (CDPH), for additional testing, including Whole Genome Sequencing (WGS).
- Hospitals performing antimicrobial susceptibility testing (AST) must ensure that the correct Minimum Inhibitory Concentration (MIC) assay is used and that it includes the following five antibiotics: azithromycin, ciprofloxacin, ceftriaxone, trimethoprim-sulfamethoxazole (TMP-SMX), and ampicillin.

For questions regarding specimen submission, please contact the RUHS-Public Health Laboratory at (951) 358-5070.

Clinical laboratories and healthcare providers are required to report all *Shigella* infections within one working day of identification. Reports should be faxed to (951) 358-5446 or submitted via CalREDIE for participating healthcare facilities.

RESOURCES:

CDPH Shigellosis Among Gay, Bisexual, and Other Men Who Have Sex with Men:

<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/ShigellosisMSM.aspx>

CDC Shigellosis - Gay, Bisexual, and Other Men Who Have Sex with Men (MSM):

<https://www.cdc.gov/shigella/msm.html>

CDC Shigellosis - Healthcare Providers:

<https://www.cdc.gov/shigella/audience-medical-professionals.html>

Figure A.2: (cont.) Public Health Advisory Notice (Page 3 of 3)

Fee Schedule			
Test Name	TAT	CPT Code	Fee 18/19
Bacteriology			
Culture STEC	4 days	87046	\$19.00
Culture Aerobic	7 days	87070	\$18.00
Culture Bordetella pertussis	7 days	87081	\$15.00
Culture Campylobacter	4 days	87046	\$19.00
Culture Enteric	4 days	87045	\$19.00
Culture for Identification	4 days (Preliminary Report)	87077	\$17.00
	3 weeks (Final Report)		
Culture Gonorrhea (GC)	4 days	87081	\$15.00
Culture Group A strep (Throat)	3 days	87081	\$15.00
Culture Group B strep (vaginal/rectal)	4 days	87081	\$15.00
Culture Salmonella/Shigella	4 days	87045	\$19.00
Shiga-toxin 1/2 EIA	24 hours	87427	\$11.00/11.00
Gram Stain	24 hours	87205	\$9.00
Mycobacteriology			
Acid Fast Smear (Auramine)	24 hours	87206	\$11.00
Culture TB/Non-TB Mycobacteria	21 days (Positive Culture)	87116	\$20.00
	6 weeks (Negative Culture)		
Concentration	NA	87015	\$14.00
MTB/RIF NAAT	24 hours	87556	\$75.00
Mycobacteria DNA Probe: Mtb complex probe, M. gordonae probe, M. kansasii probe, M. avium complex probe	NA	87149	\$41.00 each
Mycobacteria Antibiotic sensitivities: Streptomycin (STR), Isoniazid (INH), Rifampin (RIF), Ethambutol (EMB), Pyrazinamide (PZA)	28 days	87190	\$60.00
Mycobacteriology Identification	28 days	87143	\$56.00
QuantiFERON-TB	2 days	86480	\$40.00
HIV Serology			
HIV 1/2 Antigen/Antibody Combo Screen	24 hours (Negative)	87389/86706	\$28.00
HIV 1/2 Antibody Confirmation Differentiation	4 days (Positive)	86701/2	\$46.00
HIV 1 NAT (send-out to FBPHL)	7 days	87801	\$0.00
Hepatitis Serology			
Hepatitis A Total Antibody	5 days	86708	\$23.00
Hepatitis B Core Total Antibody (anti-HBc)	5 days	86704	\$25.00
Hepatitis B Surface Antibody (anti-HBs)	2 days	86706	\$22.00

Figure A.3: RPHL Testing List (Page 1 of 3)

Test Name	TAT	CPT Code	Fee 18/19
Syphilis Serology			
Syphilis Serum EIA Screen	2 days	86592	\$9.00
Syphilis RPR Qualitative	2 days	86592	\$9.00
Syphilis RPR Quantitative (Titer)	2 days	86593	\$9.00
Syphilis VDRL (CSF Only) Qualitative/Quantitative (Only for serum positive patients)	2/2 days	86592/3	\$9.00/\$9.00
Syphilis TPPA Confirmation	2 days	86780	\$27.00
Other Serology			
West Nile Virus IgM	7 days	86788	\$19.00
Molecular Testing			
Bordetella pertussis NAT	2 days	88879	\$50.00
Chlamydia (CT) NAT	2 days	87491	\$39.00
Gonorrhea (GC) NAT	2 days	87591	\$39.00
GC/CT NAT	2 days	87491/87591	\$78.00
Influenzae Virus A/B NAT	3 days	87797	\$23.00
Measles Virus NAT	7 days	88879	\$23.00
Mumps Virus NAT	7 days	88879	\$23.00
Norovirus NAT	7 days	87797	\$23.00
Shiga toxin NAT	7 days	88879	\$23.00
Herpes Virus			
Culture Virus (Herpes)	7 days	87252	\$53.00
FA Herpes Simplex Virus (HSV1/2)	2 days	87274/3	\$19.00/19.00
HSV 1/2 NAT (Lesion/Pustule ONLY)	7 days	87529	\$43.00
Parasitology			
FA Cryptosporidium/Giardia	2 days	87269/72	\$38.00
FA Pneumocystis carinii	2 days	87281	\$19.00
Fecal Leukocyte (WBC)	2 days	87205	\$9.00
Ova & Parasite - Concentration	NA	87177	\$18.00
Ova & Parasite - Trichrome	3 days	87209	\$37.00
ID of Parasite	24 hours	87169	\$5.00
Pinworm	24 hours	87172	\$5.00
Miscellaneous			
Blood Lead Screen	4 days	83655	\$25.00
FA Rabies	3 days	N/A	\$50.00
Culture Fungus (send-out to SBPHL)	5 days	87102	\$30.00
Fungus ID Mold (send-out to SBPHL)	5 days	87107	\$50.00
Fungus ID Yeast (send-out to SBPHL)	5 days	87106	\$50.00
Systemic Fungus Probe (send-out to SBPHL)	5 days	87797	\$100.00

Figure A.3: (cont.) RPHL Testing List (Page 2 of 3)

Fees for Other Laboratory Services		
Test Name	TAT	Fee 18/19
Instrument and Reagent Preparation		
Instrument Sterilization (per instrument)	3 days	\$2.53
Saline and KOH (per reagent)	3 days	\$6.60
Spore Test Quarterly Charge @ 28 weeks	3 days	\$18.86
Registration of Non-Diagnostic General Health Assessment Program		
Annual Operator/ Organization Registration		\$100.00
Additional Dates		\$12.00
Additional Program		\$43.00
Additional Site		\$20.00
Additional Personnel		\$12.00
Record Changes		\$12.00
Review Procedural Changes		\$20.00
Non Diagnostic General Health Assessment Consultation		\$75.00
Records Processing Fee		\$15.00
Records Copying Fee, per page		\$1.00
Certified Mail, per item		\$3.45
Certified Mail (Registered), per item		\$12.20

Updated 09/10/2019

Figure A.3: (cont.) RPHL Testing List (Page 3 of 3)

Title 17, California Code of Regulations (CCR) §2500, §2593, §2641.5-2643.20, and §2800-2812 Reportable Diseases and Conditions *

§ 2500. REPORTING TO THE LOCAL HEALTH AUTHORITY.

- **§ 2500(b)** It shall be the duty of every health care provider, knowing of or in attendance on a case or suspected case of any of the diseases or condition listed below, to report to the local health officer for the jurisdiction where the patient resides. Where no health care provider is in attendance, any individual having knowledge of a person who is suspected to be suffering from one of the diseases or conditions listed below may make such a report to the local health officer for the jurisdiction where the patient resides.
- **§ 2500(c)** The administrator of each health facility, clinic, or other setting where more than one health care provider may know of a case, a suspected case or an outbreak of disease within the facility shall establish and be responsible for administrative procedures to assure that reports are made to the local officer.
- **§ 2500(a)(14)** "Health care provider" means a physician and surgeon, a veterinarian, a podiatrist, a nurse practitioner, a physician assistant, a registered nurse, a nurse midwife, a school nurse, an infection control practitioner, a medical examiner, a coroner, or a dentist.

URGENCY REPORTING REQUIREMENTS [17 CCR §2500(h)(i)]

- ☎! = Report immediately by telephone (designated by a ♦ in regulations).
 † = Report immediately by telephone when two or more cases or suspected cases of foodborne disease from separate households are suspected to have the same source of illness (designated by a ● in regulations).
 ☎ = Report by telephone within one working day of identification (designated by a + in regulations).

FAX ☎☒ = Report by electronic transmission (including FAX), telephone, or mail within one working day of identification (designated by a + in regulations).

WEEK = All other diseases/conditions should be reported by electronic transmission (including FAX), telephone, or mail within seven calendar days of identification.

REPORTABLE COMMUNICABLE DISEASES §2500(i)

Disease Name	Urgency	Disease Name	Urgency
Anaplasmosis	WEEK	Listeriosis	FAX ☎☒
Anthrax, human or animal	☎!	Lyme Disease	WEEK
Babesiosis	FAX ☎☒	Malaria	FAX ☎☒
Botulism (Infant, Foodborne, Wound, Other)	☎!	Measles (Rubeola)	☎!
Brucellosis, animal (except infections due to <i>Brucella canis</i>)	WEEK	Meningitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic	FAX ☎☒
Brucellosis, human	☎!	Meningococcal Infections	☎!
Campylobacteriosis	FAX ☎☒	Middle East Respiratory Syndrome (MERS)	☎!
<i>Candida auris</i> , colonization or infection	☎	Monkeypox or orthopox virus infection	☎
Chancroid	WEEK	Mumps	WEEK
Chickenpox (Varicella)(Outbreaks, hospitalizations and deaths)	FAX ☎☒	Novel Coronavirus Infection	☎!

Figure A.4: Title 17 – Reportable Conditions (CCR §2505) (Page 1 of 4)

Disease Name	Urgency	Disease Name	Urgency
Chikungunya Virus Infection	FAX ☑	Novel Virus Infection with Pandemic Potential	☑
Cholera	☑	Paralytic Shellfish Poisoning	☑
Ciguatera Fish Poisoning	☑	Paratyphoid Fever	FAX ☑
Coccidioidomycosis	WEEK	Pertussis (Whooping Cough)	FAX ☑
Coronavirus Disease 2019 (COVID-19)	☑	Plague, human or animal	☑
Creutzfeldt-Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies (TSE)	WEEK	Poliovirus Infection	FAX ☑
Cryptosporidiosis	FAX ☑	Psittacosis	FAX ☑
Cyclosporiasis	WEEK	Q Fever	FAX ☑
Cysticercosis or taeniasis	WEEK	Rabies, human or animal	☑
Dengue Virus Infection	FAX ☑	Relapsing Fever	FAX ☑
Diphtheria	☑	Respiratory Syncytial Virus-associated deaths in laboratory-confirmed cases less than five years of age	WEEK
Domoic Acid Poisoning (Amnesic Shellfish Poisoning)	☑	Rickettsial Diseases (non-Rocky Mountain Spotted Fever), including Typhus and Typhus-like illnesses	WEEK
Ehrlichiosis	WEEK	Rocky Mountain Spotted Fever	WEEK
Encephalitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic	FAX ☑	Rubella (German Measles)	WEEK
<i>Escherichia coli</i> : shiga toxin producing (STEC) including <i>E. coli</i> O157	FAX ☑	Rubella Syndrome, Congenital	WEEK
Flavivirus infection of undetermined species	☑	Salmonellosis (Other than Typhoid Fever)	FAX ☑
Foodborne Disease	†FAX ☑	Scombroid Fish Poisoning	☑
Giardiasis	WEEK	Shiga toxin (detected in feces)	☑
Gonococcal Infections	WEEK	Shigellosis	FAX ☑
<i>Haemophilus influenzae</i> , invasive disease, all serotypes (report an incident less than 5 years of age)	FAX ☑	Smallpox (Variola)	☑
Hantavirus Infections	FAX ☑	Syphilis (all stages, including congenital)	FAX ☑
Hemolytic Uremic Syndrome	☑	Tetanus	WEEK
Hepatitis A, acute infection	FAX ☑	Trichinosis	FAX ☑
Hepatitis B (specify acute, chronic, or perinatal)	WEEK	Tuberculosis	FAX ☑
Hepatitis C (specify acute, chronic, or perinatal)	WEEK	Tularemia, animal	WEEK
Hepatitis D (Delta) (specify acute case or chronic)	WEEK	Tularemia, human	☑
Hepatitis E, acute infection	WEEK	Typhoid Fever, Cases and Carriers	FAX ☑

Figure A.4: (cont.) Title 17 – Reportable Conditions (CCR §2505) (Page 2 of 4)

Disease Name	Urgency	Disease Name	Urgency
Human Immunodeficiency Virus (HIV), acute infection	☉	Vibrio Infections	FAX ☉☑
Human Immunodeficiency Virus (HIV) infection, any stage	WEEK	Viral Hemorrhagic Fevers, human or animal (e.g., Crimean-Congo, Ebola, Lassa, and Marburg viruses)	☉I
Human Immunodeficiency Virus (HIV) infection, progression to stage 3 (AIDS)	WEEK	West Nile Virus (WNV) Infection	FAX ☉☑
Influenza-associated deaths in laboratory-confirmed cases less than 18 years of age	WEEK	Yellow Fever	FAX ☉☑
Influenza due to novel strains (human)	☉I	Yersiniosis	FAX ☉☑
Legionellosis	WEEK	Zika Virus Infection	FAX ☉☑
Leprosy (Hansen Disease)	WEEK	OCCURRENCE of ANY UNUSUAL DISEASE	☉I
Leptospirosis	WEEK	OUTBREAKS of ANY DISEASE (Including diseases not listed in §2500). Specify if institutional and/or open community.	☉I

HIV REPORTING BY HEALTH CARE PROVIDERS §2641.30-2643.20

Human Immunodeficiency Virus (HIV) infection at all stages is reportable by traceable mail, person-to-person transfer, or electronically within seven calendar days. For complete HIV-specific reporting requirements, see [Title 17, CCR, §2641.30-2643.20](#) and the [California Department of Public Health's HIV Surveillance and Case Reporting Resource page](#) (https://www.cdph.ca.gov/Programs/CID/DOA/Pages/OA_case_surveillance_resources.aspx)

REPORTABLE NONCOMMUNICABLE DISEASES AND CONDITIONS §2800–2812 and §2593(b)

Disorders Characterized by Lapses of Consciousness (§2800-2812)

Pesticide-related illness or injury (known or suspected cases) **

Cancer, including benign and borderline brain tumors (except (1) basal and squamous skin cancer unless occurring on genitalia, and (2) carcinoma in-situ and CIN III of the Cervix) (§2593) ***

LOCALLY REPORTABLE DISEASES (If Applicable):

* The Confidential Morbidity Report (CMR) is designed for health care providers to report those diseases mandated by Title 17, California Code of Regulations (CCR). The CMR form can be found here: [Communicable Disease Reporting Forms](#). Failure to report is a misdemeanor (Health & Safety Code §120295) and is a citable offense under the Medical Board of California Citation and Fine Program (Title 16, CCR, §1364.10 and 1364.11).

** Failure to report is a citable offense and subject to civil penalty (\$250) (Health and Safety Code

Figure A.4: (cont.) Title 17 – Reportable Conditions (CCR §2505) (Page 3 of 4)

§105200).

*** The Confidential Physician Cancer Reporting Form may also be used. See Physician Reporting Requirements for Cancer Reporting in CA on the [California Cancer Registry website](http://www.ccrca.org) (www.ccrca.org).

Revised 08/2022

Figure A.4: (cont.) Title 17 – Reportable Conditions (CCR §2505) (Page 3 of 4)

LEGIONNAIRES' DISEASE

Legionnaires' (LEE-juh-nares) disease is a very serious type of pneumonia (lung infection) caused by bacteria called *Legionella*. If you develop pneumonia symptoms and may have been exposed to *Legionella*, see a doctor right away. Be sure to mention if you have used a hot tub, spent any nights away from home, or stayed in a hospital in the last two weeks.

Legionnaires' Disease Can Cause Pneumonia Symptoms

Signs and symptoms of Legionnaires' disease can include:

- ▶ Cough
- ▶ Muscle aches
- ▶ Fever
- ▶ Shortness of breath
- ▶ Headache

Doctors use chest x-rays or physical exams to check for pneumonia. Your doctor may also order tests on a sample of urine and sputum (phlegm) to see if your lung infection is caused by *Legionella*.

Legionnaires' Disease Is Serious, but Can Be Treated with Antibiotics

Legionnaires' disease is treated with antibiotics (drugs that kill bacteria in the body). Most people who get sick need care in a hospital but make a full recovery. However, about 1 out of 10 people who get Legionnaires' disease will die from the infection.

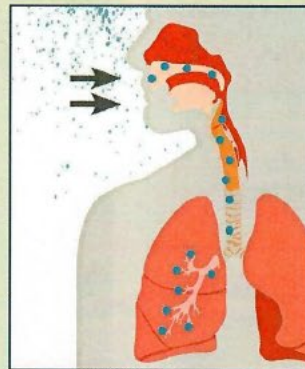
Certain People Are at Increased Risk for Legionnaires' Disease

Most healthy people do not get Legionnaires' disease after being exposed to *Legionella*. Being 50 years or older or having certain risk factors can increase your chances of getting sick. These risk factors include:

- ▶ Being a current or former smoker
- ▶ Having chronic lung disease, such as emphysema or chronic obstructive pulmonary disease (COPD)
- ▶ Having a weakened immune system from diseases like cancer, diabetes, or kidney failure
- ▶ Taking medication that weakens your immune system

Legionella Are Usually Spread through Water Droplets in the Air

In nature, *Legionella* live in fresh water and rarely cause illness. In man-made settings, *Legionella* can grow if water is not properly maintained. These man-made water sources become a health problem when small droplets of water that contain the bacteria get into the air and people breathe them in. In rare cases, someone breathes in *Legionella* while they are drinking water and it "goes down the wrong pipe" into the lungs. In general, people do not spread Legionnaires' disease to other people.



Legionnaires' disease, a type of severe pneumonia, is caused by breathing in small droplets of water that contain *Legionella*.

Common Sources of Infection

Outbreaks of Legionnaires' disease are often associated with large or complex water systems, like those found in hospitals, hotels, and cruise ships.

The most likely sources of infection include:

-  Water used for showering (potable water)
-  Cooling towers (parts of large air conditioning systems)
-  Decorative fountains
-  Hot tubs

cdc.gov/legionella

CS267416-A 07/18/2016



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

Figure A.5: CDC Handout on Legionnaires' Disease

Career Opportunities

The Public Health Lab offers a variety of career pathways:

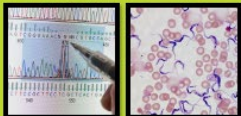
- Administrative/Clerical
- Lab Assistants & Technicians
- Public Health Microbiologists (PHM)
- Informatics

Public Health Microbiologist Training Program

The Riverside County Public Health Lab offers a 6-month PHM training program to become California certified Public Health Microbiologist. For more information, go to <https://www.caphd.org/public-health-microbiologist-train/>. To apply for a trainee position, subscribe to the Public Health Microbiologist I position on the HR website and a notification will be sent once the position is open.

Volunteer/Internship Opportunities

The Public Health Lab accepts volunteers (ages 18 and up) and interns to learn more about the public health laboratory. We also participate with the Association of Public Health Laboratories (APHL) Public Health Laboratory Internship Program. Please send email to phladmin@ruhealth.org if you are interested.







Public Health Laboratory
4065 County Circle Drive
Riverside, CA 92503

Phone: 951-358-5070
Fax: 951-358-5015
Website: ruhealth.org




Mission Statement

The mission of the Riverside University Health System - Public Health Laboratory is to provide accurate, timely, and cost-effective laboratory testing to aid in the diagnosis and control of communicable diseases.

History

The first Public Health Lab in Riverside County was established in 1951 and used to mainly test for syphilis and gonorrhea. Since then, the lab has moved locations and expanded, with 2022 marking the latest expansion by doubling the facility to approximately 10,000 square feet.

Future

The Public Health Lab will be working on improving surveillance with new sequencing technologies and will be implementing Hospital Acquired Infections/Antibiotic Resistance (HAI/AR) and wastewater surveillance programs.





Regulations

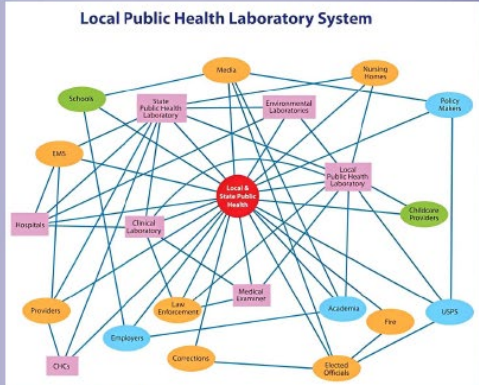
Local public health laboratories follow California Regulations & Federal—Clinical Laboratory Improvement Amendments of 1988 (CLIA) regulations. These regulations are meant to monitor the quality and accuracy of public health lab testing and results.

Title 17

Under the California Code of Regulations, Title 17 mandates public health professionals, medical providers, and others to report approximately 85 diseases or conditions to Riverside County Public Health and are required to send the following specimens/isolates to the Public Health Laboratory such as:

- Malaria positive blood film slides
- N. meningitidis eye specimens
- Shiga toxin-positive fecal broths
- Zika IgM positive sera
- Drug resistant N. gonorrhoeae isolates
- L. monocytogenes isolates
- M. tuberculosis isolates
- Salmonella isolates
- Shiga toxin-producing E. coli (STEC) isolates
- Shigella isolates

Local Public Health Laboratory System



Core & Daily Functions

The Public Health Lab has over 70 submitters from various community partners such as Animal Control, Community Health Clinics, Juvenile Halls, and Medical Centers. The laboratory collects as many as 50,000 specimens a year, averaging 3,000 to 4,000 specimens a month. From rabies

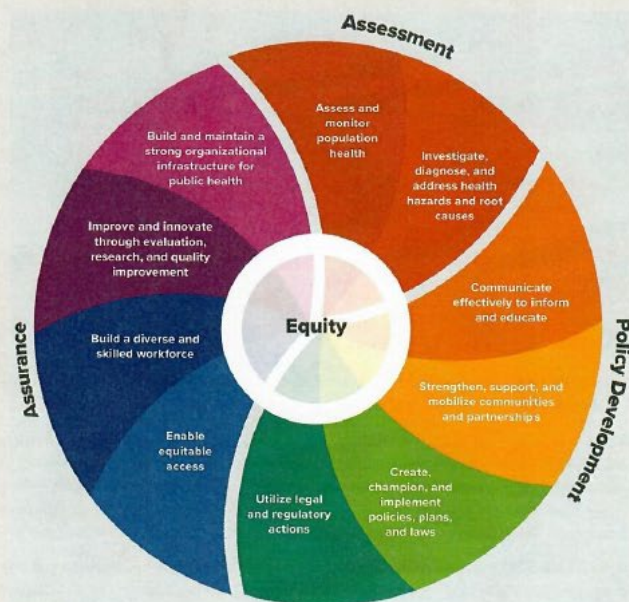
to environmental testing, the public health labs is an integral member in the community. The lab will often refer specimens to the California Department of Public Health (CDPH) and Centers for Disease Control and Prevention (CDC).

Figure A.6: RPHL Laboratory Brochure front and back

THE 10 ESSENTIAL PUBLIC HEALTH SERVICES

To protect and promote the health of all people in all communities

The 10 Essential Public Health Services provide a framework for public health to protect and promote the health of all people in all communities. To achieve equity, the Essential Public Health Services actively promote policies, systems, and overall community conditions that enable optimal health for all and seek to remove systemic and structural barriers that have resulted in health inequities. Such barriers include poverty, racism, gender discrimination, ableism, and other forms of oppression. Everyone should have a fair and just opportunity to achieve optimal health and well-being.



ESSENTIAL PUBLIC HEALTH SERVICE #1

Assess and monitor population health status, factors that influence health, and community needs and assets

ESSENTIAL PUBLIC HEALTH SERVICE #2

Investigate, diagnose, and address health problems and hazards affecting the population

ESSENTIAL PUBLIC HEALTH SERVICE #3

Communicate effectively to inform and educate people about health, factors that influence it, and how to improve it

ESSENTIAL PUBLIC HEALTH SERVICE #4

Strengthen, support, and mobilize communities and partnerships to improve health

ESSENTIAL PUBLIC HEALTH SERVICE #5

Create, champion, and implement policies, plans, and laws that impact health

ESSENTIAL PUBLIC HEALTH SERVICE #6

Utilize legal and regulatory actions designed to improve and protect the public's health

ESSENTIAL PUBLIC HEALTH SERVICE #7

Assure an effective system that enables equitable access to the individual services and care needed to be healthy

ESSENTIAL PUBLIC HEALTH SERVICE #8

Build and support a diverse and skilled public health workforce

ESSENTIAL PUBLIC HEALTH SERVICE #9

Improve and innovate public health functions through ongoing evaluation, research, and continuous quality improvement

ESSENTIAL PUBLIC HEALTH SERVICE #10

Build and maintain a strong organizational infrastructure for public health

Created 2020

Figure A.7: 10 Essential Services Handout



Definition of a Local Public Health Laboratory¹ System or Network (Within a State Public Health Laboratory System^{2,3})

A public health laboratory system is an alliance of laboratories and other partners within a state or locality that supports the ten essential public health services. System members and stakeholders operate in an interconnected and interdependent way to facilitate the exchange of information, optimize laboratory services, and help control and prevent disease and public health threats.

INTRODUCTION. A Public Health Laboratory System (PHL System) consists of all the participants in public health testing, including those who initiate testing and those who ultimately use the test results. All states have a PHL System and some local jurisdictions may have sufficient stakeholders to convene a Local PHL System.

Local PHL Systems are a part of the larger State PHL System but are unique in that they support and respond in real-time to local jurisdictional needs. In Milwaukee, the Local PHL System is a part of the larger State PHL System as well as being part of the broader local and statewide public health system.

The concept of a PHL System is embodied in the Association of Public Health Laboratory (APHL) Core Functions and Capabilities of State Public Health Laboratories⁴. Local PHLs fulfill many of the same roles and often perform many or portions of the 11 Core Functions and Capabilities of State PHLs.

The PHL System (local or state) includes individuals, organizations and agencies that are involved in assuring that laboratory testing and data support the 10 Essential Services of Public Health⁵.

More in-depth information on these topics can be found at the APHL website at www.aphl.org.

STAKEHOLDERS. Primary stakeholders and partners that make up the Local PHL System are those who are directly involved in creating and using laboratory data. Partners include epidemiologists; first responders; environmental professionals in water, food and air surveillance activities; private clinical and environmental laboratories; and other local public health professionals and laboratories. Additional stakeholders include those who are concerned with complementary Essential Services such as Workforce Development and Education and Public Health Related Research.

A successful National Laboratory System⁶ is dependent on the creation of fully integrated and coordinated networks at the state and local level.

Figure A.8: Definitions of a Public Health Lab System (Milwaukee Model) (page 1 of 2)

FUNCTIONS. PHL Systems (local and state) assure that:

1. Public health threats are detected and intervention is timely;
2. Stakeholders are appropriately informed of potential threats;
3. Reportable conditions are monitored;
4. Specimens and isolates for public health testing are sufficient to provide comprehensive public health surveillance and response; and
5. Public health laboratory data are transmitted to appropriate local, state and federal agencies responsible for disease surveillance and control.

The PHL (local and state) has a leadership role in developing and promoting the system through active collaboration with system stakeholders. The PHL provides leadership to assure that essential and state-of-the-art laboratory services are provided and that clinical laboratories that perform public health testing on reportable infectious diseases submit results to the public health surveillance system using state and national testing guidelines.

THE LOCAL PHL SYSTEM. The Local PHL monitors essential components of the Local PHL System and assures that accurate results are reported in a manner that assures an effective public health response. A successful Local PHL System requires proactive leadership to monitor public health testing processes by clinical laboratories.

To assure that the Local PHL System is effective, the Local PHL should at a minimum:

1. Maintain an integrated information system that includes all stakeholders that rely on accurate laboratory data;
2. Define a public health laboratory system coordinator;

3. Create a standing public health laboratory advisory committee; and

4. Provide an interactive website or other electronic system to maintain regular communication channels for system partners.

Local PHL Systems differ but complement State PHL Systems in several important ways including:

1. Providing and prioritizing testing at the site of patient care and/or addressing local environmental issues;
2. Supporting the mission of local public health departments;
3. Serving as surge capacity for State PHLs, particularly for testing in support of emergency response.
4. Typically being co-located in the local public health agency and working as a team with investigators, inspectors and community and public health professionals to provide rapid and relevant responses to community needs.
5. Strong ties and proximity to the community it serves.

Adapted from APHL's "Definition of a State Public Health Laboratory System," June 2010.

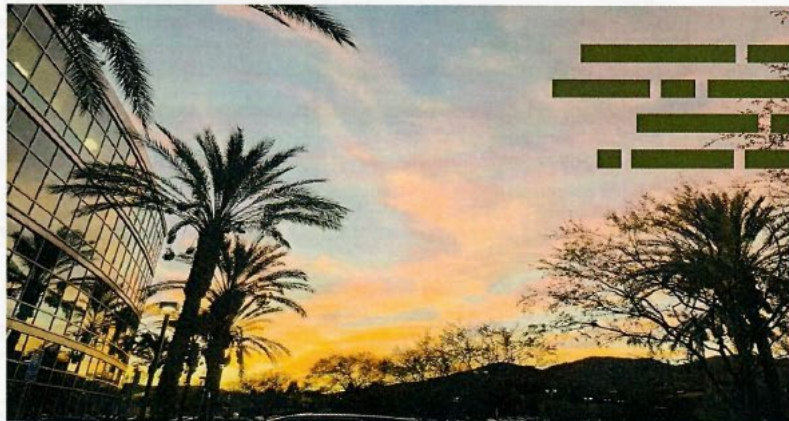
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1. The Role of Local Public Health Laboratories. Public Health Reports. 125:2010.
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3. The State Public Health Laboratory System. Public Health Reports. 125:2010.
4. MMWR. September 20, 2002/51 (RR14); Core Functions, etc.
5. <http://www.cdc.gov/od/ocphp/nphlsp/essentialphservices.htm>
6. www.cdc.gov/mlp/nls.aspx

Figure A.8: (cont.) Definitions of a Public Health Lab System (Milwaukee Model) (page 2 of 2)

RIVERSIDE COUNTY EDDI DIGEST

2024 ISSUE NO. 1 | DECEMBER 29 – JANUARY 11



HIGHLIGHTS

CDPH Warns Consumers Not to Eat Shemshad's Mulberry Molasses and Mulberry Jam Due to Risk of Contamination with Clostridium botulinum

The California Department of Public Health (CDPH) is warning consumers not to eat Shemshad's Mulberry Molasses and Mulberry Jam food products due to potential Clostridium botulinum contamination. Products were sold at grocery stores in southern California including Woodland Hills Market in Woodland Hills, Q Market in Van Nuys, and Wholesome Choice Market in Irvine. The product was produced outside of the CDPH Cannery Program oversight, making them susceptible to contamination with Clostridium botulinum. Ingestion of botulism toxin from improperly processed jarred and canned foods may lead to serious illness and death.

At this time, Shemshad, based in Los Angeles, has not yet voluntarily recalled its Mulberry Molasses and Mulberry Jam products. This product is under the Shemshad brand name in 16-ounce glass jars with screw-on metal lids. The product is dated "APR 25 2025." CDPH has issued a Notice of Violation to Shemshad, and Shemshad may be subject to further action up to and including license revocation.

Page 1
Epidemiology and Program Evaluation

IN THIS ISSUE

Local

- None

California

- CDPH warns risk of contamination with Clostridium botulinum in jarred products

National

- Increased pertussis cases in Suffolk County
- Shigella cluster hits Portland's homeless community
- Philadelphia announces possible measles exposure
- Charcuterie meats recalled due to high volume of Salmonella infection

International

- Increase of Legionnaires' disease cases in Sydney

Figure A.9: EDDI Digest 2024 Issue No. 1 (page 1 of 6)

Botulism is a rare but serious illness caused by a toxin that is produced by the bacterium *Clostridium botulinum* that attacks the body's nerves and causes difficulty breathing, muscle paralysis, and even death. The initial symptoms frequently experienced are double or blurred vision, drooping eyelids, and dry or sore throat. Progressive descending paralysis, usually symmetrical, may follow. Additional symptoms may include slurred speech, difficulty swallowing, inability of the neck muscles to support the head, paralysis of the extremities and respiratory muscles may occur. Infants with botulism appear lethargic, feed poorly, are constipated, have a weak cry, and poor muscle tone.

Recommended Actions:

Consumers experiencing any ill effects after consuming this product should consult their healthcare provider. Consumers who observe the product being offered for sale are encouraged to report the activity to the CDPH toll-free complaint line at (800) 495-3232.

- (1) Consumers who have any of this product or any foods made with this product should discard them immediately.
- (2) Double bag the jars in plastic bags that are tightly closed then place in a trash receptacle for non-recyclable trash outside of the home.
- (3) Wear rubber or latex gloves, if possible, when handling these products
- (4) Wash your hands with soap and running water for at least two minutes after handling any food or containers that may have been contaminated.

Source: [CDPH-1/4/2024](#)

Rise in Pertussis Cases in Suffolk County

NY Suffolk County Health Commissioner said that Suffolk County Department of Health Services is tracking a growing number of pertussis cases. The vast majority of the 108 currently reported cases are school-aged children (and their parents) who attend school districts throughout the region. Most of the individuals who have contracted the infection are vaccinated, therefore their symptoms are milder than would be expected in unvaccinated persons. The county is not aware of any hospitalizations due to this pertussis outbreak.

Pertussis, otherwise known as whooping cough, is a respiratory tract infection caused by *Bordetella pertussis* bacteria. Pertussis is highly contagious, spreading through the air when infected people cough or sneeze. The most common symptoms are cough, nasal congestion and fever. Cough can worsen and last several weeks. Infants, especially unvaccinated or incompletely vaccinated, are the most likely to have severe disease or have complications such as pauses in breathing, pneumonia, convulsions, disease affecting the brain, or death.

Most people recover slowly with antibiotics. However, the best method to prevent or lessen the severity of disease is through vaccination. Routine vaccination against pertussis is recommended for all children and adults. The DTaP vaccine for children and Tdap vaccine for adults protect against pertussis as well as two other serious infections: tetanus and diphtheria. Tdap vaccination is also recommended for pregnant women during every pregnancy to protect their babies from whooping cough in the first few months of life.

Recommended Actions:

Anyone who has symptoms consistent with pertussis should stay home and contact a healthcare provider for evaluation and testing. Early treatment with antibiotics is important for reducing the severity of symptoms, especially in infants. People diagnosed with pertussis should stay home from work or school until they have completed five days of antibiotic treatment to avoid spreading pertussis to others.

Figure A.9: (cont.) EDDI Digest 2024 Issue No. 1 (page 2 of 6)

Certain persons should receive preventive antibiotics if they have been in contact with someone who is ill with pertussis, to help prevent them from getting sick. Such persons include those at risk for severe illness, including people with weakened immune systems, infants, and women in their third trimester of pregnancy. Persons who live with someone diagnosed with pertussis/ whooping cough should also receive preventive antibiotics.

- 1) Cover your mouth and nose with a tissue when you cough or sneeze.
- 2) Put used tissue in the waste basket.
- 3) Cough or sneeze into your upper sleeve or elbow, not your hands, if you don't have a tissue.
- 4) Wash your hands often with soap and water for at least 20 seconds.
- 5) Use an alcohol-based hand rub if soap and water are not available.

Sources: [Suffolk County 12/30/2023](#) & [CDC 8/8/2022](#)

Shigella Cases on the Rise in Portland's Homeless Community

Portland, Oregon, is grappling with a cluster of a highly infectious illness that spreads through fecal matter and puts the city's large homeless population at high risk. According to Multnomah County health officials, an increase in Shigella cases in the Portland metro area has been observed, however, the risk to the broader public remains low at this time and there are no measures for most folks to take at this time.

Portland and surrounding areas closed out 2023 with 227 documented Shigella cases. 45 of them occurred in December alone. The CDC describes Shigella as bacteria found in fecal matter that can infect someone if ingested. The illness can cause people to experience bloody and prolonged diarrhea, fever, stomach pain, and "feeling the need to pass stool (poop) even when the bowels are empty."

Shigella can be spread through sex, drinking contaminated water, changing diapers or caring for someone sick with the illness. The data provided by Multnomah County shows that Shigella cases have increased in recent years, skyrocketing in 2023 by 131% compared to 2021 in counties surrounding Portland.

Homeless individuals in Portland have accounted for a large portion of those infected, Oregon Public Broadcasting reported last month, with health leaders finding that sex was likely the most common way the bacteria was spreading. Many of the cases have unfolded in Portland's Old Town neighborhood, though a spokesperson for the Multnomah County Health Department has said there is no clear geographic pattern to cases to indicate the illness is isolated to a single area of the city. Multnomah County is providing temporary housing at hotels and motels for homeless people infected by the illness, so they have the most support to recover and decrease the chance of spreading their infection. Those with the illness have the option to decline the temporary housing; the county said no one is required to quarantine or isolate themselves.

Recommended Actions:

Multnomah County health officials have urged the general public to not be alarmed by the recent cluster, unless they are part of a specific demographic most likely affected by the illness. In general, the spread of Shigella is best interrupted by the following:

- (1) Wash hands often, especially after using the bathroom or changing diapers.
- (2) Do not share or prepare food for others.
- (3) Avoid swimming or other recreational water activities for at least two weeks after recovery.
- (4) Avoid sexual activity for at least two weeks after you no longer have diarrhea.
- (5) Stay home from school or from healthcare, food service, or childcare jobs while sick or until your health department says it's safe to return.

Figure A.9: (cont.) EDDI Digest 2024 Issue No. 1 (page 3 of 6)

Routine HIV or sexual health (including PrEP) visits are an opportunity to educate patients about Shigella as an infection that can be spread during sexual activity.

- (1) Shigella is a germ that is spread by getting fecal matter in your mouth. It typically causes fever, crampy stomach pain, tiredness and at least two days of diarrhea, which can be bloody.
- (2) Make sure to wash hands well before eating or preparing food.
- (3) Avoid sexual activity if you have diarrhea now or have had it in the last two weeks.
- (4) Avoid sexual activity with partners who have diarrhea now or have had it in the last two weeks.
- (5) These behaviors may lower the risk of passing Shigella during sex:
 - a. Wash your penis, scrotum, anus, and hands with soap and water before and after sexual activity.
 - b. Use condoms or dental dams during oral sex and oral-anal sex and use latex gloves during contact between hands/fingers and anus.
 - c. Wash any sex toys with soap and water before and after use.

Sources: [Fox News 1/5/2024](#) & [Multnomah County Clinician Alert 11/30/2023](#)

Philadelphia Health Officials Warn of Measles Outbreak

The Philadelphia Department of Public Health (PDPH) reported six confirmed cases that originated at Children's Hospital of Philadelphia. The two latest cases occurred after one of the initial cases disregarded quarantine recommendations and attended daycare. PDPH announced they are working to contact people who could have been exposed at specific dates and times at six locations in Philadelphia. As of January 5, officials say there are six confirmed cases and three presumed cases.

Philadelphia health officials strongly recommend anyone who might have been exposed to quarantine, stay at home, stay away from others, and get vaccinated or get caught up with vaccinations.

Measles is transmitted by direct contact with infectious droplets or by airborne spread when an infected person breathes, coughs, or sneezes. Measles virus can remain infectious in the air for up to two hours after an infected person leaves an area. Symptoms include high fever, cough, runny nose, red, watery eyes (conjunctivitis), and generally appear about seven to fourteen days after a person is infected. Two or three days after symptoms begin, tiny white spots may appear inside the mouth. Three to five days after symptoms begin, a rash breaks out. It usually lasts five-six days before fading. The Philadelphia Health Department recommends anyone who may have been exposed to someone with measles or who is showing symptoms to stay home and contact their healthcare provider.

Recommended Actions:

The best protection against measles is the measles-mumps-rubella (MMR) vaccine. MMR vaccine provides long-lasting protection against all strains of measles.

- (1) Two doses of MMR vaccine is usually given at 12-15 months of age and again at 4-6 years of age.
- (2) Infants traveling internationally should receive one dose of measles-mumps-rubella (MMR) vaccine before travel. This dose does not count as the first dose in the routine childhood vaccination series.
- (3) Adults with no evidence of immunity against measles should get at least one dose of MMR vaccine.

Healthcare providers should consider measles in patients presenting with febrile rash illness and clinically compatible measles symptoms, especially if the person recently traveled internationally or was exposed to a person with febrile rash illness. Health care providers are required to report suspected measles cases to their local health department.

Sources: [CBS News 1/5/2024](#), [ABC News 1/5/2024](#) & [CDC 11/05/2020](#)

Figure A.9: (cont.) EDDI Digest 2024 Issue No. 1 (page 4 of 6)

Recalled Charcuterie Meats Linked to Multi-State Salmonella Outbreak

Certain charcuterie meat items have been recalled that were delivered to Sam's Club distribution sites in Georgia, Illinois, Indiana, Minnesota, North Carolina, Ohio, Oklahoma, and Texas. So far, at least 24 people have become ill in 14 states, with five requiring hospitalizations. No deaths reported.

Fratelli Beretta USA, Inc. has recalled approximately 11,000 pounds of ready-to-eat charcuterie trays offered under the Buseto Foods brand as a sampling of prosciutto, sweet soppressata, and dry coppa. The 18-ounce trays contain the lot code L075330300 and a "best by" date of April 27, 2024. Each product is sold in a twin pack of two 9-ounce trays.

According to a news release from the CDC, the meat items bear the establishment numbers "EST. 7543B" inside the United States Department of Agriculture's mark of inspection and "EST. #47967." The CDC reported that Salmonella was discovered in an unopened sample of the item collected by the Minnesota Department of Agriculture. Officials added that tests are being conducted to identify whether the Salmonella detected in the sample is the outbreak strain.

Most Salmonella infections cause diarrhea, fever, and stomach pains. Symptoms typically appear 6 hours to 6 days after consuming the bacteria. Most patients recover without treatment within 4 to 7 days without antibiotics. People who are sick with a Salmonella infection should drink extra fluids as long as diarrhea lasts.

Some people, particularly children under the age of five, seniors 65 and older, and those with compromised immune systems, may develop more serious illnesses requiring medical care or hospitalization and may require antibiotics. Visit the [Salmonella Questions and Answers page](#) to learn more about Salmonella.

Recommended Actions:

- **Check your fridge for recalled products.** Do not eat them. Throw recalled products away or return products to where they were purchased.
 - Wash surfaces and containers that may have touched the recalled product using hot soapy water or a dishwasher.
- **Call your healthcare provider** right away if you have any of these severe Salmonella symptoms:
 - Diarrhea and a fever higher than 102°F.
 - Diarrhea for more than 3 days that is not improving.
 - Bloody diarrhea.
 - So much vomiting that you cannot keep liquids down.
 - Signs of dehydration, such as:
 - Infrequent Urination.
 - Dry mouth and throat.
 - Feeling dizzy when standing up.

Visit the [Salmonella Questions and Answers page](#) to learn more about Salmonella.

Sources: [Komo News 1/5/2024](#), [CNN News 5/5/2024](#) & [CDC 1/5/2024](#)

Figure A.9: (cont.) EDDI Digest 2024 Issue No. 1 (page 5 of 6)

Legionnaires Disease Outbreak in Sydney Reaches 10 Cases as Authorities Search for Source

It has been advised that those who have recently visited Sydney's Central Business District (CBD) should watch out for signs of legionnaires' disease. Ten individuals who contracted the disease were in the city between December 15, 2023, and December 23, 2023. Ten individuals have been found to have the legionella bacteria, which causes Legionnaires' Disease (LD), due to the current outbreak. They consist of three women and four men, ages twenty to seventy, as well as three more individuals who were left out of the original health notice. Between December 15 and 23, the ten individuals visited different parts of the Sydney CBD on their own, namely Bathurst Street, Sussex Street, Elizabeth Street, and Circular Quay. All of them are receiving treatment for pneumonia after being admitted to the hospital.

Legionella germs are frequently connected with contaminated cooling towers in large buildings. These systems cool buildings by circulating water through a heat exchanger that could potentially bring in dust and dirt. The current Sydney cluster may be ascribed to the Christmas holiday when various buildings shut down. The cooler weather also allows air conditioning to be switched off, and when cooling towers are switched off for longer periods of time, legionella may grow and spread when they are switched back on.

Fever, chills, cough, and shortness of breath are among the symptoms. In addition, some individuals may have headaches, diarrhea, fatigue, and muscle aches. Legionnaires' disease may lead to severe chest infections such as pneumonia. It can also affect the liver, kidneys, or heart. Symptoms can develop up to 10 days from the time of exposure to contaminated water particles in the air.

Recommended Actions:

There are no vaccines that can prevent LD. Instead, the key to preventing LD is to reduce the risk of Legionella growth and spread. Building owners and managers can use a water management program to reduce the risk of Legionella growing and spreading. Building water systems and devices that might grow and spread Legionella include:

- (1) Showerheads and sink faucets.
- (2) Cooling towers (structures that contain water and a fan as part of centralized air-cooling systems for buildings or industrial processes).
- (3) Hot tubs.
- (4) Decorative fountains and water features.
- (5) Hot water tanks and heaters.
- (6) Large, complex plumbing systems.

CDC encourages people to utilize the toolkit for controlling Legionella in common sources of exposure.

Sources: [The Guardian 1/4/2024](#) & [CDC 12/20/2022](#)

CONTACT US

For questions or comments: a.mitry@ruhealth.org

For news article submission: hjin@ruhealth.org

Acknowledgement

- Front-page photo by Krystal Silguero

Figure A.9: (cont.) EDDI Digest 2024 Issue No. 1 (page 6 of 6)



Peter Aldana

COUNTY OF RIVERSIDE ASSESSOR-COUNTY CLERK-RECORDER

RIVCOACR.ORG

We're Here to Serve You.

Here at the ACR, our team of dedicated professionals aspire to make the **"business of life"** easier for you.

ASSESSOR SERVICES

The Assessor's primary responsibility is to value taxable property. The Assessor locates all taxable property in Riverside County, identifies the owners, and describes the property.

COUNTY CLERK SERVICES

The County Clerk's services range from issuing marriage licenses to filing Fictitious Business Names (FBNs). In addition, the County Clerk performs marriage ceremonies.

RECORDER SERVICES

The Recorder is responsible for providing the public with constructive notice of private acts and creating and maintaining custody of permanent land and vital records for all documents filed and recorded in Riverside County.

Our Locations:

RIVERSIDE GATEWAY

2724 Gateway Dr. Riverside, CA 92507

RIVERSIDE DOWNTOWN

4080 Lemon St. 1st Floor Riverside, CA 92501

HEMET

880 N. State St.
Suite B-6, Hemet, CA
92543

PALM DESERT

38-686 El Cerrito Rd,
Palm Desert, CA 92211

TEMECULA

41002 County Center Dr. #230
Temecula, CA 92591

BLYTHE

270 N Broadway,
Blythe, CA 92225



ACR-Communications@asrclrec.com • Assessor (951) 955-6200 • County Clerk-Recorder (951) 486-7000

Figure A.10: Clerk-Recorder Informational Flyer

Public Health & Public Health Laboratories

In the past century, public health initiatives have improved lives worldwide, including increasing life expectancy by almost 30 years in the United States. Public health protects and improves the health of individuals, families, communities, and populations, locally and globally.



How you can help:

Contact your local health department. Find out if there are any local efforts to improve public health data systems and if they are looking for input from community members like you.

Keep learning about public health data and data systems. The more you know about data and data systems, the more you will be able to advocate for ways to improve them.

Make your voice heard to improve the public health of your community. Attend town halls, city council meetings, or other

forums to give your opinion on what should be done to improve your community's health.

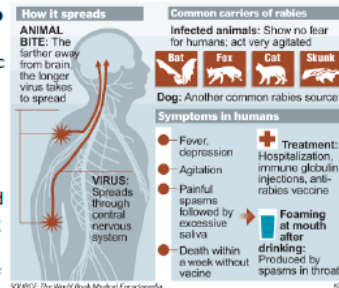
Public health laboratories (PHLs) are governmental reference labs that protect the public against diseases and other health hazards. Public health laboratories—which also include environmental and agricultural laboratories—form the backbone of a national laboratory network on alert 24/7 to respond to novel strains of disease, natural disasters, chemical spills, foodborne outbreaks and other health emergencies.

Rabies

Did you know?

Riverside County Public Health Lab is the only authorized facility for rabies testing in the county.

In 2023, the PHL tested 441 specimens ranging from domestic pets to wild animals. A total of 13 samples from bats were confirmed positive for rabies in the past year.



What did the bacteria say to the virus?

You make me sick!

What did the virus say to the bacterium?

Stop copying me!!



Draw my better half



Rhinovirus



Salmonella typhimurium



Bacteriophage T4 (virus)



Joke Alert

Did you know?

Viruses that infect bacteria are known as bacteriophages, or simply phages. Bacteriophages cannot infect us or any other multicellular organisms. Bacteriophage infection is often lethal to the host bacterial cell it infects. The infected bacterial cell bursts open to release the newly formed viral particles.

Laboratory Word

Search

F J T U Y X S P B H K E L T O P C S F
P I P E T T E P E G L O V E S F H Z D C
P U B N X N F Q E T X Y X O B U M Z Q C
Z Y A U M P L A V C R W M J W N W K C Z
W U C E K I H M C H I I D I E G D U M L
L M T R U M C X R E J M D L V U P P I U
M A E E O U B R R I M V E I V S W Q C V
T D R S P G D R O W T A D N S V N I R I
H G I U T U L J B B I Z S S S H E Y O R
A P A R A M B A I T I Q L K M I F N S U
U A L V Q B J L B L E O T O T G Z Y C S
I R A E D F U W I A A S L B O N L T O Z
Z A W I I S E Q Y C S B T O E V E P P D
T S U L C F V Z A I H S O T G A Y L E R
D I Y L C L H W A G P E I R U I K S D N
B T B A V J V X U W J L A S A B S E G A
M E R N A Z Y G B E A O F L T T E T R J
W H Y C G I S F D V B J P S T A O W C U
P N B E G E C G L A B C O A T H N R N V
X U P S X H D P Z Q D M G F R U M T Y E

Microbiologist	Public Health	Lab Assistant
Surveillance	Laboratory	Microscope
Petri Dish	Test Tube	Face Mask
Specimen	Bacteria	Lab Coat
Gloves	Beaker	Pipette
Virus	Parasite	Fungus

Figure A.11: RPHL Activity Handout front and back

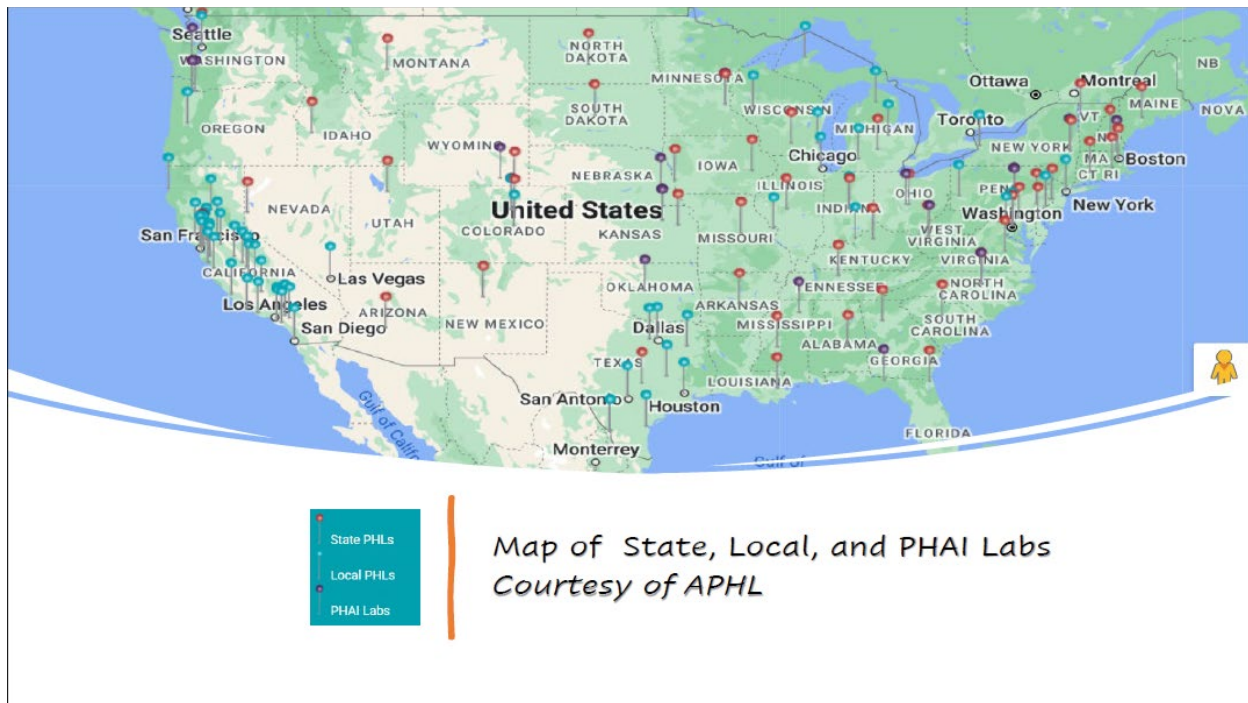
APPENDIX B:

LSIP Presentation Slides

The following slide deck was used during the January 24, 2024 LSIP assessment session to introduce the goals, provide context, and guide participant discussion. Printed copies were made available to those who requested visual aids. The presentation includes 20 slides.



Figure B.1: Title & Public Health Laboratory Fact Slides



California Health and Safety Code

- Health and Safety Code stipulates that Municipal and County Laboratories:
 - For the purpose of **protecting the community and public health**, the **local health department** of a city or county shall **have available the services of a public health laboratory** for the **examination of specimens** from suspected cases of infectious and environmental disease, that may include, but need not be limited to, the examination of specimens from milk, milk products, waters, food products, vectors, and the environment. The public health laboratory shall also provide analyses required to **assist in community disease surveillance** and to meet the responsibilities and **support the programs of the local health department**.

Source: CA Health & Safety Code § 101150 (2022)

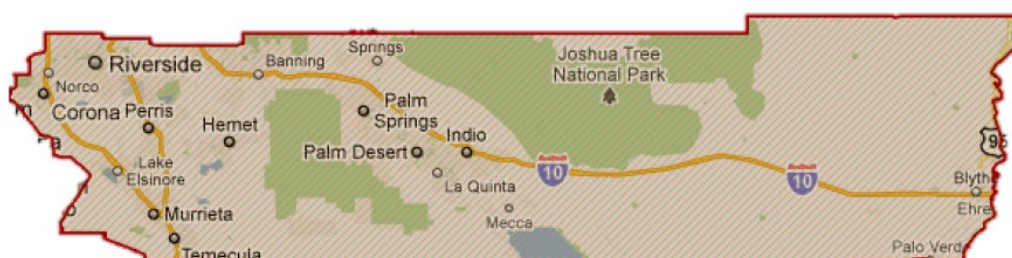


Figure B.2: State Lab Map and CA Health Code Overview

California Code of Regulations

- The official public health laboratory shall consist of a principal public health laboratory and may include **branch public health laboratories**.
 - a. The principal public health laboratory is the laboratory facility that provides the major or total laboratory services to a public health department.
 - b. A branch public health laboratory is any laboratory facility that provides **minor or auxiliary laboratory services**.

Source: 17 CA ADC § 1076.1



Riverside County

- Population: 2.5 Million residents
- 7,200 square miles = Fourth-largest county in California
- Tenth largest county in the United States
- Spanning from the greater Los Angeles Area to the Arizona border



Figure B.3: CA Lab Regulations Definitions and Geographic Context for Riverside County

Mission

The mission of the Riverside University Health System – Public Health Laboratory is to provide accurate, timely, and cost-effective laboratory testing to aid in the diagnosis and control of communicable diseases.



History

1926

The County of Riverside Department of Public Health was established.

1951

The first Public Health Laboratory for Riverside County was established in 1951 and primarily tested for syphilis and gonorrhea.

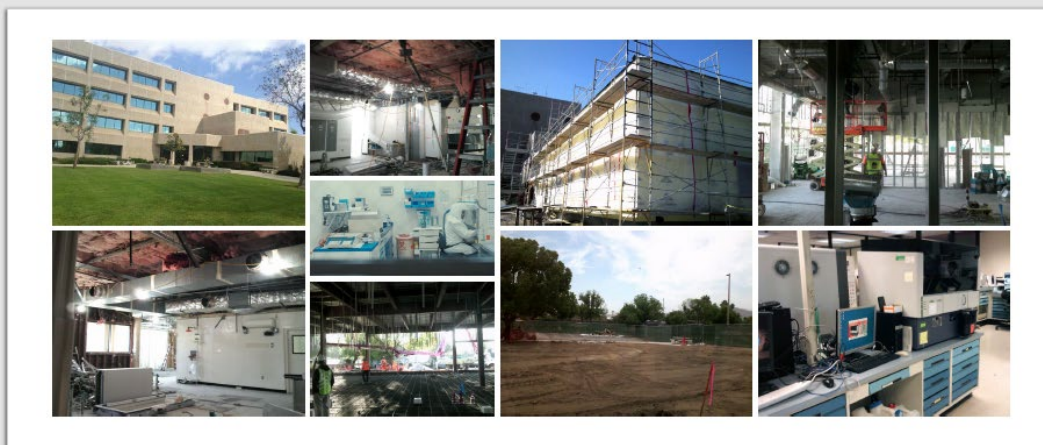
1982

In 1982, the lab was moved to its present-day location at the Health Administration Building.

2019

In 2019, the lab began renovation to update to a BSL3 laboratory. The lab remained operational throughout construction and the pandemic.

Figure B.4: RUHS-PHL Mission and Key Historical Events (1926 – 2019)



Before



Present-Day

Figure B.5: Before and Present-Day Images of RUHS-PHL

Community Impact

Community Partners

- Over 70 submitters
- Such as:
 - Animal Control
 - Disease Control
 - Regional Hospitals
 - Community Health Centers
 - Sheriff - Coroners
 - Juvenile Corrections
- Fellow Southern California reference labs

Community Impact

Categories	Tests
Bacteriology	12
Hepatitis Serology	3
HIV Serology	3
Molecular Testing	29
Mycobacteriology	6
Mycology/Fungus	3
Other Serology	1
Parasitology	6
Rabies Virus	1
Syphilis Serology	4
Grand Total	68

Testing Capability

- Receive approximately 50,000 specimens a year
- Averaging 3,000 – 4,000 specimens a month
- Unique tests at PHL
 - Only Rabies testing provider in county
 - Environmental testing
- Expanding test menu with recent and future equipment purchases
- Route specimens to California Department of Public Health or CDC for additional testing when needed

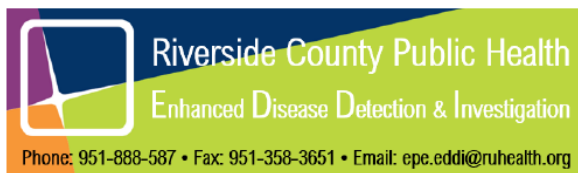
Figure B.6: Community Impact – Partners and Testing Capability

Community Impact

Surveillance

- Work in conjunction with Epidemiology and Disease Control to monitor disease burden in the community
- Current Surveillance programs:
 - Respiratory Illnesses
 - Influenza A/B
 - Respiratory Syncytial Virus
 - SARs-CoV-2
 - Hospital Acquired Infections (Future)
 - Environmental (Future)
 - Wastewater

**Riverside County
Collaborative
Efforts**



Riverside County EDDI Digest

- EDDI stands for Enhanced Disease Detection & Investigation
- Shares important local, state, national, and international public health issues on a biweekly basis
- Riverside County reports first flu-associated death of a child
- Riverside County Public Health reports two flu deaths
 - Riverside County health officials urge residents to take steps to protect themselves from influenza and other respiratory illnesses, including getting vaccinated.

Figure B.7: Community Impact – Surveillance Programs and EDDI Collaboration

Riverside County Collaborative Efforts



Legionnaires' Disease Outbreak in Desert region 2022

- Legionnaires' is a serious type of pneumonia (lung infection)
- A few signs & symptoms include:
 - Cough
 - Shortness of breath
 - Muscle aches
 - Headache
 - Fever
- Spread through water droplets in the air
- Can be naturally found in fresh water
- Can occur in any bodies of water if not properly maintained such as pools, cooling towers, and drinking water

Collaboration among Center for Disease Control & Prevention, California Department of Public Health, and Environmental Health

- Nearly two dozen cases of Legionnaires' disease identified in the Coachella Valley
- Two deaths connected to the illness
- Required inspection of cooling towers, spas, pools, sprinklers, and more with the assistance of Environmental Health
- Resulted in the temporary closures of 6 businesses affecting local hotels, resorts, and a country club in the area



Riverside County Collaborative Efforts

Rabies Surveillance

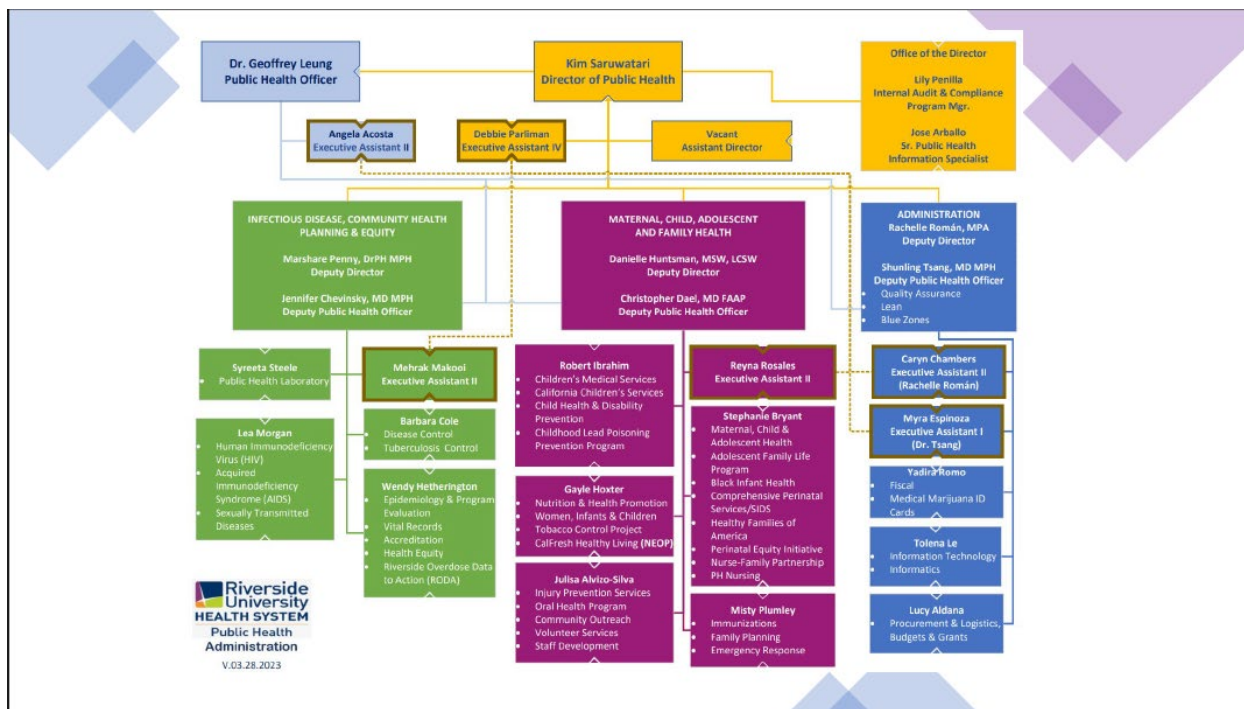


Collaboration among Animal Control, California Department of Public Health



Out of 400 samples submitted, only 13 bats were positive in 2023

Figure B.8: Riverside County Collaborative Efforts – Legionnaires' Outbreak and Rabies Surveillance



Personnel

- 2 Supervising PHMs
- 2 PHM III
- 5 PHM II
- 2 PHM I
- 2 Lab Information Sys Admin
- 1 Bioinformaticist
- 1 Outreach Manager
- 1 Executive Assistant
- 1 Office Assistant
- 8 Lab Assistants/Lab Tech
- 2 APLH Fellows

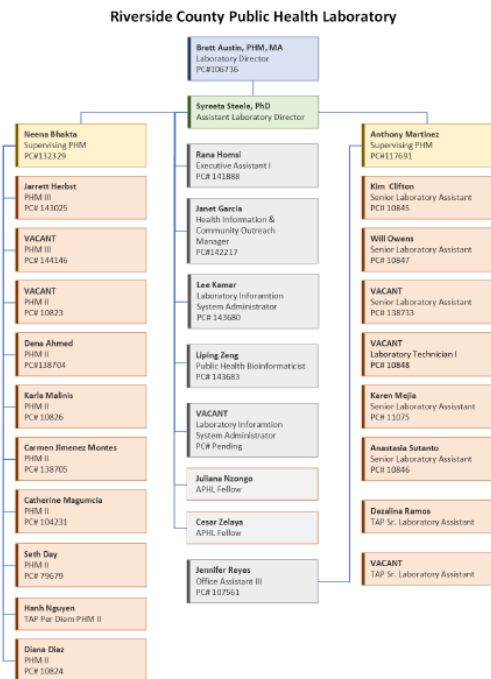
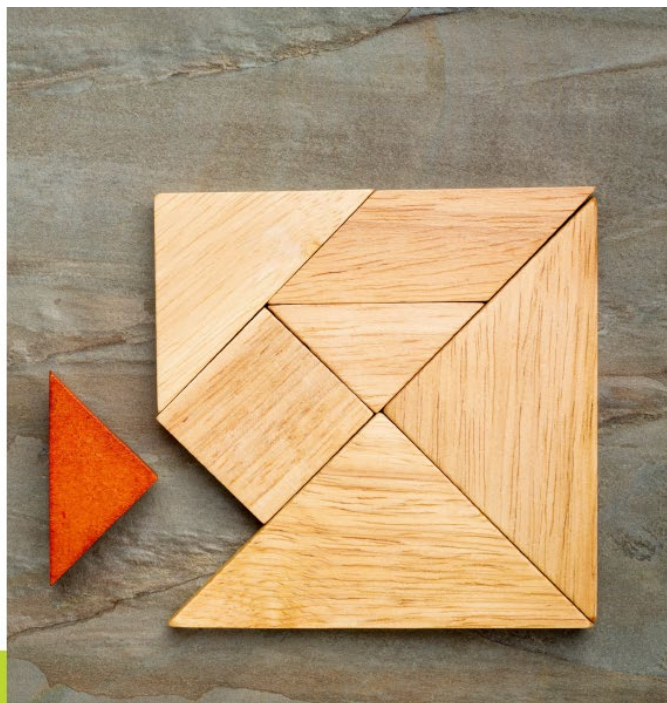


Figure B.9: Organizational Structure and Laboratory Personnel Breakdown

In Summary

Public Health Laboratories:

- Detect infectious diseases
- Monitor infectious diseases
- Help to prevent infectious diseases from spreading
- We are infectious disease detectives
- We make up one piece of a significant puzzle



THANK YOU

Contact Information:

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Assistant Laboratory Director
s.steele@ruhealth.org

Janet Garcia, MPH
Health Information & Community Outreach Manager
janet.garcia@ruhealth.org

Figure B.10: Public Health Laboratory Summary and Contact Information

APPENDIX C:

LSIP Participant Evaluation Survey

The following is the original paper version of the participant evaluation survey distributed during the LSIP assessment session on January 24, 2024. The electronic version contained the same questions and was accessible via QR code.

Distribution Method:

- Paper copies were handed out during the in-person session.
- An identical electronic version was made available via a QR code for participants who preferred to complete the survey digitally.

Use of Results:

Survey responses were used to:

- Assess participant knowledge and satisfaction
- Identify strengths and gaps in current communication
- Inform future public health laboratory outreach and improvement efforts

The following pages include a copy of the survey as provided to attendees, followed by a summary of results collected.

Riverside Co. PH Laboratory System Improvement Plan Participant Evaluation Survey

January 24, 2024

We appreciate your feedback and take your suggestions seriously. Please rate the following categories and add comments at the conclusion of each section.

Ratings

Please rate your responses on a 5-point scale by selecting the applicable item.

1. Unity of Meeting

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Stated Objectives of meeting were met	☐	☐	☐	☐	☐
Dialogue was useful	☐	☐	☐	☐	☐
I support the efforts being made	☐	☐	☐	☐	☐
Next steps are clear	☐	☐	☐	☐	☐
Meeting was a good use of my time	☐	☐	☐	☐	☐

2. Meeting Arrangements

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Advance notice of the meeting	☐	☐	☐	☐	☐
Meeting room accommodations	☐	☐	☐	☐	☐
Advance materials for meeting were useful	☐	☐	☐	☐	☐
Advance materials were received with time to review	☐	☐	☐	☐	☐



Figure C.1: Blank Participant Evaluation Survey (Paper and Electronic Format) (page 1 of 3)

3. Flow of Meeting

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Started on time	☐	☐	☐	☐	☐
Clear objectives for meeting	☐	☐	☐	☐	☐
Agenda followed or appropriately amended	☐	☐	☐	☐	☐
Facilitation was effective	☐	☐	☐	☐	☐
The "right" audience were at the meeting	☐	☐	☐	☐	☐

Overall

Please write in detail your responses.

4. What worked well in the L-SIP?

5. What could be improved in the L-SIP?



Figure C.1: (cont.) Blank Participant Evaluation Survey (Paper and Electronic Format) (page 2 of 3)

6. Would you participate in this process again?

☐ Yes

☐ No

☐ Maybe

7. Was the L-SIP a helpful tool and process to better understand the Public Health System?

☐ Yes

☐ No

8. Include any additional comments:

Thank you for filling out our survey!

We appreciate your feedback and time for participating. If you would like to fill out this survey electronically, you are also welcome to utilizing the following QR code or URL link: <https://forms.office.com/g/4dLkq7DKMw>

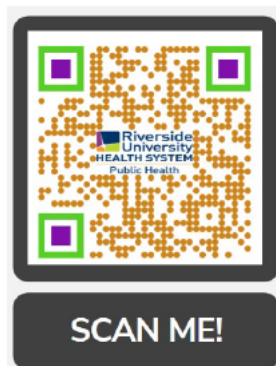


Figure C.1: (cont.) Blank Participant Evaluation Survey (Paper and Electronic Format) (page 3 of 3)

Survey Results Summary

A total of 44 responses were collected using both the paper and electronic versions of the LSIP Participant Evaluation Survey.

This section summarizes the responses and is organized into two parts:

1. Quantitative Analysis

- Responses to scaled (Likert-style) questions.
- Metrics include satisfaction, clarity, engagement, and perceived value.
- Visual representations are provided where applicable.

2. Qualitative Feedback

- Highlights recurring themes from open-ended questions.
- Provides insight into:
 - What participants appreciated most.
 - Suggestions for improvement.
 - Additional recommendations for future L-SIP events.

Question # 1

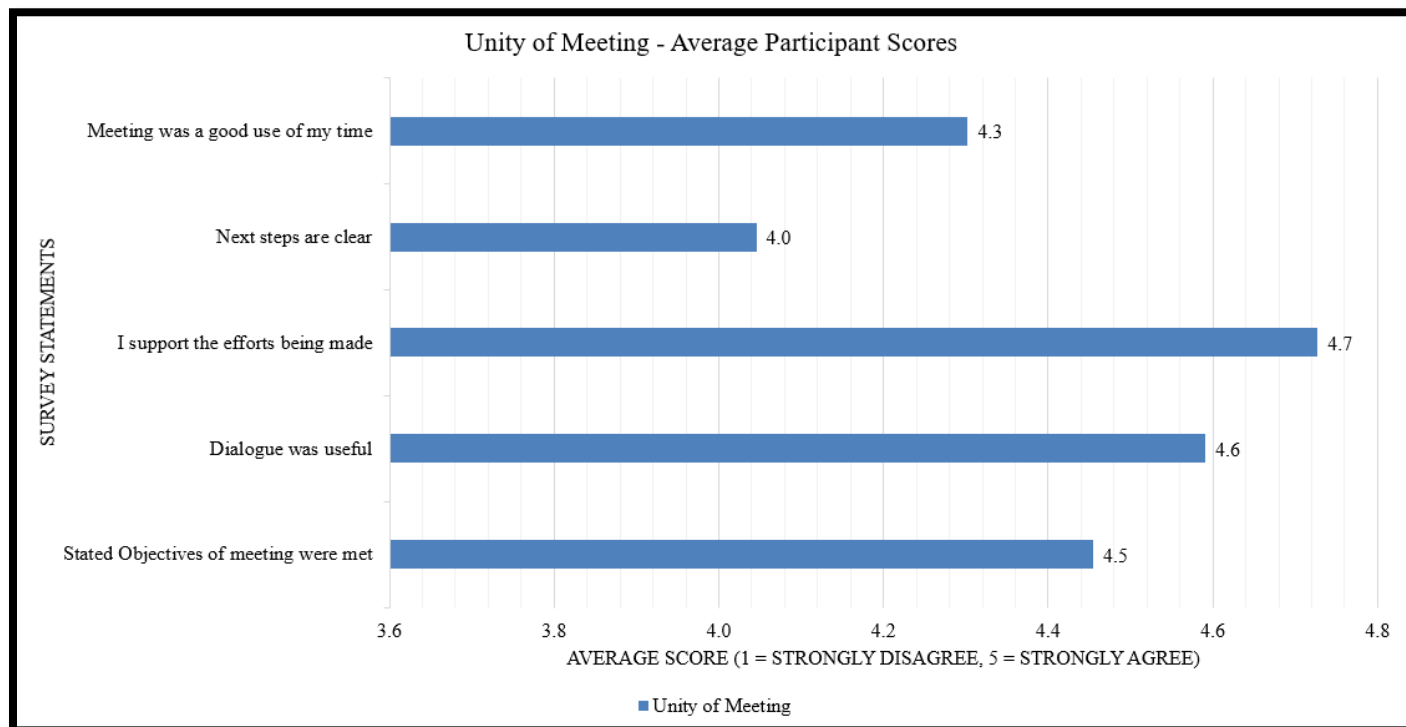


Figure A1. Average Participant Scores for Unity of Meeting Survey Statements (n = 44). Participants rated each statement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The highest-rated statement was "I support the efforts being made" (4.7), while "Next steps are clear" received the lowest average score (4.0).

Question # 2

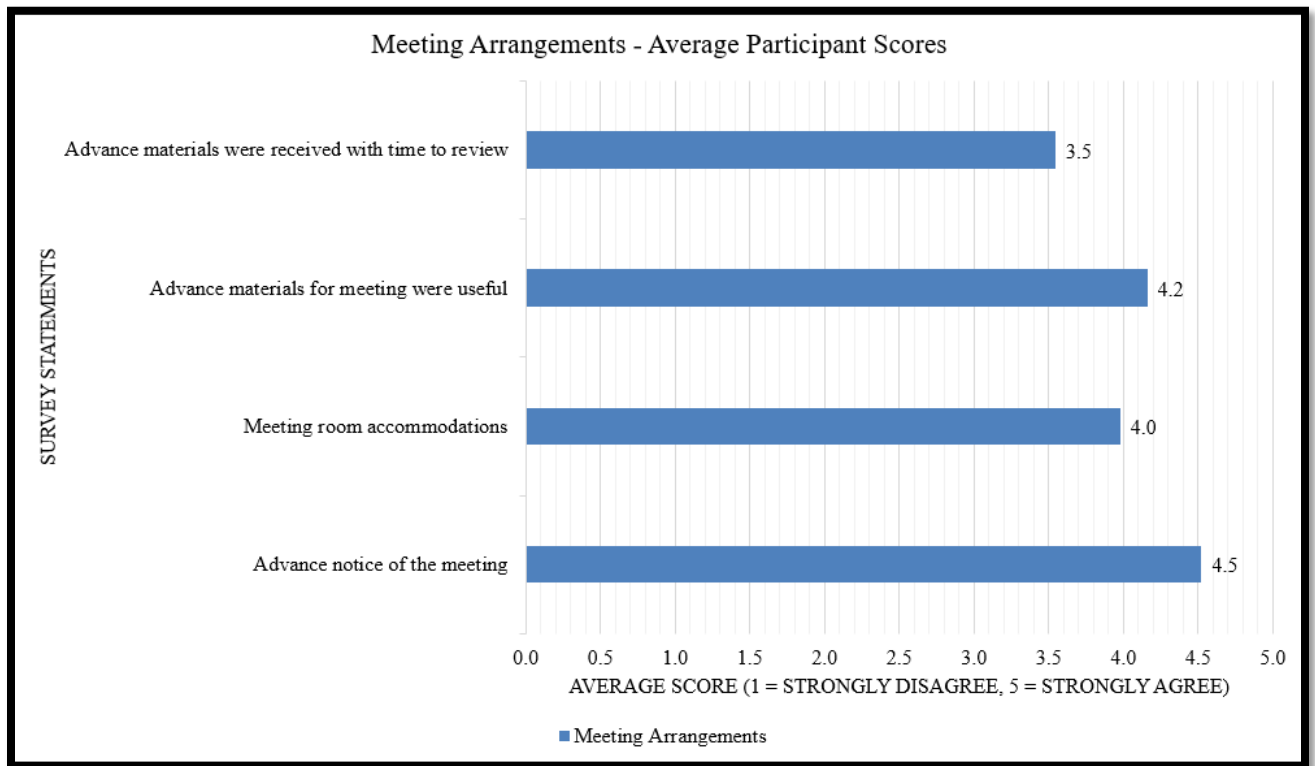


Figure A2. Average Participant Scores for Meeting Arrangements Survey Statements (n = 44). Participants rated statements from 1 (Strongly Disagree) to 5 (Strongly Agree). "Advance notice of the meeting" scored highest (4.5), while "Advance materials were received with time to review" had the lowest average score (3.5).

Question # 3

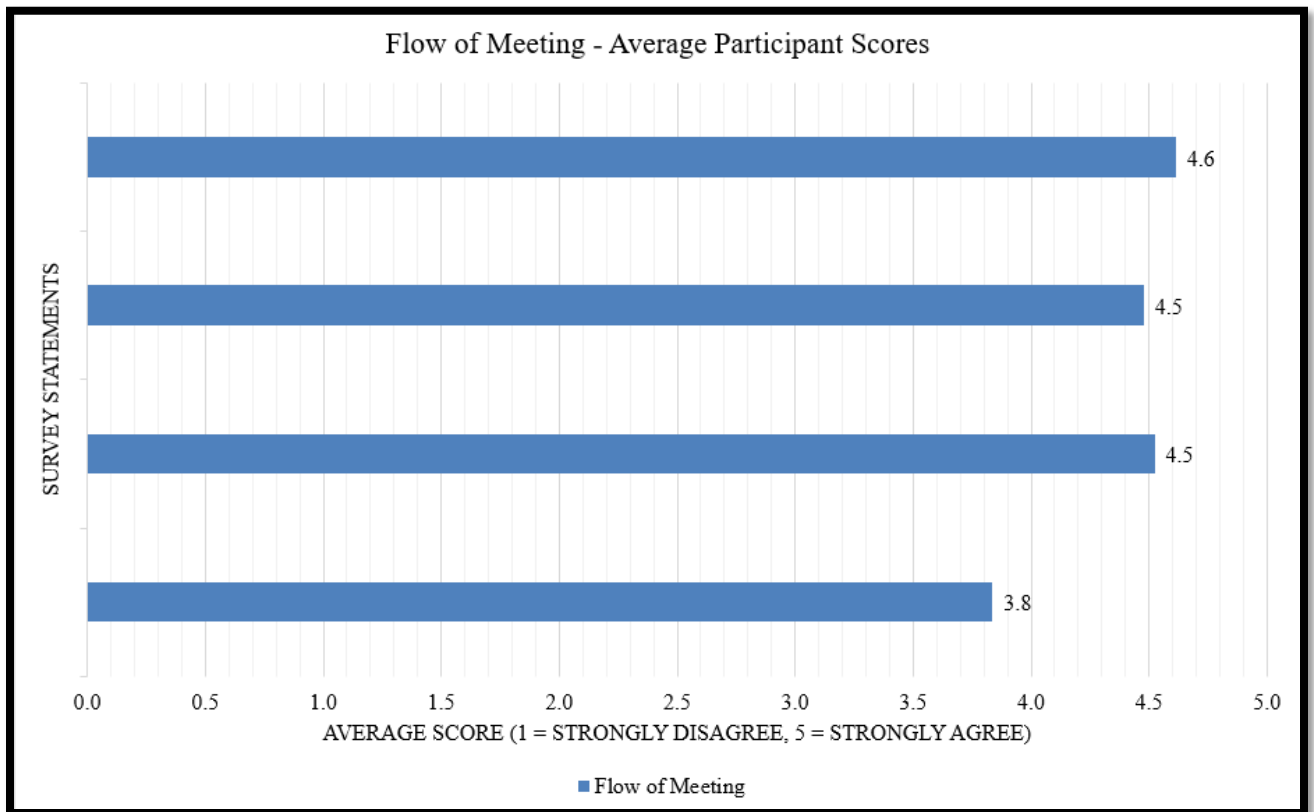


Figure A3. Average Participant Scores for Flow of Meeting Survey Statements (n = 44). Participants rated statements on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The highest-rated aspect was “The pace of the meeting was appropriate” (4.6), while “Instructions for activities were clear” received the lowest average score (3.8).

Question # 4

What worked well in the L-SIP?

Theme	Comments
Breakout Sessions	“The breakout sessions were great opportunities for discussion.” “Small groups were great.”
Facilitation	“Great Facilitator.” “Facilitated conversations were very informative.”
Diverse Representation	“Good representation from all walks/areas/powers.” “Diversity among groups allowed meaningful conversations.”
Networking Opportunities	“Good networking opportunity and helpful to hear perspectives.” “Connecting everyone to discuss issues.”
Materials/Organization	“Well organized.” “Handouts and facilitation.”

Table A1. Summary of Participant Comments on What Worked Well in the L-SIP Meeting.

This table presents qualitative themes derived from open-ended responses to Question 4 of the LSIP Participant Evaluation Survey (n = 44). It categorizes positive feedback and suggestions for improvement by theme, accompanied by representative participant comments.

Question # 5

What could be improved in the L-SIP?

Theme	Comments
Pre-Meeting Context	“Provide agenda ahead of time and give information about the meeting.” “More context before meeting.”
Room & Audio Logistics	“Room was so small—hard to hear speaker.” “Separate rooms for breakout groups to ease communication.”
Broader Representation	“More insight from outside perspectives.” “This was very lab heavy, the system is larger.”
Meeting Structure & Flow	“Clarify group assignments.” “Instructions in the beginning could be more clear.”
Clarifying Rating System	“Clarify what each rating means—many were confused by the percentage ranges.”
Other Suggestions	“Show charts from previous L-SIPs.” “Better fidget toys.” “Shorten meeting length if possible.”

Table A2. Summary of Participant Comments on Areas for Improvement in the L-SIP Meeting.

This table presents qualitative themes derived from open-ended responses to Question 5 of the LSIP Participant Evaluation Survey (n = 44). It categorizes positive feedback and suggestions for improvement by theme, accompanied by representative participant comments.

Question # 6

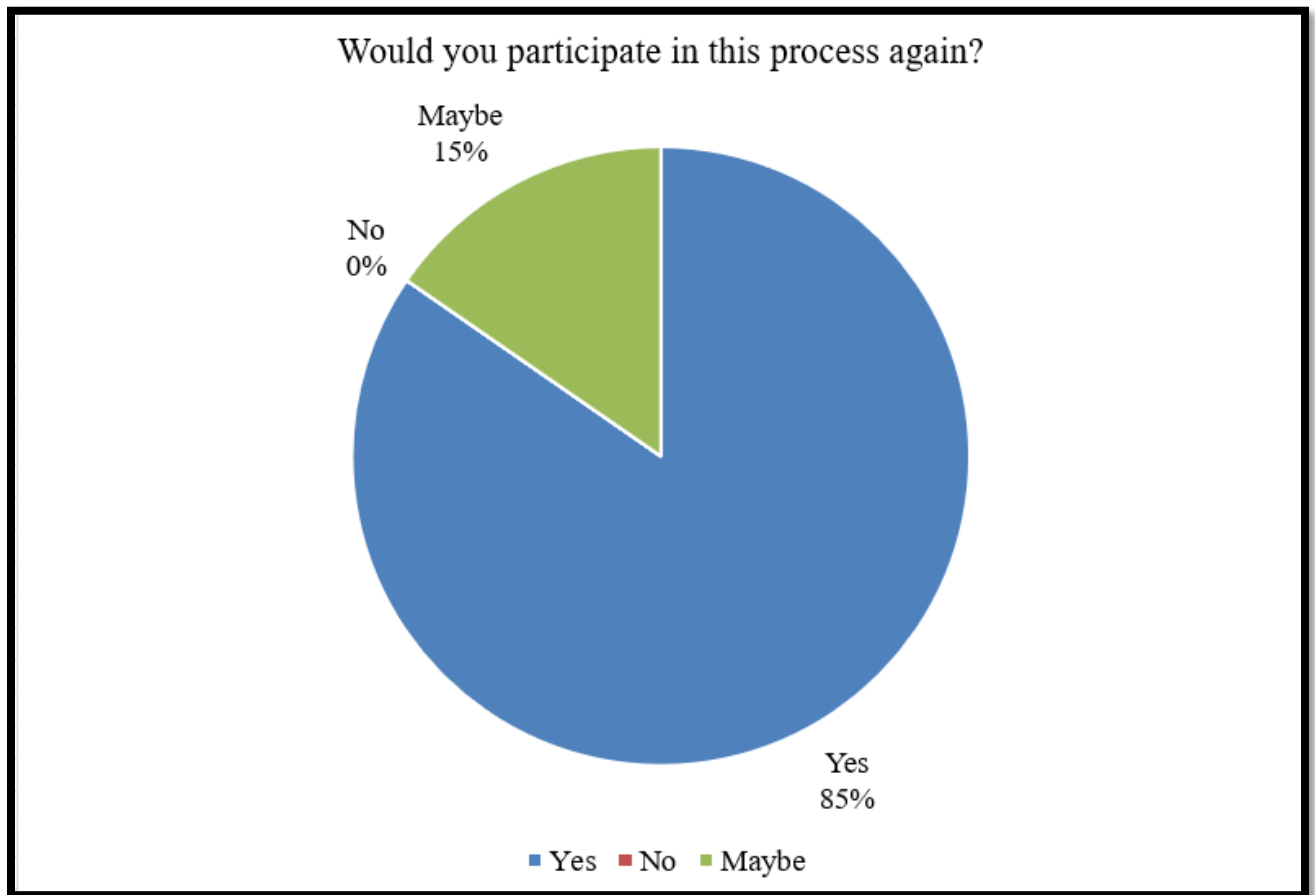


Figure A4. Participant Willingness to Engage in the L-SIP Process Again (n = 44).

The chart shows that a significant majority of respondents (85%) indicated they would participate in this process again, while 15% responded “Maybe” and 0% selected “No,” reflecting an overall positive reception of the L-SIP engagement.

Question # 7

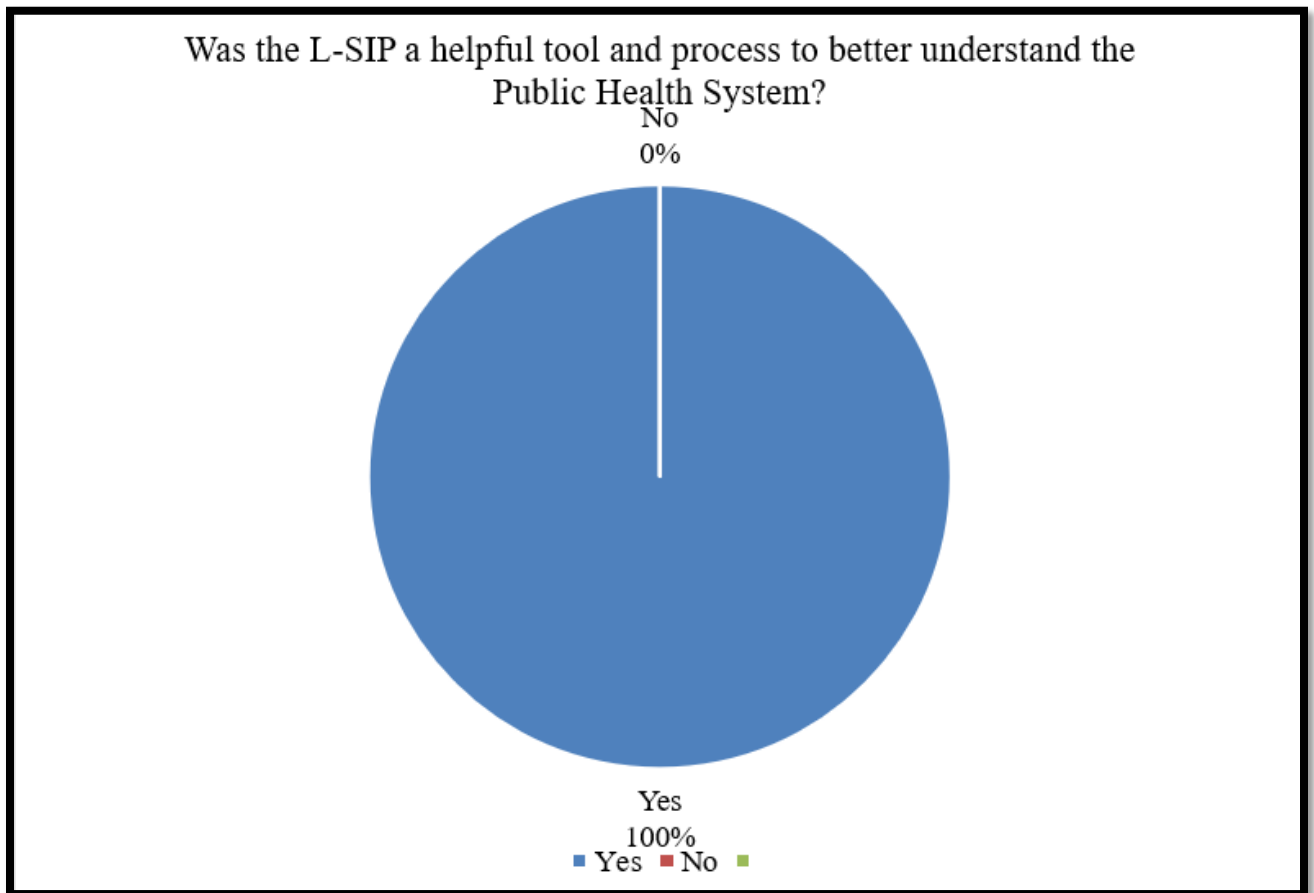


Figure A5. Perceived Helpfulness of the L-SIP Process in Understanding the Public Health System (n = 44).

All participants (100%) responded “Yes” when asked if the L-SIP process was a helpful tool to better understand the public health system, indicating unanimous agreement on its value.

Question # 8

Include any additional comments:

Theme	Sample Comments
Positive Feedback & Gratitude	“Great job Riverside County Public Health!” “Loved this and our facilitator Suzie was awesome!”
Desire for More Engagement	“We need more of these type of exercises.” “I hope the discussion occurs again soon!”
Clarifying System vs. Lab	“Many of us can rate the system but know nothing about PHL.”
Feedback on Format	“I did not like doing the big group exercise.” “Subsections would be more useful.”
Concern about Voting Dynamics	“Voting card system seemed to evolve to everyone always voting middle of the road.”

Table A3. Summary of Additional Participant Comments.

Participants were invited to share any final comments at the conclusion of the L-SIP session. Responses were grouped into five key themes, including praise for facilitation and organization, requests for future engagement opportunities, and suggestions for improvement. Several noted confusion between rating the public health system versus the public health lab, while others raised concerns about the effectiveness of the voting card system and the structure of large group discussions.