Infectious Disease Surge Annex

Annex to the Mid-South Emergency Planning Coalition Response Plan

June 2024

Record of Changes

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Acronyms

ACS	Alternate Care Site
ASPR	Assistant Secretary for Preparedness
CDC	Centers for Disease Control and Prevention
CDRU	Communicable Disease Response Unit (Vanderbilt)
CEDEP	Communicable Environmental Disease and Emergency Preparedness
CSC	Crisis Standards of Care
DSI	Death Scene Investigator
EAH	Ebola Assessment Hospital
EMA	Emergency Management Agency
EMS	Emergency Medical Services
EPI	Epidemiologist
ERC	Emergency Response Coordinator
ESF	Emergency Support Function
FDA	Food and Drug Administration
HCC	Healthcare Coalition
HHS	Department of Health and Human Services
HID	Highly Infectious Disease
HRTS	Hospital Resource Tracking System
IC	Incident Command
ID	Infectious Disease
IT	Information Technology
JIC	Joint Information Center
LTC	Long Term Care
ME	Medical Examiner
MOU	Memorandum of Agreement
MRC	Medical Reserve Corp
NGO	Non-Governmental Organizations
PODS	Points of Dispensing
PPE	Personal Protective Equipment
RHC	Regional Hospital Coordinator
RMCC	Regional Medical Coordination Centers
RHOC	Regional Health Operations Center
SME	Subject Matter Expert
SNS	Strategic National Stockpile
TCA	Tennessee Code Annotated
TDH	Tennessee Department of Health
TEMA	Tennessee Emergency Management Agency
TEMP	Tennessee Emergency Management Plan
TFFC	Tennessee Federation of Fire Chaplains
TNHAN	Tennessee Health Alert Network

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1. Introduction

1.1 Purpose

The purpose of this annex is to provide a framework for a "whole of community" response to infectious disease (ID) outbreaks. It also provides more specific guidance for HCC members, regional partners, and other sectors of our region.

1.2 Scope

This Annex is a critical component of the MSEPC's infectious disease readiness, response, and recovery. The communication and incident response structures established in the MSEPC Response Plan also apply to infectious disease outbreaks calling upon the necessary resources and activations as warranted by the event.

1.3 Assumptions

As evidenced by past outbreaks, including SARS CoV2 - COVID 19, a systemic planning approach for infectious disease outbreaks is needed to coordinate staff and resources from various components of the healthcare and community support system. Novel viruses or mutated influenza strains periodically emerge to cause global epidemics, known as pandemics. Novel viruses typically result directly from a mutated animal virus or out of reassortment of an animal virus with a circulating human influenza virus. Such viruses can circumvent normal immune defenses, and lead to a high rate of morbidity and mortality.

Novel viruses or mutated influenza viruses with pandemic potential are transmitted from person to person in the same manner as seasonal influenza. Typically, by large respiratory droplets caused by coughing, sneezing or by touching contaminated environmental surfaces and subsequently touching one's mouth, nose, or eyes.

Vaccines, antiviral medications, immune system boosters, and advanced medical care have proven to be most effective in reducing morbidity and mortality from novel pathogens. Additional response strategies have been proven to be successful in reducing the impact of past pandemics. The proper use of masks, social distancing, handwashing along with special precautions by healthcare workers have been effective in reducing the impact of pandemics. Assumptions to be considered in a large ID outbreak include:

- The CDC Emerging Infection Disease Plan states that no one knows what new disease(s) will emerge
- Little information on which to base protective actions may be available during the early phases of a potential pandemic and information will evolve as an extended outbreak progresses
- Political views and initiatives will influence response and decisions during large, extended period ID outbreaks.
- The response to a pandemic or large outbreak will require significant HCC integration and the use of virtual coordination mechanisms
- Public health agencies have an overall responsibility for epidemiologic investigations, contact tracing, social distancing protocols, isolation, and quarantine orders according to state laws as well as for issuing overall guidance on infection prevention and control precautions
- Tennessee State Emergency Management has the overall responsibility for command and control when State declarations are enacted
- A pathogen which can be spread by asymptomatic carriers will create additional challenges and will require special countermeasures
- Patient care may be better accomplished with the integration of telemedicine/telehealth consultations
- Staffing at coalition facilities may be challenged by illness, fear of illness, or family obligations (e.g. child/family care if schools are out). Healthcare workers are a high-risk population during most infectious disease incidents; the implementation of effective infection prevention measures and associated training are necessary for workforce protection across the coalition
- Families of patients will place a strain on the healthcare system through information-seeking about loved ones or concerns about exposure/illness. Family members may have also been exposed and may pose a risk to healthcare workers and others in the community
- Testing and laboratory confirmation may be limited or not be timely at the beginning of an incident involving a novel pathogen

- Cases will require laboratory confirmation unless authorities no longer require testing to meet the case definition
- EMS transportation may be limited and have extended off-load times at healthcare facilities due to overcrowding
- A new vaccine for a pandemic can be expected to take at least a year to reach much of the national population, possibly much longer, and may require considerable logistical resources for administration

- Current antiviral medications may not be effective against a novel virus strain
- Large ID outbreaks may require federal Centers for Medicare and Medicaid Services waivers, Food and Drug Administration (FDA)-issued Emergency Use Authorizations, and other regulatory adjustments that may affect healthcare operations and HCC options
- Large ID outbreaks may require the recruitment of volunteers, retirees, and trainees to support and relieve healthcare workers through systems like the Medical Reserve Corp (MRC).
- Healthcare facilities and vendors may become overwhelmed with the treatment and disposal of biohazard material; waste management guidance may be modified, as necessary, to support the health and medical system while maintaining safe handling and patient transport
- Transportation of highly infectious patients will require additional precautions to protect providers and patients
- Supply chain issues will occur in a widespread outbreak and may have dramatic effects on clinical care
- The coalition should plan to request, receive, and distribute Strategic National Stockpile (SNS) assets in accord with jurisdictional public health and emergency management processes. These may include personal protective equipment (PPE), ventilators, and medical countermeasures
- Comprehensive and well-coordinated public health control and community mitigation strategies (e.g., mask-wearing, contact tracing, individual vaccination, quarantine and/or isolation, community-wide cancellation of events, visitation policies) are primary methods for controlling and stopping the spread of infectious diseases
- Should antiviral medication or antibody treatments be effective in reducing the effects of a novel virus strain, it will likely be in short supply and distribution may have to initially go to those who are most at risk
- With a large infectious disease outbreak, critical infrastructure workers can expect an increased workload, due to increased absenteeism
- Non-pharmaceutical interventions such as social distancing and placing a limitation on large gatherings may significantly reduce the impact of an outbreak during a severe outbreak, but may not be closely adhered to by the public
- The first wave of an infection strain could affect a community or large geographic area for weeks or months
- Significant economic disruptions may be expected with greatest impact on the economically vulnerable

- Timely processes for external communications (to include liaisons and spokespersons) and internal communications may need to be developed (to include a way for employees to obtain the most up-to-date information on the event). The media will play an integral role in the response based on the information to be shared, the intensity of how it is shared, and where they are physically positioning themselves (i.e., media staging areas)
- During large ID incidents, individual healthcare facilities may face fatality management challenges that require support from other coalition members
- Health concerns, difficult work environments, economic impact, and stresses of community mitigation measures may present behavioral health challenges among healthcare staff and the general public
- Subsequent waves of infection may be expected

2. Concept of Operations

2.1 Activation

Activation of this annex, or any portion thereof, is determined on a case-by-case basis. The decision to activate will be determined by consensus of the HCC Executive Board in consultation with the Local Health Officer(s) and the State Epidemiologist with input from local healthcare facilities, local epidemiologists, EMS leadership, and other healthcare system stakeholders. Generally, this annex could be activated when a healthcare facility has exceeded or reasonably anticipates exceeding its resources, capability, or capacity due to an infectious disease outbreak.

2.2 Notifications

The Mid-South Emergency Planning Coalition (MSEPC) Executive Director, or Executive Board members, when necessary, will utilize pre-established public health systems to share emergency information, warnings, and situational awareness across medical disciplines, jurisdictions, and Coalition members during public health and medical emergencies. This is typically accomplished via systems such as ReadyOp and the Healthcare Resource Tracking System (HRTS). Additionally, information may be passed to Coalition members via email or direct phone call, when necessary. Finally, during events, the Executive Director may convene healthcare partners via conference call or face-to-face meetings to coordinate information sharing and response actions between partners and Coalition members.

MSEPC essential information elements to be shared include:

- Bed Availability (HRTS)

- Resource Capabilities (HRTS)
- Organization and Service Capabilities (HRTS)
- Facility Status (form shared via ReadyOp and HRTS message board). This form allows the MSEPC and the RHC to quickly identify the facility status of mission critical systems such as electricity, water, and medical gases.

2.3 Roles and Responsibilities

2.3.1 Hospitals

Each hospital has an emergency response plan (EOP) to address internal plan activation, emergency staffing, on-loading and off-loading of patients, isolation patient management, acquisition of emergency supplies, equipment, and pharmaceuticals, emergency evacuation, business continuity, shelter-in-place, fatality management, and coordination with their local office of emergency management and other hospitals in the region. Hospital emergency departments have been supplied with pediatric supplies and coalition-wide exercises have been conducted to assess current readiness to manage surge events.

Crisis standards of care procedures are available to facility administrators for decision making per state guidance found in the document titled *Guidance for Ethical Allocation of Scarce Resources During a Community-Wide Public Health Emergency as Declared by the Governor of Tennessee.*

2.3.2 Non-Hospitals

Depending upon the infectious agent involved in an outbreak, the very young or elderly may be more at risk. The HCC has worked with several governmental and non-governmental agencies in a grassroots effort since 2010 to assist childcare providers in developing emergency response plans. This effort has helped families and childcare facilities prepare for and recover from disasters in a way that ensures that infants, toddlers, and older children stay safe and secure. These partners have been integrated into the ESF 8 response structure.

The HCC also works closely with LTC and other healthcare providers to monitor and control infectious disease outbreaks. The HCC has a LTC subcommittee that meets regularly to prepare for healthcare emergencies.

2.3.3 Public Health

The TDH - Division of Communicable and Environmental Disease and Emergency Preparedness (CEDEP) is responsible for providing statewide public health planning and support for large ID outbreaks. The State Epidemiologist, the Deputy State Epidemiologist

and the Emergency Preparedness staff supports preparedness and response activities with healthcare coalitions, regional and local health departments, and other stakeholders. As the state lead for ESF 8, TDH coordinates with the Tennessee Emergency Management Agency to activate the TEMP to the appropriate level. Through the TEMA ESF structure, TDH and TEMA coordinates with other state departments and partners to provide support to HCCs. TDH provides Information Technology (IT) support through various established channels to collect essential elements of information to provide situation awareness to responders and HCC members.

2.4 Operational Mission Areas

2.4.1 Surveillance

During an outbreak, the HCC coordinates with regional EPI(s) to continually estimate the severity and spread through active and passive surveillance collected from multiple sources. Comprehensive surveillance and epidemiologic research plans will be implemented during the initial days/weeks of the outbreak based on the event. HCC members will:

- Maintain and enhance surveillance systems as needed
- Assist in case-based investigation of infections in humans and animals.
- Assist in assessing contacts of ill persons to determine human-to-human transmission and risk factors for infection
- Conduct reporting according to regional, state, and national requirements
- Report status to identify whether state or federal assistance is required to support surveillance systems, laboratory, and medical treatment
- Share health alert information HCC-wide: what to report, how to test for pathogen, how to communicate with regional public health
- Coordinate with public health and private labs
- Assist in establishing and conducting HCC-wide testing protocol and procedures.
- Share consistent HCC-wide patient/community/provider information

2.4.2 Safety and Infection Prevention

- Identify training needs and sponsor appropriate training in use of Personal Protective Equipment (PPE) and other infectious disease safeguards/protocols specific to the event for healthcare providers. (Lead: HCC)
- Coordinate with healthcare facilities to ensure availability of sufficient quantities of PPE to address outbreak response requirements. (Lead: RHC; Support: HCC, TDH)

- In concert with TDH, ensure linkages exist with adjacent state and county public health authorities to address cross-border outbreak issues, including contact tracing, cross-border use of healthcare facilities, etc. (Lead: ERC; Support: HCC, RHC, TDH)
- Coordinate with medical facilities to identify available isolation beds within the region and implement strategies to address anticipated shortfalls. (Lead: RMCC; Support: HCC, RHC)
- Coordinate with TDH and healthcare facilities to develop protocols to properly isolate persons under investigation to limit transmission prior to laboratory diagnosis. (Lead: EPI; Support: HCC, TDH)
- Coordinate with TDH and healthcare facilities to develop protocols to limit exposure of staff to patients presenting with nonspecific symptoms (e.g. cough) during an outbreak involving a highly infectious disease until diagnosis can be confirmed. (Lead: EPI; Support: TDH, HCC)

2.4.3 Non-Pharmaceutical Interventions

Proper use of multiple non-pharmaceutical interventions can significantly decrease human to human transmission during an outbreak. CDC focuses interventions on nine specific priority program areas: antimicrobial resistance; foodborne and waterborne diseases; vector-borne and zoonotic diseases; diseases transmitted through blood transfusions or blood products; chronic diseases caused by infectious agents; vaccine development and use; diseases of people with impaired host defenses; diseases of pregnant women and newborns; and diseases of travelers, migrants, and refugees.

- Voluntary home quarantine of household member(s) with confirmed or probable case(s) or with other members of their ill family members. Consideration should be given to combining this intervention with the use of prophylactic medications, if sufficient quantities of effective medications are available and a viable distribution plan is in place
- Dismissal of students from school (including public and private schools as well as colleges and universities) along with the cancellation or postponement of school-based activities. The closure of childcare programs coupled with protecting children and teenagers through social distancing in the community should be considered as steps to protect the public. Closing of individual schools with high rates of infection should be considered during a moderate outbreak. When considering these actions, secondary consequences should be considered. The impact on parents who miss work to care for children at home, could place a financial strain on families and be an added stress to the community.

The use of social distancing measures and personal hygiene measures for adults in the community and the workplace are essential steps that should be taken. In the event of a severe outbreak cancelling large gatherings may be considered. Examples include:

- Modification of patient care and waiting areas
- Alteration of workplace environments such as working from home
- Diligently cleaning work surfaces
- Emphasizing healthy personal habits such as frequent hand washing
- Cough etiquette and decreasing the social density within the work environment
- HCC-wide consistent use of masks and other measures such as limiting healthcare facility visitation to help prevent ID transmission based on the event

2.4.4 Surge Staffing

- Specialized infectious disease response teams and supplemental staff may be deployed through the coalition. Policies and procedures for engaging volunteers and expedited credentialing of staff for sharing between facilities can be streamlined through use of the MRC.
- If applicable, enroll adult educators, obstetrical, and pediatric health-care providers, including pharmacies, to promote vaccine access to persons in at-risk groups
- Identify and vaccinate critical infrastructure personnel
- Identify personnel that can be cross trained and deployed to various healthcare facilities across the HCC to assist in triaging, testing, visitor assistance, vaccine administration, etc

2.4.5 Supply Chain, Supplies, Personal Protective Equipment

- Coordinate with local and/or regional public health coordinators regarding the potential receipt and distribution of Strategic National Stockpile countermeasures, as appropriate
- Assess impact on medical care facilities; identify whether medical resources are sufficient to manage ill persons and conduct case-based control efforts; determine if state or federal assistance is required and coordinate according to ESF 8 guidance.
- Disseminate HCC-wide protocols for resource requests from the State and/or other external sources
- As received, disseminate protocols, information, and contacts to verify masks and respirators for healthcare use are FDA approved. Share information for possible device disinfection and reuse

- Serve as liaison between public health agencies and facilities for vaccine storage, supply, and distribution requirements as needed for the event
- Prepare facilities for receipt and allocation of HCC and State cache items

2.4.6 Support Services

Support services may include both healthcare and/or non-healthcare resources required to support the care of infectious disease patients. This may include: dialysis providers, blood banks/blood product providers, laboratory services, infection prevention/control, waste and material management, food and dietary services, and environmental services.

2.4.7 Laboratory

- Assess and optimize laboratory capacity to detect and characterize the infectious disease agent
- Coordinate activities with state/local veterinary diagnostic laboratories as needed
- Share confirmatory samples with the state, CDC, and the U.S. Department of Agriculture (USDA) as needed
- Report status to help determine if state or federal assistance is required to support laboratory activities

2.4.8 Waste Management, Decontamination

- Share guidance HCC-wide on proper packaging, shipping, handling, treatment, and storage of generated waste
- If needed, request additional waste storage containers from vendors or through the ESF resource request process
- If needed, utilize the statewide biowaste disposal contract through TDH
- Identify HCC-wide guidance for reprocessing and reusing PPE, if necessary
- Share resources through the region-wide MOU if facility capabilities are overwhelmed
- Work with TEMA to identify regional locations for sequestering waste, if necessary

2.4.9 Patient Care/Management

- Activate the region-wide HCC MOU to share resources.
- Consult with TDH and HCC SMEs to develop and disseminate strategies to maintain safe patient care when system is overwhelmed
- Develop and provide guidance HCC-wide on triage protocols to healthcare facilities
- Coordinate and share telemedicine resources HCC-wide

- Develop and disseminate guidance and resources HCC-wide to activate alternative negative pressure treatment areas
- Disseminate protocols HCC-wide on decontamination and disinfection procedures for various types of facilities – acute care, ED, clinics, skilled nursing
- Request and deploy behavior health resources to support community care and staff needs *(See: Behavior Health, section 2.5.1)*
- Coordinate with Health Facility Administrators, EMS, the RMCC, and Health Officers to disseminate guidance on Emergency Department wait time reporting, closures, etc, through the use of HRTS and other tools
- Identify or reconfigure alternate care sites, patient waiting, triage, and treatment areas to decrease ID transmission potential
- Provide Hospital Administrators with the latest version of the *Guidance for the Ethical Allocation of Scarce Resources during a Community-Wide Public Health Emergency as declared by the Governor of Tennessee* and conduct HCC-wide conference calls to discuss implementation, if warranted

2.4.10 Medical Countermeasures

- The HCC will work with regional and state responders to update state and local plans based on local conditions to meet MCM distribution goals
- If applicable, refine vaccine distribution and administration plans if a campaign will be initiated, including mass vaccination initiatives and coordination with pharmacies and other groups, as appropriate

- Ensure that all potential vaccinators are registered with the state and are authorized. Review policies and procedures regarding training of non-traditional vaccinators
- Confirm vaccine providers have access to the TDH Immunization Information System (IIS) or alternative systems
- Review training, capacity, and capabilities of vaccine providers for use of the IIS or alternate systems for mass vaccination clinics

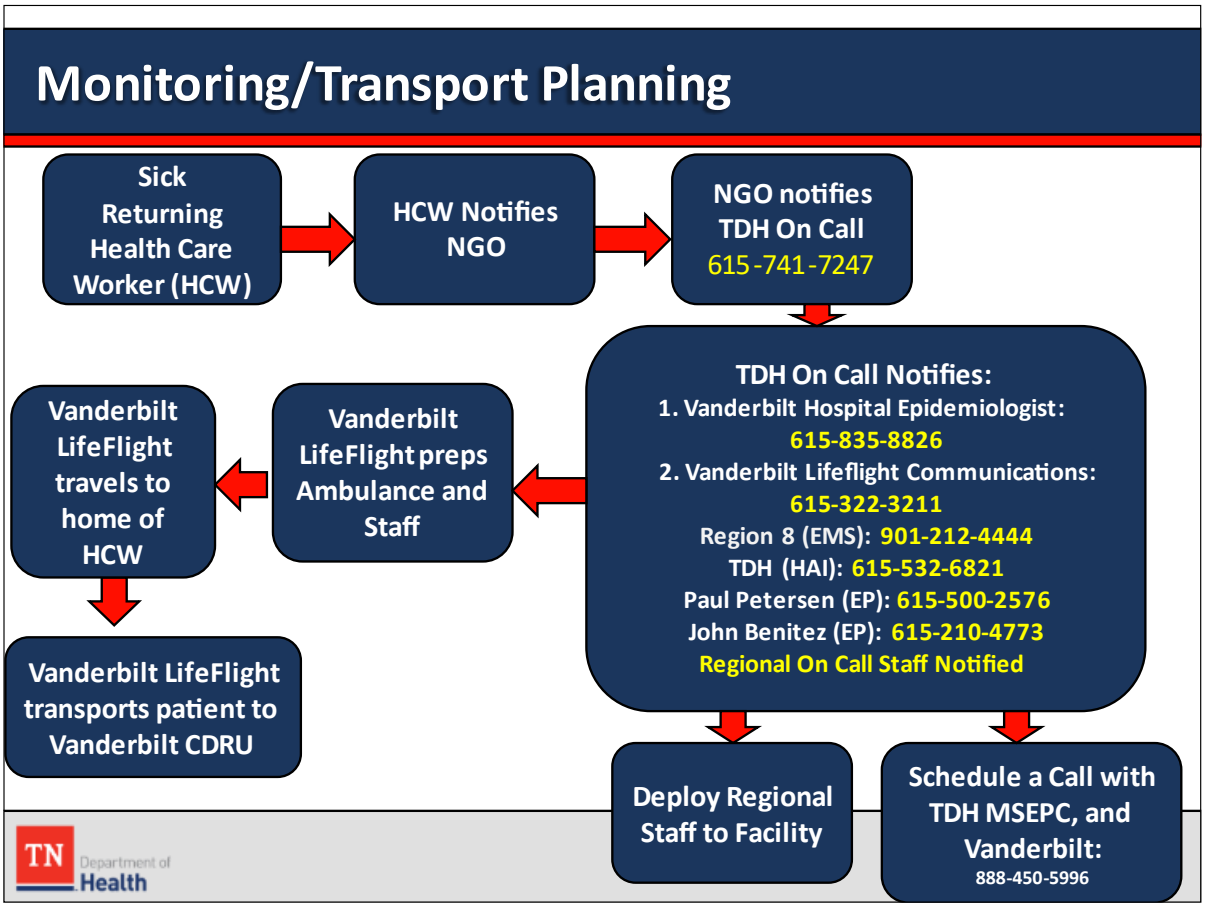
2.4.11 Community-Based Testing

- Assist in developing and disseminate safe specimen collection protocols to be implemented HCC-wide
- Disseminate information HCC-wide for symptoms indicating the need and level of testing
- Disseminate information for specimen packaging and shipping protocols and disseminate HCC-wide

- Coordinate with hospital laboratory and local testing resources HCC-wide to maximize testing surge capacity
- Support HCC partners with community testing sites
- Communicate and update confirmatory testing requirements and standards to local laboratories and healthcare organizations as the outbreak and testing option evolve
- Develop procedures and communication channels to quickly share results with response partners, patients, and contacts

2.4.12 Patient Transport

EMS surge events are coordinated by the State EMS Consultant and the RMCC. TDH licenses EMS services and requires minimum training and equipment for each service. TDH sponsors and deploys "EMS Strike Teams" to meet surge events both within and out of the state. TDH also trains and equips a network of EMS services to provide transport for highly infectious disease patients (typically a person under investigation for Ebola viral disease). Plans have been developed for patient transfers to the Ebola Assessment Hospitals (EAH) in the state along with plans for a transport to the Ebola Treatment Center in Atlanta. The flow diagram for the region for transport to the EAH:



2.4.13 Mass Fatality

The definition of a mass fatality incident is one that results in more fatalities than the local resources can handle utilizing standard of care and processes. When this number is exceeded the incident will be considered a mass fatality and the regional/state response plan can be implemented at the discretion of the county in which the incident occurs. The County Medical Examiner/Death Scene Investigator (ME/DSI) is the legal authority to conduct victim identification, determine the cause and manner of death, and manage death certification. The ME/DSI is also responsible for other medical/legal activities, such as notification of next of kin.

County Medical Examiners are public officials who investigate deaths as authorized by Tennessee Code Annotated (TCA) 38-7-104. The medical/legal death investigators in each county have been approved by the County ME and appointed by the County Commission and will follow rules and regulations as denoted in the TCA.

In a mass fatality situation arising from an infectious disease outbreak resources may need to be shared assets among HCC members. Contaminated or contagious deceased victims from an ID outbreak may require decontamination, additional storage areas, or special treatment to protect others.

2.5 Special Considerations

2.5.1 At-Risk Populations

- The HCC membership regularly reviews *Empower* and the *Social Vulnerability Index* information provided by HHS
- Local resources will be shared by the HCC to help deliver information to reach at-risk populations where English is a secondary language, the homeless community, people who are homebound, etc

2.5.2 Situational Awareness

- The HCC will use and assist in the enhancement of IT reporting and monitoring systems for timely and consistent situational awareness across response agencies
  - The HCC will assist in surveillance and contact notification for persons who may be infected
- The HCC will share information among members and work with regional incident command to maximize available medical resources and personnel

- The HCC will share information among members and work with regional incident command to coordinate testing and laboratory services

3. Deactivation and Recovery

When it is determined that the situation is contained, through the local EMA or the on-scene IC/UC, the RMCC will communicate to health care agencies via HRTS, phone, radio, website, and/or other communication methods that the disaster or situation has been contained and the region has returned to a normal state of operation.

4. References

- Los Angeles County Medical and Health Operational Area Coordination Program, Emerging Infectious Disease Healthcare System Annex Concept of Operations (CONOPS), 2018
- North Georgia Health District Final Draft Communicable Disease Exposure Control (DEC) Plan, 2016
- Northwest Healthcare Response Network, REGIONAL HEALTHCARE SYSTEM EMERGENCY RESPONSE PLAN ANNEX, Regional Acute Infectious Disease Response Plan, 2017