

Tennessee Department of Health Concept of Operations Plan: Ebola Virus

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Ebola Virus Response Plan

I. Introduction

A. Background

Ebola is a highly infectious, severe, and acute viral illness. Ebola Virus Disease (EVD) can have a case fatality rate of 50 – 70%. Individuals ill with EVD require intensive supportive care. There is no approved Ebola vaccine or specific treatment available.

B. Clinical Characteristics of Ebola Virus

Ebola is introduced into the human population through close contact with the blood, secretions, organs or other bodily fluids of infected animals such as chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines found ill or dead or in the rainforest. Ebola then spreads through human-to-human transmission via direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and with surfaces and materials (e.g. bedding, clothing) contaminated with these fluids.

People remain infectious as long as their blood and body fluids, including semen and breast milk, contain the virus. Men who have recovered from the disease can still transmit the virus through their semen for up to 7 weeks after recovery from illness.

The incubation period from infection with the virus to onset of symptoms is 2 to 21 days. Humans are not infectious until they develop symptoms. First symptoms are the sudden onset of fever fatigue, muscle pain, headache and sore throat. This is followed by vomiting, diarrhea, rash, symptoms of impaired kidney and liver function, and in some cases, both internal and external bleeding (e.g. oozing from the gums, blood in the stools). Supportive care-rehydration with oral or intravenous fluids- and treatment of specific symptoms, improves survival.

C. Purpose and Scope

The purpose of this document is to provide general guidance to all stakeholders in the preparation of plans specific to an Ebola Response. The potential health, social and economic impact of Ebola requires a swift and bold response that is appropriate to the situation yet minimizes unnecessary disruptions and respects human dignity.

The Tennessee Department of Health (TDH) has established the following fundamental priorities:

1. Prepare
2. Detect
3. Protect
4. Respond

TDH will continue to work with partners in local, state, national, and international organizations to be prepared to respond to Ebola Virus transmission within in the State of Tennessee and to support critical efforts to bring the epidemic under control in West Africa.

This plan is based upon current U.S. Centers for Disease Control and Prevention (CDC) guidance and local modifications as of the time of this writing; it is subject to change as the epidemic evolves.

D. Assumptions

The following assumptions are examples to help guide planning. It is anticipated that specific jurisdictional assumptions will be required.

1. Horizontal and vertical partnerships will be established to include, but are not limited to appropriate federal, state and local, private, and non-governmental organizations.
2. Specialized National bio-containment facilities may not be readily available to accept a patient transferred from Tennessee.
3. Healthcare network system planning is required to include patient screening, evaluation and transfer protocols, equipment, training and staffing needs, EMS/transport protocols and coordination with outpatient/ambulatory care facilities
4. Hospitals, emergency departments, ambulatory care, and clinical settings must be able to identify persons presenting with a travel history or exposure history compatible with EVD and be prepared to isolate patients, provide basic supportive care and inform and consult with public health officials.
5. Suspected or confirmed EVD patients will access the healthcare system through various points of entry, and some may self-transport to a healthcare facility. Regional tiered approaches involving more than one state may be required (cross border planning).

6. Healthcare workers at entry points and within the larger healthcare system need to be trained to identify persons for potential EVD exposure and be able to employ appropriate infection control and waste management procedures.
7. Direct active monitoring and active monitoring will be necessary to help identify at risk persons with early symptoms of EVD.
8. Facilities will need to be prepared to safely identify, screen, isolate and provide care for up to 72 hours prior to safely transferring them to another facility.
9. Treatment facilities will be identified and have dedicated treatment and PPE donning and doffing areas, skilled and trained staff, appropriate equipment and excellent infection control procedures. EVD treatment facilities will be ideally located within an eight-hour (or less) ground transportation radius of all EVD screening facilities.
10. In the instance of either a confirmed case of EVD, or a court ordered quarantine of a person at risk, a state of emergency will be declared and the Tennessee Emergency Management Plan (TEMP) will be activated.

II. Organization and Assignments of Responsibilities

In order to coordinate the complex response to Ebola Virus systematically, roles and responsibilities have been identified for those within the first line of response and the supporting functions.

A. Central Office Roles

In general, the Central Office of TDH will be responsible for the following:

- Operating and maintaining the State Health Operations Center (SHOC)
- Information sharing between TDH regions and CDC
- Providing clinical consultation to TDH regions for case diagnosis and risk assessment decisions
- Developing databases to assist TDH regions with information management
- Providing a public EVD information line

- Providing additional outbreak response support to affected TDH regions as necessary
- Leading investigations of multi-regional outbreaks
- Providing technical assistance to hospitals and the healthcare community
- Reporting cases to CDC
- Requesting assistance from CDC if needed
- Developing legal authorities, documentation and templates

B. TDH Regional and Local Health Department Roles

In general, TDH Regional and Local Health Departments will be responsible for the following:

- Surveillance of persons at risk of EVD
- Contact tracing, identification, and health monitoring
- Data entry and reporting to the central office
- Providing additional outbreak response support to affected TDH regions as necessary
- Provide technical assistance to hospitals and the healthcare community
- Implement legal authorities, as directed
- Provide outbreak response support to affected hospitals

In order to carry out these responsibilities, it is suggested that the following roles be assigned to TDH regional health department personnel. The job descriptions are based upon an Incident Command System (ICS) model. The extent to which the ICS structure is used will depend upon the need to scale up the emergency response to EVD based on the number of possible cases.

Regional Health Operations Center (RHOC) Commander is responsible for overseeing EVD response in the region and communicates with the central office and SHOC in Nashville.

RHOC Operations Section Chief is responsible for the response to EVD and oversees epidemiology, case and contact management, medical community interactions, regional laboratory responsibilities, and medical activities.

Regional Epidemiology Team Leader is responsible for oversight of case ascertainment, case/contact status, risk assessment, contact tracing, and reporting data. Re-assessment of risk based upon new information should be the responsibility of this person in collaboration with a physician where necessary.

Regional Case and Contact Manager is responsible for data entry into REDCap case management system, and oversight of all aspects of follow-up of identified cases and contacts. This includes, but is not limited to, setting up health monitoring, referring for social support, following through on obtaining legal measures where necessary.

Health Monitor is responsible for contact with individuals in quarantine and exposed persons requiring fever/symptom monitoring. The Health Monitor is also responsible for ensuring safe home quarantine conditions as needed, including providing PPE supplies, thermometers, and written materials for patients isolated or quarantined by health department.

Contact Identifier is responsible for identification of contacts for suspect, probable, and confirmed EVD cases.

Legal is responsible for implementing health directives and other public health measures.

Regional Laboratory Contact is responsible for ensuring appropriate specimen collection and handling from all cases under investigation, including blood serum specimen for definitive testing and point person for interactions with the TDH Laboratory and for receipt of laboratory results.

Social Support (External Resource) is responsible for identifying links in community to refer isolated or quarantined individuals, where necessary, for such things as food, personal or child needs, and possible economic needs.

Regional Medical Liaison is responsible for interacting with hospitals and healthcare providers.

Regional Logistics Manager is responsible for supplies, such as maintaining supplies of PPE needed by the department and for ensuring computer or other local information technology needs are met.

Regional Finance and Administration is responsible for administrative support such as timekeeping for overtime work and for purchase orders and other accounting needs.

Regional Planning Section Chief is responsible for generating reports on data and for modifying plans as needed to adapt to problems and changing circumstances.

Regional Public Information Officer is responsible for public communications. Regions may use their own or may use the State Information Officer for

communications with media. This person is responsible for coordinating with regional staff as well as state and federal communications personnel.

Other personnel may be required as plans evolve; a large expansion may be required if a TDH region or local health department needs to establish and run its own medical screening clinic.

III. Concept of Operations

TDH is the lead agency for all phases of a response to EVD. If a declaration for State of Emergency is declared by the Governor, Tennessee Emergency Management Agency (TEMA) will provide coordination support through the TEMP.

A. Preparedness

1. Healthcare Coordination: Clinical guidance development, healthcare and patient communications, environmental controls.
 - a. Emergency Medical Services: Coordination of all EMS activities related to medical valuation, patient care, and transportation.
 - b. Personal Protection Equipment: Logistical efforts to oversee healthcare supply inventory. Liaison with the CDC Strategic National Stockpile. Oversight of state warehouse as well as PPE training events.
 - c. Fatality Management: Develop guidance on decedents for hospitals, local medical examiners, transport entities, and funeral directors.
2. Epidemiology: Evaluate and develop response concepts related to case investigations, data management, and data analysis plans.
3. Community Health Services: Contact tracing, symptom monitoring, and fielding public calls to provide them appropriate information.
4. Laboratory Services: Coordinate and identify communication channels between lab, CDC, and partner states for coordination of laboratory testing (EVD PCR) and electronic reporting of results.

B. Identification and Assessment

In order to detect EVD quickly and minimize the potential spread, the detection phase encompasses the tasks of identification, tracking, and monitoring of person at-risk.

Table 1

<p>At-Risk Identification</p>	<ol style="list-style-type: none"> 1. CDC provides initial at-risk person information to TDH 2. TDH makes initial contact to determine symptoms following current CDC guidelines 3. Health care workers screen all patients who present with possible EVD symptoms. <i>As identified in TCA 1200-14-01-02, it is the responsibility of all health care workers to immediately report possible or confirmed cases of EVD to TDH</i> <p>See appendices 1-4 for identification algorithms.</p>
<p>Case Investigation</p>	<ol style="list-style-type: none"> 1. Interviews to identify contacts should be conducted as soon as the probable diagnosis of EVD is available 2. When the source of the case’s infection is known, the time period of interest is from the date of onset of symptoms. Because the patient may not have noticed the earliest symptoms, interviewers should elicit close contacts and activities starting 3-days before the reported onset of illness
<p>At-Risk Monitoring</p>	<ol style="list-style-type: none"> 1. <i>Active Monitoring</i> – State or local public health authority assumes responsibility for establishing regular communication with potentially exposed individuals, including checking daily to assess for the presence of symptoms and fever 2. <i>Direct Active Monitoring</i> – Public health authority conducts active monitoring through direct observation at least once daily to review symptom status and monitor temperature; a second follow-up per day may be conducted by telephone

C. Go to the Ebola Hospital (GoEH) Mission

The Go to the Ebola Hospital mission is to coordinate public health activities at a hospital treating a patient with EVD (confirmed case) or person under investigation (PUI). At least one regional team and at least one central office team is expected to deploy to the site of the affected hospital. If needed, at least one Mobile Operations Center (MOC) will be deployed to provide communication support and provide a physical location for operations for both teams (regional and central office).

Each team will consist of one clinician, one epidemiologist, one person with infection control experience, and one person in a support coordination role. Each

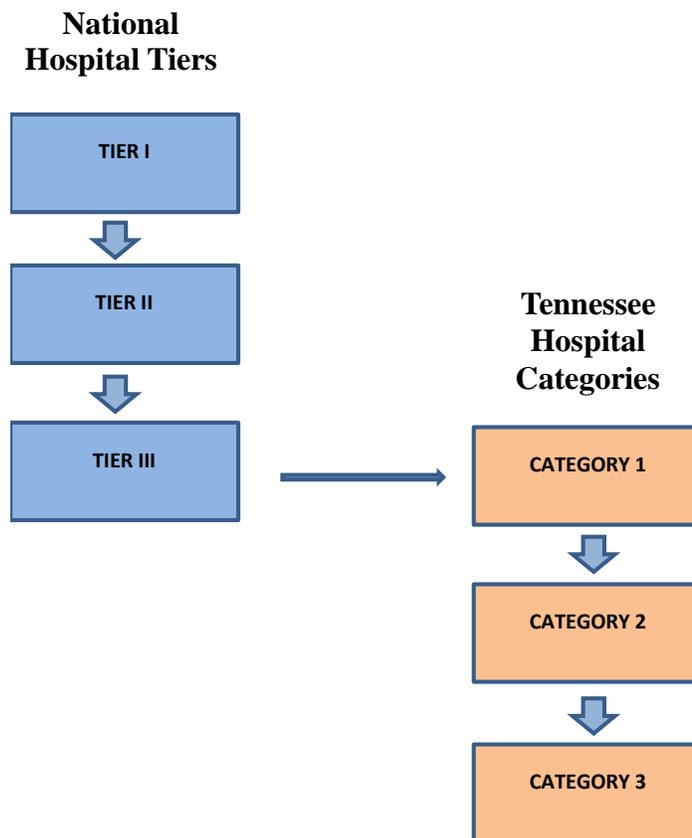
region/metro shall roster at least two individuals per position. The central office shall roster at least four individuals for each position.

When activated by the SHOC or RHOC, teams will:

- Ensure the correct interview bundle is administered
- Ensure data is entered into the appropriate REDCap database
- Coordinate communication between the local/regional health department and facility
- Coordinate communication between the local/regional health department and central office
- Work with the facility to designate a location where the MOC can be set up.

D. Hospital Tiers/Categories

Patients who test positive for EVD will be transferred to the highest tier/category facility with availability. Hospital Categories are outlined below:



National Hospital Tiers

Tier 1: Equivalent to burn or trauma centers, specifically engineered to manage contagion.

Tier 2: Hospitals located near the five major ports of entry (New York, New Jersey, Chicago, Atlanta, and Washington D.C.); hospitals located near large populations of residents West Africans; and hospitals near secondary travel patterns from the five major ports. These facilities would get technical assistance from CDC and develop a response team and receive a designation or quasi-certification to treat.

Tier 3: All other hospitals trained to screen, test, and transport to Tier 1 or 2 hospitals.

Tennessee Tier 3 Hospitals Sub Categories

Depending on the availability of out-of-state resources, when possible, patients will be transported to the facilities noted above at the appropriate time and under appropriate circumstances. Within Tennessee, facilities are being considered in the following categories:

Category 1 (Treatment Hospitals): Facilities prepared to provide full-spectrum treatment for Ebola patients. These facilities will have well-practiced plans and appropriate staff and equipment for appropriate care, including availability of point of care testing as appropriate. These facilities would get technical assistance from CDC during patient care.

Category 2 (Assessment Hospitals): Hospitals able to appropriately care for at-risk patients while being assessed for possible Ebola (e.g. confirming alternate diagnoses and ruling in/out Ebola). Facilities, staff and equipment will be available and prepared to keep patients (up to ~72 hours) in proper isolation, provide clinical care, and perform testing as appropriate. Ideally has point of care laboratory testing capabilities.

Category 3 (Frontline Health Facilities): All other hospitals. All medical facilities in Tennessee are expected to be prepared to safely screen (identify) and isolate patients at risk of Ebola, inform public health and transfer them to a Category 1 or 2 hospital for further testing and care. Does not draw blood.

E. Containment Measures and Non-Pharmaceutical Interventions

Protective strategies include controlled movement, isolation, and quarantine. These community containment strategies are basic infectious disease control measures that prove to be critically important in the effort to prevent a large scale outbreak. TDH may require restriction of movement based on specific risk factors. Restriction of movement is defined by the CDC as the following:

1. **Controlled Movement** – For individuals subject to controlled movement, travel by long-distance commercial conveyances (e.g. aircraft, ship, bus, train) should not be allowed; if travel is allowed, it should be by noncommercial conveyance such as private chartered flight or private vehicle, and occur with arrangements for uninterrupted active monitoring. State and Federal public health restrictions may be used to enforce controlled movement.
2. **Isolation** – Separation of an individual or group who is reasonably believed to be infected with a communicable disease from those who are not affected in order to prevent spread.
3. **Quarantine** – The separation of an individual or group reasonably believed to have been exposed to a communicable disease, but who is not yet ill (not presenting signs or symptoms), from other who have not been so exposed, in order to prevent the possible spread. The guidance for obtaining quarantine resources is below:

TDH Office of Patient Advocacy Care receives notification from SHOC that there is a person under home quarantine and receives the following assessment/required needs of individual (s):

- Name and address
- Assessment of basic needs (e.g. emergency housing, food, delivery, medications, etc.)
- Identify length of time services is needed
- Establish how resources will be delivered

Office of Patient Advocacy Care notifies the appropriate United Way Director.

United Way Director contacts appropriate agency or agencies to identify required resource(s) and coordinate delivery of resources to individual. The Director then notifies the Office of Patient Advocacy Care that the resource has been obtained and ready for delivery.

TDH Regional Health Logistics Staff will coordinate the delivery of the requested resources to the individual(s).

IV. Legal Authority

The legal authority for public health actions in response to EVD are outlined below and have been paraphrased for clarity. These laws and TDH rules and regulations apply

statewide. It is important to note that cities or counties may have additional laws that will apply.

- A. Authority to write and enforce new rules and regulations:** Tennessee Code Annotated (TCA) 68-1-201 (2) states that the Commissioner of Health can write and carry out any rules or regulations necessary to prevent the introduction of an epidemic disease into the state or to control the spread of an epidemic disease within the state.
- B. Authority to control a communicable disease:** TCA 68-5-104 (a)(1) states that it is the duty of the local health authorities, on receipt of a report of a case, or suspected case...to confirm or establish the diagnosis, to determine the source or cause of the disease and to take such steps as may be necessary to isolate and/or quarantine the case or premise upon which the case, cause or source may be found, as may be required by the rules and regulations of TDH.
- C. Duty of health professions to report potential health threats:** TCA 1200-14-4-.03 states that any licensed practitioner of the healing arts must report to a health officer any person they have reason to believe is or may be a health threat to others by potentially exposing them to an infection that causes serious illness, even if the health threat is unintentional.

V. Response Activities

- A. Public Notification Process:** The Testing/Confirmation Communication Algorithm for a confirmed case will be followed for all notification procedures.
- B. Deployment of Resources:**
 - 1. Non-Declaration of State of Emergency – If the State receives a confirmed case of EVD or person under active monitoring, or active direct monitoring and there is not a declaration for State of Emergency, deployment of resources will be coordinated through TDH.
 - 2. Declaration of State Emergency – If the State receives a confirmed case of EVD or person under active monitoring, or active direct monitoring and there is a declaration for State of Emergency, deployment of resources will be coordinated through TEMA, in conjunction with TDH.