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National Association of County & City Health Officials

Strategic Collaboration for Outbreak Response and Prevention in Healthcare Settings

A Comprehensive Guide for Local Health Departments

Prepared by: The National Association of County and City Health Officials (NACCHO) and the Population Health Innovation Lab (PHIL), a program of the Public Health Institute (PHI)

For: Local Health Departments and Public Health Practitioners

Purpose: To equip Local Health Departments (LHDs) with strategies and tools for building and sustaining partnerships to enhance outbreak response and prevention in healthcare settings.

Key Contents:

- ▶ Guidelines for establishing and maintaining partnerships during outbreaks
- ▶ Strategies to ensure effective communication and optimal resource allocation
- ▶ Real-world case highlighting successful collaboration
- ▶ Methods for assessing the effectiveness of partnerships and identifying areas for improvement
- ▶ Programs and resources to enhance the skills necessary for managing partnerships

Questions? Contact Us: infectiousdiseases@naccho.org

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Introduction and Purpose

The purpose of this guide is to equip Local Health Departments (LHDs) with strategies and tools for building and sustaining strategic collaborations to enhance outbreak response and prevention in healthcare settings.

This guide is designed to be a practical resource that supports LHDs in building robust, resilient partnerships that enhance their capacity to respond to and prevent outbreaks in healthcare settings. By implementing the strategies outlined in this guide, LHDs can improve their outbreak response efforts through collaboration with their partners, resulting in improved health and well-being of their communities.

The guide begins with an overview of the importance of strategic collaboration in public health and its relevance to managing outbreaks in healthcare settings. The introduction is followed by nine sections, each of which explores a key topic related to strategic collaboration in outbreak response and prevention in healthcare settings. The key topics were selected based on what is known about effective collaboration. In each section, the key topic is briefly introduced and then explored using real-life success stories from LHDs across the United States. Each section closes with actionable resources. Theories, frameworks, and related concepts used throughout the guide are discussed in depth in the appendices.

Importance of Collaboration in Public Health

Partnerships involve the engagement of two or more parties—whether individuals, groups, or organizations—who agree to work together to achieve a common purpose, ranging from informal alliances to formal agreements.¹ These partnerships serve as the foundation for collaboration, which refers to the mode of interaction that fosters mutual interdependence and joint action while allowing each party to maintain its autonomy.² Partnerships and collaboration between public health, healthcare, community-based organizations (CBOs), and other sectors are increasingly recognized as important strategies for improving the health of a community.³

Collaboration is also critical to addressing social determinants of health (SDOH), defined by the Centers for Disease Control and Prevention (CDC) as “non-medical factors that influence health outcomes.” SDOH demonstrate how health is impacted outside of healthcare. This means that collaboration across different sectors is a necessary component of an LHD’s strategy to improve population health.⁴

When collaboration extends beyond traditional organizational or sectoral boundaries, it becomes cross-boundary collaboration. This term emphasizes the need for coordination and collective action across different organizations, sectors, and jurisdictions to address complex public health challenges.⁵ Together, these concepts underscore the necessity of working cohesively in structured and flexible ways to enhance outbreak response and improve healthcare outcomes.

See [Appendix 1: Collaboration Research, Theories, and Frameworks](#) to learn more about:

- ▶ How partnerships and collaboration are defined
- ▶ How partnerships relate to collaboration
- ▶ Types of partners that are involved in infectious disease outbreaks in healthcare settings
- ▶ Types of partnerships in outbreak response
- ▶ How the Public Health 3.0 framework centers collaboration and partnerships in public health

Role of LHDs: Roles and Responsibilities in Outbreak Response

LHDs play a multifaceted role in managing and responding to outbreaks in healthcare settings. Their contributions to strategic partnerships are crucial for effective outbreak management. LHDs might contribute to a cross-boundary* response to outbreak prevention and response in healthcare settings by providing coordination, resources, data management, public communication, education, and more.

The following are real-life examples of LHD partnerships that contributed to effective outbreak prevention and response in healthcare settings.

1

Coordination and Leadership

LHDs can serve as the central coordinating body during outbreaks by facilitating collaboration among healthcare facilities, government agencies, and community organizations. For instance, the [Central District Health Department in Nebraska coordinates with Nebraska Medicine and Department of Health of Human Services](#) to manage outbreaks, ensuring a unified response effort. This coordination, through routine communication, involves organizing regular meetings, setting response priorities, and ensuring that all partners are aligned in their efforts. The Central District Health Department's coordinated approach allowed for effective distribution of personal protective equipment (PPE) and facilitated knowledge sharing, which was crucial during the COVID-19 pandemic.

2

Resource Provision and Distribution

Collaboration between Benton-Franklin Health Department and long term care facilities (LTCFs) has greatly improved, especially as federal and state resources have decreased post-pandemic. The implementation of Infection Control Assessment and Response (ICAR) training, supported by NACCHO, has been crucial in this progress, enhancing infection prevention awareness. Communicable disease epidemiology (CD Epi) staff, trained through the NACCHO APIC IP program, created an in-house training for gastrointestinal illness outbreaks using the ICAR model. This training has educated in-house CD Epi's, food department staff and LTC facilities on infection prevention strategies. Additionally, the CD Epi LTC team launched a project to improve respiratory virus prevention in adult family homes with personalized site visits. NACCHO's ICAR training has strengthened BFHD's relationships with LTC partners, establishing it as a leader in public health. These initiatives have not only improved infection control practices but also built stronger partnerships and trust with LTCFs, setting a high standard for public health efforts.

* More information on the definition of cross-boundary can be found in [Appendix 1](#).

3

Communication and Education

LHDs play a vital role in communicating with the public and healthcare providers about outbreak status and safety measures. LHDs provide education on infection prevention, conduct outreach to healthcare facilities, and ensure that accurate information is disseminated to the public to prevent misinformation. For instance, the Chicago Department of Public Health provides extensive outreach and infection prevention education to healthcare facilities, ensuring adherence to infection control guidelines. Partnerships with local media and community organizations enhance the dissemination of important health information and ensure broad community awareness.

4

Implementing an Equitable Response

Ensuring that outbreak responses are equitable and inclusive is a crucial responsibility of LHDs. An equitable response to outbreaks involves making sure that all communities, especially vulnerable and underserved populations, have access to necessary resources and education. The equity team at Benton-Franklin Health Department works to ensure that all processes across the department are equitable and address disparities in healthcare access and outcomes. LHD partnerships with community organizations and advocacy groups help to reach underserved populations, ensuring that everyone receives the care they need during an outbreak.

5

Building and Maintaining Partnerships

Building and maintaining strong partnerships with various partners, including hospitals, academic institutions, community organizations, staffing agencies, and government agencies, is essential for effective outbreak response. The Leicester Health Department in Massachusetts illustrates this by building capacity through hiring additional staff and participating in regional emergency response networks. These approaches help ensure access to resources and support during outbreaks. These partnerships provide additional workforce and resources, enhancing the department's ability to respond to outbreaks.

These examples highlight the roles and functions that LHDs perform in managing and responding to outbreaks. By effectively coordinating efforts, contributing necessary resources, managing data, communicating with the public, ensuring equity, and building partnerships, LHDs can greatly enhance their outbreak response capabilities and protect public health.

LHDs can leverage tools that help visualize and manage partnership networks. Network visuals can inform the management of LHD partnerships by clarifying the roles, responsibilities, and relationships that support effective outbreak response. Figure 1 illustrates the key relationships between LHDs and their outbreak response partners, highlighting each entity's roles and contributions.

Map Your Partnership Network: *Try mapping the connections among different organizations and groups in your community.*

- ▶ You can use paper and pen, sticky notes and yarn, computer-based drawing tools, or web-based tools like Kumu to visualize your network.
- ▶ Reference Figure 1 for examples of the types of entities (shown as boxes on the right) and the types of connections (shown as connecting arrows between the LHD and partner entities) that you might want to include in your map.
- ▶ Once you have created your network map, reflect on the role each partner plays in outbreak prevention and response and how partners work together to improve patient outcomes.
- ▶ Consider: How can this information inform your LHD's coordination efforts, communication strategy, and resource allocation when managing and responding to public health crises?

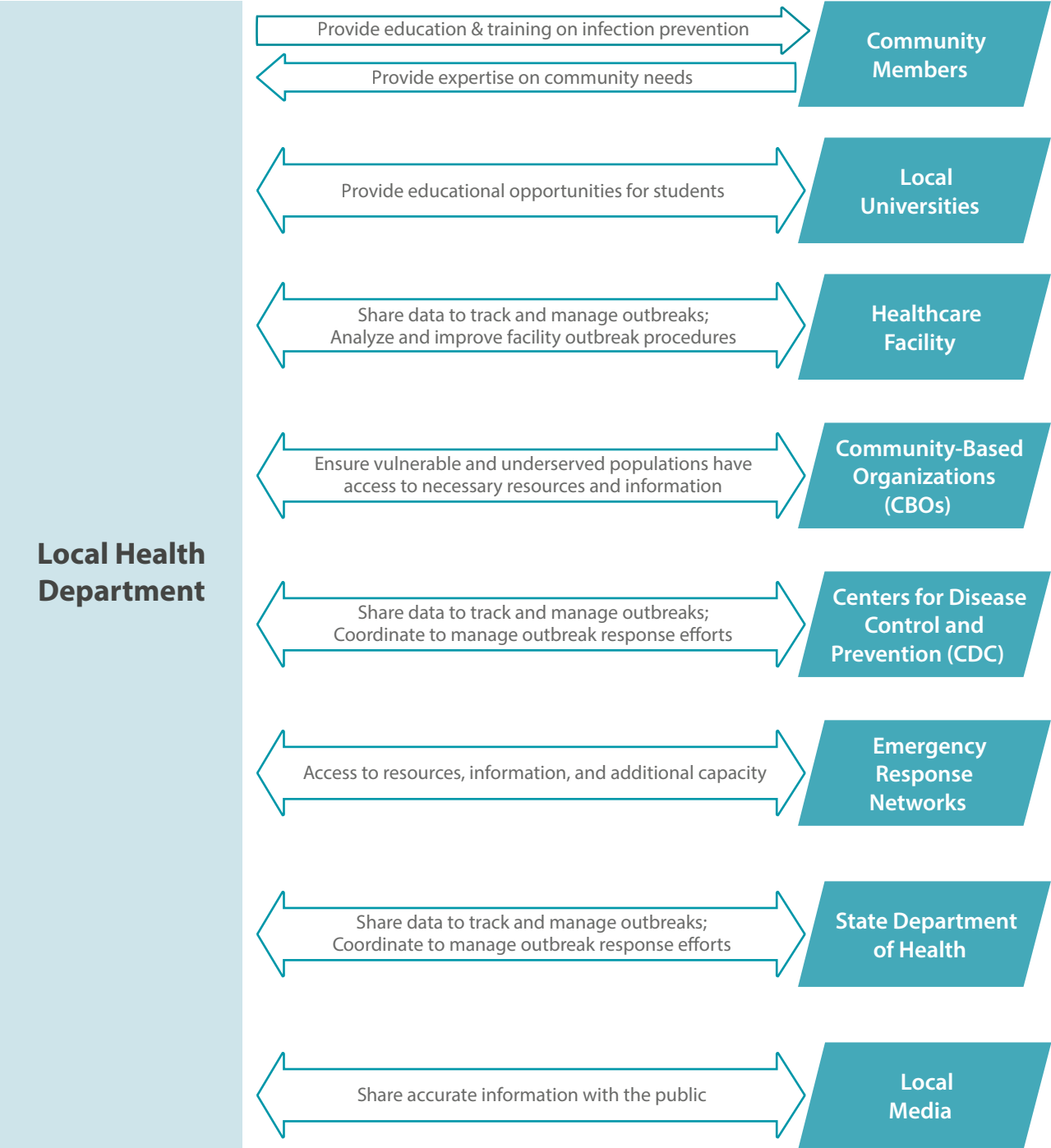


Resources

To map your LHD's outbreak response partnership network, consider the following resources:

- ▶ [Kumu](#), a web-based network mapping platform.
- ▶ [Network, Partner, and Relationship Mapping](#), a PHIL web discussion.
- ▶ [Potential Partner Analysis Worksheet](#), a resource developed by NACCHO.
- ▶ [MAPP](#) network mapping resources.

Figure 1. Network Visual of LHD Partnerships



The network visual highlights the LHD and the types of partnerships it may have with various entities essential for effective outbreak response. Circles represent the LHD and its partners, and arrows indicate the flow of communication, resources, and responsibilities. Each connection is annotated with specific roles and functions that these partnerships fulfill.

Establishing Effective Partnerships

Successful partnerships are built on shared values and common intentions. This foundation helps LHDs coordinate effective and timely outbreak responses in healthcare settings, where rapid action and unified strategies can save lives and prevent the spread of disease.

Assessing the readiness and compatibility of potential partners is crucial for ensuring effective collaboration. These assessments help confirm that partners have the necessary capacity and willingness to engage in collaborative outbreak response activities.

For more information on how to establish effective partnerships, refer to [Appendix 1: Collaboration Research, Theories, and Frameworks](#).



Success Story: Leveraging Technology for Data Sharing

An urban LHD in Virginia faced an outbreak of pertussis (whooping cough) that required rapid information dissemination and coordination across multiple districts. The LHD implemented a data-sharing platform to ensure real-time access to information for all partners. This platform helped the LHD, healthcare partners, and community organizations to align intentions. The platform also facilitated the quick distribution of updates and guidelines, ensuring that all partners were consistently informed and could coordinate their responses effectively.

This success story underscores how strong partnerships and effective collaboration between healthcare providers and health departments can streamline data sharing, which enhances outbreak response capabilities.



Resources

To support your LHD's efforts in establishing effective partnerships with various outbreak response partners, consider the following resources:

- ▶ [Partnership Assessment Tool for Health](#), a resource developed by the Partnership for Healthy Outcomes.
- ▶ [CDC's Interim Strategy for Local Health Departments on Healthcare-Associated Infections \(HAI\) and Antibiotic Resistance \(AR\)](#), which provides a framework for addressing HAIs and AR by emphasizing organization-wide collaboration.
- ▶ [Readiness Factors for Shared Services Arrangements Between Local Health Departments and Health Centers](#), a resource developed by NACCHO.
- ▶ [Public health readiness assessment: Questions for public health to assess readiness for eCR of STI](#), a resource developed by the Public Health Informatics Institute.

Maintaining and Strengthening Partnerships

Formal agreements and arrangements provide a clear framework for partnership operations and expectations. Erickson et al. discuss the importance of establishing formal agreements that define roles, responsibilities, and decision-making processes.⁶ These agreements ensure that all partners are clear about their commitments and can work together effectively.

For more information on how to maintain and strengthen partnerships, refer to [Appendix 1: Collaboration Research, Theories, and Frameworks](#).

Table 1 provides example metrics and data sources that LHDs can use to assess the effectiveness of their collaborative efforts with healthcare partners.

Table 1. Metrics and Data Sources to Assess Effectiveness

Metric	Description	Data Source
Timeliness of Response	Time taken to initiate response after outbreak notification	Incident reports
Effectiveness of Response	Number of cases managed/reduced after intervention	Health records
Efficiency of Communication Channels	Frequency and clarity of communications between partners	Communication logs
Adherence to Protocols	Compliance with established outbreak response protocols	Audit reports
Reach to Vulnerable Populations	Proportion of services delivered to high-risk or underserved groups	Service delivery records
Resource Allocation	Distribution and utilization of resources (PPE, vaccines, etc.)	Inventory management systems, usage reports
Training and Capacity Building	Number of training sessions conducted, and staff trained	Training records
Partner Satisfaction	Percent of partners who report being satisfied with the collaborative efforts	Partner survey



Success Story: Community-Based Collaboration

An urban LHD in Washington effectively managed an influenza outbreak through strategic partnerships and advanced data management. Collaborating with local community organizations, they set up accessible vaccination clinics, resulting in high community turnout and coverage. Formal data-sharing agreements with major healthcare systems allowed quick access to electronic medical records (EMRs), ensuring efficient data collection while maintaining Health Insurance Portability and Accountability Act (HIPAA) compliance. Regular communication and trust with healthcare partners facilitated a successful vaccination campaign and cooperation among partner organizations.

The LHD leveraged technology solutions to respond to the influenza outbreak and prevent further spread of the disease. They used the Washington Disease Reporting System and the Communicable Disease Database to track and link outbreak data. The Communicable Disease Database's customizable outbreak module facilitated detailed case tracking and response planning. Tableau dashboards developed by the analytics team visualized disease trends, helping allocate resources effectively and identify potential outbreaks.

Public Health - Seattle & King County's collaborative response to an influenza outbreak demonstrated the importance of community-based approaches in reaching underserved populations and managing public health crises. These same strategies can be applied to LHD collaborations with healthcare facilities. By establishing formal agreements, utilizing advanced data systems, and fostering effective communication and trust, LHDs can enhance outbreak response efforts in healthcare settings.



Resources

To support your LHD's efforts to maintain and strengthen existing partnerships with outbreak response partners, consider the following resources:

- ▶ [Strengthening Partner Networks for Healthcare-associated Infections and Antibiotic Resistance: Success Framework for HAI/AR Partner Networks](#), a resource developed by the National Center for Emerging and Zoonotic Infectious Diseases (U.S.), Division of Healthcare Quality Promotion.
- ▶ [Tips for Overcoming Challenges and Increase Partner Engagement](#), a resource developed by NACCHO.
- ▶ Developing a Memorandum of Understanding (MOU)
 - Access the U.S. Department of Health and Human Service's [Guide to MOU Negotiation and Development](#).
 - Access an example [MOU](#) among various partners working together to implement a Learning Partner Dashboard.

Communication Strategies

Effective communication is essential for maintaining partnerships and ensuring successful implementation of outbreak response strategies. Newell et al. and Martin et al. highlight the importance of clear communication and conflict management in partnerships, particularly during high-stakes situations like outbreaks.^{7,8} This includes developing clear communication protocols, resolving conflicts that may arise, and ensuring equitable and inclusive partnership practices.

For more information on communication strategies, refer to [Appendix 1: Collaboration Research, Theories, and Frameworks](#).



Success Story: Enhancing Communication through Regular Meetings

The Long Beach Department of Health and Human Services (LBDHHS) strengthened their response to healthcare-associated infections by implementing effective communication strategies. LBDHHS holds weekly internal meetings to review outbreak data and provide targeted facility-specific guidance. Using Cisco Jabber for phone calls and Microsoft Outlook for email messaging, they maintain open communication with healthcare facilities. Microsoft Forms surveys are used to collect data on PPE and testing supplies, aiding in resource allocation. LBDHHS also customizes the CDC's Infection Control Assessment and Response (ICAR) tool, to reduce assessment time and allow for rapid report turnaround and to provide healthcare facilities immediate guidance for improvement in infection prevention and control practices. These communication strategies ensured effective coordination and support for healthcare facilities during outbreaks.

This success story demonstrates how robust communication strategies supported by strong partnerships and collaboration are vital to effective and timely outbreak response in healthcare settings.



Resources

To support your LHD's communication strategies with outbreak response partners, consider the following resources:

- ▶ Access the [CDC's Health Communication Playbook](#).
- ▶ [Building Community Resilience: Coalition Building and Communications Guide](#), a resource developed by the Center for Community Resilience at the George Washington University.
- ▶ [Communications Plan for Vulnerable Populations](#), a tool developed by the Escambia County Health Department in Florida.
- ▶ [Communications Annex](#), a resource developed by the Marion County Health Department in Florida.

Resource Allocation and Management

In response to the COVID-19 pandemic, many local and state health departments brought together resources and expertise to make data-driven decisions. Biddell et al. emphasize how the unprecedented roles and responsibilities from the COVID-19 pandemic led to novel insights on how to strengthen existing partnerships and create new ones to address the complexities of the pandemic. Healthcare associations saw their primary roles as convening organizations for the purpose of knowledge sharing, advocacy to state government, and PPE allocation.⁹

For more information on resource allocation and management, refer to [Appendix 1: Collaboration Research, Theories, and Frameworks](#).



Success Story: Cross-Boundary Collaboration for Resource Allocation

A rural LHD in West Virginia effectively managed and allocated resources during the COVID-19 pandemic through data-driven decision-making and cross-boundary collaboration. Daily morning meetings were held to review infection rate data from various systems, including the West Virginia Electronic Disease Surveillance System, Statewide Immunization Information System, Vaccine Management System, and REDCap. This regular opportunity to review data helped ensure timely and informed outbreak responses.

The LHD's collaboration with local hospitals, the state health department, and West Virginia University was crucial during a measles outbreak, where they managed 161 contacts from a single case. Utilizing these partnerships and the expertise of National Institute for Occupational Safety and Health PhD students, the LHD enhanced its case investigation efforts and ensured resources such as PPE and testing supplies were accurately tracked and distributed.

By integrating multiple data systems and conducting comprehensive needs assessments, the Monongalia Department of Health ensured that resources were effectively allocated to meet community needs. Their sustained partnerships with local hospitals and West Virginia University fostered long-term resilience, improving their outbreak response strategies. This approach addressed the immediate crisis and established a robust public health infrastructure capable of handling future outbreaks, demonstrating a model of effective resource allocation and management.

The effective resource allocation in this success story illustrates the impact cross-boundary collaboration and well-established partnerships have in ensuring that healthcare systems are well-equipped to handle outbreaks.



Resources

To support your LHD's efforts with resource allocation and management with outbreak response partners, consider the following resources:

- ▶ [Mapping community and statewide assets](#), a resource developed by The Center for Health and Health Care in Schools.
- ▶ Network mapping is another approach that can be used to understand the community health-ecosystem and inform strategic partnerships. The following are examples of various tools to utilize for network mapping:
 - Mind Mapping structures information visually, aiding in the identification and organization of partnership opportunities. Access [examples and a step-by-step process](#) to create an effective mind map.
 - Kumu, an online tool for creating interactive network maps, helps visualize connections between partners or ideas. Access a [session on how Kumu can help](#) with enabling new collaborations, identifying gaps, building relationships
 - CDC Foundation's Partnership Tools: The CDC Foundation, in collaboration with Human Impact Partners (HIP), provides transformative and inclusive recommendations to strengthen partnerships between health departments and CBOs. These recommendations include strategies for establishing robust communication channels and maintaining flexibility in resource allocation. Read more on [CDC Foundation's Partnership Tools](#).

Data Management and Surveillance

LHDs are often responsible for collecting, analyzing, and disseminating data on outbreaks. Effective data management and surveillance are crucial for LHDs to mitigate transmission of communicable diseases, coordinate response efforts, and advance equity in outbreak responses.¹⁰

For more information on data management and surveillance, refer to [Appendix 1: Collaboration Research, Theories, and Frameworks](#).



Success Story: Robust Data Management and Surveillance

During the COVID-19 pandemic, the Washington County Public Health Division demonstrated data management and surveillance practices to mitigate disease transmission and coordinate response efforts. Leveraging a centralized state surveillance system, Washington County Public Health Division invested in a regional data mart, a centralized database that pulls data from the state's communicable disease data system, to maintain near real-time access to communicable disease data. Weekly internal meetings were held to review outbreak data, which enabled the team to make informed decisions in real time. Washington County Public Health Division created an Excel-based tool to automate epidemiological curves and standardized intake forms for facility reporting to ensure accuracy and timeliness in data collection.

The health department maintained regular communication with local healthcare facilities through a collaborative approach that encouraged reporting and shared current trends and guidance. This collaborative approach facilitated a comprehensive understanding of the local health ecosystem, ensuring that vulnerable populations received the necessary screening and support. By integrating data systems and fostering strong partnerships with local health providers, Washington County Public Health Division successfully managed the COVID-19 outbreak, demonstrating the critical role of data management and surveillance in public health responses.

This success story highlights the importance of collaborating with state health agencies to access data management systems. Strong partnerships enable rapid and informed decision-making during public health crises.



Resources

To support your LHD's efforts with data management and surveillance, consider the following resources:

- ▶ REDCap is a secure web application for building and managing online surveys and databases. It supports both online and offline project design, is highly customizable, and includes features like audit trails, automated export procedures, and interoperability with electronic health records (EHR).
 - [More information on REDCap](#)
 - [REDCap Shared Library](#)
 - [REDCap Mobile App](#)
- ▶ Access [CDC Epi Info](#). Developed by the CDC, Epi Info is a free software tool for data collection, analysis, and visualization. It is widely used for public health applications, including outbreak investigations and surveillance.
- ▶ Access [CDC surveillance resources](#). The CDC provides extensive guidelines and resources for setting up and managing surveillance systems, including the integration of electronic health records and laboratory data.
- ▶ For additional resources for data management and surveillance best practices, please review NACCHO's [Data Utilization and Management Guide](#).

Operationalizing an Equitable Outbreak Response

LHDs can use equity data to inform partnership-wide decisions and actions. Equity data can also inform development of targeted outbreak interventions that are responsive to the needs of specific communities, healthcare facilities, and patient groups.

NACCHO's [Equity Framework Guide](#) explores strategies LHDs can use to incorporate equity into their data collection and surveillance role. The Equity Framework Guide describes how to use simple, low-cost tools like surveys or existing public health and healthcare data to better understand patient demographics, help identify SDOH, and assess other healthcare quality factors to determine which population groups are at the greatest risk for experiencing unequal exposure, transmission, susceptibility, or treatment.



Success Story: Ensuring Equitable Resource Distribution

A rural LHD in Texas effectively utilized inclusive partnerships to address healthcare disparities within their community. During the COVID-19 pandemic, the department collaborated closely with local hospitals and healthcare providers to collect and analyze data on patient demographics and SDOH. This collaboration enabled them to identify populations at greater risk of unequal exposure, transmission, and treatment.

By incorporating equity into their data collection and surveillance efforts, the LHD developed targeted interventions tailored to the needs of specific patient groups within healthcare settings. The LHD implemented surveys and utilized existing public health and healthcare data to understand disparities across different facilities. This data-driven approach allowed them to provide targeted support and resources to vulnerable populations, ensuring that all patients received equitable care during the outbreak.

This success story highlights how partnerships and collaboration are essential in implementing equity frameworks to guide outbreak responses that ensure all communities receive the resources and care they need during outbreaks.



Success Story: Data Sharing for Equitable Outbreak Tracking

LHDs are responsible for collecting, analyzing, and disseminating data related to outbreaks. Effective data management allows for timely identification of outbreaks and informed decision-making. The Chicago Department of Public Health utilizes the Hardship Index and Centers for Medicare & Medicaid Services (CMS) quality measures to prioritize support for the most vulnerable facilities. The Chicago Department of Public Health engages in regular data sharing with the state health department and the CDC to track and manage outbreaks effectively. These partnerships facilitate the flow of information, enabling quicker response times and more accurate outbreak tracking.



Resources

To support your LHD's efforts with operationalizing an equitable outbreak response, consider the following resources:

- ▶ Access a [health equity organizational capacity assessment and plan](#). This framework summarizes best practices local health districts should embed throughout the organization to effectively address and reduce health disparities and inequities.
- ▶ Additional trainings for conducting equity assessments and ensuring equitable resource distribution can be found in [Appendix 2: Training Modules for Partnership Development Skills](#).

Rapid Response and Flexibility

Strong partnerships can facilitate rapid response and flexibility during outbreak responses and other emergencies. To maximize this partnership benefit, LHDs should use strategies to ensure effective communication and mutual understanding among partners.

For more information on rapid response and flexibility, refer to [Appendix 1: Collaboration Research, Theories, and Frameworks](#).



Success Story: Working with Healthcare Facilities to Develop Data Use Agreements for EMR Access

Snohomish County Health Department in Washington worked with their local healthcare facilities to establish EMR access. This LHD now has access to the EMRs for the majority of the local primary care clinics and inpatient hospitals. Having direct access to the EMR is extremely useful for multiple aspects of case and outbreak investigation. With easy access to EMR information, Snohomish County Health Department can make response plans in a timely manner. In addition, LHD staff can see a fuller picture of the patient's history, which may prompt additional topics to explore in the subsequent patient interview process. This improved response and access to robust information help this LHD in its goal of controlling outbreaks and limiting their spread.

Public Health EMR access is also helpful for the healthcare facility as it greatly reduces the amount of staff time required to pull medical records, send medical records to the LHD, and respond to subsequent requests. In addition, the patient benefits because they are receiving fewer repetitive questions during the LHD interview since the Snohomish County Health Department staff have access to questions that were already answered during their medical visit in the EMR. By quickly gaining a comprehensive snapshot of cases, Snohomish County can swiftly respond to new outbreaks, and allows them greater flexibility with staff, resources, and partners.

This success story illustrates how the flexibility and rapid response achieved through effective partnerships and collaboration can significantly enhance the management and containment of outbreaks in healthcare settings.



Resources

To support LHDs in enhancing their rapid response and flexibility for effective partnerships during outbreak responses, consider the following resources:

- ▶ CDC's Emergency Response Resources: The CDC provides extensive resources for establishing and maintaining rapid response capabilities. This includes guidelines on emergency response capacity, checklists, and strategies for effective communication and resource allocation. [Access CDC Emergency Response Resources.](#)
- ▶ Public Health Modernization Toolkit: The National Academy for State Health Policy (NASHP) offers a comprehensive toolkit that outlines key commitments, priorities, and strategies to advance collaboration between public health and health systems. This toolkit emphasizes the importance of established communication channels and flexible resource allocation. [Explore the Public Health Modernization Toolkit \(NASHP\).](#)

Sustainable and Resilient Partnerships

Sustaining partnerships beyond the immediate demands of a crisis like COVID-19 requires intentional efforts from LHDs. While the pandemic fostered stronger ties through increased communication and trust-building, these partnerships often face challenges, such as staff turnover, resource limitations, and evolving data management needs. Ensuring the longevity of these partnerships means proactively addressing these challenges while also focusing on long-term resilience. Building strong interpersonal relationships and fostering trust among partners enhances the ability of these collaborations to adapt, maintain essential services during crises, and recover from unforeseen challenges. This approach not only strengthens LHDs' abilities to navigate future challenges but also ensures the continuity of essential outbreak response strategies.

For more information on long-term partnership resilience, refer to [Appendix 1: Collaboration Research, Theories, and Frameworks](#).



Success Story: Long-Term Partnership Resilience

The Florida Department of Health in Polk County (DOH-Polk) exemplifies long-term partnership resilience through its collaboration with local hospitals and health care facilities to manage infectious disease outbreaks. During outbreaks of infectious diseases or emerging public health threats, DOH-Polk promptly elevates services to address an ongoing or potential surge in cases.

DOH-Polk utilizes the EpiCom alert system to disseminate guidance on outbreaks and emerging events of public health importance. This guidance is sent to other county health departments in Florida to provide situational awareness. In addition to the EpiCom alert system, DOH-Polk uses the Visits of Interest (VOI) feature of the ESSENCE-FL syndromic surveillance system to quickly identify and investigate high-priority emergency department and urgent care visits. VOI helps facilitate DOH-Polk in alerting health care partners that may not have been aware of these specific visits.

A key factor in DOH-Polk's partnership resilience is the focus on building strong, interpersonal relationships with partners. DOH-Polk provides routine updates to community partners on local disease trends and emerging threats at monthly meetings. By engaging in thoughtful listening and collaborative problem-solving, DOH-Polk ensures that all parties are aligned in their response strategies. This trust-building process helps to address crises and strengthen partnerships for future challenges. DOH-Polk's ability to sustain collaborative efforts and achieve long-term goals with community partners highlights the importance of resilience in public health partnerships to ensure continuity and adaptability during disruptions.

The Florida Department of Health in Polk County's ability to sustain collaborative efforts and achieve long-term goals with its partners highlights the importance of resilience in public health partnerships, ensuring continuity and adaptability even during disruptions. This success story demonstrates that long-term resilience in outbreak response is built on the foundation of strong, enduring partnerships and ongoing collaboration across sectors.

Resources

To support LHDs in building sustainable partnerships, consider the following resources recommended by NACCHO:

- ▶ Access [WHO's policy recommendations on building resilient health systems](#). The World Health Organization (WHO) outlines seven key policy recommendations to enhance health system resilience, emphasizing the need for sustainable and equitable health systems capable of withstanding various public health challenges.
- ▶ Access the [Public Health Modernization Toolkit](#). The National Academy for State Health Policy (NASHP) provides a comprehensive toolkit that outlines key commitments, priorities, and strategies to advance collaboration between public health and health systems. This toolkit emphasizes the importance of engaging partners and communities in identifying statewide health priorities and fostering resilient partnerships.
- ▶ Access the [Health Systems Resilience Toolkit](#). The WHO has developed a global health systems resilience toolkit to support countries in strengthening sustainable health systems. This toolkit provides guidance on policy, planning, operational delivery, and monitoring and evaluation to build resilient health systems that can adapt and recover from various shocks.
- ▶ Access the [Collaboration for the Long-Term Brief](#), a part of a series developed by the Population Health Innovation Lab (PHIL), a program of the Public Health Institute. This brief discusses the importance of sustained partnerships and describes successful strategies for sustaining collaborative work.

Conclusion

This strategic collaboration guide underscores that effective outbreak response and prevention are fundamentally built on strong, resilient partnerships. By implementing the frameworks and strategies detailed in this guide, LHDs can enhance their ability to manage public health crises through the following:

- ▶ Establishing effective partnerships is essential for aligning goals and building relationships based on open communication, mutual respect, and trust. Leveraging technology, such as data-sharing platforms, helps facilitate real-time information exchange and coordination among partners.
- ▶ Maintaining and strengthening partnerships can require formal agreements, such as MOUs, to define roles and responsibilities. Institutionalizing processes and creating centralized knowledge management systems ensures continuity and consistency, even during personnel changes.
- ▶ Resource allocation and management are optimized through data-driven decision-making and cross-sector collaboration. Conducting regular needs assessments and integrating data systems helps allocate resources effectively to meet community needs.
- ▶ Data management and surveillance are critical for timely and informed decision-making. Robust data systems and collaborative data-sharing agreements enhance the ability to track and respond to outbreaks efficiently.
- ▶ Partnerships focused on equitable and inclusive outcomes can ensure that interventions address the needs of all population groups, particularly the most vulnerable. Incorporating equity into data collection, data analysis, and outbreak response helps identify disparities and develop targeted responses.
- ▶ Rapid response and flexibility are essential for forming and adapting partnerships during emergencies. Flexibility is important and will help LHDs to increase efficiency of resources and staff during outbreak response.
- ▶ Long-term partnership resilience focuses on the ability to adapt and maintain essential services during crises. Building strong interpersonal relationships and fostering trust among partners ensures that collaborative efforts can withstand and recover from unforeseen challenges.

By embracing these principles and leveraging the provided resources and tools, LHDs can build and sustain effective partnerships that enhance their outbreak response capabilities to improve public health outcomes.

Acknowledgments

This guide was developed through the collaborative efforts of many dedicated professionals and organizations. We would like to extend our deepest gratitude to all those who contributed their time, expertise, and insights.

We are especially grateful to:

- ▶ NACCHO for its leadership and vision in supporting LHDs
- ▶ The Population Health Innovation Lab (PHIL) and the Public Health Institute (PHI) for their guidance and resources
- ▶ The LHDs who shared their success stories, strategies, and tools, providing invaluable real-world examples of effective outbreak management
- ▶ All the public health professionals and teams who reviewed and provided feedback on this guide, helping to refine and enhance its content

Your collective efforts have made this guide a valuable resource for LHDs nationwide. Thank you for your commitment to public health and your dedication to continuous improvement in outbreak response and prevention.

Questions? Contact Us: infectiousdiseases@naccho.org

Appendices

Appendix 1: Collaboration Research, Theories, and Frameworks

Appendix 1 elaborates on key concepts introduced throughout the Strategic Collaboration Guide, including an overview of related research, theories, frameworks, and examples from the field.

Partnership and Collaboration Defined

A health-focused partnership can be defined as, “Bringing together all those involved in improving the health and quality of life of people.”¹¹ This definition highlights the collaborative nature of health-focused partnerships. Another definition of a partnership in health-focused partnerships is, “a collaborative relationship among multiple organizations in which risks and benefits are shared in pursuit of a shared goal.”¹² This definition emphasizes the need for a shared goal, whereas the first definition highlights involvement between partners.

Both definitions above are applicable to Local Health Departments (LHDs) because they highlight the collaborative nature of health partnerships and the need for identifying common goals and objectives among partners. For example, collaboration among different divisions within an LHD is often needed to accelerate the effectiveness of a public health intervention and sustain the functions of the LHD.¹³ A partnership often leads to collaboration, and collaboration can occur without a formal partnership; however, creating a formal agreement can set expectations and goals for a collaboration.

Biddell et al. found through a qualitative network mapping analysis of local decision-makers during the COVID-19 pandemic that their roles within the partnership informed their perspectives and goals, which impacted decision outcomes.⁹ They also found that the COVID-19 response needed cross-sector collaboration and that LHDs often acted as the liaison connecting all the organization types.⁹

Types of Partnerships and Collaboration in Outbreak Response

Partnerships in infectious disease outbreaks in healthcare settings encompass a wide array of entities and can span multiple sectors. Partnerships may include different divisions within a LHD, community members, governmental institutions, non-governmental institutions, or community-based organizations.¹¹

The types of partnerships in outbreak responses are informed by who is involved in making decisions that affect community health, the relationship among decision makers’ roles, the types of decisions that need to be made, and the methods of influence among stakeholders within a community.⁹ Abeykoon and Biddell et al. suggest that engaging a diverse group of partners, allocating resources effectively, and focusing on long-term outcomes can enhance the impact of health and healthcare initiatives.^{11,9} By leveraging diverse resources and expertise, these strategies have the potential to address complex health challenges and achieve greater impact within a population.^{11,9}

Common types of partners and partnerships for outbreak response include:

- ▶ **Public Health Laboratories:** They diagnose and confirm infectious disease cases.
 - **Cross-Boundary Collaboration:** LHDs can collaborate directly with public health laboratories to streamline data sharing and enhance real-time communication during outbreaks, ensuring faster response times and more accurate case tracking.
- ▶ **Divisions Within a Local Health Department:** Includes programs like Healthcare-Associated Infections (HAI), Communicable Disease, Informatics, Public Health Preparedness, and Immunization Programs.
 - **Cross-Boundary Collaboration:** LHDs can facilitate collaboration among different divisions to integrate efforts and optimize response strategies during outbreaks.
- ▶ **State Health Departments:** Support LHDs with guidance, technical assistance, and resource allocation.
 - **Cross-Boundary Collaboration:** LHDs can align with state health departments to standardize response protocols and share best practices across regions.
- ▶ **Federal Health Agencies:** Provide broader guidance and frameworks for outbreak response and allocate resources.
 - **Cross-Boundary Collaboration:** LHDs can engage with federal agencies to secure necessary resources and support, ensuring adherence to national health standards and regulations.
- ▶ **Research and Academic Institutions:** Conduct research to understand the context of local, state, or national outbreaks and develop treatments.
 - **Cross-Boundary Collaboration:** LHDs can collaborate with research institutions to quickly apply new research findings to public health strategies and outbreak responses.
- ▶ **Coalitions:** A group of diverse organizations and individuals with a common interest who agree to work together toward a goal or to find a solution(s) to a problem.¹⁴
 - **Cross-Boundary Collaboration:** LHDs can collaborate with coalitions by coordinating joint efforts among hospitals, clinics, public health agencies, and community-based organizations. This collaboration can involve sharing resources, aligning communication strategies, and developing unified outbreak management plans that leverage the strengths of each coalition member.
 - **Learn More About Coalitions:** [Community Toolbox: Starting a Coalition](#)
- ▶ **Collective Impact Initiatives:** Partnerships involving organizations from different sectors with support from a backbone organization, committing to a common agenda to solve a problem.¹⁵
 - **Cross-Boundary Collaboration:** LHDs can support collective impact initiatives by aligning efforts with healthcare providers, public health agencies, and community organizations to establish shared goals and metrics for outbreak management. This collaboration can include joint training sessions, shared data systems, and coordinated outreach efforts to ensure that all partners are working toward a common objective in managing healthcare outbreaks.
 - **Learn More About Collective Impact Initiatives:** [Stanford Social Innovation Review](#)
- ▶ **Multisector Collaboratives (also known as cross-boundary collaboratives or cross-sector partnerships):** Partnerships involving organizations from different sectors, including government, nonprofit, private, and public organizations, community groups, and individual community members who come together to solve problems that affect the whole community.¹⁶
 - **Cross-Boundary Collaboration:** LHDs can engage in cross-boundary collaboratives by coordinating efforts across various sectors, such as healthcare, education, and social services. This collaboration can involve setting up joint task forces, sharing critical outbreak information, and ensuring that resources and services are delivered equitably across the community.
 - **Learn More About Multisector Collaboratives:** [Community Tool Box: Developing Multisector Collaborations](#)

- ▶ **Collaborative Governance Initiatives:** A group that involves public agencies engaging with private and nonprofit sectors to collectively make decisions and solve problems.¹⁷
 - **Cross-Boundary Collaboration:** LHDs can foster collaborative governance initiatives by establishing governance structures and policies that include healthcare providers, community organizations, and government agencies in the decision-making process for outbreak response. This collaboration can involve regular stakeholder meetings, joint policy development, and the creation of shared response protocols to ensure coordinated and effective outbreak management in healthcare settings.
 - **Learn More About Collaborative Governance Initiatives:** [Adaption in Collaborative Governance Regimes](#)
- ▶ **Collaborative Networks:** An alliance made up of diverse entities that are mostly independent, spread out geographically, and varied in their operating environments, cultures, social capital, and objectives, who work together to more effectively achieve shared or compatible goals.¹⁸
 - **Cross-Boundary Collaboration:** LHDs can support collaborative networks by facilitating information sharing and coordination among healthcare providers, public health entities, and other relevant organizations. This collaboration can involve developing regional strategies for outbreak prevention and control, leveraging technology for real-time data sharing, and organizing coordinated responses across different jurisdictions and healthcare settings.
 - **Learn More About Collaborative Networks:** [CDC OneLab Network](#)
- ▶ **Accountable Communities of/for Health (ACHs):** A cross-boundary, community-based partnership that consists of healthcare, public health, social services, other local partners, and residents to address the unmet health and social needs of the individuals and communities they serve.¹⁹
 - **Cross-Boundary Collaboration:** LHDs can collaborate with ACHs by integrating healthcare and social services to address the social determinants of health (SDOH) that impact outbreak response. This collaboration can include coordinating care and support for affected individuals, particularly in underserved communities, and ensuring that healthcare resources are distributed equitably to those most in need during an outbreak.
 - **Learn More About ACHs:** [George Washington University Funder's Forum on Accountable Health](#)

While each of these partnership types emphasizes different aspects and structures of the collaborative process, all rely on foundational building blocks of effective partnerships, which are explored throughout this guide. These partnership foundations are critical to inform and support effective outbreak response in healthcare settings.

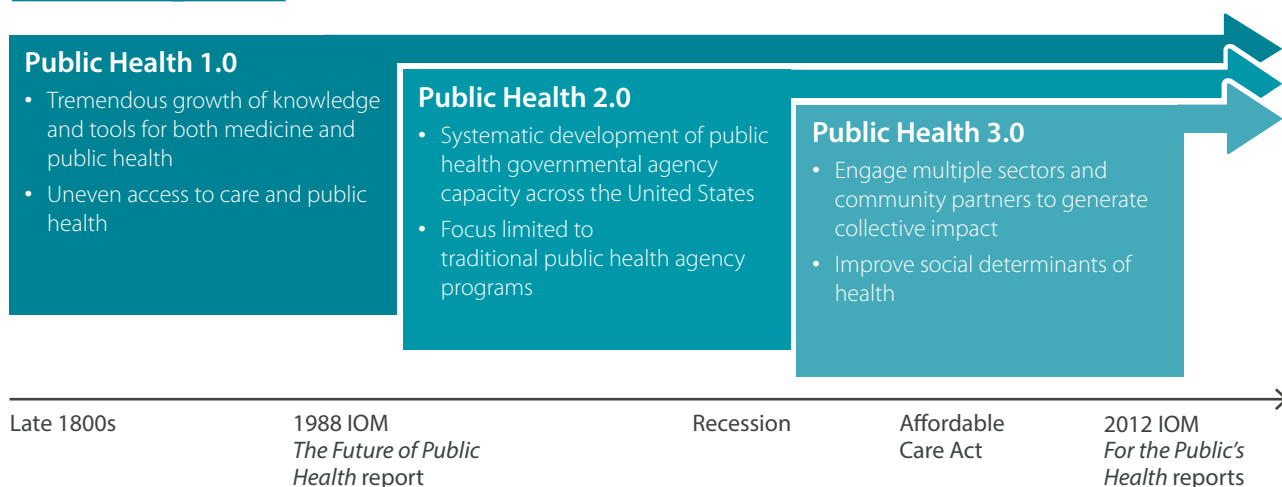
Effective outbreak response in healthcare settings relies heavily on robust partnerships between LHDs and various healthcare partners. These partnerships enable coordinated actions, resource sharing, and comprehensive outbreak management, ensuring public health safety and resilience.

Public Health 3.0

Public Health 3.0 is a framework from the U.S. Department of Health and Human Services (HHS) that uses the role and capabilities of public health to address contemporary health challenges. Public Health 3.0 emphasizes cross-sector collaboration and data-driven approaches, with a focus on SDOH. There are many communities in the United States that are working to improve health by building coalitions to improve education levels, increase economic prosperity, and build safer environments.²⁰ LHDs can leverage the Public Health 3.0 framework to enhance their outbreak response capabilities by focusing on several key areas: cross-sector collaboration, data-driven approaches, and engaging multiple sectors within an LHD.

Figure 2. Development and Iterations of Public Health 3.0

Source: Centers for Disease Control and Prevention. Public Health 3.0: A Call to Action for Public Health to Meet the Challenges of the 21st Century. Published September 7, 2027. Accessed June 3, 2024. https://www.cdc.gov/pcd/issues/2017/17_0017.htm



Key Elements of Effective Partnerships

Successful partnerships are built on shared values and common intentions. Aligning the goals and motivations of all partners ensures that collaborative efforts are directed toward achieving mutual objectives, which is important in outbreak response. Garner and Yogman emphasize the role of shared intentions in fostering collaboration and achieving collective impact.²¹ By aligning their intentions, LHDs and healthcare partners can ensure that their joint efforts are focused on preventing and managing outbreaks effectively. Effective relationship-building involves fostering open communication, mutual respect, and trust among partners, which are essential for coordinating efforts during outbreaks. Key elements of an effective relationship include:

- ▶ **Open Communication:** Su (2016) discusses the importance of communication and relationship-building activities in partnership success, noting that regular and transparent communication helps partners stay aligned and respond quickly to emerging threats.²²
- ▶ **Mutual Respect:** Stall et al. highlight the role of relationship dynamics in partnership outcomes, emphasizing that strong interpersonal relationships can enhance the resilience and adaptability of partnerships during crises.²³
- ▶ **Trust:** Rubin et al. explore strategies for building and maintaining trust in partnerships, emphasizing that trust is fundamental for effective collaboration, especially in high-stakes environments like healthcare outbreak responses.²⁴

Maintaining and Strengthening Partnerships

Formal agreements and arrangements provide a clear framework for partnership operations and expectations. Erickson et al. discuss the importance of establishing formal agreements that define roles, responsibilities, and decision-making processes.⁶ These agreements ensure that all partners are clear about their commitments and can work together effectively. Van Tulder and Keen emphasize the need for accountability and formal agreements to address collaborative challenges.²⁵ For example, LHDs can develop memoranda of understanding (MOUs) with healthcare partners that outline specific protocols for data sharing, resource allocation, and joint response actions during outbreaks. These agreements should be reviewed and updated regularly to reflect any changes in the partnership dynamics or external environment.

To ensure that knowledge is retained and utilized effectively, it is important to institutionalize processes and information. Kuchenmüller et al. and Duggan et al. suggest methods for embedding knowledge within organizational practices.^{26,27} For LHDs, this could involve creating a centralized database or knowledge management system where all outbreak response protocols, training materials, and lessons learned are documented and easily accessible to all partners. This institutional memory helps ensure continuity and consistency in outbreak responses, even when there are changes in personnel or organizational structures.

Accountability mechanisms, including regular monitoring and evaluation (M&E), are essential for partnership success. Ritman and Gossip et al. outline strategies for setting up robust accountability frameworks.^{28,29} LHDs can establish joint M&E committees with healthcare partners to regularly assess the effectiveness of their collaborative efforts. These evaluations can focus on various aspects, such as the timeliness and effectiveness of outbreak responses, the efficiency of communication channels, and the adherence to agreed-upon protocols. By regularly reviewing these metrics, partners can identify areas for improvement and make necessary adjustments to enhance their collaboration.

Communication Strategies

Effective communication is essential for maintaining partnerships and ensuring successful implementation of outbreak response strategies. Newell et al. and Martin et al. further highlight the importance of clear communication and conflict management in partnerships, particularly during high-stakes situations like outbreaks.^{7,8} This includes developing clear communication protocols, resolving conflicts that may arise, and ensuring equitable and inclusive partnership practices.

Technology can enhance communication, and Ledesma et al. discuss specific channels and strategies for maintaining open communication channels and resolving conflicts.³⁰ These include phone calls between case investigators and case patients through Cisco Jabber, which has caller identification and provides case patients with a voicemail inbox to leave messages. Cisco Jabber can be paired with Twilio, an instant messaging software used to alert case patients of phone calls from case investigators and supplies requested information on clinical and support services.³⁰ Integrating multiple communications channels alongside established protocols can be useful tools for case management.

Higgins and Cooper explain in their report on state agency cross-collaboration during the COVID-19 response, “State officials noted that official communication structures set up to relay information to multiple agencies was key to ensuring cross-agency coordination and collaboration.”³¹

Lastly, using and valuing inclusive arrangements, such as those suggested by Johnson et al., creates structures that promote equitable participation.³² One of these arrangements from an LHD includes “bringing marginalized communities to the decision-making table, sharing power, and listening to them and using their solutions.”³²

Approaches to Resource Allocation and Management

Biddell et al. used network mapping to understand the current resource allocation and management response to COVID-19.⁹ They found that cross-sector collaboration was a key aspect of the pandemic response. This collaboration extended to areas such as mental health support, food security, and economic assistance. These partnerships demonstrated the importance of leveraging expertise and resources to address the challenges posed by the pandemic.⁹

LHDs can use similar approaches to map existing networks, identify resource gaps, and enhance communication by establishing cross-boundary leadership. Integrating data systems for resource management and using surveillance data are crucial for informed decision-making during outbreaks. Conducting comprehensive needs assessments, strategically allocating resources, and actively engaging with communities ensures that the needs of diverse populations are met. Formalizing and sustaining partnerships beyond crises builds long-term resilience and leverages cross-sector expertise to improve outbreak response strategies.⁹

Data Management and Surveillance

Effective data management and surveillance are essential for LHDs to mitigate transmission of communicable diseases, coordinate response efforts, and advance equity in outbreak responses.¹⁰ LHDs are often responsible for collecting, analyzing, and disseminating data on outbreaks. For more information on data management and surveillance, refer to the [Data Utilization and Management Guide](#).

During a nationwide Zika virus outbreak in 2017, New York City (NYC) reported approximately 20% of all nationwide cases.³³ In response to this outbreak, NYC Department of Health and Mental Hygiene (DOHMH) and NYC Health + Hospitals quickly set up their emergency response and management systems.³³

The partnership between the DOHMH and NYC Health + Hospitals leveraged existing frameworks that were used for prior infectious disease outbreaks.³³ DOHMH and NYC Health + Hospitals implemented weekly calls between leadership of both organizations.³³ DOHMH also conducted Zika webinars with healthcare staff.³³ This regular communication and space to talk through and make decisions led to an increase in the use of data to inform decisions and practice.

DOHMH analyzed Zika virus test requests that came in from NYC Health + Hospitals prenatal clinics, where patients were more likely to travel to areas with active Zika virus.³³ The data collected by DOHMH, provided NYC Health + Hospitals with the information needed to set up screening and testing among vulnerable populations, including low-income immigrants from the Caribbean and Latin America, and asked questions about their travel history within the electronic medical records systems.³³ This tailored screening approach increased the number of suspected Zika virus cases that were identified during triage at NYC Health + Hospitals. This increase in Zika testing and screening may have decreased the spread of secondary cases in NYC and provided both parties the information needed to inform decision-making within clinical practice to respond to the outbreak.³³

Rapid Response and Flexibility

Newell et al. highlight the importance of established communication channels and flexible resource allocation for rapid response during outbreaks.⁷ The California Public Health Department (CPHD) exemplified this by launching a program to help hospitals meet new reporting requirements for HAIs. CPHD hired ten experienced infection preventionists to advise on HAI prevention and assist hospitals with the necessary data collection and reporting through the National Healthcare Safety Network.⁷

Recognizing the need for robust communication channels with hospitals, the State collaborated with local public health agencies without funding for this activity. The local acute communicable disease control program had already established a Hospital Outreach Unit to build and maintain relationships with local hospitals. This unit comprised five public health nurses and a supervisor, who worked with the county's 102 hospitals to enhance communication, ensure compliance with disease reporting requirements, improve disease surveillance, and assist with infection prevention. This collaboration has become an effective model for guiding future efforts in infection prevention and responding flexibly to outbreaks at both state and local levels.⁷

Long-Term Partnership Resilience

During COVID-19, many LHDs strengthened their relationships with healthcare facilities by increasing communication and building trust. However, maintaining these partnerships beyond an active response can be challenging due to staff turnover, resource constraints, and data management.

The United States Agency for International Development (USAID) defines health system resilience as, "The ability of a health system to mitigate, adapt to, and recover from shocks and stresses. A resilient health system can ensure the continuity of existing health care and has the capacity to scale up or adapt services to address the shock and stresses." For long-term partnership resilience, this definition is crucial because it emphasizes the importance of flexibility and continuity. Partnerships that prioritize resilience are better equipped to manage unforeseen challenges and maintain essential services. This adaptability ensures that all partners can sustain their collaborative efforts and achieve their goals and objectives, even during a natural disaster or outbreak.

Stall et al. highlight the role of relationship dynamics in partnership outcomes, emphasizing that strong interpersonal relationships can enhance the resilience and adaptability of partnerships during crises.²³ Their work centers around a hospital's partnership with a nursing home during a COVID-19 outbreak. A notable quote from their process includes, "The relationship and trust-building process involved thoughtful listening by the hospital about the urgency of the situation within the nursing home and collaborative problem-solving on tangible ways for the hospital to offer assistance within hours. Through this process, both the gravity of the situation in the home as well as the nature of the immediate response required became evident, setting the stage for a codesigned multiphase emergency response."²³ This illustrates how, during a COVID-19 outbreak, a hospital and a nursing home worked together through attentive listening and collaborative problem-solving to quickly develop and implement a joint emergency response.

Appendix 2: Training Modules for Partnership Development Skills

The list below includes online or in-person training modules for Local Health Department (LHD) staff on partnership development skills, such as negotiation, collaborative problem-solving, and cultural competency.

Training	Description
Center for Public Health Continuing Education – Practicing Cross-Cultural Communication: Hepatitis A Outbreak	This collection of case studies delves deep into the practical application of the “ Ten Strategies for Effective Cross-Cultural Communication .”
Georgetown University Certificate in Social Impact Partnerships	This three-day virtual training focuses on how to apply human-centered design thinking to create and sustain partnerships.
NACCHO Essential Skills Training Series: Virtual and In-Person Training Opportunities for LHD Staff	Partnered with the Centers for Disease Control and Prevention’s (CDC) Project First, this training aims to develop essential skills curriculum for LHDs involved in supporting healthcare infection prevention and control activities.

Appendix 3: Additional Resources

The list below provides additional resources, including examples, websites, templates, and tools.

Resource	Description
Digging Deep into the Data: A repository of lessons learned about aligning	In this online seminar, the Population Health Innovation Lab (PHIL) team guides through the carefully curated collection of resources—including stories, statistics, quotes, examples, definitions, ideas, reports, videos, and articles, all focused on the topic of multisector collaboration for improved population health.
Iceberg Model	This exercise can be used to identify the root causes of issues that affect partnership effectiveness and address them systematically.
Identifying Needs and Opportunities for Collaboration	This exercise allows an organization to assess and prioritize potential partners to collaborate with.
Learning Partner Dashboard MOU	This is an example of a Memorandum of Understanding (MOU).
MAPP Circles of Involvement Exercise	This exercise aids organizations in identifying who their key external relationships should be.
Multisector Collaboratives are Key Players in Improving Community Health During COVID-19	This video presents the research findings from a multi-state mixed methods study on multisector collaborative and how they are key plays in improving community health during the COVID-19 pandemic.
Network, Partner, and Relationship Mapping: A PHIL Web Discussion	This web discussion with Jeff Mohr, CEO of Kumu, elaborates on the uses and best approaches to network, partner, and relationship mapping.
Powering Change: Building Healthy, Equitable Communities Together	This web discussion dives deep into the Powering Change curriculum. This practical and comprehensive curriculum supports cross-sector alignment and is for health-focused multisector collaboratives (MSCs) and new or existing collaboratives.
Public Health Institute Teaming Agreement	This is an example of an agreement that two or more organizations sign to affirm individual and team roles and responsibilities.
Readiness Assessment	This tool can be used to evaluate the levels of readiness among Health Centers and LHDs that are currently or considering collaborating with each other.
Root Cause Analysis	This guidance serves as step-by-step instructions for how to conduct a root cause analysis in your organization.
Root Cause Analysis Template	This template can be used for root cause analysis.
Secret Sauce for Aligning Sectors: Top 3 things to do when aligning systems for health	The PHIL team presents the three most impactful approaches for aligning systems for health, which have been identified through PHIL's research.

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