

FLEXED
Virtual Community (VC)

Webinar 1
Future-Ready Epidemiology:
A Conversation on
Strengthening Surveillance
with FLEXED



Workbook

Welcome!

Thank you for joining us for this NACCHO FLEXED Webinar on August 21st, 2025, part of the NACCHO FLEXED Virtual Community (VC) Learning Series.

This workbook contains all the activities and interactive items from the workshop, plus the tools and graphics you need to help facilitate your understanding of the topics covered during our time together.

We encourage you to use this workbook as a tool as you move forward with your mission to strengthen and implement your LHD's surveillance systems.

Surveillance Systems

CHECKLIST ✓

This checklist was developed using resources from CDC's Surveillance Resource Center <https://www.cdc.gov/ophdst/data-research/index.html>, our epidemiology SME consultant with HCC, Inc., and the expertise of our NACCHO FLEXED Ambassadors.

The tool is designed to help local health departments (LHDs) to:
Identify the surveillance systems currently in place within their jurisdiction.
Build awareness and strengthen competencies around existing systems.
Highlight potential systems to consider in future implementation.

Inner Circle (LHD-led/primary responsibility):

Communicable disease surveillance (notifiable diseases)

- Medical surveillance and health services uptake
- COVID-19 case investigation and contact tracing
- Sexually transmitted infections (chlamydia, gonorrhea, syphilis, HIV)
- Tuberculosis case management and contact investigation
- Hepatitis A, B, C surveillance
- Vaccine-preventable diseases (measles, pertussis, mumps)
- Enteric diseases (salmonella, campylobacter, E. coli)
- Vector-borne diseases (Lyme, West Nile, depending on region)
- Other _____



Inner Circle (LHD-led/primary responsibility): (Continued...)



Foodborne illness outbreak investigation

- Restaurant-associated outbreaks
- Multi-jurisdictional outbreak response (working with state)
- School/institutional food poisoning events
- Farmers market/local food producer investigations
- PulseNet participation for molecular subtyping
- Active Consumer Complaint Databases
- Other _____

Healthcare-associated infection surveillance

- Long-term care facility outbreak investigation
- Dialysis center infection monitoring
- Local hospital infection prevention partnerships
- Carbapenem-resistant organism tracking
- Other _____

Notes:



Inner Circle (LHD-led/primary responsibility): (Continued...)



Immunization coverage monitoring

- Adverse events surveillance
- Immunization Registries
- School immunization requirement enforcement
- Adult vaccination coverage assessment
- Flu vaccination campaign monitoring
- COVID-19 vaccination coverage tracking
- Other _____

Basic vital statistics monitoring

- Vital Records Registries
- Death certificate review for reportable conditions
- Infant mortality surveillance
- Overdose death surveillance
- Suicide surveillance
- Other _____

Rumor Surveillance

- Social media, blogs, discussion sites and forums, media, hearsay
- Other _____

Middle Circle (LHD collaborative or secondary role)

Syndromic surveillance (often state-led but LHD partnership)

- Emergency department syndromic surveillance (ESSENCE, RODS)
- School absenteeism monitoring
- Over-the-counter medication sales monitoring
- Poison control center data monitoring
- Other _____

Environmental health surveillance

- Air quality monitoring and health impact assessment
- Water quality surveillance and beach monitoring
- Harmful algal bloom monitoring
- Lead exposure surveillance (especially childhood)
- Pesticide exposure monitoring
- Climate-related health surveillance (heat illness)
- Disaster surveillance
- Other _____



Notes:



Middle Circle (LHD collaborative or secondary role) (Continued...)

Vector Surveillance

- Mosquito surveillance and testing (West Nile virus, Eastern Equine Encephalitis, Zika, Chikungunya, Chagas, Dengue depending on region)
- Tick surveillance (Lyme disease, Rocky Mountain spotted fever, other tick-borne diseases)
- Flea surveillance (plague in endemic areas)
- Other _____

Animal/Zoonotic Surveillance

- Dead bird surveillance (West Nile virus, avian influenza)
- Bat surveillance (rabies)
- Livestock surveillance partnerships (brucellosis, Q fever)
- Pet/companion animal surveillance (rabies, other zoonoses)
- Wild animal surveillance coordination
- Other _____



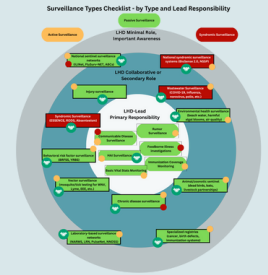
Notes:



Middle Circle (LHD collaborative or secondary role) (Continued...)

Chronic disease surveillance (often state/CDC-led)

- Diabetes surveillance and prevention programs
- Heart disease and stroke prevention monitoring
- Cancer incidence tracking (registry participation)
- Asthma surveillance
- Obesity and nutrition surveillance
- Health Information Exchanges (HIE)
- Other _____



Behavioral risk factor surveillance

- BRFSS (Behavioral Risk Factor Surveillance System) participation
- Youth Risk Behavior Survey (YRBS) implementation
- Tobacco use surveillance
- Substance abuse monitoring
- Other behavioral risk factor surveillance
- Other _____

Notes:



Middle Circle (LHD collaborative or secondary role)

(Continued...)

Injury surveillance

- Opioid & Illicit Drugs/ Substance Misuse/ Overdose
- Fatal and non-fatal injury tracking
- Violence surveillance and prevention
- Falls in elderly populations – Emergency Rooms, EMS, Medicare
- Motor vehicle crash surveillance
- Workplace injury monitoring/ occupational health surveillance
- Other _____

Wastewater Surveillance

- COVID-19 community prevalence monitoring
- Influenza surveillance
- RSV surveillance
- Norovirus monitoring
- Opioid metabolite surveillance
- Polio surveillance (especially important given recent detections)
- Mpox surveillance
- Antimicrobial resistance gene monitoring
- Other _____

Notes:



Outer Circle (LHD minimal direct role but important awareness):

National syndromic surveillance systems

- BioSense 2.0
- National Syndromic Surveillance Program (NSSP)
- Electronic Health Record surveillance networks
- Epi-X: The Epidemic Information Exchange
- Other _____



Specialized registries (cancer, birth defects)

- State cancer registries (SEER program participation)
- Birth defects surveillance (state birth defects registries)
- Immunization Information Systems (state-managed)
- Health Information Exchanges
- Other _____

Notes:



Outer Circle (LHD minimal direct role but important awareness): (continued)



National Sentinel Networks

- Influenza-like illness surveillance (ILINet)
- FluSurv-NET (influenza hospitalization surveillance)
- Active Bacterial Core surveillance (ABCs)
- Emerging Infections Program surveillance
- Other _____

Laboratory-based surveillance networks

- National Antimicrobial Resistance Monitoring System (NARMS)
- Laboratory Response Network (LRN)
- PulseNet molecular subtyping network
- National Notifiable Diseases Surveillance System (NNDSS)
- Other _____

Notes:



Surveillance Types & Lead Responsibility



CASE STUDY

LEARNING OBJECTIVES

By the end of this case study, participants will be able to:

- Analyze multiple factors influencing surveillance system selection
- Discuss ideas for managing competing political and public health priorities
- Identify key partnership considerations for surveillance implementation
- Apply systems thinking to complex public health challenges

THE SCENARIO

You are an epidemiologist with a mid-to-large-sized LHD. At a national conference, after your poster presentation on your LHD's approach to surveillance systems, a participant, Dr. Nadia Martinez, asks you if you will consult with them on their current surveillance challenges. After learning more about the details of the case, you agree.

THE CASE DETAILS

BACKGROUND: MEET DR. NADIA MARTINEZ

Dr. Nadia Martinez is the Surveillance Coordinator at Riverside County Health Department (population 450,000), a mid-sized LHD serving a diverse community that includes urban areas, agricultural regions, and growing suburban developments. She's been tasked with establishing ONE new surveillance system with limited resources.

Notes:



CASE STUDY

THE CASE DETAILS - CONTINUED

CURRENT LHD CAPACITY

- Staff: 2 epidemiologists (including Nadia), 1 data analyst (part-time).
- Technology: Basic surveillance software, limited IT support.
- Budget: \$75,000 non-recurring funds for new surveillance system establishment.
- Existing relationships: Strong with hospitals, moderate with community partners.
- Existing systems: several communicable disease reporting systems, but syndromic surveillance and provider reporting tends to be incomplete.

CLOSER TO HOME:

What level of capacity do you have at your LHD?

COMMUNITY CONTEXT

- Recent community trust issues following COVID-19 response
- Diverse population with language barriers
- Mix of urban and rural areas with different risk profiles
- Active environmental justice advocacy groups
- Strong agricultural industry influence

CLOSER TO HOME:

What is the community context in your jurisdiction?

CASE STUDY (CONTINUED...)

CHALLENGE 1: THE SELECTION DILEMMA

NADIA FACES PRESSURE TO ADDRESS MULTIPLE URGENT NEEDS SIMULTANEOUSLY:

- Rising opioid overdose deaths
- Increasing reports of foodborne illness from local restaurants in the tourist district
- Growing vector-borne disease concerns due to climate change
- Limited budget allows for only ONE new surveillance system

CLOSER TO HOME: 

What are the urgent multiple surveillance needs of your jurisdiction?

Notes:

CASE STUDY (CONTINUED...)

CHALLENGE 2: POLITICAL PRESSURES

MAYOR JOHNSON'S PROMISES

Mayor Johnson is up for re-election and has publicly promised to address the "opioid crisis" to his constituents and funders. She has met with the Director of Nadia's LHD and asked how the LHD can better serve the community when it comes to the issue, suggesting that there may be benefits to the LHD if she is reelected.

THE COUNTY HEALTH BOARD'S PRIORITY

The County Health Board is pushing for more restaurant surveillance due to a rising number of serious and high-profile foodborne illness cases in the local tourist industry. The tourism board has been pushing for this system, and it is in the economic development plan for the county. The current foodborne illness surveillance system is lacking - a basic complaint system and data collection exist only in the Department of Business Regulations for hotels and restaurants, but there is nothing at the local HD level.

THE STATE HEALTH DEPARTMENT'S CONCERNS

The State Health Department is strongly encouraging enhanced vector surveillance due to a recent spike in West Nile virus detections in neighboring counties and possible future diseases which are looming, such as Zika, Dengue, Chikungunya, and Chagas. There is real concern that cases and resources will become overwhelmed if this issue is left unchecked. The State Health Department decides on allocations for funding to the LHD.

CLOSER TO HOME: 

What are the political pressures of your jurisdiction?

CASE STUDY (CONTINUED...)

CHALLENGE 3: PARTNERSHIP COMPLEXITIES

WHAT ARE THE DIFFERENT POSSIBLE PARTNERSHIPS NEEDED FOR EACH SURVEILLANCE OPTION?

OPIOID SURVEILLANCE:

FOODBORNE ILLNESS SURVEILLANCE:

VECTOR SURVEILLANCE:

CASE STUDY (CONTINUED...)

CHALLENGE 3: PARTNERSHIP COMPLEXITIES

WHAT ABOUT THESE POSSIBILITIES?

OPIOID SURVEILLANCE:


EMS, hospitals, coroner's office, law enforcement, substance abuse treatment centers, vital statistics office

CLOSER TO HOME: 

What are the possible opioid surveillance partners in your jurisdiction?

FOODBORNE ILLNESS SURVEILLANCE:


Restaurants, food suppliers, state ag department, neighboring counties, tourism industry, local foodborne complaint system through the LHD

CLOSER TO HOME: 

What are the possible foodborne illness surveillance partners in your jurisdiction?

VECTOR SURVEILLANCE:

University entomology department, mosquito abatement district, veterinary clinics, state environmental agency, state fish and wildlife/ gaming commission, agricultural business and industry (poultry farms, etc.)

CLOSER TO HOME: 

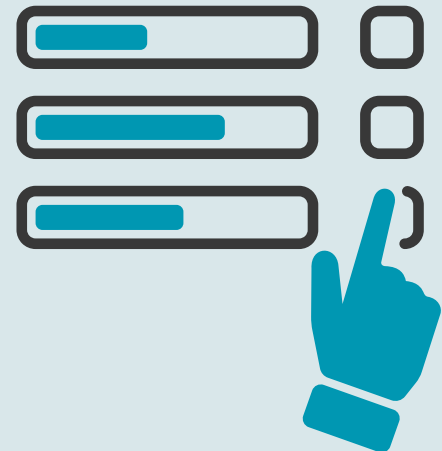
What are the possible vector partners in your jurisdiction?

CASE STUDY (CONTINUED...)

AS A CONSULTANT TO NADIA AND THE RIVERSIDE LHD, WHICH SURVEILLANCE SYSTEM WOULD YOU CHOOSE AS THE FIRST PRIORITY? PLEASE RESPOND IN THE POLL

Answer Options:

- A) Opioid overdose surveillance
- B) Foodborne illness surveillance
- C) Vector-borne disease surveillance
- D) Other



Top Choice:

QUESTIONS FOR YOU TO CONSIDER AT-A-GLANCE:

- What information did you consider when you were thinking through the different choices?
- How did you prioritize your selection and why?
- What information were you missing?
- What are the strongest arguments for the top surveillance system?
- What partnerships would be essential for success?
- What would be your biggest implementation challenges?
- How would you overcome the biggest implementation challenges?

CASE STUDY (CONTINUED...)

MORE SPACE FOR YOU TO CONSIDER THEM!

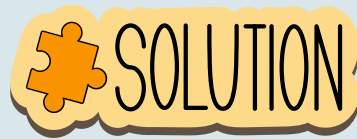
- How would you overcome the biggest implementation challenges?

ADDITIONAL QUESTIONS:

- How do you balance public health need vs. political pressure?
- What strategies help build trust with hesitant community partners?
- How do you maximize impact with limited resources?
- What's your top strategy for managing political pressure?
- Which partnership challenge concerns you most?

CASE STUDY (CONTINUED...)

WHAT ARE YOUR SOLUTIONS FOR NADIA AND RIVERSIDE COUNTY?



What are some facilitators that could help Nadia and Riverside achieve success with/ strengthen their surveillance efforts?

Is there anything from your own experiences that you would recommend?

WRAPPING IT ALL UP: WHAT ABOUT YOU AND YOUR LHD?

What are the facilitators that would help you strengthen or implement the surveillance infrastructure at your LHD?

- **Can you overcome your existing barriers to strengthening or implementation?**
- **Why or why not?**
- **What suggestions can you give each other?**

What Are Your Next Actionable Steps?

*Take
the Next Step
Now*

In the Next 48 Hours I Will:

In the Next Week I Will:

In the Next Month I Will:



What Are Your Next Actionable Steps?

Take
the Next Step
Now

SOME IDEAS!

In the Next 48 Hours I Will:

- Schedule to take one of the trainings on the curated list.
- Continue to gather or share knowledge on surveillance systems using the VC - Post a question, comment or information on the platform.
- Reach out to at least 1 VC participant to discuss the topic.
- Think about which surveillance systems need to be strengthened or implemented in my jurisdiction.
- Discuss which surveillance systems need to be strengthened or implemented in my jurisdiction with at least one colleague or a mentor.

In the Next Week I Will:

- Discover and Draft an outline of steps that our LHD would need to take to strengthen or implement a surveillance system.
- Share key elements of that outline with at least one colleague or a mentor.
- Determine what partners would need to be involved in the steps in my outline.

In the Next Month I Will:

- Determine what resources would be required for my outline.
- Determine which colleagues can work with me to expand on my concept and recruit them.
- Contact one potential partner and establish rapport.

