Hidalgo County

Appendix 6: Biological Terrorism Response Plan

April 2023

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Record of Change

When changes are made to the Public Health & Medical Services Plan, Appendix 6: Biological Terrorism Response Plan, Hidalgo County Health & Human Services Department will record the changes to this document using the record of changes table below.

Date of Change	Location of Change	Description of Change	Changed by:
1/26/2023	All	Updated plan format.	Aylin Reta
03/27/2023	All	Revised plan details and information.	Diana Cortes

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Approval and Implementation

Appendix 6: Biological Terrorism Response Plan

This appendix is hereby approved for implementation and supersedes all previous editions.

_____ _____

Eduardo Olivarez — Date

Director, Health & Human Services

_____ _____

Ricardo Saldaña — Date

Emergency Management Coordinator

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Authority

The Hidalgo County Commissioner's Court has the authority to approve and implement the Public Health & Medical Services Plan. The Public Health & Medical Services Plan includes 12 appendices. The County Commissioner's Court approved the Public Health & Medical Services Plan on _____, 2023. This plan aligns with the County's Emergency Basic Plan, ESF-8: Public Health that was approved by the County Commissioner's Court on September 7, 2021.

The organizational and operational concepts set forth in this plan are promulgated under the following authorities:

A. Federal
   1. *Federal Civil Defense Act of 1950*, PL 81-920, as amended
   2. *The Disaster Relief Act of 1974*, PL 93-288, as amended
   3. *Robert T. Stafford Disaster Relief and Emergency Assistance Act*, PL 100-707
   4. *Emergency Management and Assistance*, Code of Federal Regulations, Title 44
   5. *Title III, of the Superfund Amendments and Reauthorization Act of 1986, (SARA)*, PL 99-499, as amended

B. State
   1. *The Texas Disaster Act of 1975*, V.T.C.A. Government Code Title 4 Chapter 418
   2. *Executive Order of the Governor*
   3. *Attorney General Opinion MW-140*
   4. *Hazard Communication Act*, Title 83, Article 5182b
   5. *Texas Hazardous Substances Spill Prevention and Control Act*, Chapter 26, Subchapter G, Texas Water Code
   6. *State Solid Waste Disposal Act*, Texas Civil Statutes Article 4477-7

C. Local
   1. Commissioner's Court Resolution Dated August 1, 2000

Introduction

Bioterrorism is a significant public health threat facing the United States and the rest of the world. "Bioterrorism" is defined as the use of microorganisms that cause human disease or the toxins released from them to harm people or elicit widespread fear or intimidation in society. This form of threat and intimidation is not restricted to just major cities in the Unites States. These threats pertain to each state and its counties. The United States has seen lethal bioterrorism become a stark reality, and our ability to detect and respond to this danger depends on having reliable emergency response plans and responders that are trained to this capacity. Response to a bioterrorism event will require the rapid deployment of scarce public health resources.

Affected persons will present to clinics and emergency departments as they do in other outbreaks. Physicians, along with other health care professionals, are likely to be the first to notice an outbreak caused by bioterrorism and therefore play a crucial role in early detection. The microbial agents used to make some of the most lethal biological weapons are widely available, and the associated technology is also obtainable given its legitimate use for agricultural, pharmaceutical, or other purposes. Food, water, or insects are each potential vehicle of transmission for biological weapons, though it is aerosol dissemination that has the greatest capacity to cause widespread disease.

In Texas, most counties have emergency plans already in place, but most were only designed to deal with natural disasters. This appendix is designed to provide proactive planning to address the needs of communities, the environment, agriculture, business, families, and individuals during a biological terrorism response.

Hidalgo County Health and Human Services Department (HCHHSD) is the primary organization responsible to lead the Health Emergency Support Function in the Public Health and Medical Services Plan, Appendix 6: Biological Terrorism Response Plan during any natural disaster or emergency in the County. In this role, it is implementing a systems approach for a unified response to acts of domestic bioterrorism, all hazardous disasters involving weapons of mass destruction (WMD), and/or natural disasters.

Purpose

This plan is intended to provide guidance to HCHHSD in the event of a bio-terrorist act or a major disaster. It will identify the key players and the plan of action. Operational procedures are presented in this document as a guide in managing the response to a threatened or actual bio-terrorist attack or all hazard disaster.

Regardless of the mechanism or motive behind the incident, responders should remain focused on reducing the impact of the event as efficiently and safely as possible. Whether a terrorist event or not, all responders must follow established safety guidelines that are pertinent to their respective agencies.

In keeping with the all-hazards approach to the County's Emergency Management Basic Plan and the HCHHSD Public Health and Medical Services Plan, a bio-terror incident will be treated as a hazardous materials incident with additional complicating factors. Because of the highly destructive and technical nature of bio-terrorism incidents, special technical expertise, training, and equipment are required to respond with. If the incident is a potential act of terrorism, it is also considered a crime scene.

Explanation of Terms

Acronyms

B-NICE	Biological, Nuclear, Incendiary, Chemical, and Explosive
DDC	Disaster District Committee

DSHS	Department of State Health Services
EMC	Emergency Management Coordinator
EMS	Emergency Medical Services
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
HCHHSD	Hidalgo County Health Human Services Department
JIC	Joint Information Center
NIMS	National Incident Management System
PHEP	Public Health Emergency Preparedness
SOP	Standard Operating Procedures
TCEQ	Texas Commission for Environmental Quality
WMD	Weapons of Mass Destruction

Definitions

Biological Terrorism: The use of a biological weapon against civilian populations for the purpose of creating terror. The result of the use of biological weapons is an epidemic.

Biological Weapon: A biological weapon is a device used to intentionally cause disease through the dissemination of bacteria, viruses, or microbial toxins. Depending on the microbe or toxin, the resulting disease may or may not be contagious.

Emergency Medical Services: A service providing out-of-hospital acute care and transport to definitive care to patients with illnesses and injuries which the patient believes constitutes a medical emergency. The most common and recognized EMS type is an ambulance organization.

Joint Information Center: A location established by the State and Federal Government after a Presidential Disaster Declaration. These centers have the dual role of collecting damage information relating to the private (individual) sector and serving as a referral center to help individuals in receiving available assistance to meet immediate needs.

National Incident Management System: A unified approach to incident management; standard command and management structures; emphasis on preparedness, mutual aid and resource management.

Situation Report: Updates are compiled for use in emergency management planning and operational activities. Updates include information and graphics gathered from a variety of sources including other federal agencies and departments, state and local government, and the news media.

Terrorism: Defined as a violent act or an act dangerous to human life, in violation of the criminal laws of the United States to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives. Examples of terrorism may include arson, environmental crime, industrial sabotage, bombings, weapons of mass destruction, and B-NICE (Biological, Nuclear, Incendiary, Chemical, and Explosive) terrorism. There may or may not be any warning before the incident occurs. Additionally, recent incidents have documented the occasional use of secondary devices.

Vulnerable and At-Risk Populations: Includes the homeless and economically disadvantaged, infants and children, the elderly, medically fragile, mentally and/or physically challenged or handicapped, individuals with mental illness, or those with developmental delays. May include home-bound individuals and those that experience cultural, geographic, and/or social isolation, patients in nursing/long term care facilities, or individuals with language or literacy barriers. These groups may need specially trained healthcare providers to assist them, special facilities equipped to meet their needs, and/or specialized vehicles and equipment for transport during emergency situations.

Situation & Assumptions

Situation

1. The time in which crisis and consequence management will be required and needed during a terrorist attack depends on the emerging epidemiological outbreak.
2. Most disasters that have required activation of the County's and the State's EM system have had several characteristics that won't necessarily match a bioterrorism incident. Past emergencies have been time-limited, geographically focused, and required a response that county and state agencies have experienced before.
3. A bioterrorism incident may have none of the characteristics listed above.
4. The crisis phase, including the criminal investigation of a bioterrorism attack could last weeks or months because of the time lags that occur between exposure of the first victims to a biological agent, appearance of symptoms, treatment of the first wave and contact tracing, contagious and exposure of secondary victims, and their symptomatic and treatment phases.
5. Because of the dispersed economy and mobile lifestyle, as well as the fact that biological weapons may be distributed across a wide area, the geographic scope of the exposed population and contaminated facilities could cover many counties at once causing the extent of the geographic distribution of the attack to not be known for some time.
6. Even with individual training and interagency simulations using tabletop exercises, drills, live exercises, and/or more complete deployment of equipment and personnel, bioterrorism incidents will generate novel events that will require more of a problem-solving approach rather than merely following SOPs.

Assumptions

The response system described by this document is embedded within a complex hierarchy of relationships described in the Responsibilities and Concept of Operations sections below. Because all the relationships that may be called into play in a bioterrorism attack cannot be specified in this document, the functional capabilities that will be available to emergency managers are not listed in this section.

Concept of Operations

General

The following are the HCHHSD's main objectives when responding to a bioterrorist incident:

1. Protect the lives and safety of the residents and first responders of the County,
2. Contain and/or limit the spread of any biological agent,
3. Appropriately identify the agent used,
4. Advise emergency responders regarding appropriate protective gear,
5. Identify the most appropriate decontamination and/or treatment for victims,
6. Notify emergency personnel, including medical facilities, of dangers, anticipated casualties, and proper measures to be followed,
7. Notify appropriate State and Federal agencies,
8. Provide timely information to the public,
9. Preserve as much evidence as possible to aid in the investigation process.

This section describes how actions are carried out during the four functional phases of emergency management:

- Preparedness – actions before an event.
- Response – immediate actions in response to an event.
- Recovery – actions to rebuild systems after an event.
- Mitigation – actions prior to the next event that reduces or eliminates hazards and risks.

HCHHSD will utilize these processes in conjunction with other interrelated agencies, as the response requires.

Crisis and Consequence Management

The concept of operations incorporated into this appendix is consistent with that utilized by the Federal government. The Terrorism Incident Annex of the Federal Response Plan establishes a general concept of operations for such incidents by denoting efforts to prevent, stop, or minimize the event itself as *crisis management*, while the efforts to assist victims, respond to property and environmental damage, or control further damage and disruption as *consequence management*. Clearly, crisis management and consequence management operations are very closely interrelated and success or failure in one can impact the other. Therefore, the concept of operations contains

mechanisms for the close coordination of activities in both these categories of operations.

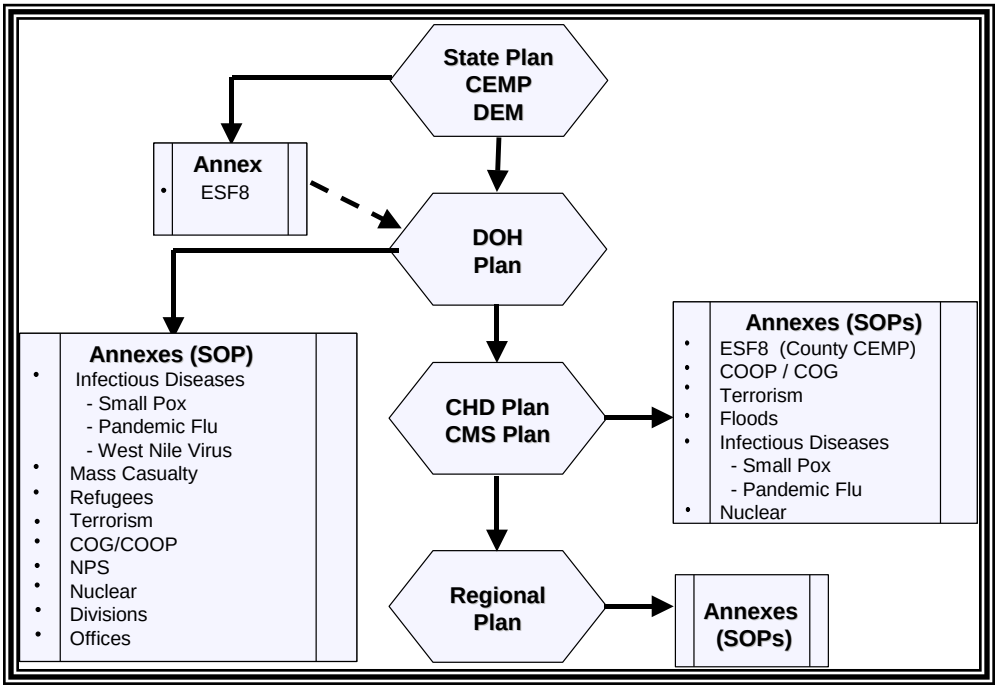
The crisis management response will focus on law enforcement actions taken in the interest of public safety and welfare and is predominantly concerned with preventing and resolving the threat. The consequence management response will focus on contingency planning and the pre-positioning of tailored resources, as required.

Relationship to the Hierarchy of Emergency Plans

HCHHSD's Comprehensive Disaster Plan relates to a hierarchy of other County, City, State, and Federal Agencies' Plans and Standard Operating Procedures, as shown below:

1. Department of State Health Services (Region 11)
2. Hidalgo County DEM, its Annex's
3. Other Hidalgo County Agencies
4. Disaster District Committee (DDC)
5. Department of State Health Services (State)
6. State DEM and ESF's,
7. Federal Agencies, including FEMA, CDC and FBI

Figure 1: Hierarchy of plans & standard operating procedures



Bioterrorism incidents will require a multi-agency response and coordination. All Health Department bio-terrorism consequence management activities will be managed using

the National Incident Management System (NIMS) and Incident Command System (ICS).

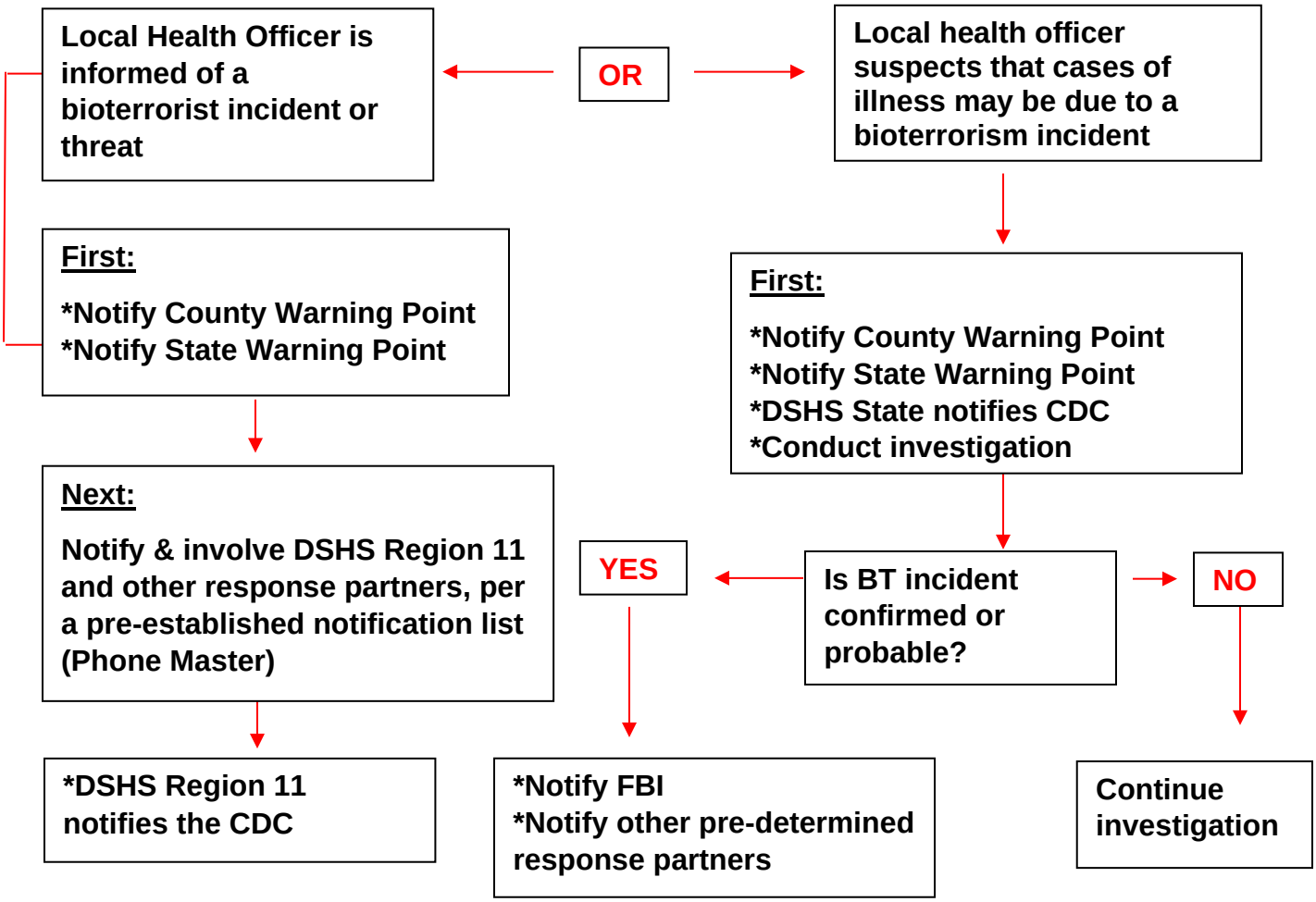
NIMS/ICS is a model for command, control and coordination of incident response that effectively coordinates the efforts and resources of individual responding agencies in a unified command structure. Bio-terrorism incidents will require a multi-agency response and coordination.

The National Incident Management System/Incident Command System's organization has the following five basic components:

1. Command
2. Planning
3. Operations
4. Logistics
5. Finance/Administration

An incident commander manages these five branches of the ICS. Initially, the Incident Commander will be the senior first responder to arrive at the scene. As additional responders arrive, the command will transfer based on who has primary authority for overall control of the incident. As incidents grow or become more complex, the responsible jurisdiction or agency may assign a more highly qualified Incident Commander. At the transfer of command, the outgoing Incident Commander must give the incoming Incident Commander a full briefing and notify all staff of the change in command. For notification procedures, see Figure 2 below.

Figure 2: Notification Procedures



Notification of State & Federal Agencies

Agencies that normally receive information on threats (i.e., public safety dispatch, law enforcement, fire, and the Office of Emergency Management) have notification procedures and response checklists. When the County Emergency Operations Center (EOC) is activated for any reason, the Disaster District Committee (DDC) is notified. The DDC notifies appropriate federal agencies. Local offices of State and Federal agencies that have been tasked with the response and recovery functions in the County Emergency Management Basic Plan are notified when the County EOC is activated.

Activation of Local Emergency Operations Center (EOC)

Once the HCHHSD determines that a biological incident has been detected and that it has been investigated as a potential large-scale casualty, the Director of the Health Department or his/her designee will contact the County Office of Emergency Management. They will request the activation of the EOC to the appropriate level deemed necessary to manage the event. Once the activation of the EOC takes place, the HCHHSD Health EOC will be activated.

Activation of External Assistance

The Texas 6th Civil Support Team is a first response organization and will be able to respond to South Texas within a 6-hour window. This team is a self-sufficient group of 15 experts trained to deal with Weapons of Mass Destruction (WMD) incidents. Their primary mission will be to assist local first responders to:

1. Assess the incident.
2. Advise the Civilian Emergency Response in:
    - Survey
    - Monitoring
    - Sample Collection
3. Facilitate the implementation of additional assets.

The Texas 6th Civil Support Team has the capability to respond with a full complement of lab equipment to assist the local Health Department and Haz-Mat resources. The Texas Department of Emergency Management through the EOC will activate the Texas 6th Civil Support Detachment.

Strategic National Stockpile (SNS)

The Strategic National Stockpile (SNS) will be requested for incidents that require more chemo prophylactics and/or medical supplies than what is locally available. The estimated delivery window for the SNS is about 12 hours from the time of the test. The equipment will be delivered in the form of a series of “push-packs.” These push-packs are pre-packaged containers that are staged at secured warehouses ready to be “pushed” into large commercial cargo planes so that they can be delivered to pre-designated delivery points. Several CDC technical advisors will accompany the SNS to assist and advise local officials in putting the SNS assets to prompt and effective use.

These push-packs contain three basic types of supplies. They are generally sorted out into three categories:

1. *Pharmaceuticals and emergency medical supplies* that may be needed to treat symptomatic patients (i.e., victims of nerve agent attacks).
2. *Pharmaceuticals and emergency medical supplies* that may be used to treat symptomatic patients of a biological incident, including IV and IM medications and the means to administer them.
3. *Pharmaceuticals and emergency medical supplies* that may be used to provide treatment to asymptomatic patients or post-exposure prophylaxis.

The Hidalgo County Judge, with the recommendation from HCHHSD Director, will make the official request for delivery of the SNS. The South Texas Hidalgo County Division of Emergency Management will be notified that the request has been made so that they can provide the logistical support to accept delivery. The HCHHSD Director, in coordination with DSHS Region 11, will arrange for the distribution of the supplies within the County or Counties.

Surveillance, Detection, and Assessment

A. Relationships and Reporting Procedures

All physicians, laboratories, and hospitals are required by Texas law to report over 60 communicable diseases and environmental conditions. Physicians are also required by law to report suspected outbreaks.

By virtue of the Medical Examiner's role, if an unusual death or an unusual cluster of deaths occur, they will notify the appropriate authorities at HCHHSD and assist in the investigation to determine whether an event of public health significance has occurred.

The HCHHSD staff documents and/or investigates each reported case. Data is tracked to recognize unusual clusters or increases in the number of illnesses. Included on this list of reportable conditions are many bio-terrorist agents, (i.e., anthrax, smallpox). HCHHSD receives information regarding confirmed cases through active surveillance or directly from providers – physicians, hospitals, schools, and ERs. Providers may be reporting suspected or probable cases as well as confirmed cases. Checking criteria on the case definitions for surveillance is required when entering a case of reportable disease to keep cases out of the system that do not meet the case definition.

B. Surveillance and Epidemiological Investigation Procedures

The core functions in surveillance and epidemiological outbreak investigation procedures include the following activities:

1. Case detection,
2. Determine if additional cases are related,
3. Compare the current number of cases to historical numbers,
4. Obtain additional information, if necessary.

C. Expansion of Public Health Surveillance

Surveillance systems must include capacity for collecting and analyzing data, as well as the means to disseminate the data to individuals involved in the prevention and control activities. The way various public health agencies will communicate among themselves during an actual event should be determined before a biological attack occurs.

Ideally, a surveillance system will detect a rise in the incidence of a disease to provide sufficient time for the health care system to limit the impact of the disease on the public by initiating early treatment and prevention to decrease disease and mortality. Some health indicators found in surveillance systems may include the following:

- The number of upper respiratory disease cases seen in emergency departments,

- The number of ambulances runs within an allotted period,
- The number of antibiotics or over-the-counter drugs sold at pharmacies (i.e., cough/cold, flu, sinus, antihistamines, decongestions).

The first confirmed case of an epidemic is referred to as the "index case." Once the case is identified, there is a great need to identify new cases, unreported cases, and contacts. The search will include interviewing family members, associates, co-workers, and other possible contacts of the index case. The significance of interviewing co-workers and associates of the index case is to eliminate certain possibilities and focus on others. For example, if interviewers of co-workers of the index case prove to be negative (no one else at work affected), then investigators may be able to eliminate the workplace as the source of the disease. If interviewers of the associates of the index case shared an experience (i.e., eating at the same place, attending the same organized event) and the associates have signs of the disease as well, the focus of the investigation may be placed on the common event.

Hospitals, ambulatory clinics, and private health practitioners in the area affected should be contacted to determine if anyone with a similar illness is currently, or was recently, in the hospital or received medical treatment for a similar illness. This step is critical since early recognition of patterns of illness by health practitioners is the most effective step in identifying and limiting an outbreak.

A list of surveillance partners (i.e., hospitals, clinics, private practices, medical examiners, laboratories, county/local health departments, pharmacists) should be maintained and updated regularly.

D. Investigation and Confirmation of the Diagnosis

The time necessary for a confirmatory diagnosis can range from hours to days depending upon the suspected organism and the types of tests necessary. All states require some reporting of specific diseases, but there is not a standard for all states. Reporting is required by the health care provider, the supporting infectious disease laboratory, hospitals, or public health departments.

The definitive diagnostic test of a disease agent in a bioterrorism incident is often referred to as a "gold standard" test and is performed by a designated, certified laboratory. The term "gold standard" has varying interpretations and acceptance because of reliability issues and accuracy due to an implication of it being 100% definitive. Most senior health officials will wait for the definitive results prior to confirming the diagnosis if biological terrorism is suspected. The lack of reliability and accuracy of some lab vendors' field assay tests makes the use of an approved laboratory test critical. A field assay test combined with the clinical symptoms might suggest a particular biological agent is present, but the field assay alone cannot determine with absolute certainty that a particular agent is or is not present. Until the

public health staff obtains the results from the confirmatory diagnostic test, the diagnosis would be considered unconfirmed or suspected.

Diagnosing the potential disease agent begins with medical personnel obtaining medical histories and physical examinations of the affected individuals. Medical history is the notation of medical conditions during a physical examination and can include information on recent events, symptoms, travel, or any unusual circumstances that may have contributed to the illness. Based on this information, the physician or public health official may request clinically appropriate laboratory tests to aid in the diagnosis. Health care providers are likely to make an initial diagnosis and initiate treatment before test results are available since early treatment increases the probability that the patient will recover from the illness.

It is at this stage in an epidemiologic investigation that a case definition is refined, sourced for cases scoured, additional cases identified, and the initial descriptive epidemiology is worked out. These interviews require extensive time and personnel. Interviewees may be contacted multiple times as investigators collect additional information. Information collected by public health investigators can include the following:

- Demographic data,
- Clinical data (i.e., signs/symptoms, duration, onset),
- Exposure history (i.e., travel, meals, significant events; all based on the type of illness suspected),
- Case contacts and knowledge of other cases.

In addition to interviewing personal contacts of the index case and other cases, public health staff will attempt to identify all cases of the disease by using a set of medical criteria. For example, public health staff may solicit media assistance to notify everyone with a certain type of skin rash and fever to report to their health practitioner for an examination.

E. Collection of Specimen

Diseases are often initially diagnosed by clinical evidence. This process can be imprecise based on the nature of the illness and definitive diagnosis that usually requires laboratory analysis of medically relevant samples. The materials that typically are collected to support an epidemiological investigation include food, water, and biological samples (i.e., tissue, blood, sputum). The collection of biological samples can be complicated, requiring specialized training and equipment. Some tests require living intact materials, necessitating transport of materials on ice, and/or extremely rapid delivery. Additionally, not all laboratories can conduct the necessary analyses and therefore, out of state transport may be required.

F. Reporting

Alerting health care providers about identification and reporting suspected cases may be done by telephone and fax, e-mail, and in person. Points of contact should be established with potential reporting sources and redundant means for communicating information back to these sources in an emergency.

G. Development and Implementation of Intervention Plans

The aim of the above procedures is to identify the disease agent and its origin and to develop and implement a plan to control the epidemic and protect the public's health. However, implementation of the intervention plan usually cannot wait for confirmation of the disease if the intervention plan is to be successful. Many illnesses, such as anthrax, can be treated successfully if antibiotics are provided early in the course of the illness. Also, steps involving quarantine or isolation, if required to prevent spread of disease, must be implemented early in an outbreak to be effective.

H. Additional Core Functions:

- Vaccination of contacts, see mass clinic procedures,
- Mobilizing laboratory resources, see laboratory services,
- Contact identification and tracing,
- Analysis and interpretation,
- Developing procedures to maintain surveillance of potentially exposed persons,
- Collecting travel and contact information from confirmed, probable, and suspected cases.

Pre-event planning should include the development of enhanced surveillance and epidemiological protocols to respond to a terrorist or emergency incident. These protocols should include the following:

1. Establishing multiple (redundant) mechanisms for reporting confirmed, probable, and suspected cases to public health surveillance personnel. Potential redundant mechanisms include secured fax, secured web-based reporting, telephone reporting, and email.
2. Establishing points of contact with potential reporting sources and redundant means for communicating information back to these sources in an emergency.
3. Developing procedures to maintain surveillance of potentially exposed persons.
4. Reviewing and preparing for the use of the CDC surveillance report forms in an emergency.
5. Developing and establishing the laboratory capability for handling specimens, for confirmation of cases, and for secure shipment of specimens to CDC through the State lab and the FBI.
6. Establishing methods for retrieving laboratory diagnosis for probable and suspected cases.
7. Reviewing CDC procedures and forms for case investigation and conducting practice sessions of various exposure scenarios.

8. Reviewing CDC forms for collection of travel and contact information from confirmed, probable, and suspected cases.
9. Reviewing CDC procedures for collection of specimens from suspected patients.

Please see Figure 3: Contact Identification, Tracing and Surveillance in the next page for more information.

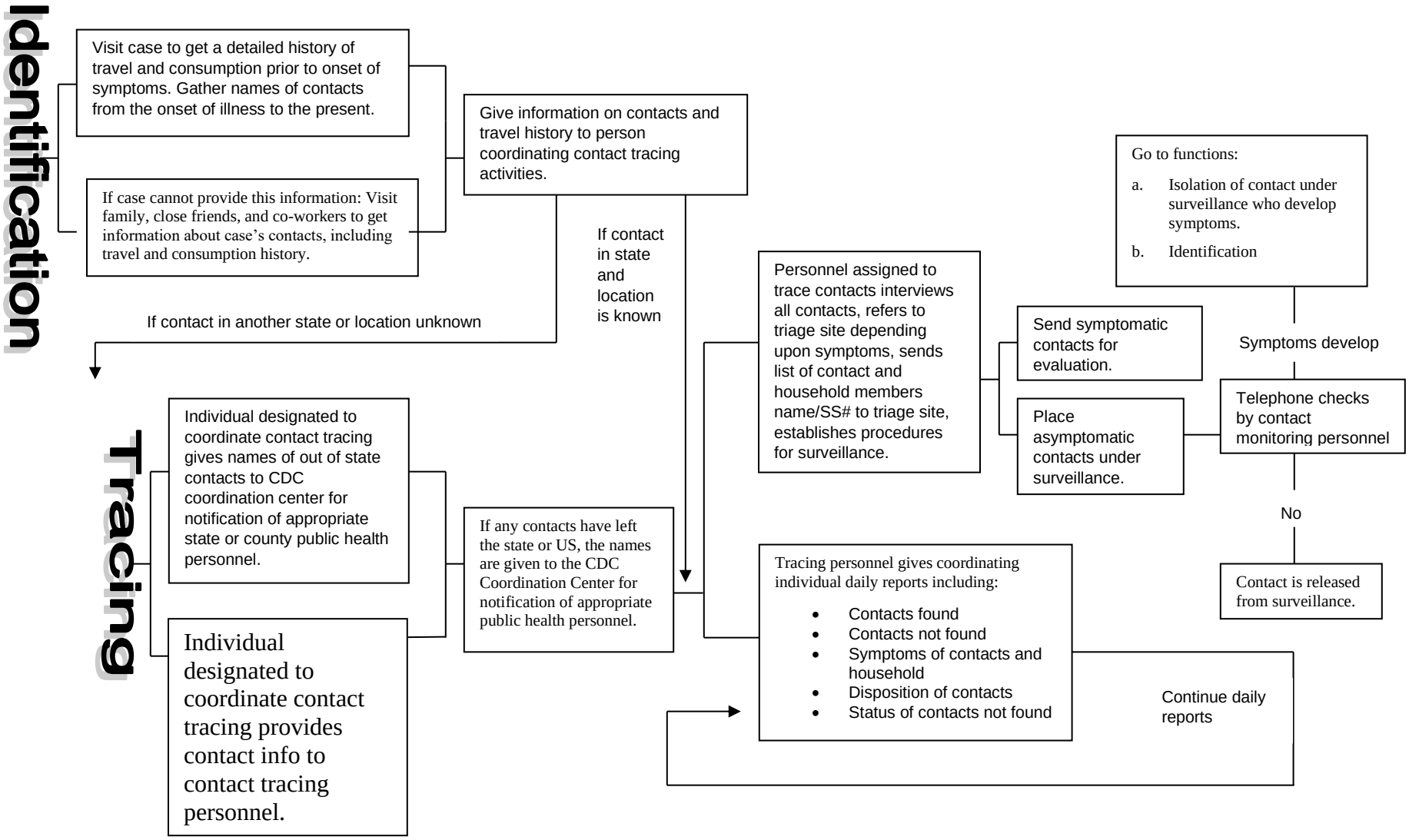
Health Alert Network (HAN)

The Health Alert Network (HAN) is a nationwide, integrated information and communications system serving as a platform for distribution of health alerts, dissemination of prevention guidelines and other information, distance learning, national disease surveillance, electronic laboratory reporting, including CDC's bioterrorism and related initiatives to strengthen preparedness at the local and state levels.

HAN will ensure:

1. High-speed, secure Internet connections for local health officials, providing access to CDC prevention recommendations, practice guidelines, and disease data; capacity for rapid and secure communications with first responder agencies and other health officials; and capacity to securely transmit surveillance, laboratory, and other sensitive data.
2. On-line, Internet- and satellite-based distance learning systems.
3. Early warning broadcast alert systems

Figure 3: Contact Identification, Tracing and Surveillance



Organization & Assignment of Responsibilities

Notification for Suspected Bioterrorism Event

1. High Index of Suspicion
   At such time that the staff of HCHHSD has a high index of suspicion that an incident or threat related to bioterrorism, they will ensure that the following people are contacted:
   - HCHHDS Director/Administrator
   - Hidalgo County Medical Authority

   It will then be the responsibility of HCHHSD Director and/or his designee to notify the following as appropriate:
   - DSHS Regional Director
   - DSHS Regional Epidemiologist
   - DSHS Epidemiologist Team Nurse
   - DSHS Laboratories Response Network (LRN) Director
   - DSHS LRN Lead Microbiologist
   - Federal Bureau of Investigation (FBI)

   Additional individuals that may be contacted:
   - State Epidemiologist
   - DSHS Infectious Disease Epidemiology and Surveillance Division
   - DSHS Zoonosis Control Division
   - DSHS Office of Emergency Preparedness
   - DSHS Laboratory
   - DSHS Communications Department
   - Texas Poison Control Network
   - DSHS Environmental Epidemiology and Toxicology
   - DSHS Food Safety Bureau
   - State Entomologist, General Sanitation Division

HCHHSD Emergency Notification (24/7/365 Reporting and Notification)

1. County after Hours Reporting System
   Hidalgo County Health and Human Services Department has 24/7/365 disease reporting coverage. This system allows notification to the Hidalgo County Health and Human Services Department 24 hours a day, 7 days a week, 365 days a year (24/7/365). Additionally, in any outbreak event, bioterrorism or otherwise, outbreak assistance is available from DSHS Region 11 health office to our county health departments 24 hours a day seven days a week through its on-call staff.

Alerting and Training

Alerting and training health care providers in Hidalgo County about the identification and reporting of suspected cases by establishing and maintaining communication with the hospitals and medical providers in the community will be ongoing.

Laboratory

1. Laboratory selection
   HCHHSD will submit all samples in need of laboratory diagnosis/identification to the Department of State Health Services in Austin. Specific threats of tularemia, anthrax and plague will be submitted to the South Texas Health Care System Laboratory in Harlingen. There may be occasions when arrangements will be made with local laboratories to accept specimens for diagnosis/identification. Local laboratories at the Texas Commission for Environmental Quality (TCEQ) and the United States Department of Agriculture (USDA) may be used.

2. Obtaining diagnostic samples
   Sampling should be performed in accordance with specific recommendations for diagnostic sampling for each agent and should be performed in accordance with standard precautions. In all cases of suspected bioterrorism, where a blood sample is indicated, an acute and a convalescent serum sample will be collected.

3. Laboratory criteria for processing potential bioterrorism agents
   - Biosafety Level 1 – infectious agents or toxins not known to consistently cause disease in humans or animals.
   - Biosafety Level 2 – moderate-risk infectious agents or toxins that pose a moderate danger if accidentally inhaled, swallowed, or exposed to the skin.
   - Biosafety Level 3 – infectious agents or toxins that may be transmitted through the air and cause potentially lethal infections.
   - Biosafety Level 4 – infectious agents or toxins that pose a high risk of aerosol-transmitted laboratory infections and life-threatening disease for which no vaccines or therapies are available.

4. Transport requirements
   Specimen packaging and transport will be coordinated by HCHHSD with Texas DSHS and the FBI. A chain of custody document should accompany the specimen from the moment of collection. For specific instructions, contact the Bioterrorism Emergency Number at the CDC Emergency Response Office. Advanced planning may include identification of appropriate packaging materials and transport media in collaboration with the clinical laboratory at individual facilities.

Assignment of Responsibilities

In the event of a bioterrorist threat, the organizational responsibilities of the County's Executive Group, HCHHSD Director, and staff will be assumed and fulfilled as outlined:

1. The Executive Group will be responsible for:
    a. Emergency management planning and operations for the unincorporated areas of the county,
    b. Directing the overall preparedness program for Hidalgo County,
    c. Making emergency policy decisions,
    d. Declaring a local state of disaster, when necessary,
    e. Implementing the emergency powers of local government,
    f. Keeping the public and the Disaster District informed of the situation,
    g. Requesting outside assistance, when necessary, from other Disaster Districts or from other jurisdictions in accordance with existing Mutual Aid Agreements,
    h. Supporting the overall preparedness program in terms of its budgetary and organizational requirements.

    The Executive Group is referred to in this plan as a single body but in fact, has several components with representation from each local political jurisdiction within the emergency management program. Each group is responsible for the activities conducted within their respective jurisdiction. The members of the group include both elected and appointed executives with certain legal responsibilities, such as County Judge, Commissioner, and Emergency Management Coordinator.

2. Hidalgo County Emergency Management Coordinator and staff will be responsible for:
    a. Serving as staff advisor to the County Judge on emergency matters,
    b. Coordinating the planning and preparedness activities,
    c. Analyzing the emergency skills needed by the county forces and arranging the training necessary to provide those skills,
    d. Preparing and maintaining a resource inventory,
    e. Ensuring the operational capability of the EOC,
    f. Activating the EOC with County Judge's approval,
    g. Keeping the governing body appraised of the Hidalgo County preparedness status and anticipated needs,
    h. Serving as day-to-day liaison between Hidalgo County and state emergency management organizations,
    i. Acting as the liaison with organized emergency volunteer groups and private agencies,
    j. Initiating and monitoring the increased readiness actions among the Hidalgo County services when disaster threatens,

k. Maintaining the Crisis Relocation Plan (CRP) and the Community Shelter Plan (CSP) for Hidalgo County,
l. Coordinating staff support (break areas, food, restrooms, other equipment, and supplies).

3. HCHHDS Director will be responsible for:
    a. Making the initial determination to activate this plan and provide direction and control of all actions necessary,
    b. Acting as primary liaison with:
        - Hidalgo County DEM,
        - DSHS Region 11,
        - County directors/administrators in adjoining or supporting counties,
        - Hidalgo County Commissioners,
        - Law enforcement and the FBI,
        - MMRS,
        - Bi-National Partners.

4. The HCHHSD Epidemiology & Surveillance Division will be responsible for:
    a. Monitoring epidemiologic surveillance systems to determine if a disease outbreak exists,
    b. Determining the nature, source, and magnitude of the outbreak,
    c. Determining who has been exposed,
    d. Determining size and risk to secondary contacts,
    e. Determining preventable prophylaxis,
    f. Seeking the assistance and guidance of DSHS Region 11, DSHS State, CDC, and the FBI, as necessary,
    g. Developing or obtaining a biological agent fact sheet and providing it to HCHHSD Director and Hidalgo County Public Information Officer.

5. The HCHHSD Medical Authority will be responsible for:
    a. Directing the activities of the Epidemiology & Surveillance Division and approving the analysis to confirm that there is reason to suspect a situation that could be considered of a terrorist threat,
    b. Assisting in the determination of the need for prophylaxis, immunization, and/or treatment clinics and the population at risk,
    c. Communicating with DSHS Region 11, Texas DSHS, and CDC medical advisors,
    d. Issuing standing orders for implementing prophylaxis, immunizations, and/or treatment clinics,
    e. Serving as a medical consultant for medical/nursing provider staff and acting as medical director of the mass clinics,
    f. Approving the content of informational materials.

6. The PHEP Division Manager, with support from the PHEP Coordinator, will be responsible for:
    a. Reviewing the epidemiology estimate of the size of the population to receive services and the quantity and availability of vaccine/medication required.
    b. Determining if multiple clinics are necessary,
    c. Designating dispensing site managers for each clinic site,
    d. Determining if the Mobile Health Unit is needed,
    e. Coordinating with the RSS site manager regarding the quantity of supplies and medication/vaccine storage sites,
    f. Coordinating MOA's approval from non-health department sites,
    g. Organizing staff of medical providers and support staff,
    h. Ensure that training is conducted, as required,
    i. Obtaining developed data requirements (i.e., patient tracking systems),
    j. Obtaining developed patient informational material (i.e., informed consent, patient records, immunization cards).

7. The SNS Coordinator will be responsible for:
    a. Assisting the PHEP Division Manager and Coordinator,
    b. Determining the quantity of supplies on hand that will be needed for all clinics,
    c. Obtaining sufficient supplies, planning with all suppliers, as necessary, based on estimates of the task at hand,
    d. Coordinating transportation requirements for staff, patients, and supplies.
    e. Coordinating with clinic manager(s) to determine process flow for the designated site,
    f. Setting up waste disposal procedures,
    g. Coordinating with clinic manager(s) for security to include local law enforcement, as necessary,
    h. Setting up and staff a command center with phones, computers, fax, and/or courier capability that will serve as a single point of contact for the site.

8. Clinic Manager(s)/Dispensing Site Manager(s) will be responsible for:
    a. Supporting the SNS Coordinator and the PHEP Division in the setup and operation of the clinics,
    b. Ensuring recommended procedures for clinic setup, operations, and clean-up are followed.

9. Public Information Officer will be responsible for:
    a. Coordinating, under the direction of the HCHHSD Director or designee, the dissemination of information to the public,
    b. Ensuring that the Director clears all media releases,
    c. Determining the need for a "hotline" and coordinating the establishment and staffing of it, as necessary,
    d. Establishing a media area where on-site media representatives can be briefed,
    e. Establishing fax capability,
    f. Preparing press releases, as required.

g. Obtaining background information and notices of noteworthy events.

10. The HCHHSD Environmental Health Director will be responsible for:
    a. General
        1. Safety of potable water supply,
        2. Proper disposal of liquid and solid waste,
        3. Safety of existing food supply,
        4. Surveillance of public food preparation and service,
        5. Abatement of sanitary nuisances,
        6. Conducting sanitary surveys focusing on community conditions, in general,
        7. Rodent and insect control,
        8. Picking up and/or receiving suspicious items to process and submit for testing.

    b. Food Supplies
        1. Inspecting all jurisdictional food-related establishments in the affected area to determine the condition of food prior to re-entry (this will be done at the request of the person in charge and in conjunction with other agencies as directed),
        2. Providing disaster assistance, as requested, to other agencies responsible for the sanitation of non-jurisdictional food establishments,
        3. Condemning and/or stopping sales,
        4. Sampling, as necessary, through DBPR and DAC.

    c. Public Health Nuisances
        1. Responding to reports of sanitary nuisances,
        2. Conducting sanitary surveys of the community for unreported conditions affecting public health,
        3. Securing abatement of offending conditions.

    d. Assistance to the Public
        1. Assisting the public regarding all environmental conditions related directly to public health,
        2. Evaluating environmental conditions and assisting the public in correcting those conditions within the scope of public health.

    e. Biomedical Waste
       The disposal of biomedical waste will be handled as required by Chapter 64 E-16, Texas Administrative Code, and CDC Guidelines. Decontamination will be the responsibility of CRRC Haz-Mat Unit and sample handling will be as outlined in the Public Health and Medical Services Plan, Appendix 4: Mass Fatality Plan.

Direction & Control

Personal Protective Equipment (PPE)

All HCHHSD response personnel will respond in the adequate level of PPE, as determined by the HCHHSD Medical Authority and/or the on-scene Hazardous Material Officer in charge. HCHHSD personnel will not participate in any response activity for which they have not been adequately trained.

Should there be a need to procure quantities of PPE on an emergency basis, a request will be made through the County EOC – ESFs for the required PPE. If the County EOC has not been activated, then the request will be made directly to the State EOC – ESF.

Hazardous Material Response Teams (Haz-Mat)

Hidalgo County presently has **1** trained and equipped Haz-Mat unit: *Chemical Response and Remediation Contractors, Inc. from Harlingen, Texas.* Haz-Mat teams will be routinely dispatched to all events that involve or are suspected of involving situations that require Haz-Mat type protective equipment, the disposal of hazardous wastes, and the decontamination of victims or property. Haz-Mat teams will also assist with safe zone demarcations, agent identifications, and victim extraction.

Mass Care: Triage, Treatment, Quarantine, and Housing

Three types of facilities will be necessary to triage, treat, quarantine, and house large numbers of infectious and/or potentially infectious persons. These facilities are defined as follows:

Mass Emergency Isolation and Quarantine Facilities

1. Type-C Facility
   Facilities where symptomatic confirmed cases will be housed and treated. Priority will be given to facilities with medical equipment and beds. In Hidalgo County Type-C facilities may include the following:
   - McAllen Medical Hospital
   - Edinburg Regional Medical Center
   - McAllen Heart Hospital
   - Rio Grande Regional Hospital
   - Knapp Medical Center
   - Mission Hospital
   - Corner Stone Medical Center
   - Life Care Medical Center
   - Doctors Hospital at Renaissance

2. Type-X Facility

Facilities where individuals with uncertain diagnoses may be segregated. These could be febrile contacts of known patients (i.e., smallpox situation), but not disease confirmed. Individuals would be housed here until such time as they are confirmed to have the suspected disease or not. In Hidalgo County Type-X facilities may include the following:

- Hotels
- Bert Ogden Arena
- State Farm Arena
- Mercedes Fair Grounds
- McAllen Convention Center
- McAllen Performing Arts Center
- Schools
- Churches

3. Type-R Facility
   Facilities, preferably a person's own home, where non-symptomatic potentially exposed individuals will be housed to monitor symptoms for future actions, as needed. If asymptomatic contacts cannot be housed in their own residence due to logistical difficulties or potential societal unacceptance, alternative Type-R facilities to house the contacts during their period of surveillance will be established.

Mass Immunization or Medication Distribution

Guidelines for conducting mass clinical activities, which include issuing medication, providing vaccines, and obtaining laboratory samples can be found in the Public Health and Medical Services Plan, Appendix 3: Community Recovery Plan.

Mass Casualty – Fatality Management

A mass fatality incident is defined as an event in which multiple deaths occur which necessitates services beyond what is normally required of the agency. These duties will be addressed by the Hidalgo County EMC in the Hidalgo County Emergency Management Basic Plan.

Mental Health

The Capitol Area Chapter of the American Red Cross has resources in place to deal with the highly emotional response engendered by weapons of mass destruction. There is a cadre of mental health professionals available to respond when called in the event of a disaster.

Water, Food, Vector and Waste

1. Waste that falls under the jurisdiction of 64E-16, FAC, Biomedical Waste, CDC, and/or OSHA guidelines will be handled as regulations require.

2. Decontamination will be the responsibility of Chemical Response & Remediation Contractors, Inc., and the individual emergency rooms in Hidalgo County Hospitals.
3. Samples in need of laboratory analysis will be processed as outlined in the directive "White Powder and Other Unknown Substance Scares" in the Public Health and Medical Services Plan, Appendix 4: Mass Fatality Plan.

Public Information Services

Once activated, the County EOC and its resources will be used to facilitate HCHHSD's public information services. The threat of a bioterrorist attack can activate a partial EOC response involving the Emergency Support Functions (ESF's) necessary. The main communication objective is to instill and maintain public confidence by providing the public with information that addresses their questions, fears, and concerns. The principles of crisis communication include:

1. Adopt a policy of full disclosure about what is and is not known,
2. Avoid being overly confident in the initial phases,
3. Give a detailed account of what is being done to counter the threat,
4. Recommend specific steps that people can take to protect themselves,
5. Avoid speculation,
6. Avoid issuing statements or information that conflicts with what other agencies are providing,
7. Deliver the information in a non-patronizing manner.

When a WMD event occurs, it often takes an hour or more for the media to become apprised of the situation and mobilize. It is therefore sometimes necessary to provide the public with information via the Emergency Broadcasting System. Public alert, notification, warning, and evacuation provides specific procedures for the broadcast media, both audio and video, to disseminate emergency information and warning to the public. The broadcast media will, at the request of the County, activate this plan to inform and instruct the public in times of emergencies.

Within DSHS, the Office of Communications, and the HCHHSD Director the key information to be disseminated is determined. As a general rule, the scope of the information that is disseminated by DSHS will be within the scope of public health issues and will not address specific, single-patient issues.

Mass Media/Press Conferences

Mass media outlets are response partners. Their needs regarding accurate and up-to-date information must be met. Whenever possible, mass media press conferences must present a united front and a strong multi-agency response. Televised press conferences relating to a bioterrorism event should, at a minimum, include the visible presence of the appropriate elected official, HCHHSD Director, appropriate Emergency Management Director, Law Enforcement Director, and appropriate Fire/Rescue Director for the community involved.

Press conferences should be pre-planned to facilitate the mass media broadcast and/or printing schedules. Written background information relating to the incident and suspected agents should be made available for distribution to the media. A schedule of future press conferences should be developed and announced. Subject matter experts should be at hand at the press conferences to address specific questions on the subject matter.

Rumor Control Hotline

The county health department may distribute and broadcast medical information from a phone bank or "hotline" which may be set up with partial activation of the EOC and in coordination with ESFs. This hotline will be staffed with health professionals.
The main purpose of the hotline is to distribute factual information in order to avoid panic or hysteria within the community. If the incident escalates to a State and Federal incident the Public Information Services will become a part of the Joint Information Center (JIC).

Plan Development & Maintenance

1. The Hidalgo County Health and Human Services Department Director is responsible for maintaining and reviewing the Public Health & Medical Services Plan, Appendix 6: Biological Terrorism Response Plan annually. Recommended changes to this plan should be forwarded as needs become apparent and may reflect any changes within our jurisdictional risks and/or community capabilities.
2. The Public Health & Medical Services Plan, Appendix 6: Biological Terrorism Response Plan and its attachments are living documents and require revision to account for changes in roles/responsibilities and resources within Hidalgo County such as the acquisition of new equipment, training of staff, and increased partnerships from the private sector.
3. Once the Public Health & Medical Services Plan, Appendix 6: Biological Terrorism Response Plan has been updated, the Hidalgo County Health and Human Services Department Director will present to Commissioner's Court for final adoption and ratification. The Public Health & Medical Services Plan, Appendix 6: Biological Terrorism Response Plan is updated and presented to Commissioner's Court every five years with input from Emergency Management and various stakeholders. Departments and agencies assigned responsibilities in the Public Health & Medical Services Plan are responsible for developing and maintaining SOPs. Copies of the Public Health & Medical Services Plan, Appendix 6: Biological Terrorism Response Plan are kept at HCHHSD's main offices at **1304 S. 25th Avenue, Edinburg, TX 78542** in the following locations:

    Office of Administration

    Public Health Emergency Preparedness Division (PHEP)

    Clinical Health Services

Information Technology Services

Safety Officer

Hidalgo County Emergency Operations Center (EOC)

Hidalgo County Emergency Management Coordinator

Each HCHHSD division manager is responsible for informing and instructing public health personnel about the location of the plan copies, as well as each employee's emergency response role and responsibilities. The supervisors/managers are also responsible for ensuring that employees attend appropriate training, according to their assigned response tier.

Attachments

Attachment l – Probable Biological Weapons of Mass Destructions

Hidalgo County

Appendix 6: Bioterrorism Preparedness Plan

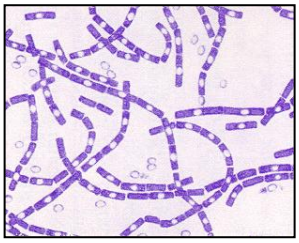
Attachment 1: Propable Biological Weapons of Mass Destruction

April 2023

There are many different biological agents with the potential to cause morbidity or mortality. There are however certain agents identified by the U.S. Department of Health and Human Services with more potential than others to be used by terrorists as weapons of mass destruction. Agents of most concern include Anthrax (*Bacillus anthracis)*, Botulism (*Clostridium botulinum* toxin), Plague (*Yersinia pestis)*, Smallpox (variola major), Tularemia (*Francisella tularensis*) and Viral hemorrhagic fevers. The following information provides very general and basic descriptions of these agents.

Anthrax *(Bacillus Anthracis)*

Signs and Symptoms of Anthrax



Cutaneous anthrax is the most common naturally occurring type of infection (>95%) and usually occurs after skin contact with contaminated meat, wool, hides, or leather from infected animals. The incubation period ranges from 1-12 days. The skin infection begins as a small papule, progresses to a vesicle in 1-2 days followed by a necrotic ulcer. The lesion is usually painless, but patients also may have fever, malaise, headache, and regional lymphadenopathy. Most (about 95%) anthrax infections occur when the bacterium enters a cut of abrasion on the skin. Skin infection begins as a raised bump that resembles a spider bite, but (within 1-2 days) it develops into a vesicle and then a painless ulcer, usually 1-3 cm in diameter, with a characteristic black necrotic (dying) area in the center. Lymph glands in the adjacent area may swell. About 20% of untreated cases of cutaneous anthrax will result in death. Deaths are rare if patients are given appropriate antimicrobial therapy.

Inhalational anthrax is the most lethal form of anthrax. Anthrax spores must be aerosolized in order to cause inhalational anthrax. The number of spores that cause human infection is unknown. The incubation period of inhalational anthrax among humans is unclear, but it is reported to range from 1 to 7 days, possibly ranging up to 60 days. It resembles a viral respiratory illness and initial symptoms include sore throat, mild fever, muscle aches and malaise. These symptoms may progress to respiratory failure and shock with meningitis frequently developing.

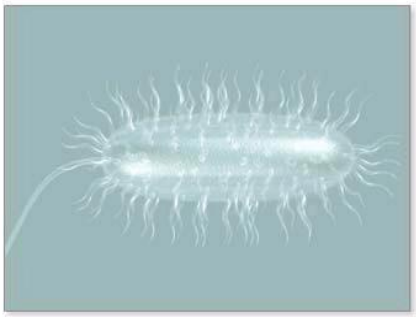
Gastrointestinal anthrax usually follows the consumption of raw or undercooked contaminated meat and has an incubation period of 1-7 days. It is associated with severe abdominal distress followed by fever and signs of septicemia. The disease can take an oropharyngeal or abdominal form. Involvement of the pharynx is usually characterized by lesions at the base of the tongue, sore throat, dysphagia, fever, and regional lymphadenopathy. Lower bowel inflammation usually causes nausea, loss of appetite, vomiting and fever, followed by abdominal pain, vomiting blood, and bloody diarrhea.

People should watch for the following symptoms:

- Fever, temperature greater than 100 degrees F. The fever may be accompanied by chills or night sweats.
- Flu-like symptoms
    - Cough, usually a non-productive cough, chest discomfort, shortness of breath, fatigue, muscle aches.

- Sore throat, followed by difficulty swallowing, enlarged lymph nodes, headache, nausea, loss of appetite, abdominal distress, vomiting, or diarrhea.
- A sore, especially on your face, arms or hands, that starts as a raised bump and develops into a painless ulcer with a black area in the center.

Botulism *(Clostridium Botulinum Toxin)*



Botulinum toxin poses a major bioweapons threat because of its extreme potency and lethality; its ease of production, transport and misuse; and the potential need for prolonged intensive care in affected persons. Botulinum toxin is the single most poisonous substance known.

Naturally occurring botulism is the disease that results from the absorption of botulinum toxin into the circulation from a mucosal surface (gut, lung) or a wound. It does not penetrate intact skin. The toxin irreversibly binds to peripheral cholinergic synapses, preventing the release of the neurotransmitter acetylcholine from the terminal end of motor neurons. This leads to muscle paralysis, and in severe cases, can lead to a need for mechanical respiration.

The incubation period for food-borne botulism can be from 2 hours to 8 days after ingestion, depending on the dose of the bacteria or the toxin. The average incubation period is 12-72 hours after ingestion. Patients with botulism typically present with difficulty speaking, seeing and/or swallowing. Prominent neurologic findings in all forms of botulism include ptosis, diplopia, blurred vision, dysarthria and dysphagia. Patients typically are afebrile and do not have an altered level of consciousness. Patients may initially present with gastrointestinal distress, nausea, and vomiting preceding neurological symptoms. Symptoms are similar for all toxin types, but the severity of illness can vary widely, in part depending on the amount of toxin absorbed. Recovery from paralysis can take from weeks to months and requires the growth of new motor nerve endings. *In the event botulism is suspected, the hospital epidemiologist and local and state health departments should be contacted immediately.*

Natural cases of botulism are rare and typically result from food contamination. Many types of food have been associated in outbreaks in the past, with the common factor being that implicated food items were not heated or were incompletely heated. Heat $\geq$ 85^{o}C inactivates the toxin. The largest botulism outbreak in the U.S. in the past century occurred in 1977, when 59 people became ill from poorly preserved jalapeño peppers.

If there is a clinical suspicion of botulinum toxin, treatment with antitoxin should not be delayed for microbiological testing. In the U.S., licensed botulinum antitoxin is available from the CDC via state and local health departments. An investigational heptavalent antitoxin is held by the U.S. Army. Optimal therapy for botulism requires early suspicion of the disease and prompt administration of antitoxin in conjunction with supportive care.

Supportive care for patients with botulism may include mechanical ventilators in the intensive care unit, parenteral nutrition, and treatment of secondary infections.

Plague *(Yersinia Pestis)*

Plague is an infectious disease that affects animals and humans. It is caused by the bacterium Y*ersinia pestis*. This bacterium is found in rodents and their fleas and occurs in many areas of the world, including the United States.

Y. pestis is easily destroyed by sunlight and drying. Even so, when released into air, the bacterium will survive for up to one hour, although this could vary depending on conditions.

Pneumonic plague is one of several forms of plague. Depending on circumstances, these forms may occur separately or in combination:

- **Pneumonic plague** occurs when *Y. pestis* infects the lungs. This type of plague can spread from person to person through the air. Transmission can take place if someone breathes in aerosolized bacteria, which could happen in a bioterrorist attack. Pneumonic plague is also spread by breathing in *Y. pestis* suspended in respiratory droplets from a person (or animal) with pneumonic plague. Becoming infected in this way usually requires direct and close contact with the ill person or animal. Pneumonic plague may also occur if a person with bubonic or septicemic plague is untreated, and the bacteria spread to the lungs.

- **Bubonic plague** is the most common form of plague. This occurs when an infected flea bites a person or when materials contaminated with *Y. pestis* enter through a break in a person's skin. Patients develop swollen, tender lymph glands (called buboes) and fever, headache, chills, and weakness. Bubonic plague does not spread from person to person.

- **Septicemic plague** occurs when plague bacteria multiply in the blood. It can be a complication of pneumonic or bubonic plague, or it can occur by itself. When it occurs alone, it is caused in the same ways as bubonic plague; however, buboes do not develop. Patients have fever, chills, prostration, abdominal pain, shock, and bleeding into skin and other organs. Septicemic plague does not spread from person to person.

Symptoms and Treatment

With pneumonic plague, the first signs of illness are fever, headache, weakness, and rapidly developing pneumonia with shortness of breath, chest pain, cough, and sometimes bloody or watery sputum. The pneumonia progresses for 2 to 4 days and may cause respiratory failure and shock. Without early treatment, patients may die.

Early treatment of pneumonic plague is essential. To reduce the chance of death, antibiotics must be given within 24 hours of first symptoms. Streptomycin, gentamicin,

tetracyclines, and chloramphenicol are all effective against pneumonic plague. Antibiotic treatment for 7 days will protect people who have had direct, close contact with infected patients. Wearing a close-fitting surgical mask also protects against infection. A plague vaccine is not currently available for use in the United States.

Smallpox (Variola Major)

Smallpox infection was eliminated from the world in 1977.

Smallpox is caused by variola virus. The incubation period is about 12 days (range: 7 to 17 days) following exposure. Initial symptoms include high fever, fatigue, and head and backaches. A characteristic rash, most prominent on the face, arms, and legs, follows in 2-3 days. The rash starts with flat red lesions that evolve at the same rate. Lesions become pus-filled and begin to crust early in the second week. Scabs develop and then separate and fall off after about 3-4 weeks. Most patients with smallpox recover, but death occurs in up to 30% of cases.

Smallpox is spread from one person to another by infected saliva droplets. The susceptible person likely has face-to-face contact with the ill or infected person. Persons with smallpox are most infectious during the first week of illness, because that is when the largest amount of virus is present in saliva. However, some risk of transmission lasts until all scabs have fallen off.

Routine vaccination against smallpox ended in 1972. The level of immunity, if any, among persons who were vaccinated before 1972 is uncertain; therefore, these persons are assumed to be susceptible.

Vaccination against smallpox is not recommended to prevent the disease in the general public and therefore is not available.

In people exposed to smallpox, the vaccine can lessen the severity of or even prevent illness if given within 4 days after exposure. Vaccine against smallpox contains another live virus called vaccinia. The vaccine does not contain smallpox virus.

The United States currently has an emergency supply of smallpox vaccine. There is no proven treatment for smallpox but research to evaluate new antiviral agents is ongoing. Patients with smallpox can benefit from supportive therapy (intravenous fluids, medicine to control fever or pain, etc.) and antibiotics for any secondary bacterial infections that occur.

Tularemia *(Francisella Tularensis)*

Francisella tularensis, the organism that causes tularemia, is found in animals, especially rodents, rabbits, and hares. This organism is one of the most infectious pathogenic bacteria known, requiring inoculation or inhalation of as few as 10 organisms to cause disease. It is a dangerous potential biological weapon because of its extreme infectivity, ease of dissemination, and substantial capacity to cause illness and death.

People can get tularemia in many ways, such as through the bite of an infected insect or other arthropod (usually a tick or deerfly), handling infected animal carcasses, eating, or drinking contaminated food or water, or breathing in *F. tularensis*.

Symptoms of tularemia could include sudden fever, chills, headaches, muscle aches, joint pain, dry cough, progressive weakness, and pneumonia. Persons with pneumonia can develop chest pain and bloody spit and can have trouble breathing or can sometimes stop breathing. Other symptoms of tularemia depend on how a person was exposed to the tularemia bacteria. These symptoms can include ulcers on the skin or mouth, swollen and painful lymph glands, swollen and painful eyes, and a sore throat. Symptoms usually appear 3 to 5 days after exposure to the bacteria but can take as long as 14 days.

Tularemia is not known to be spread from person to person, so people who have tularemia do not need to be isolated. People who have been exposed to *F. tularensis* should be treated as soon as possible. The disease can be fatal if it is not treated with the appropriate antibiotics. A vaccine for tularemia is under review by the Food and Drug Administration and is not currently available in the United States.

Viral Hemorrhagic Fevers (VHF)

(filoviruses **[e.g., Ebola, Marburg]** and arenaviruses **[e.g., Lassa, Machupo])**

The term viral hemorrhagic fever (VHF) refers to a group of illnesses that are caused by several distinct families of viruses. While some types of hemorrhagic fever viruses can cause relatively mild illnesses, many of these viruses cause severe, life-threatening disease.

The Special Pathogens Branch (SPB) primarily works with hemorrhagic fever viruses that are classified as biosafety level four (BSL-4) pathogens. The Division of Vector-Borne Infectious Diseases, also in the National Center for Infectious Diseases, works with the non-BSL-4 viruses that cause two other hemorrhagic fevers, dengue hemorrhagic fever and yellow fever.

Below are some of the viral hemorrhagic fever agents that have been suspected of abuse in biowarfare/bioterrorism and each of these families share a number of features.

1. Arenaviruses – Argentine Hemorrhagic Fever, Bolivian Hemorrhagic Fever, Sabia-associated Hemorrhagic Fever, Lassa Fever, Lymphocytic Choriomeningitis (LCM), Venezuelan Hemorrhagic Fever

2. Bunyaviruses – Crimean-Congo Hemorrhagic Fever (CCHF), Rift Valley Fever, Hantavirus Pulmonary Syndrome (HPS), Hemorrhagic Fever with Renal Syndrome (HFRS)
3. Filoviruses – Ebola Hemorrhagic Fever, Marburg Hemorrhagic Fever
4. Flaviviruses – Tick-borne Encephalitis, Kyasanur Forest Disease, Omsk Hemorrhagic Fever

Features of each family of VHFs

- They are all RNA viruses, and all are covered, or enveloped, in a fatty (lipid) coating.
- Their survival is dependent on an animal or insect host, called the natural reservoir.
- The viruses are geographically restricted to the areas where their host species live.
- Humans are not the natural reservoir for any of these viruses. Humans are infected when they come in contact with infected hosts. However, with some viruses, after the accidental transmission from the host, humans can transmit the virus to one another.
- Human cases or outbreaks of hemorrhagic fevers caused by these viruses occur sporadically and irregularly. The occurrence of outbreaks cannot be easily predicted.
- With a few noteworthy exceptions, there is no cure or established drug treatment for VHFs.

If you believe that you have been exposed to a biological or chemical agent, or if you believe an intentional biological threat will occur or is occurring, please contact your local health department and/or your local police or other law enforcement agency.