

Ebola
Concept of Operations (ConOps)
Planning Template

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Chapter 1 – Introduction

1.1 How to Use This Template

This Planning Template provides a standard format for creating an Ebola Concept of Operations (ConOps) plan at the state, territorial, or major metropolitan area government level. It provides information on measures local governments, agencies, and organizations can take to support the plan. The chapters include the following:

- **Chapter 1:** Information regarding the template, a background, and an Ebola ConOps overview
- **Chapter 2:** Template that jurisdictions will use to develop their ConOps with recommendations on what each section will contain, including two sections that have local-level recommended actions
- **Chapter 3:** Recommendations for training and exercising the resulting ConOps
- **Appendices:** Acronyms and definitions

1.2 Background

Ebola virus disease, previously known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Ebola virus strains. Ebola can cause disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees).

The 2014 Ebola epidemic is the largest and longest lasting in history, affecting multiple countries in West Africa, with more than 27,000 cases and more than 11,000 deaths reported as of July 2015. A small number of cases were also reported in neighboring countries; however, these cases were contained, with no known further spread.

At least 24 patients with Ebola were treated in Europe and the United States. Most of these patients were healthcare and humanitarian aid workers who contracted the disease in West Africa and were transported to and treated in their home countries. Two imported cases, including one death, and two locally acquired cases in healthcare workers were reported in the United States. Six health workers and one journalist were infected in West Africa and transported to the United States for treatment as well.

This unprecedented epidemic prompted the U.S. Centers for Disease Control and Prevention (CDC) to activate its Emergency Operations Center (EOC) in July 2014 to help coordinate technical assistance and control activities with partners. CDC partnered with other U.S. government agencies, the World Health Organization (WHO), and other domestic and international partners on this global response. CDC deployed experts, built partnerships, and

strengthened existing projects to meet the growing need for Ebola surveillance, detection, and coordination.

In response to the increasing concern of Ebola spreading to the United States from air travel, CDC began an enhanced entry screening and post-arrival active monitoring program with state and local health departments for all inbound air travelers from affected countries. The Department of Defense subsequently deployed more than 2,000 personnel into West Africa to provide logistical support, train healthcare workers, test medical samples, and build Ebola treatment centers (ETCs).

In December 2014, Congress appropriated supplemental emergency funding to further support Ebola epidemic efforts domestically and internationally. The Department of Health and Human Services (HHS) Office of the Assistant Secretary for Preparedness and Response (ASPR) and CDC issued four funding opportunity announcements (FOAs) to support Ebola preparedness and response in the United States.

- CDC's Domestic Ebola Supplement to Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) – Building and Strengthening Epidemiology, Laboratory and Health Information Systems Capacity in State and Local Health Departments (CK14-1401PPHFSUPP15)
 - CDC's Public Health Emergency Preparedness (PHEP) Supplemental for Ebola Preparedness and Response Activities (CDC-RFA-TP12-12010302SUPP15)
- ASPR's Hospital Preparedness Program (HPP) Ebola Preparedness and Response Activities (CFDA #93.817)
- ASPR's National Ebola Training and Education Center (NETEC) Cooperative Agreement (EP-U3R-15-003)

Each of these FOAs reference plans has elements that could be included in a ConOps document. For example:

- The ELC cooperative agreement requires
 - Assessing infection control competencies, identifying gaps in performance, and implementing response and prevention activities
 - Improving laboratory practices to include a requirement for a biosafety officer in each state, training staff, better coordinating among public health labs and clinical partners, and equipping laboratory facilities
 - Improving notification, surveillance, and monitoring of public health areas of concern

- The PHEP cooperative agreement requires
 - An updated ConOps that is coordinated and exercised with ELC and HPP stakeholders
 - Effective monitoring and management of Persons Under Investigation (PUIs) or patients confirmed with Ebola
 - The ability to quickly, safely, and accurately perform laboratory testing on suspected Ebola specimens to rule out or confirm the presence of Ebola
 - Protocols for screening at major airports and for rapid and appropriate public health actions (e.g., controlled movement, isolation, quarantine, or public health orders)
 - Collaboration with healthcare coalitions and systems to ensure personnel are properly trained on personal protective equipment (PPE) and the handling of contaminated waste and human remains
 - The development of messages, plans, and notification systems to share information and risk communication messages with relevant response partners and the public
 - Collaboration with healthcare system partners to design, develop, and implement a tiered network of hospitals within the jurisdiction capable of providing care to patients with Ebola and a plan to refer and transport PUIs and patients confirmed with Ebola to an appropriate location
- The HPP cooperative agreement requires
 - Developing a ConOps that includes the tiered hospital approach, transport plans, and agreements and an active monitoring/direct active monitoring strategy
 - Hospital-level staff training focused on safety when caring for a patient with Ebola and exercises that include patient care and transportation
 - Enhancing hospitals' physical infrastructure for improved infection control procedures and infectious waste management capabilities
 - Improving coordination with healthcare coalition partners to provide access to PPE, training, and exercise support and improving interfacility transport systems
 - Integrating planning, training, and exercises with ELC and PHEP stakeholders
- The NETEC grant establishes a program designed to increase healthcare and public health workers' competency and healthcare facilities' ability to deliver efficient and

effective care for patients with Ebola by providing expertise, education, training, and technical assistance.

1.3 Definitions

The following definitions explain the standard meaning of words or phrases used throughout this document:

- Concept of Operations (ConOps) – A conceptual overview of the processes and steps for a properly functioning system or properly executed operation. This overview can include responsibilities and authorities, available resources, and methods to improve communications and coordination.
- Jurisdiction – The state, territorial, and major metropolitan area awardees that receive funds through the ELC, PHEP cooperative agreement, and HPP grants.

1.4 Ebola Concept of Operations

For guidance in developing plans, jurisdictions should look at the Federal Emergency Management Agency's Comprehensive Preparedness Guidance 101 (CPG 101). The ConOps should augment a jurisdiction's All Hazards Emergency Operations Plan to

Describe/identify the jurisdiction's specific concerns, capabilities, training, agencies, and resources that will be used to mitigate, prepare for, respond to, and recover from other hazards as defined in the jurisdiction's hazard analysis.

The ConOps outlined in this template describes strategic, high-level considerations for establishing a regional tiered system to safely and effectively manage PUIs or patients confirmed with Ebola. Subsequently, it is meant to describe information provided and actions to be taken at the jurisdictional level. This includes what organizations and agencies within the regional tiered system must also accomplish to ensure this system functions as intended. Planners and responders who read this ConOps should have a clear understanding of how public health, healthcare organizations, emergency medical services, emergency management, and other partners work together to identify and care for PUIs or patients confirmed with Ebola within their region. The collaboration of partners working throughout the region and in jurisdictions fully supports the guidelines contained within the National Response Framework. Changes to guidance can affect portions of this template, so planners are encouraged to review content at www.cdc.gov/vhf/ebola/ regularly during the response.

Planners for the jurisdiction will detail how each organization or agency supports the plan, which will include the mission for each organization or agency and the responsibilities necessary to support the jurisdiction's mission. Planners can then determine how they will execute their mission and fulfill their responsibilities.

References

- Developing and Maintaining Emergency Operations Plans, Comprehensive Preparedness Guidance 101, www.fema.gov/media-library-data/20130726-1828-25045-0014/cpg_101_comprehensive_preparedness_guide_developing_and_maintaining_emergency_operations_plans_2010.pdf.
- Federal Emergency Management Agency National Response Framework, <https://www.fema.gov/media-library/assets/documents/32230>.

1.5 Providing Feedback

Feedback about this template can be sent to healthcareprepared@cdc.gov.

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Chapter 2 – The ConOps Template

2.1 Introductory Material

Jurisdictions should follow the guidelines on pages 3–12 in CPG 101 to develop the introduction for the plan, which will include the cover page, official authorization statement, approval and implementation page, record of changes, record of distribution, and table of contents.

2.2 Purpose

Jurisdictions may consider using this ConOps purpose statement:

To inform local, state, and federal governments; relevant agencies and organizations; and other stakeholders of the preparedness and response plans specific to a case of Ebola in this jurisdiction.

2.3 Scope

This ConOps is limited to describing operational intent when responding to PUIs or patients confirmed with Ebola; however, with slight modification it can describe operations for responding to other diseases. Jurisdictions may have plans for bioterrorism or other infectious disease already in place and consistency between these plans should be maintained. The ConOps details a system developed for operations within the boundaries of the jurisdiction and within the HHS region, and provides information about agreements with other jurisdictions that support these systems.

Planners will outline the jurisdiction's boundaries. The scope should include the legal authorities that govern the methods used to direct the response (e.g., public health laws, healthcare regulations).

2.4 Situation Overview

This section will contain information about the jurisdiction and the disease. The information about the disease should include how it affects people, how it is spread, and why it is a risk. The information about the jurisdiction will include population numbers, an overview of the healthcare system, starting with 9-1-1 Public Safety Answering Points (PSAP), and factors that might increase risks to the population (e.g., hub for international travelers, large diaspora populations from countries with outbreaks). The following are listed only as examples.

2.4.1 Description of the disease

Ebola is an infectious disease caused by the Ebola virus. Symptoms might appear from 2 to 21 days after exposure and might include fever, headache, joint and muscle aches, weakness, diarrhea, vomiting, stomach pain, and abnormal bleeding.

2.4.2 Transmission

- Ebola is transmitted through direct contact with the blood or body fluids of an infected symptomatic person or through exposure to contaminated objects (such as needles). Recent case reports seem to indicate that the Ebola virus could remain in some body fluids (e.g., semen) of Ebola survivors longer than previously suspected. Therefore, transmission from asymptomatic survivors is possible
- People are not contagious until they develop symptoms
- People at highest risk for Ebola include healthcare workers and other people with direct contact with infected/symptomatic people
- Effective isolation of patients and appropriate infection control measures can help contain any potential spread

2.4.3 Description of jurisdiction

Example: The state has a population of 12.7 million people spread over 46,000 square miles. A majority of the population (60%) live within the six largest Metropolitan Statistical Areas. The public health and healthcare coalitions have 8 regions and include 65 acute care and specialty hospitals, 216 primary care providers, 194 nursing homes, and 88 adult care facilities. There are 260 public and private emergency medical services (EMS) agencies across the state. The Metro International Airport in Capital City serves over 15 million passengers annually, and ten flights per week originate from the outbreak area. The airport has a CDC-staffed quarantine station. Capital City and Hoover City (200 miles west of Capital City) both have large populations that originate from outbreak-affected countries.

2.5 Planning Assumptions

This section will include the assumptions that affect the proper functioning of the system developed. These assumptions might include when leaders will activate command and control elements within the government and others such as

- Notification of hospitals by EMS will occur at the earliest possible opportunity when transporting a PUI or multiple PUIs
- Staff who work in hospitals and ambulatory care settings will be able to identify symptomatic people whose travel history could suggest possible exposure to Ebola or other diseases endemic to a region and be prepared to have and use appropriate PPE, isolate patients, provide basic supportive care, and inform and consult with public health officials

- Health officials in the jurisdiction will have a plan for transporting one or multiple patients who are confirmed with Ebola to an established Ebola treatment center within the jurisdiction or to one of the 10 designated regional treatment centers.

2.6 Missions and Responsibilities

This section should indicate the designated lead agency responsible for developing and overseeing the implementation of the ConOps, and should also outline the mission and responsibilities by emergency support functions or by agency or organizations. These might include

- State level
 - Public health agency assists with coordination of public health actions
 - Department that provides legal advice and isolation and quarantine orders
 - Occupational safety and health administration assists in issues involving worker safety and unions
 - Department of transportation assists in contaminated waste transport and could help arrange air transport
 - Department of the treasury might provide budget assistance to support the response
- Local level
 - Health departments
 - Hospitals
 - Healthcare coalitions
 - 9-1-1/PSAPS
 - Emergency medical services (public and private agencies)
 - Emergency management agency
 - Pollution control agency/hazardous waste management agency or companies
 - Medical examiners/coroners/funeral homes
 - Airports

2.7 Intent

In this section, the official or agency responsible for developing and executing the ConOps for the jurisdiction will describe how the various organizations and agencies will prepare for and respond to PUI or patients confirmed with Ebola. Also included will be how the jurisdiction will help those at the local level respond appropriately. This is meant to be a broad statement; details will be provided in section 2.9, Key System Elements.

2.8 Critical Information Requirements

The title of this section varies depending on the format jurisdictions use for their plans. Some might use "Essential Elements of Information." This section will describe the critical elements of information that must be reported to the jurisdiction (e.g., state health department, state emergency operations center) to facilitate a timely and proper response. In some cases, this information is also passed to federal agencies to improve the response at that level. Though not all-inclusive, for an Ebola response these requirements might include

- All people arriving at a port of entry, hospitals, or clinics identified as low (but not zero), some, or high risk for contracting Ebola
- All people confirmed with Ebola
- The death of any person confirmed with Ebola
- Incidents where first responders, healthcare workers, or the public have a known or suspected exposure to a person confirmed with Ebola
- PPE shortages that could affect worker safety, or other medical product shortages or needs that could affect patient treatment

2.9 Key System Elements

CPG 101 recommends that plans include a framework for all direction, control, and coordination activities. Planners in jurisdictions will have a format for writing their plans, but each Ebola plan should include the following key systems elements and be reviewed to ensure they capture the recommendations for each element.

2.9.1 Public Health Monitoring and Movement

Designated public health departments are the likely agencies to be responsible for an active monitoring/direct active monitoring program (AM/DAM). This process begins by outlining the procedures, either by airport screeners or other public health agencies, which will be used to notify the public health department of a person requiring monitoring. In this section, a description of the procedures for the monitoring of persons who have been exposed to Ebola should identify:

- How those monitored will report their status—through daily checks or direct observation depending on their epidemiologic risk factors
- How those monitored will report the development of Ebola symptoms on a 24/7 basis
- How the jurisdiction will arrange for controlled movement, self-isolation, self-observation or quarantine of people at risk for Ebola as the situation dictates and as the state law allows
- What triggers prompt notifying of all necessary partners (especially hospitals and EMS) when a person being monitored exhibits symptoms of Ebola, including how and specifically where the hospital will receive a patient transferred from EMS
- The procedures to initiate normal public health contact investigations to identify and locate those with potential exposure to Ebola and begin monitoring procedures as necessary and procedures for surge staffing to help with investigations
- How to follow up with travelers lost or address travelers who are non-compliant (i.e., do not answer CARE phone, are not responding to e-mail and who do not contact or respond to reach out from public health) with monitoring
- A plan for mapping people subject to AM/DAM to an Assessment Hospital that is prepared to provide initial evaluation and isolation as well managing differential diagnostic testing, transport of confirmed patient, and treatment of other illnesses
- A plan, to include triggers, for discontinuing the program and for restarting the program should it become necessary

References

- Interim U.S. Guidance for Monitoring and Movement of Persons with Potential Ebola Virus Exposure, Updated December 24, 2014, www.cdc.gov/vhf/ebola/pdf/monitoring-and-movement.pdf.
- Interim Guidance for U.S. Hospital Preparedness for Patients Under Investigation: or with Confirmed Ebola Virus Disease (EVD): A Framework for a Tiered Approach, www.cdc.gov/vhf/ebola/hcp/us-hospital-preparedness.html.

2.9.2 Isolation and Quarantine Procedures

Public health will outline the procedures to arrange for the self-isolation and quarantine of PUIs and describe the requirements from other jurisdictional agencies to support the procedures. This will include measures taken to provide shelter and meals. Should the person later be confirmed with Ebola the jurisdiction should have arrangements in place for the decontamination of the residence, waste removal, and quarantine of pets (e.g., dogs and cats). Also included will be references to the laws and regulations that support these procedures.

References

- Cleaning and Decontamination of Ebola on Surfaces, www.osha.gov/Publications/OSHA_FS-3756.pdf.
- Interim Guidance for Dog or Cat Quarantine after Exposure to a Human with Confirmed Ebola Virus Disease, www.cdc.gov/vhf/ebola/pdf/dog-cat-quarantine.pdf.
- Interim Guidance for Public Health Officials on Pets of Ebola Virus Disease Contacts, www.cdc.gov/vhf/ebola/pdf/pets-of-ebola-contacts.pdf.

2.9.3 EMS Support at the Jurisdictional Level for the Transport of Persons Under Investigation or Confirmed with Ebola

This section will provide information on how the jurisdiction can help facilitate the transport of PUI or patients confirmed with Ebola to a designated Ebola assessment hospital or ETC for further evaluation, testing, and possible hospitalization. CDC has developed guidance for EMS providers that includes patient assessment, safety and PPE, patient management, transport, and decontamination and is working on guidance about interfacility transport. Guidance at the jurisdictional level might be stricter. The EMS director for the jurisdiction can help develop plans on how the jurisdiction will

- Provide guidance to 9-1-1 PSAPs about protocols for identifying calls related to people at risk for contracting Ebola
- If necessary, coordinate with adjacent states to allow EMS to transport patients confirmed with Ebola through the state to a regional ETC
- Coordinate with EMS to support the airport and with airport managers in situations where a PUI or confirmed with Ebola is transported by air
- Coordinate EMS for intrastate facility-to facility transfer (e.g., frontline hospital to assessment or treating hospital)
- Coordinate with EMS agencies to develop procedures and arrange for a transfer between two EMS vehicles to reduce long transport times

- Work with relevant regulating agencies to adjust the list of required equipment in an ambulance to limit potential contamination when transporting a patient with suspected or confirmed Ebola
- Help EMS agencies coordinate with hospitals for the disposal of contaminated waste and decontamination of the ambulances
- Work with local EMS medical directors to identify limited treatment protocols for PUIs or patients confirmed with Ebola during their transport

References

- Interim Guidance for EMS systems and 9-1-1 PSAPs for Management of Patients Who Present with Possible Ebola Virus Disease in the United States, www.cdc.gov/vhf/ebola/hcp/interim-guidance-emergency-medical-services-systems-911-public-safety-answering-points-management-patients-known-suspected-united-states.html.
- Identify, Isolate, Inform: Emergency Medical Services Systems and 9-1-1 PSAPs for Management of Patients Who Present with Possible Ebola Virus Disease (Ebola) in the United States, www.cdc.gov/vhf/ebola/pdf/ems-911-patients-with-possible-ebola.pdf.

2.9.4 EMS Preparation Supporting the Transportation of Persons Under Investigation or Confirmed with Ebola¹

This section details what EMS agencies must do to support the jurisdiction's plan. The transportation of PUIs or patients confirmed with Ebola will be managed through EMS at the jurisdictional or local level depending on how the EMS system is regulated or controlled in the jurisdiction. Local EMS must prepare for PUIs or a patient, or patients, confirmed with Ebola coming from within the EMS system (9-1-1/PSAP calls); an interfacility transfer; or from a port of entry, such as an airport. Additional considerations include

- The 9-1-1/PSAP medical director should consider how 9-1-1 calls for PUIs are operationalized and consider additional questions or actions specific to their local area or region
- The EMS medical director should determine Ebola-specific protocols for EMS services, including on-scene assessment and treatment, and collaborate with public health agencies to determine the appropriate hospital destination

¹ This subsection was added to provide guidance for local EMS agencies.

- EMS agencies should consider what ambulances or other EMS resources are dispatched for PUIs and how to ensure that arriving EMS have received adequate training in donning and doffing PPE and knowledge about what level of PPE to wear before entering the scene
- Jurisdictions might consider designating select EMS agencies for interfacility transfers
- Transportation should be considered for the following situations:
 - From quarantine station to an Ebola assessment hospital or ETC
 - From an airport that has agreed to receive a PUI or patient confirmed with Ebola transported by air medevac to an ETC
 - From a home or other location where a PUI might be self-monitoring for symptoms to an Ebola assessment hospital or ETC
 - From a medical provider's office to an Ebola assessment hospital or ETC
 - From an EMS vehicle to another EMS vehicle as part of an extended distance transport

2.9.5 Implementation of the Healthcare Facility Tiered Strategy

This section will outline the hospital tiered strategy for the management of PUIs or patients confirmed with Ebola within the region and the jurisdiction. This outline will include requirements for each tier in the strategy, especially if they differ from CDC guidance. Additionally, highlighting the legal authorities and regulations relating to the controlled movement of people suspected of carrying a highly infectious disease will help local officials determine how to manage PUIs and patients confirmed with Ebola. Plans should include

- The identified need for tiers of prepared healthcare facilities within the jurisdiction based on the location of points of entry and locations of people subject to AM/DAM
- How hospitals are selected to perform various roles within the system
- How to assess hospitals to ensure that staff and facilities meet the requirements outlined for the facility
- For those jurisdictions without an ETC, a list of plans, existing memoranda of understanding (MOUs), and procedures to arrange for the transfer of patients confirmed with Ebola to an ETC in another jurisdiction, including how and where on the hospital grounds EMS will receive the patient

- Which public health entity is responsible for identifying where a frontline or outpatient facility should direct PUIs (e.g., the assessment hospital or ETC)
- What coordination is necessary to arrange for interfacility transfers and which agencies and organizations are responsible for this coordination, both intrastate and interstate
- Reporting requirements for hospitals assessing PUIs and for hospitals treating patients confirmed with Ebola
- What resources (e.g., PPE, training, funds) the jurisdiction offers hospitals and how the hospital coordinates the support
- How the jurisdiction will coordinate with HHS, CDC, and the regional treatment facility if a PUI or healthcare worker tests positive for Ebola
- How the jurisdiction will coordinate clinical management of patients and incorporate CDC subject matter expert recommendations into patient care procedures
- The actions taken to track patients from the point they enter the healthcare system through their courses of care

References

- Interim Guidance for U.S. Hospital Preparedness for Patients Under Investigation: or with Confirmed Ebola Virus Disease (EVD): A Framework for a Tiered Approach, www.cdc.gov/vhf/ebola/hcp/us-hospital-preparedness.html.
- Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On (Donning) and Removing (Doffing), www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html.
- Interim Guidance for EMS systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients Who Present with Possible Ebola Virus Disease in the United States, www.cdc.gov/vhf/ebola/hcp/interim-guidance-emergency-medical-services-systems-911-public-safety-answering-points-management-patients-known-suspected-united-states.html.
- Identify, Isolate, Inform: Emergency Medical Services Systems and 9-1-1 PSAPs for Management of Patients Who Present with Possible Ebola Virus Disease (Ebola) in the United States, www.cdc.gov/vhf/ebola/pdf/ems-911-patients-with-possible-ebola.pdf.

- CDC's Domestic Ebola Supplement to ELC for Infectious Diseases – Building and Strengthening Epidemiology, Laboratory and Health Information Systems Capacity in State and Local Health Departments (CK14-1401PPHFSUPP15).
- CDC's PHEP Supplemental for Ebola Preparedness and Response Activities (CDC-FRA-RP12-12010302SUPP15).
- ASPR's HPP Ebola Preparedness and Response Activities (CFDA #93.817).
- ASPR's NETEC Cooperative Agreement (EP-U3R-15-003). Regional Ebola and Other Special Pathogen Treatment Centers.

2.9.6 Regional Ebola and Other Special Pathogen Treatment Centers

ASPR's HPP FOA outlines the requirements to develop regional Ebola and other special pathogen treatment centers in each of the HHS regions. Although the FOA contains specifications for the capability and capacity of these centers, planners in each jurisdiction must ensure policies and procedures are in place to support the designated hospital. States within a region will have written agreements with the state hosting the hospital, or with states near the jurisdiction, which will be signed by the jurisdiction's elected officials and health officials. The emergency operations centers in the jurisdictions should ensure plans and procedures are identified for sharing information related to the transfer of PUIs and patients confirmed with Ebola and be prepared to coordinate these transfers. Though many of the coordination requirements are covered in the Hospital Tiered Strategy section, you should also include the following information:

- Notification and coordination requirements for
 - Procedures when transferring a patient to the state containing the regional ETC
 - The sending and receiving hospitals and the role of state and local level departments in that coordination
 - Procedures among EMS air and ground transportation and state and local EMS medical directors
- Procedures and responsibilities for the state to request air transport (e.g., the state would contact the ASPR regional emergency coordinator who will make the appropriate notifications regarding air transport)
- Identification of airports whose management officials have agreed to accept flights transporting patients with Ebola
- Security requirements for a safe and secure patient transfer
- Dissemination of information to the public

- Requirements for coordination when the region has multiple PUIs or and patients confirmed with Ebola

Reference

ASPR's HPP Ebola Preparedness and Response Activities (CFDA #93.817).

2.9.7 Hospital Preparation in Support of the Tiered Hospital Strategy²

This details what the healthcare facilities must do to support the jurisdiction's plan. All hospitals should review their staffing needs for providing care to a patient with Ebola. Their plan should describe how they will coordinate for and use health professionals from outside agencies to fill the gaps in staffing requirements. Details include

- Frontline healthcare facilities (e.g., urgent care settings or emergency departments) must ensure plans outline and staff are trained on the procedures for when a person with a relevant exposure history and signs or symptoms compatible with Ebola presents to the facility including the following:
 - Who will ensure the hospital staff has contacts for those agencies working on the Ebola response, including local and state public health, EMS, and emergency management
 - How the staff will identify and isolate this person
 - Which agency the staff will notify to report that they have a PUI
 - How to arrange transportation to an assessment hospital or ETC, what critical information must be provided to the transport agency and receiving hospitals, and who will provide the information
 - How personnel will access an adequate supply of PPE and be trained on its use
 - How these facilities will safely store and arrange for help with disposing of the material used during the initial care of the patient if the patient is later confirmed with Ebola
 - The printed and electronic information for staff about inclusion in the monitoring program if the patient is determined to have Ebola
 - Who is responsible for ensuring relevant staff are trained and validated on the procedures outlined in the plan

² This subsection was added to provide guidance for local facilities.

- Assessment hospitals and ETCs designated to receive PUI(s) from various sources must ensure plans and procedures cover
 - Hospital notification to expect a PUI(s) and how staff members are informed
 - How the hospital will communicate with the agency transporting the PUI(s) and the critical information, including where the transport vehicle will bring the patient(s)
 - Where the transporting staff will decontaminate their vehicle, doff their PPE, and safely dispose of waste after transporting the patient(s)
 - How patients without Ebola will be distributed if they must be moved from the area of the facility designated to receive the PUI
 - How the hospital will work with public health officials from the initial notification about the PUI(s) through the assessment, collection, and testing of laboratory specimens, and other components of the evaluation
 - How personnel will access an adequate supply of PPE and be trained on its use
 - How the staff will manage pediatric or pregnant PUIs, including newborns born to Ebola-infected women
 - How hospital leaders will arrange for assistance when multiple PUIs present to the facilities
 - Who is responsible for ensuring relevant staff are trained and validated on the procedures outlined in the plan
- Plans covering what to do when a PUI tests positive should include
 - How to manage staff detailed to care for the patient such as how the staff will be monitored for Ebola symptoms and how monitoring data will be shared with public health authorities
 - Coordination of supplies (e.g., PPE), laboratory, and waste management issues with appropriate authorities
 - Coordination of requests for and use of unapproved medical products (e.g., investigational therapeutics, products authorized for emergency use) with appropriate local, state, and federal authorities
 - Coordination with appropriate public health officials if the hospital receives more patients confirmed with Ebola than facility and staff can manage safely

- Arrangement of interfacility transport to an ETC, if needed
- Specifics about who will communicate with staff, the public, and current patients and their families about the care of the Ebola-infected patient in the facility
- Identify and describe the actions that will be taken to assess and provide mental health services for the healthcare workers, patient, patient family members, and general public

2.9.8 Enhancing Infection Control Procedures

This section details how the jurisdiction will work to improve infection control practices in all healthcare settings, including how the jurisdiction will

- Expand the partners in infection control advisory groups (e.g., PHEP and HPP preparedness, EMS, mortuary services)
- Create and maintain a list of infection control points of contact in each healthcare facility, as well as the regulatory/licensing oversight authorities and include them in communications about infection control practices for managing patients with Ebola
- Perform targeted assessments of general infection control competencies in healthcare facilities, identify gaps, and help correct them by developing improvement plans and strategies to address the gaps
- Coordinate access to training for infection control practitioners in healthcare facilities and for EMS
- Share promising practices and other information about infection control in healthcare settings with healthcare agencies and healthcare workers in the jurisdiction

References

- Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus, www.cdc.gov/vhf/ebola/healthcare-us/cleaning/hospitals.html.
- CDC's Domestic Ebola Supplement to ELC for Infectious Diseases – Building and Strengthening Epidemiology, Laboratory and Health Information Systems Capacity in State and Local Health Departments (CK14-1401PPHFSUPP15).
- CDC's PHEP Supplemental for Ebola Preparedness and Response Activities (CDC-FRA-RP12-12010302SUPP15).

2.9.9 Laboratory Services Support and Coordination

This section details what laboratory capability and capacity are available in the jurisdiction and how healthcare organizations can coordinate for laboratory support.

Clinical laboratories, especially those in Ebola assessment hospitals and ETCs, should have demonstrated that they are prepared to provide timely and sufficient diagnostic testing to ensure patient care is not compromised and that medical evaluation is not delayed while patients undergo assessment and prior to availability of Ebola laboratory testing results. In the United States, most patients evaluated for Ebola have had other illnesses such as malaria, influenza and other respiratory illnesses, typhoid fever, and other bacterial or viral infections.¹ A clinician should determine specific testing according to the patient presentation and travel history, and assessment and treatment facilities should consider how they might perform these laboratory tests safely. At a minimum, this testing should include a complete blood count (CBC); glucose and potassium concentrations; malaria testing (smear or rapid tests); and testing for influenza virus and liver function.

CDC has posted "Guidance for U.S. Laboratories for Managing and Testing Routine Clinical Specimens When There Is a Concern About Ebola Virus Disease" and "Guidance for Collection, Transport and Submission of Specimens for Ebola Virus Testing." Jurisdiction laboratory managers can provide the following to help planners:

- Contact information for laboratories willing to complete all patient testing (e.g., CBC, glucose, potassium, malaria exam, influenza test, liver function tests)
- Procedures for collecting, packing, and shipping samples from PUI(s) to the state public health laboratory or the jurisdiction nearest to the Laboratory Response Network (LRN) laboratory
- A list of procedures hospital laboratories should follow to rule out or confirm that a patient has Ebola. ***NOTE:** If there is a clinical suspicion of Ebola, a determination whether a patient is or is not a PUI should be made in consultation with public health officials as quickly as possible to ensure that patient care is not compromised. CDC recommends conducting Ebola testing only for people who meet the criteria for PUI (www.cdc.gov/vhf/ebola/healthcare-us/evaluating-patients/case-definition.html).
- Procedures for confirmation of Ebola—if the hospital chooses to use a commercial Ebola virus test, duplicate specimens are submitted to an LRN facility. (The Food and Drug Administration has authorized a number of Ebola diagnostic tests for us under its Emergency Use Authorization (EUA) authority). The LRN facility will send a specimen to CDC for confirmation if needed
- The mechanisms to transport specimens to laboratories in neighboring jurisdictions if the jurisdiction does not have Ebola testing ability

- Any laboratory specific supplies and training available from the jurisdiction related to an Ebola response and procedures for requesting the supplies and training for staff
- Procedures for requesting a site-specific assessment of risk, laboratory safety procedures, and mitigation controls for handling Ebola specimens. Note: The new biosafety officer acquired through the ELC Ebola supplemental grant will be responsible for helping hospital laboratories perform biosafety risk assessments and identify best practices

References

- Karwowski et al. Clinical Inquiries Regarding Ebola Virus Disease Received by CDC — United States, July 9–Nov 15, 2014. MMWR Morb Mortal Wkly Rep. Dec 5, 2014. 63 (Early Release);1–5), www.cdc.gov/mmwr/preview/mmwrhtml/mm6349a8.htm?s_cid=mm6349a8_w.
- Guidance for U.S. Laboratories for Managing and Testing Routine Clinical Specimens When There Is a Concern About Ebola Virus Disease. www.cdc.gov/vhf/ebola/healthcare-us/laboratories/safe-specimen-management.html.
- Guidance for Collection, Transport and Submission of Specimens for Ebola Virus Testing, www.cdc.gov/vhf/ebola/healthcare-us/laboratories/specimens.html.
- Interim Guidance for Preparing Ebola Assessment Hospitals, www.cdc.gov/vhf/ebola/healthcare-us/preparing/hospitals.html.
- Interim Guidance for Preparing Ebola Treatment Centers, www.cdc.gov/vhf/ebola/healthcare-us/preparing/treatment-centers.html.
- Ebola Diagnostic Tests Available under Emergency Use Authorizations (EUAs), <http://www.fda.gov/EmergencyPreparedness/Counterterrorism/ucm182568.htm>.

2.9.10 Waste Management Considerations

This section provides details on the jurisdiction's Category-A Infectious Hazardous Waste packaging and transport requirements, which might involve contact among state transportation officials, waste disposal vendors, hospital environmental staff, and possibly interstate partners. Facilities unable to treat waste on site working with their state agencies must develop a waste management plan for handling, packaging, and disposal (final disposition) of Ebola-associated medical waste. The Department of Transportation's (DOT) website has information about the Category A Infectious Substance Permit for Ebola and a list of waste handling companies that have the special permit (current DOT SP-16279): <http://phmsa.dot.gov/portal/site/PHMSA/template.PAGE/menuitem.0dfb7c2af74e3ee9d8b82610e90d8789/?javax.portlet.tpst=fa02b82b565502f9b9dcba10e90d8789&javax.portlet.begCacheTok=com.vignette.cachetoken&javax.portlet.endCacheTok=com.vignette.cachetoken> (type 16279 in the special permit field).

For facilities that can treat Ebola-associated waste on site, treated waste is no longer considered infectious waste (state and local regulations might be stricter) and can be disposed of according to state and local regulations regarding solid waste. Other information related to Category-A Hazardous Waste disposal include

- Legal and regulatory requirements related to the handling, packaging, transportation, and disposal of Category-A Hazardous Waste
- Capabilities available in the jurisdiction to assist healthcare facilities in arranging for vendors to remove Category-A Hazardous Waste
- Measures taken to ensure waste removed from locations in the community where Ebola-positive patients lived and is handled and disposed of properly

References

- Safety Advisory: Packaging and Handling Ebola Virus Contaminated Infectious Waste for Transportation to Disposal Sites, http://phmsa.dot.gov/pv_obj_cache/pv_obj_id_CA032C97BEEB7978BFDD83ACF8991F28CAE20000/filename/ebola_sa.pdf.
- Interim Guidance for U.S. Residence Decontamination and Removal of Contaminated Waste, www.cdc.gov/vhf/ebola/prevention/cleaning-us-homes.html.
DOT. [Guidance for Transporting Ebola Contaminated Items, a Category A Infectious Substance](#).
- DOT. [Hazardous Materials Regulations](#) (49 CFR Parts 100-1999; 49 CFR 172.700; 49 CFR 173.134[a][5]).
- Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus, www.cdc.gov/vhf/ebola/healthcare-us/cleaning/hospitals.html.
- Procedures for Safe Handling and Management of Ebola-Associated Waste, www.cdc.gov/vhf/ebola/healthcare-us/cleaning/handling-waste.html.
- Ebola-Associated Waste Management, www.cdc.gov/vhf/ebola/hcp/medical-waste-management.html.
- Safe Handling, Treatment, Transport and Disposal of Ebola-Contaminated Waste, https://www.osha.gov/Publications/OSHA_FS-3766.pdf.

2.9.11 PPE Resources

PPE plays an important part in an Ebola response for any worker who has the potential for exposure to the blood or bodily fluids of an Ebola-infected patient. The jurisdiction's ConOps should include

- Measures taken to create a supply of PPE for managing a patient with suspected or confirmed Ebola and the procedures to request the resources
- Recommended training on PPE, availability of the training in the jurisdiction, and the procedures for requesting the training
- Procedures for procuring PPE contained within the Strategic National Stockpile

This section will often involve coordination among a jurisdiction's healthcare coalitions, healthcare systems, and EMS agencies.

References

- Guidance on Personal Protective Equipment to Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On (Donning) and Removing (Doffing), www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html.
- Considerations for U.S. Healthcare Facilities to Ensure Adequate Supplies of Personal Protective Equipment (PPE) for Ebola Preparedness, www.cdc.gov/vhf/ebola/healthcare-us/ppe/supplies.html.

2.9.12 Considerations for Outpatient Settings

This section can be used to outline the roles and preparation of outpatient settings within the jurisdiction.

References

- Ebola Interim Guidance for Outpatient and Ambulatory Care, <http://public.health.oregon.gov/Preparedness/CurrentHazards/Events/EbolaResponse/Documents/outpatient/outpatient-ambulatorycare-ebola-preparedness-guidelines.pdf>.
- Identify, Isolate, Inform: Ambulatory Care Evaluation of Patients with Possible Ebola Virus Disease (Ebola), www.cdc.gov/vhf/ebola/pdf/ambulatory-care-evaluation-of-patients-with-possible-ebola.pdf.

2.9.13 Mortuary Affairs

This section varies depending on the type of system the jurisdiction uses to manage mortuary affairs. CDC guidance includes recommendations on handling remains, and it is highly recommended this guidance be followed. The ConOps should include

- Information about how to contact state/local legal counsel to help with issues involving discrepancies between groups on burial procedures (mandated closed casket and/or cremation) or measures to take if the body is not claimed
- Any action by the jurisdiction to contract with one funeral home to handle the disposition of remains for any Ebola-related deaths in the jurisdiction

Reference

Guidance for Safe Handling of Human Remains of Ebola Patients in U.S. Hospitals and Mortuaries, www.cdc.gov/vhf/ebola/hcp/guidance-safe-handling-human-remains-ebola-patients-us-hospitals-mortuaries.html.

2.10 Coordination, Administrative Preparedness, Accounting, and Communication

2.10.1 Coordination

Each agency or organization listed as responsible for actions in the ConOps also should be responsible for clearly defining what is required from other staff or agencies to properly execute these actions. The plan should include the events that trigger the coordination process, important decision points in the operation's timeline, what form of communication will be used to facilitate coordination, and the people responsible for conducting the coordination.

2.10.2 Administrative Preparedness

Current HPP and PHEP funding agreements define administrative preparedness as

"The process of ensuring fiscal and administrative authorities and practices that govern funding, procurement, contracting, hiring, and legal capabilities necessary to mitigate, respond to, and recover from public health emergencies can be accelerated, modified, streamlined, and accountably managed at all levels of government."

In the Ebola ConOps the jurisdiction will outline what MOUs, agreements, or pre-contracting is in place at that level and those required at the local level. Examples may include pre-contracts with hazardous waste cleanup companies for the decontamination of residents or a memorandum of agreement between an ETC in one jurisdiction and the regional treatment center.

2.10.3 Accounting

The jurisdiction's financial planners should determine how agencies and organizations should capture and report the cost of response operations, submit requests for reimbursement, and provide other information about budget and finance operations. This should include actions for retroactive reimbursement for early Ebola preparedness efforts.

2.10.4 Communication

The communication section of the ConOps not only details how information should be communicated and shared with organizations and agencies within the system, but also how information will be shared with the public. To facilitate sharing of information between organizations and agencies within the system, the ConOps should include

- A reminder for hospital staff about the Health Insurance Portability and Accountability Act (HIPPA) requirement for maintaining confidentiality of patient information. This is especially important for PUIs or patients confirmed with Ebola and their families
- How public health and hospital leaders, in conjunction with their public information officers, will determine how and who will share information with the public regarding PUIs and patients confirmed with Ebola
- Contact information for agencies engaged in Ebola preparedness and response, along with what triggers the need to contact each agency
- Contact information for local agency/organization staff who the jurisdiction response staff will coordinate with to transport a patient confirmed with Ebola
- How agencies and organizations will interact with each other and CDC regarding how PUIs or patients confirmed with Ebola are being treated
- If the jurisdiction uses systems similar to Epi-X or the Health Alert Network, provide information on who can enroll in those systems and details on how to enroll

At a minimum, the jurisdiction should maintain contact information for all hospitals, EMS agencies, laboratories, and waste management companies designated to support the response.

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Chapter 3 – Training and Exercises

3.1 Recommendations for Conducting Training

Though sections in the ConOps plan recommend training people on certain elements applicable to each section, personnel also need to receive training on how the jurisdiction will execute this plan. Leaders must understand how their organizations and agencies contribute to the proper functioning of the regional hospital tiered system. All personnel must understand what their role is in ensuring operations are coordinated with other partners and their responsibilities in ensuring proper communication between these partners. Look at methods to ensure that the training regarding roles and responsibilities under the ConOps is sustainable (e.g., recorded webinars, online training, detailed presentations) and recommend that personnel take the training before conducting exercises. This training should also include how those responsibilities can extend to a response related to other infectious diseases and public health emergencies. Documenting the training will help identify gaps in educating partners on the various plans and provide the means necessary to meet requirements outlined in the FOAs.

Jurisdictions can send staff from their ETCs or Ebola assessment hospitals to training at the National Training and Education Center as outlined in the HPP FOA and grant application instructions.

3.2 Recommendations for Conducting Exercises

Specific requirements for the frequency and type of exercises are covered in each of the FOA and grant application instructions for ELC, PHEP, and HPP. The jurisdiction should outline requirements for exercise reporting and capture the results that evaluate personnel and procedures related to the plan. Larger scale exercises might focus on response capabilities across the system, with the understanding that these might include sectors, agencies, and organizations who do not always conduct exercises together. Improvement plans will drive changes to the plan and inform training on the plan itself.

3.3 Final Note

The ConOps plan must be clearly articulated, trained, and exercised to reduce the likelihood of Ebola reaching or spreading in a jurisdiction. The ConOps includes the details necessary for a coordinated response at all levels of government and by all involved agencies and organizations and should be shared with these critical partners. Conducting planning, training, and exercises with these partners may benefit a jurisdiction during other emergencies.

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Appendix A – Abbreviations and Acronyms

ASTHO	Association of State and Territorial Health Officials
ASPR	Assistant Secretary for Preparedness and Response
CDC	Centers for Disease Control and Prevention
CIR	Critical Information Requirement
PHEP	Public Health Emergency Preparedness
ConOps	concept of operations
DOT	U.S. Department of Transportation
EEI	Essential Elements of Information
ELC	Epidemiology and Laboratory Capacity
EMS	emergency medical services
EOC	emergency operations center
ESF	Emergency Support Function
ETC	Ebola treatment center
FEMA	U.S. Federal Emergency Management Agency
CPG	Comprehensive Planning Guidance
FOA	Funding Opportunity Announcement
HIPAA	Health Insurance Portability and Accountability Act
HHS	U.S. Department of Health and Human Services
HPP	Hospital Preparedness Program
LRN	Laboratory Response Network
NIH	National Institutes of Health
MOU	memorandum of understanding
NACCHO	National Association of County and City Health Officials
NASEMSO	National Association of State Emergency Medical Services Officials
ORAU	Oak Ridge Associated Universities

ORISE..... Oak Ridge Institute for Science and Education
OSHA..... Occupational Safety and Health Administration
POE.....port of entry
PPE..... personal protective equipment
PSAP.....Public Safety Answering Points
PUI..... person under investigation

Appendix B – Definition of Terms

Administrative Procedures

The process of ensuring fiscal and administrative authorities and practices that govern funding, procurement, contracting, hiring, and legal capabilities necessary to mitigate, respond to, and recover from public health emergencies can be accelerated, modified, streamlined, and accountably managed at all levels of government.

Comprehensive Preparedness Guidance 101 (CPG 101)

A Federal Emergency Management Agency publication that details the fundamentals of planning and developing emergency operations plans.

Concept of Operations (ConOps)

A conceptual overview of the processes and steps envisioned in the proper functioning of a system or in the proper execution of an operation. This overview also can include responsibilities and authorities, available resources, and methods to improve communications and coordination.

Doffing

The process of removing used personal protective equipment.

Donning

The process of putting on clean personal protective equipment

Ebola Virus Disease (Ebola)—previously known as Ebola hemorrhagic fever

A rare and deadly disease caused by infection with one of the Ebola virus strains. Ebola can cause disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees).

Hospital Preparedness Program (HPP)

A program managed by HHS/ASPR that provides leadership and funding through grants and cooperative agreements to states, territories, and eligible municipalities to improve surge capacity and enhance community and hospital preparedness for public health emergencies.

Jurisdiction

For the purpose of this document the term refers to the state, territorial, and major metropolitan area awardees who receive funds through the ELC, PHEP cooperative agreements, and HPP grants.

Public Health Emergency Preparedness (PHEP) Cooperative Agreement

A program administered by CDC's Office of Public Health Preparedness and Response, Division of State and Local Readiness to help public health departments strengthen their abilities to respond to all types of public health incidents and build more resilient communities.

Person Under Investigation (PUI)

A person who has both consistent signs or symptoms and risk factors as follows should be considered a PUI:

- Elevated body temperature or subjective fever or symptoms, including severe headache, fatigue, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage

AND

- An epidemiologic risk (<http://www.cdc.gov/vhf/ebola/exposure/risk-factors-when-evaluating-person-for-exposure.html>) factor within the 21 days before the onset of symptoms

Tiered Hospital System in the United States

To create a coordinated networked approach, state and local health officials, in collaboration with hospital and healthcare facility executives, may designate healthcare facilities across the state to serve in one of three suggested roles outlined in this guidance document. Frontline hospitals screen, isolate and transfer for testing and possibly treatment. Assessment hospitals screen, isolate, conduct differential and confirmatory testing and transport to treating facility. Ebola treatment center can screen, isolate, conduct all testing and offer treatment under research protocols.