Strengthening National Laboratory Coordination

A Vision for a National Laboratory System

APRIL 2023

APHL ASSOCIATION OF PUBLIC HEALTH LABORATORIES®

EXECUTIVE SUMMARY

The public health response to an emerging threat relies on timely and accurate data to identify the agent, assess ongoing disease prevalence, transmission routes, and effectiveness of interventions designed to reduce morbidity and mortality. To ensure an effective response—where public and private systems work together—national laboratory coordination is critical. In the wake of the coronavirus disease (COVID-19) pandemic, the Association of Public Health Laboratories (APHL) developed its 2021-2023 Strategic Map with the specific challenge of "Leading Public Health Laboratories into the Post-Pandemic Era" clearly in mind. One of the objectives of this Strategic Map is to bolster strategic system partnerships, including using APHL's elevated voice to strengthen laboratory coordination at a national level. This specific deliverable is the purview of the National Laboratory Coordination Strategic Implementation Group (SIG), which, over the past year, engaged diverse public health partners, seeking their input on laboratory practices, policies and systems as well as other areas impacting national laboratory coordination.

Utilizing an external consultant, the National Laboratory Coordination SIG employed a two-pronged approach to better understand the issues surrounding national laboratory coordination for all types of events. The first prong being key informant interviews with subject matter experts from federal, state and local laboratories as well as other stakeholder organizations. The second prong was the utilization of two focus groups, also comprised of experts in laboratory operations, leadership and management, to further discuss critical areas of national laboratory coordination.

There were various themes that emerged from the key informant interviews and focus group discussions that spoke to the need for strengthened national laboratory coordination. These included the need for sustained, consistent funding for laboratories performing tests of public health significance, the role of APHL in an emergency and the various elements that are necessary for true national laboratory coordination. In addition, key recommendations such as the need to create a sense of urgency for a coordinated national laboratory system and the need for a national convening body were discussed in detail. Lastly, next steps and strategies were also discussed with an eye toward sustained positive change regarding national laboratory coordination efforts in the post-COVID era.

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INTRODUCTION

Background

The Association of Public Health Laboratories (APHL) works to strengthen laboratory systems serving the public's health in the United States (US) and globally. With this mission in mind, APHL developed its 2021-2023 Strategic Map focusing on the specific challenge of "Leading Public Health Laboratories into the Post-Pandemic Era."

One of the objectives of this Strategic Map is to bolster strategic system partnerships, including using APHL's elevated voice to strengthen laboratory coordination at a national level. This specific deliverable is the purview of the National Laboratory Coordination Strategic Implementation Group (SIG).

Methods

As the SIG looked for the best method to dissect national laboratory coordination, there was agreement to utilize a two-pronged approach to better understand the myriad of issues facing laboratories and the public and private organizations charged with responding to health threats. SIG members developed a list of existing laboratory networks (**Appendix A**) and used this list to invite a diverse group of subject matter experts to participate in key informant interviews and focus groups.

Key Informant Interviews

The first step of this approach was the identification of experts from a variety of backgrounds for key informant interviews. The intent of these key informant interviews was to better understand organizational roles in an emergency event, identify key partners—both internal and external—that these entities rely on in an emergency event, identify any networks that these entities belong to, capture gaps experienced regarding existing networks and overall recommendations to strengthen laboratory coordination at the national level.

The SIG worked with an external consultant to develop a questionnaire for the various subject matter experts identified for key informant interviews (**Appendix B**). These interviews, which were performed in May and June of 2022, included experts from various areas including state and local public health laboratories, a state environmental laboratory, a state agricultural laboratory, a representative from the federal government and APHL.

Focus Groups

The second step of this approach was to convene larger focus groups comprised of additional experts in laboratory operations, leadership and management across a wide array of laboratory networks. The intent of these larger focus groups was to better understand barriers to effective laboratory system coordination among the various networks, especially during emergencies; the role of APHL in an emergency; the role of federal agencies in supporting national laboratory coordination; the role of governmental and non-governmental laboratories (e.g., commercial, academic, etc.) in the national laboratory system; and to capture overall recommendations to strengthen laboratory coordination at the national level.

A questionnaire was developed by the SIG—again, in concert with an external consultant—for the focus group discussions (**Appendix C**). Two focus groups were held in September 2022, and they included experts from a wide variety of organizations such as the US Centers for Disease Control and Prevention (CDC), US Food and Drug Administration (FDA), American Public Health Association, Council of State and Territorial Epidemiologists, National Association of City and County Health Officials, private foundations, non-governmental organizations representing laboratories/laboratorians as well as representatives from various commercial laboratories, and state and local public health laboratories (refer to **Appendix C** for a full list of participants).

KEY FINDINGS

Based on the feedback received from both the key informant interviews and focus groups, there are several areas that can be targeted to improve national laboratory coordination.

Key Informant Interview Themes

Following are the general themes which emerged from the key informant interviews:

Routine vs. Response Activities

Most respondents outlined a similarity between their day-to-day roles and emergency response roles, as their laboratories do not have additional, dedicated teams of response personnel. They highlighted funding and the need for training/cross-training of key laboratory personnel. At least two respondents specifically identified the inability to pivot from day-to-day operations to emergency response as a gap in their readiness.

Some activities or practices that were implemented during a large-scale event have now been integrated into routine work. Examples from respondents included participation in working groups, additional interaction with non-traditional partners and various work flexibilities, such as remote work, electronic meetings, staggered schedules and creative scheduling. Additionally, one respondent said that his organization "***increased communication to all stakeholders through the [Laboratory Outreach Communication System (LOCS)] messaging with short messages for new information regarding the response—the system started with a few hundred pre-COVID, now at over 110,000.***"

External Partnerships and Relationships

A lack of connectivity with external partners was noted by several interviewees, who reported a lower-than-optimal number of external partnerships and a decrease in personal connections to partner organizations.

In some instances, there were limited formal arrangements in place with external partners, such as a Memorandum of Understanding or Agreement (MOU/MOA). Other respondents noted challenges maintaining relationships after primary contacts resigned or retired—a situation exasperated by the "great resignation"—or building new relationships due to a lack of understanding about emergency roles and jurisdiction. Beyond these specific barriers, most respondents reported that organizational bureaucracy was the main issue holding up potential formal external partnerships.

Most respondents reported that their laboratories are a part of a regional, state or national network. The respondents offered that these networks seem to be working well and appreciated the benefits of increased communication as well as the sharing of "best practices."

Additional Coordination and Support

A gap in response capability highlighted by many interviewees was the lack of a mechanism for centralized connection, coordination, support and/or guidance—particularly on the national level.

At least two respondents mentioned the need for additional assistance convening critical partners (commercial laboratories, state and federal partners, etc.) during emergency responses. Several respondents felt that a face-to-face meeting organized by federal entities would go a long way in addressing this latter gap ("***A national meeting of the minds in person—we need to see each other. The brainpower can solve the problems.")***. One respondent specifically mentioned the need for better, more consistent communication from federal partners.

Other respondents highlighted the difficulties in communicating about their work and its importance. One respondent said "***being a lab professional (i.e., what a lab professional does) isn't rapidly identifiable like bring a doctor or nurse—we have a perception problem. Also, we have too many organizations that only represent narrow interests in the field***." This challenge was heightened for the more niche organizations; both the agricultural and environmental laboratory representatives stated the need for an agricultural or environmental specific entity, such as APHL, to assist them. APHL also received kudos for informing other stakeholders of "***what a public health lab is and what it does.***"

To strengthen national laboratory coordination, multiple respondents indicated that a committee comprised of relevant stakeholders should meet regularly to address issues such as integration/connection of data systems as well as disease reporting requirements, which vary from state to state.

On the federal level, it was noted that there are now regular bi-weekly meetings with the White House and a dozen agencies all specific to testing; those high-level relationships did not exist pre-COVID but are now fundamental.

Focus Groups Themes

Following are the general themes which emerged from the focus group discussions:

Strengthening Partnerships and Communication

Focus group participants emphasized the need to strengthen partnerships—especially with manufacturers and academic laboratories, as well as other clinical laboratories—through regular communication and clearly defined roles. These relationships would strengthen the supply chain and build capacity and capability to better respond to emerging threats. Information sharing and regular communications during non-emergency situations are critical to maintaining partnerships.

There was consensus that having existing relationships and ongoing communications with clinical laboratories are important for coordination during responses. This was highlighted by input from focus group participants who specifically stated:

- ***"Communications are so much better from this current mpox response compared to COVID. Granted, COVID was an exceptional situation, but I think we can definitely see that we have improved from the COVID experience."***
- ***"As a manufacturer, we also want to acknowledge the critical role of partnerships, communication and collaboration. With both COVID-19 and mpox responses, our partnerships with APHL and CDC allowed for open dialogue and communication of needs early on. This allowed us to move quickly to respond."***

Existing and Potential Emergency Response Coordination Roles

APHL

It was noted by multiple participants that APHL has been successful in various areas of emergency response, including communicating the needs of governmental laboratories, procurement of supplies, developing and deploying resources, training laboratorians, facilitating evaluation of technologies, and convening appropriate stakeholders to address critical response needs.

One participant stated, "***APHL should be the national convener for laboratory issues of public health concern. No one else is in this space or has the legal connections/capacity."*** Another participant drew a parallel between APHL's emergency responsibilities and another private association, saying, "***On 9/11, the American Association of Airport Executives was the only organization able to bring all the major airports onto a single call for coordination!"***

Federal Agencies

Several areas were identified as being coordinated by federal entities including policy, funding, and even more technical aspects such as assay development and material distribution. One focus group participant summed this area up with the following statement: ***"On the surface it would seem that if we are forming a national response to a national emergency then we should have a federal agency leading the national effort."***

There was commentary about how the Federal Emergency Management Agency (FEMA) would typically be this lead agency, but they need to better understand laboratories, their roles, capacity and capabilities.

Need for National Strategy for Laboratory Emergency Response

One of the themes that emerged from multiple stakeholders was the need for a national playbook or strategy for laboratory emergency response. Considering the multiplicity of emergencies that laboratories respond to, and the fact that no one specific federal agency has the capacity to be "in charge" of every type of laboratory-related response, there is a need for a to help guide laboratories through a variety of emergency response scenarios. This playbook would need to be:

- Well-researched, with input from the many laboratory community members and partners
- Flexible and scalable, so it can be tailored to the actual nature of the emergency and the level of response necessary: as one participant noted, "***The scalability of a response is a significant issue especially from a supply chain perspective***"
- Easily adaptable to new organizational structures for rapid response to various threats.

In addition, this playbook must contain a list of partner organizations and their roles in various emergencies. This playbook must also consider past laboratory emergency responses as well as the future state.

Envisioning a National Laboratory System

Current Laboratory System Structure and Considerations

Participants were blunt about the current lack of a defined national laboratory system:

- "***The fact is that we do not currently have a national lab system—if we did have such a national lab system then all competent labs (public health/commercial/academic) should be included***."
- "***The US has a fragmented system and needs to take meaningful steps to create a national laboratory system.***"

Participants outlined key barriers to the creation of a national laboratory system, noting that any conversation on the topic is complicated by how the federal budget is articulated, with various agency authorities and responsibilities, and how that intersects with the analytical laboratory mission space. This points to the fact that there will be a need for unifying legislation—and funding—to enable a comprehensive and coordinated system.

Defining Roles for Governmental and Non-governmental Laboratories

Participants saw a need for federal, state and local governmental laboratories to be proactive in the beginning of an emergency response—quickly engaging commercial, academic and other non-governmental laboratories when it is necessary to ramp up testing. Specifically, participants envisioned that the role of governmental laboratories is to establish initial test capability and capacity, then transition the workload of mass testing to commercial laboratories and establish widespread clinical testing capacity as soon as is practical. As one participant put it, "***Governmental labs should play a role in initial detection of threats and help stand up additional labs for high-throughput testing***."

Non-governmental laboratories were highlighted as key components in a national laboratory system. For example, commercial laboratories can provide high-throughput testing capacity, while academic laboratories can be used to expand overall capacity.

Securing Sustainable Funding

In the years prior to the COVID-19 pandemic, there was a national disregard for public health and public health preparedness initiatives that resulted in a decline in funding for public health institutions. Participants agreed that both public health and healthcare systems are now woefully underfunded for preparedness and response. One comment that reflected this reality was, "***The success of the lab systems is also intricately tied to the overall public health system, of state and local health departments and other partners/stakeholders***."

One of the constant themes of the focus groups was the need for sustainable funding for laboratory preparedness and response. To create and maintain a successful national laboratory system, participants highlighted the need to

go beyond simply funding standard laboratory activities by investing in coordination and communication initiatives. Examples included funding for:

- Additional personnel at each major organization involved in emergency response (governmental and non-governmental) to specifically focus on national laboratory coordination.
- Implementing a pre-established, tested data exchange system among clinical laboratories, public health laboratories and CDC.

Politicization of Emergency Responses

An additional area that was brought up was the politicization of recent emergencies. One example was the influx of COVID-19 tests marketed to political officials and public health partners without clear information on performance; many laboratories found themselves in the position to have to find scientific information on test performance and make recommendations as to whether these tests should be purchased in bulk or not.

Critical Elements for a National Laboratory System

A number of elements were identified as necessary for coordination of a national laboratory system:

- Sustainable funding for both public and private laboratories
- Diverse workforce and an established pipeline for a highly skilled workforce
- Communication platform(s) to quickly share information with laboratories and partners
- Strong laboratory and epidemiological partnerships
- Identification of specific roles and responsibilities of each type of laboratory and other partner
- Surge planning that engages private sector
- Robust supply chain
- Scalable and flexible technologies that can easily pivot to respond to a range of threats
- Modern electronic system for test ordering, data collection, analysis and reporting
- Quality management system(s)
- Investment in research and development, with a focus on innovation

In addition to the findings described above, participants noted that a gap analysis utilizing a scenario-based approach (e.g., previous emergency events) could be helpful in analyzing what worked, as well as opportunities for improvement in national laboratory coordination.

RECOMMENDATIONS AND NEXT STEPS

Key informant interviewees and focus group participants expressed an urgent need for a coordinated national laboratory system in the US, and noted that, for such a system to be effective, it will require sustainable funding, the integration of public and private partnerships, and clearly defined roles and responsibilities for each member.

There are a wide variety of public health emergencies that might require a laboratory response, such as infectious diseases, foodborne outbreaks, zoonotic diseases and environmental issues. Responding to this array of threats is complicated and responders need a well-developed strategy that allows for scalability and flexibility. The design and implementation of this system will need input from both governmental and non-governmental entities. As such, participants spoke of the need for a national laboratory coordination standing advisory group comprised of decision-makers from both governmental and non-governmental organizations with knowledge of capability and capacity of each of the agencies as well as the scope of responses.

Recommendations

Based on the information gathered both from the key informant interviews and the focus groups, the National Laboratory Coordination SIG recommends the following actions:

Create a Sense of Urgency for a Coordinated National Laboratory System

A sense of urgency must be created to encourage public health and healthcare leaders, policy leaders and decision makers to understand, accept and invest in the future of national laboratory coordination. Public health leaders must capitalize on the multiple lessons learned during the recent COVID-19 pandemic, as well as the recent mpox outbreak, and clearly utilize these responses to make the case that laboratories are a critical, necessary link in an ever-changing public health environment.

Public health is not typically prioritized for funding; there is often an influx of resources during outbreaks or pandemics, but a decline when the threat is reduced or eliminated. This was seen specifically in multiple public health emergency preparedness funding streams (e.g., Public Health Emergency Preparedness Cooperative Agreement, Hospital Preparedness Program, Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases, and Cities Readiness Initiative) developed in the post 9/11 era, which all saw precipitous drops in their funding in the pre-COVID era. A sense of urgency is crucial to gaining necessary cooperation.

Establish a Convening Body to Form a National Laboratory Coordination Advisory Group

To positively shape the future of laboratory response, it is essential to identify and recruit leaders who possess a shared commitment to advancing the national laboratory coordination agenda to participate in a new National Laboratory Coordination Advisory Group. Participants recommended that APHL be the convener of this recruitment initiative, with a senior guiding team representing diverse sectors of the laboratory community.

The National Laboratory Coordination Advisory Group is proposed as a standing body, comprised of representatives from public and private organizations with the ability to shape public policy, practice and science. These leaders need to possess power in terms of their positions, expertise and standing within the public health and healthcare disciplines. These organizations and representatives should have the trust and confidence of the public health and healthcare communities and a platform to affect change.

Next Steps

Create Policy Briefs

The SIG/APHL will develop policy briefing documents to communicate the need for a coordinated national laboratory system. These documents will not only outline the findings of this report but would also highlight the real-world examples/case studies of various public health emergencies that have occurred in recent years—such as the COVID-19 pandemic, 2022 mpox outbreak and readiness efforts for *Sudan ebolavirus*—and the critical role of laboratories in these public health responses.

Outreach With System Partners

The SIG/APHL will hold various policy meetings and/or convene small groups to share the vision for a coordinated national laboratory system. The purpose of these meetings is to outline the findings of this report and to seek the perspectives of subject matter experts on the need for a coordinated national laboratory system.

These meetings might also be an opportunity for APHL and other partners to gather input on an emergency response playbook with a strategy for laboratories and a roadmap for improved coordination and investments in laboratory infrastructure.

APPENDIX A:
EXISTING LABORATORY NETWORKS AND ORGANIZATIONS

Network or Organization	Lead Agency (Government or Private)
AACC — American Association for Clinical Chemistry	Private—representing clinical laboratories
AAVLD—American Association of Veterinary Laboratory Diagnosticians	Private—representing veterinary diagnostic laboratories
ACLA—American Clinical Laboratory Association	Private—representing large commercial laboratories
ACIL—American Council of Independent Laboratories	Private—representing environmental laboratories
ASCLS—American Society for Clinical Laboratory Science	Private—representing clinical laboratory science practitioners
ASCP—American Society for Clinical Pathology	Private—representing entire laboratory teams
AR Lab Network— Antibiotic Resistant Laboratory Network Global AR Lab & Response Network—Global Antimicrobial Resistance Laboratory and Response Network	US Centers for Disease Control and Prevention (CDC)
ArboNET—National Arbovirus Surveillance System	CDC
AAMC—Association of American Medical Colleges	Private—representing medical schools, teaching hospitals, and academic societies
APHL—Association of Public Health Laboratories	Private—representing state/local/territorial governmental laboratories performing tests of public health significance
CaliciNet—Norovirus Outbreak Surveillance Network	CDC
CDC One Lab Network	CDC
COVIS—Cholera and Other Vibrio Illness Surveillance	CDC
CryptoNet	CDC, includes 12 APHL member laboratories
DLN—Department of Defense Laboratory Network	US Department of Defense
EHS-Net: Environmental Health Specialists Network	CDC
eLEXNET: Electronic Laboratory Exchange Network	Private—Data Information Sharing Network
ERLN—Environmental Laboratory Response Network	Environmental Protection Agency (EPA)
FDA CFSAN CoE—Center for Food Safety and Applied Nutrition Centers of Excellence Program	US Food and Drug Administration (FDA)
FDOSS—Foodborne Disease Outbreak Surveillance System	CDC
FERN—Food Emergency Response Network	US Department of Agriculture (USDA) and FDA
FoodCORE—Foodborne Diseases Centers for Outbreak Response Enhancement	CDC
FoodNet—Foodborne Diseases Active Surveillance Network	CDC
Food Safety CoEs—Integrated Food Safety Centers of Excellence	CDC
GenomeTrakr Network	CDC

Network or Organization	Lead Agency (Government or Private)
ICLN—Integrated Consortium of Laboratory Networks	US Department of Homeland Security (DHS)
LRN—Laboratory Response Network (B and C; R in development)	CDC
LEDS—Laboratory-based Enteric Disease Surveillance	CDC
LivestockNET	Private
MLI—Major Laboratory Initiatives	APHL
NAHLN—National Animal Health Laboratory Network	USDA
NARMS—National Antimicrobial Resistance Monitoring System for Enteric Bacteria	CDC in collaboration with FDA, USDA and state and local health departments
NBN—National Biomonitoring Network	APHL with CDC engagement
NILA—National Independent Laboratory Association	Private—representing clinical and environmental laboratories
NPDN—National Plant Diagnostic Network	USDA
NWSS—National Wastewater Surveillance System	CDC
NBS—National Electronic Disease Surveillance System Base System	CDC
NEARS—National Environmental Assessment Reporting System	Private—data information sharing for health professionals
NEDSS—National Electronic Disease Surveillance System	CDC
NewSTEPS—Newborn Screening Technical assistance and Evaluation Program	APHL in partnership with CDC and the US Health Resources and Services Administration
NNDSS—National Notifiable Diseases Surveillance System	CDC
NoroSTAT—Norovirus Sentinel Testing and Tracking Network	CDC
NORS—National Outbreak Reporting System	CDC
NREVSS—The National Respiratory and Enteric Virus Surveillance System	CDC
OutbreakNet Enhanced	CDC
Pathogen Genomics Centers of Excellence	CDC
PETNet—Pet Event Tracking Network	Private—data Information Sharing Network
PulseNet	CDC
Rapid Response Teams	FDA
SampleNet	Private—data Information Sharing Network
VBDN—Vector-Borne Disease Network (VBDN)	Consortium
Vet-LIRN—Veterinary Laboratory Investigation and Response Network (LIRN)	FDA
WBDOSS—Waterborne Disease & Outbreak Surveillance System	CDC

APPENDIX B: KEY INFORMANT INTERVIEWS

Key Informant Interview Participants

- **Interviews:** 7
- **Entities covered:**
  - State public health laboratory (2)
  - State agricultural laboratory (1)
  - State environmental laboratory (1)
  - Local/county laboratory (1)
  - Federal (1)
  - APHL (1)
- **External partners:**
  - State Emergency Management entity
  - Local public health entities
  - Other LRNs
  - Military/National Guard
  - Governor's office
- **Potential future partners:** ATSDR
- **Federal partners mentioned:** EPA, CDC, FDA and FEMA

Question Guide

1. What role does your organization play during large-scale events?* Is this its normal role? If not, what is your typical role during non-emergency events?
2. During a large-scale event, who are the key partners your organization coordinates with? Are there external partners you do not work with but would be useful to work with? What, if any, are the barriers to working with external partners?
3. During a large-scale event, which federal agencies do you look to for guidance and why?
4. Are you a part of an existing (regional, federal) network of laboratories and/or related organizations?
   - Are these networks formal or informal?
   - What benefits are provided by the network?
   - How do those network partners work together?
   - Has the network been utilized in a response?
5. Discuss how you coordinate and communicate with the following groups before an event:
   - Clinical Laboratories
   - Public Health Departments
   - Commercial Laboratories
   - Veterinary Diagnostics
   - Environmental
   - Agricultural
   - Academic
   - State and Local Law Enforcement
   - FBI
   - Other
6. Discuss how you coordinate and communicate with the following groups during an event:
   - Clinical Laboratories
   - Public Health Departments
   - Commercial Laboratories
   - Veterinary Diagnostics
   - Environmental
   - Agricultural
   - Academic
   - State and Local Law Enforcement
   - FBI
   - Other

* A "large-scale event" is a prolonged emergency event that requires sustained external surge capacity in terms of testing, coordination and communication, and can be either localized or national. Possible examples include environmental spills and widespread infectious disease outbreaks.

7. Discuss how you coordinate and communicate with the following groups after an event:
    - Clinical Laboratories
    - Public Health Departments
    - Commercial Laboratories
    - Veterinary Diagnostics
    - Environmental
    - Agricultural
    - Academic
    - State and Local Law Enforcement
    - FBI
    - Other
8. What are the gaps actually experienced in an emergency—as well as perceived gaps—in the aforementioned regional and federal networks? What do you think can be done to address those gaps?
9. What type of activities were implemented during a large-scale event that your organization continued to implement after the event? Why?
10. What are your recommendations to strengthen laboratory coordination at the national level?

APPENDIX C: FOCUS GROUPS

Focus Group Participants

September 22, 2022

Attendees

Name	Organization
Dr. Georges Benjamin	American Public Health Association
Mr. Jim Flanigan	American Society for Clinical Laboratory Science
Dr. Allen Bateman	American Society for Microbiology
Mr. Chris Moody	American Water Works Association
Ms. Natalie Adan	Association of Food and Drug Officials (AFDO)
Ms. Katherine Simon	AFDO
Dr. Joanne Andreadis	US Centers for Disease Control and Prevention (CDC), Center for Preparedness and Response
Dr. Wendi Kuhnert	CDC Deputy Director for Infectious Diseases (DDID)
Dr. Julie Villanueva	CDC DDID National Center for Emerging and Zoonotic Infectious Diseases, Division of Preparedness and Emerging Infections, Laboratory Preparedness and Response
Dr. Amy Watson Hardnett	CDC National Center for Environmental Health (NCEH), Division of Laboratory Sciences, Emergency Response Branch
Dr. Jonathan Button	CDC NCEH, Inorganic and Radiation Analytical Toxicology Branch
Maj. Tammy K Shaw	US Department of Defense Laboratory Network
Dr. Andrew Scott	US Department of Homeland Security
Dr. Jocelyn Hauser	District of Columbia Public Health Laboratory
Ms. Latisha Mapp	US Environmental Protection Agency (EPA) Office of Water
Ms. Veronica Aponte	EPA
Dr. Tim Stenzel	US Food and Drug Administration (FDA), Office of In Vitro Diagnostics and Radiological Health
Dr. Scott Zimmerman	LabCorp
Dr. Elitza Theel	Mayo Clinic
Ms. Lori Tremmel Freeman	National Association of County and City Health Officials
Dr. James Chitalen	New York State Department of Health - Wadsworth Center
Dr. William Meyer	Quest Diagnostics
Mr. Mark Wade	San Antonio Metropolitan Health District Public Health Laboratory
Dr. Timothy Southern	South Dakota Public Health Laboratory
Dr. Sam Scarpino	The Rockefeller Foundation
Mr. Claudio Ternieden	Water Environment Federation (WEF)

Facilitator and Observers

Name	Organization
Dr. Ray Barishansky	Independent Contractor, Facilitator
Dr. Andrew Cannons, Co-Chair	Florida Department of Health—Bureau of Public Health Laboratories (Tampa)
Dr. Sara Vetter, Co-Chair	Minnesota Department of Health—Public Health Laboratory
Dr. Ewa King	Association of Public Health Laboratories (APHL)
Dr. Christine Bean	APHL

Name	Organization
Ms. Nikki Marchan	APHL
Ms. Chris Mangal	APHL

September 28, 2022

Name	Organization
Dr. Francisco Averhoff	Abbott
Mr. Kenneth Landgraf	American Society for Clinical Pathology (ASCP)
Dr. Ali Brown	ASCP
Dr. Allen Bateman	American Society for Microbiology
Dr. Marc Couturier	ARUP Laboratories, University of Utah School of Medicine
Dr. Victor Waddell	Arizona Department of Health Services Public Health Laboratory
Mr. Peter Kyriacopoulos	APHL
Ms. Kimberly Mauck	Bill and Melinda Gates Foundation
Ms. Kathy Cahill	CDC Foundation
Dr. Lisa F Waddell	CDC Foundation
Dr. Joanne Andreadis	US Centers for Disease Control and Prevention (CDC), Center for Preparedness and Response
Dr. Amy Watson Hardnett	CDC National Center for Environmental Health, Division of Laboratory Sciences, Emergency Response Branch
Dr. Reynolds Salerno	CDC Center for Surveillance, Epidemiology and Laboratory Services, Division of Laboratory Systems
Dr. Beth Daly	Council of State and Territorial Epidemiologists (CSTE)
Ms. Janet Hamilton	CSTE
Dr. Christina Loiacono	US Department of Agriculture
Lt. Col. Warren G Conrow	US Department of Defense Laboratory Network
Ms. Latisha Mapp	EPA Office of Water, Water Laboratory Alliance
Dr. Syamal Raychaudhuri	InBios
Dr. Scott Hughes	New York City Department of Health and Mental Hygiene, Public Health Laboratory
Ms. Bi Linton	Qiagen
Dr. Brett Ellis	US Virgin Islands Department of Health Public Health Laboratory
Dr. Denise Toney	Virginia Division of Consolidated Laboratory Services

Facilitator and Observers

Name	Organization
Dr. Ray Barishansky	Independent Contractor, Facilitator
Dr. Andrew Cannons, Co-Chair	Florida Department of Health—Bureau of Public Health Laboratories (Tampa)
Dr. Sara Vetter, Co-Chair	Minnesota Department of Health—Public Health Laboratory
Mr. Scott Becker	APHL
Dr. Jill Taylor	APHL
Ms. Nikki Marchan	APHL
Ms. Chris Mangal	APHL
Ms. Stephanie Barahona	APHL

Question Guide

1. Let's discuss barriers to effective laboratory system coordination among the various networks in an emergency:
    - What worked?
    - What didn't work?
    - What realistically can we change with regard to laboratory coordination?

2. Discuss planning elements for an emergency incident. Does the size/scale of an incident make a difference in laboratory response? If so, how?

3. Let's discuss the role of APHL in an emergency incident:
    - What do you see as APHL's role in the present? What role might it play in the future?
    - APHL can be a convener but does not have statutory or regulatory authority for this coordination; APHL may or may not receive incident-specific funding for this activity. What is your expectation of a convening body?
    - If that body is not APHL, who is it?

4. How do you view the role of federal agencies in supporting the coordination of national laboratory networks? (Note to interviewer—in both non-emergency and emergency situations)
    - Policy
    - Funding
    - Procurement
    - Training/workforce development
    - Technical/Science (assay development/material distribution)
    - Information management (communications/electronic laboratory reporting)

5. What is the role of governmental and non-governmental laboratories (commercial, academic, etc.) in the national laboratory system?

6. What are the critical elements of a national laboratory system? What do we have in place and what needs to be developed/invented?

7. What are the next steps in strengthening national laboratory coordination?

ACKNOWLEDGMENTS

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Thank you, also, to the members of the National Laboratory Coordination Strategic Implementation Group for helping to guide and implement this project:

SIG Role	Name	Organization
Co-Chair	Dr. Andrew Cannons	Florida Department of Health—Bureau of Public Health Laboratories (Tampa)
Member	Dr. Michelle Crum	University of Texas Health Science Center at Tyler
APHL Staff Liaison	Mrs. Denise Dory	APHL
Member	Dr. Nicolas Epie	South Carolina Public Health Laboratory
APHL Board of Directors Liaison	Dr. Sally Flowers	Kansas Department of Agriculture Laboratory
Member	Mrs. Kristy Kubota	APHL
Member	Mrs. Jennifer Liebreich	APHL
APHL Principal Staff, Executive Communications	Ms. Chris Mangal	APHL
APHL Principal Staff, Executive Communications	Mrs. Nikki Marchan	APHL
Member	Mr. Julio Ramirez	Los Angeles County Public Health Laboratory
Member	Dr. Diana Riner	Michigan Department of Health and Human Services Bureau of Laboratories
Member	Mr. David Stringer	Dallas County Health Department
Co-Chair	Dr. Sara Vetter	Minnesota Department of Health—Public Health Laboratory
Member	Dr. Kathryn Wangsness	Arizona Department of Health Services, Laboratory
Member	Dr. Teresa Wolfe	Oregon State Public Health Laboratory