

APPENDIX C2

HIGH CONSEQUENCE INFECTIOUS DISEASE CONCEPT OF OPERATIONS

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Purpose

The purpose of this concept of operations is to provide a strategic high-level overview of the concept of operations for a High Consequence Infectious Disease response in North Carolina.

A High Consequence Infectious Disease refers to a contagious illness that poses significant risks to public health, often due to its potential to cause widespread illness, death, social disruption, and economic impact.

This plan provides a concept of operations (ConOps) for the safe detection, information sharing, and transportation of suspected and/or confirmed cases of High Consequence Infectious Diseases (HCID). The coordination between Local, State, Federal, and private organizations and resources is key to being able to prepare for, respond to and recover from potential outbreaks from HClDs. To keep up with shifting priorities, emerging threats and new guidance, this plan is intended to be a dynamic document that can be modified as new information becomes available.

Authorities

The North Carolina Department of Health and Human Services (DHHS) is the lead agency for disease prevention, treatment, and control. Per the State Emergency Operations Plan (EOP) developed and coordinated by the North Carolina Division of Emergency Management (NCEM), the North Carolina Division of Public Health (DPH), Public Health Preparedness & Response Branch is the lead technical agency for Infectious Disease responses with support from many State Emergency Response Partners including the North Carolina Office of Emergency Medical Services (OEMS).

Local Health Directors (LHDs) and/or the State Health Director (DHHS) or designee have the authority to activate their isolation and/or quarantine plan and issue orders as necessary under; 130A-145, the main isolation and quarantine statute, provides specific procedures for a person to obtain judicial review of an isolation or quarantine order.

Scope

While many local, state, and federal partners may have roles and responsibilities outlined in this ConOps the following are considered the core agencies of this plan: [North Carolina Division of Emergency Management](#); North Carolina Division of Public Health: Epidemiology Section: [Public Health Preparedness & Response Branch](#), [Communicable Disease Branch](#); the North Carolina Division of Public Health: [State Laboratory of Public Health](#); and the Division of Health Service Regulation: Office of Emergency Medical Services: [Healthcare Preparedness Program](#).

Note: This ConOps primarily addresses specific activities related to the response to a viral hemorrhagic fever outbreak or similar type illness. The overall concepts outlined in this plan can be used for a variety of different known and unknown high consequence infectious diseases. The agencies and facilities involved in this type of response each have their own emergency operations plans to facilitate the response and coordination of all types of emergencies and will be used concurrently with this plan.

Roles and Responsibilities

North Carolina Public Health System

In North Carolina, state and local resources work in concert to protect public health. On a day-to-day basis the Division of Public Health's (DPH) Epidemiology Section and the State Laboratory of Public Health (SLPH) work to reduce health risks across North Carolina and respond to disease outbreaks. Within the Epidemiology Section of DPH are two Branches that have shared roles and responsibilities during a high consequence infectious disease response: Public Health Preparedness & Response (PHP&R), and the Communicable Disease Branch (CDB). Investigation and control of communicable diseases are coordinated by the State Epidemiologist and the CDB. A key component is the EPI On-Call line, a 24/7 monitored voicemail that is used by the public health and healthcare systems to report potential and/or confirmed communicable diseases and to receive communicable disease response technical assistance. The staff for this EPI On-Call line comes from the Communicable Disease Branch. Overall planning and coordination of response to public health emergencies is performed through PHP&R. The SLPH is responsible for the initial Diagnostic Specimen Testing for several different HCIDs and provides lab consultation and support to public health and healthcare systems. The SLPH utilizes a 24/7 Duty Phone that is staffed by members of the Bioterrorism and Emerging Pathogens (BTEP) Unit. The Local Health Departments and Districts are responsible (and have legal authority) to investigate cases and outbreaks, and to identify and require control measures.

North Carolina State Laboratory of Public Health (SLPH) can perform testing for many of the suspect biological threat agents identified by the CDC Laboratory Response Network (LRN) as emerging infectious diseases. The laboratory also has the capacity to expand testing once approved and released by the LRN. The SLPH also maintains a laboratory response network within the state comprised of both hospital and private clinical laboratories that coordinates testing protocols and processes throughout the state. Within that program is a robust training program for safe packaging and transportation of samples to the SLPH. For current information and guidance regarding laboratory testing, specimen collection, packaging and transport, please refer to the [State Laboratory of Public Health website](#) or **call the 24/7 duty phone at 919-807-8600.**

Emergency Medical Services System

The Emergency Medical Services (EMS) systems across all local jurisdictions should be prepared and capable of transporting a patient with a High Consequence Infectious Disease. EMS systems should have access to an initial cache of personal protective equipment to utilize once a potential HCID patient has been identified and should undergo annual training on the identification, isolation and inform processes for HCID outlined in this plan. Transportation of an emergency incident in the community will be the responsibility of the local EMS agency according to applicable local jurisdictional plans. For individuals that are under monitoring in the community and are not emergent or those who have not activated the 911 system should be transported through a non-911 option such as hospital-based critical care services, privately owned vehicle, or other transportation method with the least likely method for spread of the HCID.

North Carolina Office of EMS

The North Carolina Office of EMS has the following responsibilities during a potential HCID response:

1. Provide Situational Awareness and Information Sharing amount the Healthcare System regarding HCID outbreaks
2. Augment medical surge

3. Coordinate healthcare resource allocation
4. Provide guidance for HCID patient transportation when requested

North Carolina Tiered Healthcare System

To align more closely with the levels outlined by the American College of Surgeons (ACS) Trauma Guidelines, the National Special Pathogens System has identified four levels of healthcare facilities for the triage, assessment, and treatment of HCID patient. According to this plan, North Carolina has accepted these levels as outlined below:

Level 4: Frontline Healthcare Facilities (FHF) are any healthcare facility (e.g., physician's office, urgent care, outpatient clinic, emergency department, in-patient hospital.) to which a patient with HCID symptoms may initially seek care. Frontline healthcare facilities should be prepared to:

- Identify and triage a potential HCID patient within 5 minutes of arrival based on the patient's relevant exposure history and signs or symptoms consistent with a HCID.
- Each Frontline Healthcare Facility should have access to an initial cache of personal protective equipment that staff can utilize once a potential patient has been identified.
- Isolate any patient with relevant exposure history and signs or symptoms consistent with HCID.
- Inform as soon as possible appropriate authorities per their local guidelines (e.g., their hospital/facility infection control program, all appropriate facility staff/ management, and state and local public health departments) of the identified potential HCID patient.
- Initialize stabilizing medical care for the HCID patient until higher level of care can be obtained.
- Participate in a risk-assessment between Local/State Public Health to determine potential risk for HCID.
- It is the expectation that a patient be transferred as quickly as possible from a FHF to an assessment or treatment facility, however, in a worst-case scenario, facilities that have in-patient capability (e.g., Hospitals) need to be prepared to care for a potential HCID patient for up to 24 hours.

It is expected that the transport/transfer of suspected HCID patients from the community or FHF will follow each individual health system's normal referral patterns or established catchment area unless preference by the patient or clinical expertise changes this decision. Additional screening should be done in real-time based on guidance from local and state public health entities and the receiving HCID assessment or treatment hospital. Inter-facility transport will be made by appropriate vehicles with staff trained and equipped specifically for the transport of persons suspected of having a high consequence infectious disease.

Level 3: Assessment Hospitals (AH) in North Carolina are tertiary care hospitals that have the capacity to conduct limited basic laboratory testing or coordinate the delivery of such tests to the State Lab of Public Health (NC SLPH) and stabilize and coordinate transportation of HCID patients to appropriate treatment hospitals. These capabilities should include a plan for adequate stabilizing treatment areas, skilled and trained staff, appropriate equipment and demonstrated proficiency in infection control procedures. Each Assessment Hospital should be prepared to:

- Meet all the requirements of the Frontline healthcare facilities.
- Receive and Isolate potential HCID their facility area within 8 hours of receiving activation from NC HPP and/or NC DPH

- Stabilize and begin care for the potential or confirmed HCID patient for up to 96 hours or until a diagnosis can be confirmed or ruled out and/or until discharge or transfer is completed.
- Initiate or coordinate HCID testing and testing for alternative diagnoses.
- Coordinate with NC HPP and NC DPH the potential transfer of the individual to a Regional Emerging Special Pathogens Treatment Center or RESPTC (if indicated)
- If HCID is ruled out as a potential diagnosis, then the Assessment Hospital is responsible to continue caring for the patient based on their normal protocols.

The healthcare organizations that have indicated the capability of HCID Assessment Hospitals for their specific referral areas: Mission Hospital (Asheville, NC), Atrium Health Wake Forest Baptist (Winston-Salem, NC), Atrium Health (Charlotte, NC), Cone Health Moses Cone Hospital (Greensboro, NC), Duke University Medical Center (Durham, NC), WakeMed (Raleigh, NC), ECU Health (Greenville, NC), and Novant Health New Hanover Regional Medical Center (Wilmington, NC).

If HCID is confirmed, patients will be considered for transfer to a Regional Emerging Special Pathogens Treatment Center (RESPTC). This transfer coordination should involve the NCOEMS and NC DPH to ensure patient, staff, and public health. If the patient is being transported out of state, NC DPH is responsible for ensuring it follows the guidelines outlined in the Region IV HCID Patient Transportation and Coordination Plan to ensure notification of all applicable partners (e.g., NC DPH, NCOEMS, and the receiving State's Department of Health, Federal Partners etc.).

Level 2: Special Pathogen Treatment Centers (SPTC) are hospitals that have the capacity to deliver specialized care to patients with HCID but typically do not serve as a regional hub. North Carolina does not have any Level 2 facilities.

Level 1: Regional Emerging Special Pathogens Treatment Centers (RESPTC) are hospitals that serve as a resource hub within their regions and have adequate designated treatment areas, skilled and trained staff, appropriate equipment, and infection control procedures matching requirements for HCID. These facilities have the capability to manage a confirmed HCID patient for the duration of necessary medical treatment. These types of facilities also include specialized biocontainment facilities. The HHS Region IV RESPTCs are Emory University Hospital in Atlanta, GA, Children's Healthcare of Atlanta, GA, and the UNC Hospital in Chapel Hill, NC.

Concept of Operations

The concept of operations for all healthcare workers in North Carolina is to be prepared to identify potential person(s) with a suspected or confirmed high consequence infectious disease, rapidly and appropriately isolate the patient, and inform appropriate authorities (e.g., leadership, internal team members, State Epi On-Call, local health department, external stakeholders). The concept of operations for NC DPH, NCOEMS, NCEM, and other state-level partners is to effectively identify and treat patients, keep healthcare staff safe, and minimize the potential spread of HCIDs in North Carolina through the mobilization of local, state, and federal resources as needed for the response.

Surveillance

Surveillance is a routine activity, encompassing the tasks of identification, tracking, and monitoring of persons at-risk of infectious diseases. In most cases of a high consequence infectious disease, a population may be suspected of being at risk but individuals within that population in North Carolina

may not be known.

Assessment Phase

The assessment phase begins with the receipt of a notification to CDB and/or EPI On-Call of a patient within North Carolina with relevant exposure history and signs or symptoms consistent with an HCID or through the notification of a returning traveler from areas with an active high consequence infectious disease.

Potential HCID Patient Notification:

Public Health & Healthcare facilities across North Carolina who identify a patient with a potential HCID should contact NC DPH EPI On-Call for consultation and assistance with completing a risk assessment, to determine next steps and what laboratory testing is indicated.

EPI On-Call is a 24/7 monitored voicemail line that is checked by CDB staff. Every effort is made to return calls quickly, but public health & healthcare facilities should be prepared to wait 15-30 minutes to receive a call back. For emergent concerns, PHP&R can be contacted at 888-820-0520 or NCOEMS at 919-855-4687, however the notification still must be made to EPI On-Call to facilitate the risk assessment.

North Carolina Epidemiologist On-Call (919) 733-3419

If specific testing for high consequence infectious disease is indicated, this will trigger the Response Phase of this ConOps. If no testing is indicated, then public health and healthcare facilities should continue assessment and treatment of the patient to determine a potential diagnosis. If additional support is needed from CDB and/or NCOEMS then the healthcare facility is responsible for requesting this additional support to receive technical assistance and/or resource support.

Returning Travelers

Notification of returning travelers from an area with an outbreak of a HCID is received through a variety of ways (e.g., emails/calls directly from Non-Governmental Organizations (NGOs), emails/calls from the Centers for Disease Control and Prevention (CDC), in addition to emails/calls directly from local health departments). Determination for providing information on returning travelers from areas with an active outbreak is made by the CDC Division of Global Migration and Quarantine (DGMQ). When this occurs, information on returning travelers is provided to NC DPH Communicable Disease Branch. Protocols will be set up regarding what follow-up will be completed through state and local health departments. It is expected that CDB will make notification to PHP&R what these procedures will be. PHP&R will ensure this information is shared with NCOEMS who in turn shares with the healthcare system via email and directly through a phone call with the UNC RESPTC.

The assessment of a returned traveler will trigger an evaluation by CDB to determine if a patient is considered “No Known Exposure,” “Low-Risk Exposure,” or “High-Risk Exposure.” If a patient is considered High-Risk Exposure, then testing for the specific HCID is considered indicated. If a patient is a Low-Risk or No Known Exposure, then a review of the case with the relevant partners (LHD, DPH, UNC Hospitals, CDC etc.) will be completed to determine if further testing is indicated.

If HCID testing is indicated this will trigger the Response Phase of this ConOps. If no HCID testing is indicated, then the returning traveler will receive information from the local health department on monitoring for symptoms and who to contact should they begin to experience symptoms. Notification of these returning travelers will not be made to partner agencies aside from the initial notification that the process has begun.

Risk Assessment Coordination Call

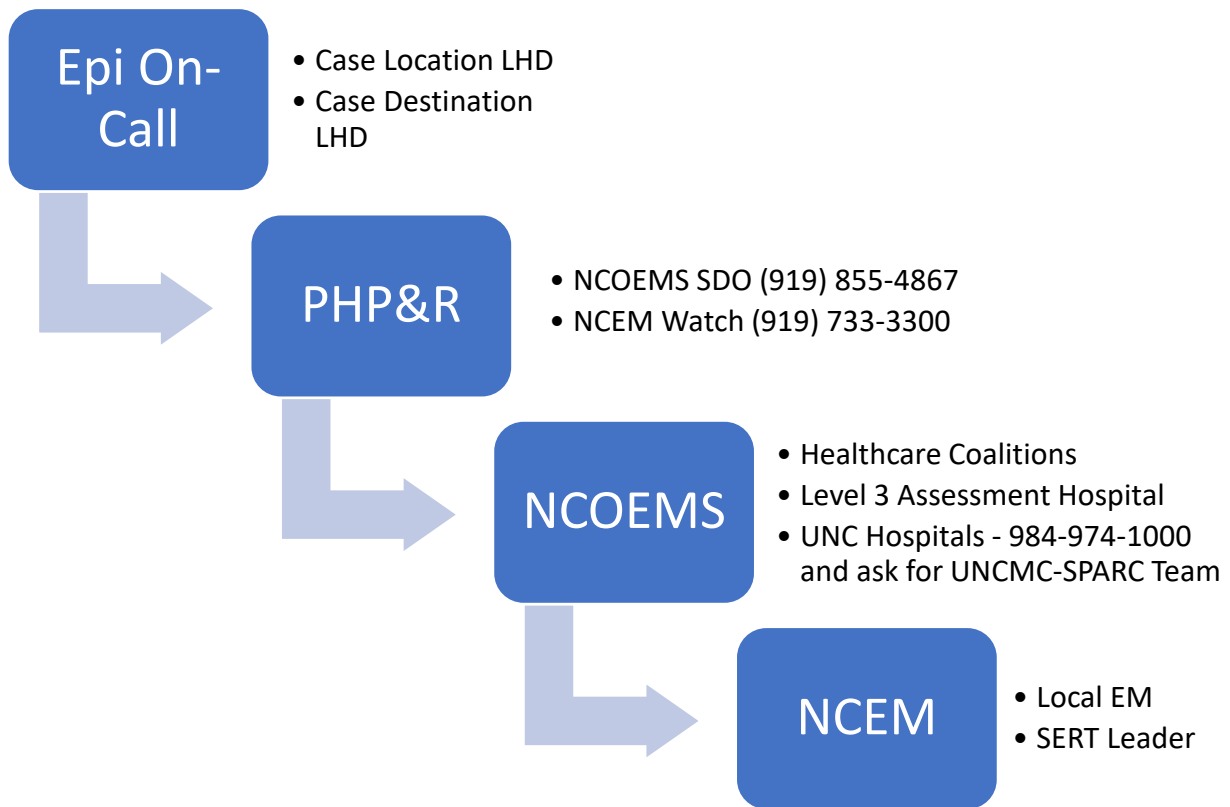
A key component of the assessment phase is a coordination call between the agencies involved in the risk assessment. These agencies include but are not limited to: Notifier/Monitor, EPI On- Call, State Epidemiologist, or designee, CDB Representative, the SLPH, and PHP&R Representative. EPI On-Call staff may choose at their discretion to include additional partners (e.g., CDC, UNC Hospitals, NCOEMS etc.) based on the situation but this is not the standard procedure.

The purpose of this call is to gather information on the situation, confirm if a case meets the threshold of the case definition, and determine further actions (e.g., HCID testing, ongoing monitoring, other diagnostic tests, etc.). A decision must be made whether to move to the response phase on this call.

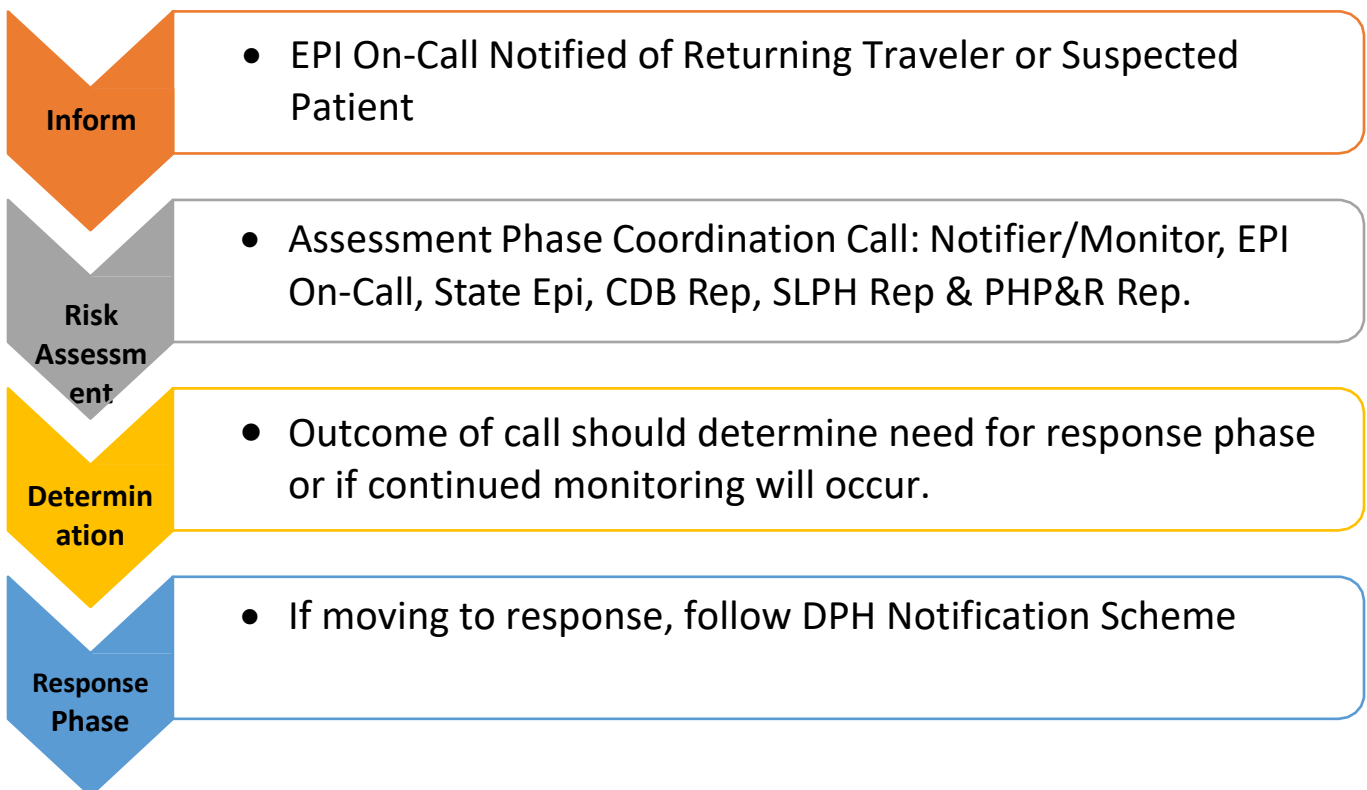
Notification Plan:

Upon decision to move into the response phase the following notifications are required:

- State Epidemiologist, or designee is responsible for notifying PHP&R, Case Location LHD and Case Destination LHD
- PHP&R is responsible for notifying NCOEMS Shift Duty Officer and NCEM Emergency Services Lead
- NCOEMS is responsible for notifying Case Location and Destination Healthcare Coalition and Case Destination Level 3: Assessment Hospital and Level 1: UNC Hospitals (if not already notified)
- NCEM is responsible for notifying Case Location EM and Case Destination EM and SERT Leader



Assessment Phase Steps



Response Phase

The response phase begins when it is determined by NC State Epidemiologist, or designee, that a patient within North Carolina has met the threshold of the case definition and requires testing for a HCID. The patient's health and wellbeing along with protecting the public's health and the first responder's and healthcare worker's safety should be top priorities during the response phase.

A patient may present in a variety of situations and locations when the response phase is first activated including but not limited to the following: Frontline Healthcare Facility, Assessment Hospital, EMS Encounter, Port of Entry, or private residence/hotel. Based on this, the specifics of each step of the response phase may vary, however the following outlines the core key steps.

The response phase starts with a coordination call between all agencies outline in the notification tree. The purpose of this call is for CDB/PHP&R to brief stakeholders on the situation and determine a plan for the medical management of the patient while ensuring the safety of the public and those involved in the care.

PHIMT

Once the response phase has been activated, PHP&R in consultation with the CDB and the State Epidemiologist should determine when to assemble the Public Health Incident Management Team (PHIMT) to control and coordinate this incident. It is anticipated that a liaison from NCEM and NCOEMS will be requested as part of the PHIMT. The PHIMT should operate out of the Public Health Coordination Center (PHCC) or alternate designated location until the situation either resolves or expands beyond the capacity of the PHCC. Activation of the State Emergency Operations Center (SEOC) may be requested upon presumptive identification from the SLPH of a confirmed HCID patient in North Carolina or when the coordination of partner agencies expands beyond NC DPH, NC EM and NCOEMS.

Differential Diagnosis

The main goal of this step is to ensure the patient can be medically assessed for different HCIDs and other potential diagnoses. This step may involve the coordination of patient movement to an Assessment Hospital's or RESPTC depending on the situation. It is anticipated that the coordination of transportation assets will be a key component of this step. NCOEMS has the responsibility to ensure strong coordination and communication between the involved healthcare facilities and the transportation agencies. Notification, information sharing, and coordination with ASPR Regional Emergency Coordinators (RECs) should also be initiated at this stage.

Laboratory Testing

The main goal is to ensure that a specimen from the patient suitable for testing is obtained in a timely and safe manner. Transportation of the specimen to the State Laboratory of Public Health (SLPH) will be coordinated by SLPH. Support and guidance for the healthcare facility will be provided by SLPH and PHP&R.

Laboratory Results

Once HCID testing has been completed by SLPH, the results will be communicated to the PHIMT and the healthcare facility caring for the patient. Based on the suspected HCID, there are different outcomes from the initial results. For example, the following outlines the three possible outcomes for a

Viral Hemorrhagic Fever result: 1. Confirmed Negative; 2. Retesting required (a second sample collected 72 hours after onset of symptoms is required to definitively rule out VHF) and or 3. Presumptive Positive Result (confirmation required by CDC). SLPH will communicate with the CDC regarding any tests needed at CDC. It is anticipated that a coordination call will occur regardless of the results to discuss next steps.

Transportation to Regional Emerging Special Pathogens Treatment Center

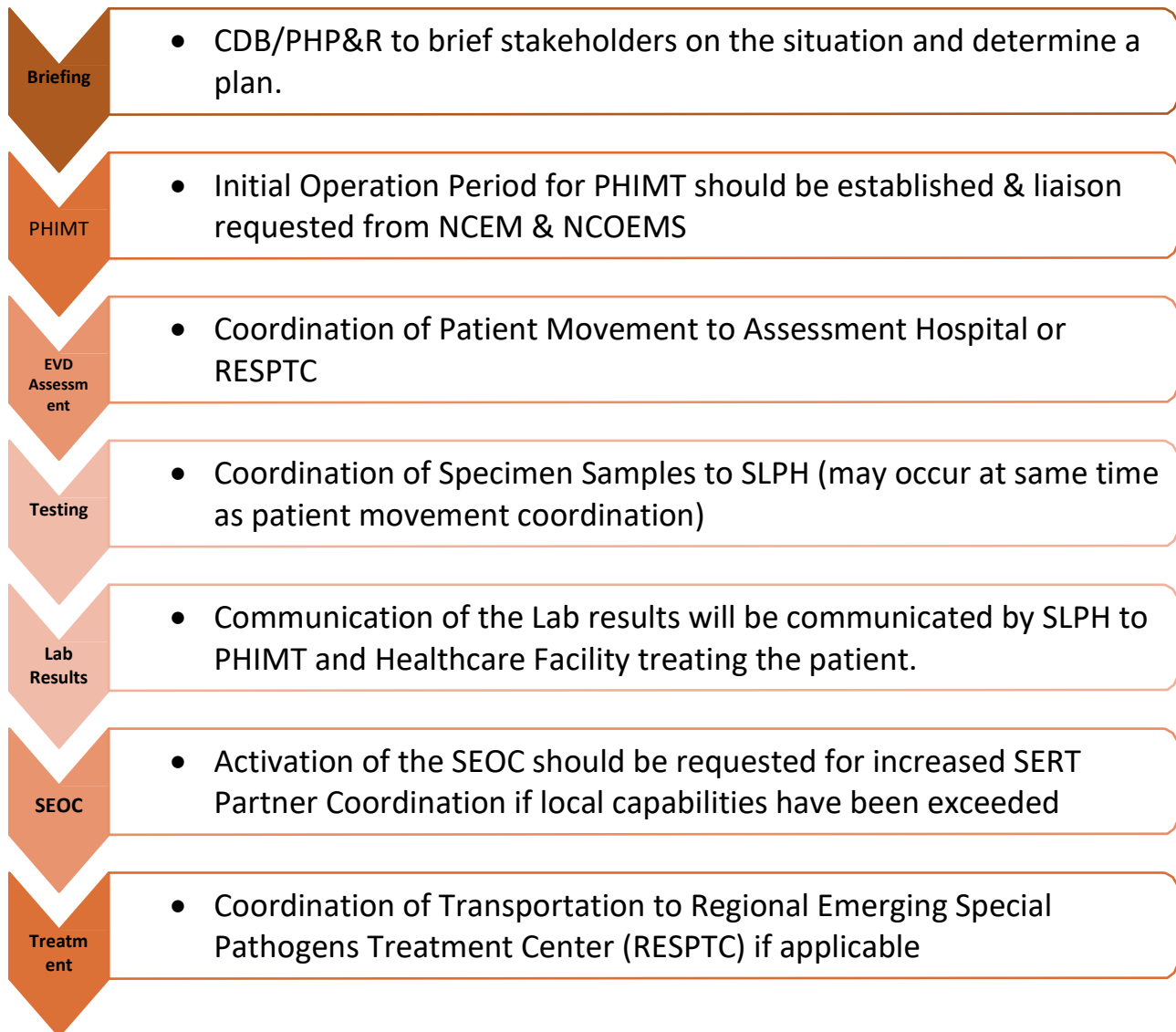
HCID patients within North Carolina will mostly likely be transferred from a Level 3 or Level 4 facility to the UNC Hospitals unless there are other reasons barring that placement (e.g., previous agreement with a different RESPTC, UNC Hospital is unable to accept patient(s) due to capability limitations, patient preference, or clinical decision etc.). Placement of patients to UNC Hospitals can occur directly between the two healthcare facilities or can be supported through NCOEMS, but either way notification should involve NC DPH as outlined in the Inform step of this plan.

In the case of the placement of a patient from a North Carolina hospital into an out of state RESPTC, the transportation should be coordinated between NC DPH and the receiving state's Public Health Department, NCHPP, the sending and receiving facility and ASPR Regional Emergency Coordinators as outlined in the Region IV HCID Transportation and Coordination Plan.

Medical Countermeasures (MCMs)

Whenever possible, treatments and/or prophylaxis for HCIDs should be acquired, by agencies in need, through traditional commercial pathways. However, many MCMs for HCIDs are not commercially available due to their limited commercial applications and/or investigational regulatory status. The Strategic National Stockpile (SNS), managed by ASPR, contains a variety of MCMs intended for use during public health emergencies, including HCID response. When MCMs are not commercially available, or, are commercially available, but not in the quantity or timeframe needed, a request can be submitted to the SNS for assistance. The PHP&R MCM unit is responsible for gathering the essential elements of information necessary for NC DHHS to submit a formal SNS request. It can take up to 24-48 hours for MCMs to arrive, following approval of an SNS request by ASPR. To ensure rapid acquisition of MCMs, the assessment phase coordination call should discuss potential MCM needs.

Response Phase Steps



Environmental Care & Waste Management

Healthcare Settings

Within the local healthcare organizations, solid waste generated during the identification, assessment, and treatment of a patient in whom a HCID is suspected or confirmed is managed through that facility's existing hospital waste management and environmental care procedures. Healthcare organizations should coordinate with local public waste management agencies to assure compliance with local standards. If support is needed with waste management, then a request for state support can be submitted through the local emergency management office. It will depend on each individual situation what level of support can be provided.

Non-Healthcare Settings

Contamination of the environment will be assessed case-by-case based on the patient's status and symptoms. If the patient is determined to have the potential to be contaminating the environment,

then the area will be secured and decontaminated by a previously vetted private vendor with oversight by state public health and emergency management. If the patient is determined not to be contaminating the environment, then the patient is transported, and the area is released.

Patient Discharge Back to the Community

In the event the patient does not test positive for a HCID, the patient will be discharged in accordance with an integrated plan for housing, monitoring, and continued follow-up if necessary. Discharge planning for return to the community will be accomplished on a case-by-case basis through coordination with state and local public health and emergency management agencies. Plans will consider continuity of medical care, communicable disease control measures, and public messaging.

Fatality Management

Fatality management and the handling of remains will be guided by recommendations from CDC. Facilities for handling of multiple fatalities will be identified early in the event so that preparations can be made for infection control practices and appropriate handling of remains. This will be accomplished through state, local and public-private partnerships. This process will be coordinated through DPH, local, and private entities. More details can be found here: <https://www.cdc.gov/viral-hemorrhagic-fevers/hcp/infection-control/guidance-for-safe-handling-of-human-remains>

Federal Agency Support

Responsibilities at the federal level are divided within the U.S. Department of Health and Human Services (HHS), to include Centers for Disease Control and Prevention (CDC) and the Administration for Strategic Preparedness and Response (ASPR). The CDC may provide consultation and expertise for clinical care and subject matter experts for patient management. The ASPR and the HHS Secretary's Operation Center will be responsible for coordination and logistical considerations of any transport and treatment involving federal resources. Additionally, the ASPR Regional Emergency Coordinator (REC) can be requested to support communication and coordination between states when necessary.

CDC

- Maintains an emergency operations center (EOC, 770-488-7100) 24 hours a day, 7 days a week for direction and control, communications, and information collection, analysis, and dissemination.
- Provides epidemiologic consultation for the determination of risk factors for illness and development of prevention and control strategies.
- Provides on-site assistance (e.g., Epidemiologic Assistance or "Epi-Aid upon request for urgent public health responses and investigations.
- Provides reference diagnostic support to state public health laboratories, direct laboratory testing, and confirmatory capability beyond state laboratory capacity.

ASPR

- Acts as a liaison and manages federal agencies engaged in interstate transport.
- Requests air transport services from the U.S. Department of State (DOS) if necessary.
- Provides interstate and interagency communications about the need for transfer of potential HCID patients with federal resources.
- Assists with air and ground transportation logistics when federal resources are involved.
- Facilitates conference calls with all parties involved when arrangements are complete and prior

to arrival when multiple states and/or federal resources are involved.

Joint Information System

It is anticipated that the need for a Joint Information System between the many involved agencies will be necessary to support public messaging and to provide incident specific that is timely, consistent, and accurate to the public and involved stakeholders. The JIS should include representation from all agencies and organizations involved in the assessment and response phases of this ConOps.

The Joint Information Center (JIC) can be either a physical or virtual operation setup to support the response. If a physical JIC is determined to be necessary, it should be coordinated through the PHIMT at the PHCC or through the SERT at the SEOC.

Early activation of a Joint Information System is necessary to ensure early proactive and accurate messaging can be prepared and shared.