WIPAG

WY Infection Prevention Orientation Manual

Section #15, Emergency Preparedness

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Section #15: Emergency Preparedness

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Objectives

At the completion of this section the Infection Preventionist (IP) will:

- Understand essential components of emergency preparedness and the role of the IP in emergency preparedness.
- Review the facility Emergency Operations Plan (EOP) and all other facility emergency plans.
- Identify and engage key partners and obtain contact information to ensure collaborative relationships to enhance community preparedness.
- Increase his/her awareness of reporting systems and additional resources used in an emergency event.

Number of hours

- Key Concepts - 1 hour
- Methods - 1 hour

Required Readings

- Rebmann T, et al. APIC State-of-the-art Report: The role of the infection preventionist in emergency management. *American Journal of Infection Control*, 2009: volume 37, pages 271-281
- CDC Strategic National Stockpile - www.cdc.gov/phpr/stockpile/stockpile.htm
- Facility EOP and all other facility emergency plans
- Facility isolation procedures

Overview

Recent events, such as natural disasters, influenza and influenza-like illness epidemics, and terrorist attacks across the United States, are a constant reminder of the critical nature of emergency preparedness at healthcare facilities. Healthcare facilities and their staff play a key role in emergency preparedness efforts for all types of events. The availability of healthcare is essential to accommodate the surge in demand for providing care related to a public health and/or medical emergency. General elements of emergency management for healthcare facilities include mitigation, preparedness, response, and recovery. Rarely is it the responsibility of the IP to serve as the lead in emergency preparedness related operations, training, exercise development or after action reports or to evaluate these activities. However, the knowledge of what is involved in such topics is essential to an IP as he/she will have a very specific role (often individual to the particular institution) and participate at many levels. Specific issues and topics important in the discussion of emergency preparedness for the healthcare facility include:

- Decontamination
- Disaster Recovery
- Evacuation
- Hospitals' or Healthcare Facilities' incident command system and integration with community emergency planning groups
- Medical Surge Capacity

- Staffing and training levels

Key Concepts

Emergency Operations Plan (EOP)

An Emergency Operations Plan is an ongoing plan for responding to a wide variety of potential hazards. An EOP describes how people and property will be protected; details who is responsible for carrying out specific actions; identifies the personnel, equipment, facilities, supplies, and other resources available; and outlines how all actions will be coordinated.

The EOP is an essential component of emergency preparedness for healthcare facilities. The EOP provides the structure and processes that the facility utilizes to respond to, and initially recover from, an event. It is imperative that each healthcare facility develops, maintains, and refines the EOP for their facility on a regular basis. The person responsible for developing, revising, and maintaining the EOP is facility specific but could be the IP, a human resources staff member, the security director, a facilities or maintenance staff member, the safety officer, or other person. Additionally, some facilities may have an emergency management or emergency preparedness committee who is responsible for reviewing the EOP and other related information or plans. A two year cycle is recommended in order to keep the plan and it's components as current as possible. Plans should be inclusive of the six critical elements identified by the Joint Commission's Emergency Management Standards:

- Communications
- Resources and assets
- Safety and security
- Staff responsibilities
- Utilities and clinical operations
- Support activities

Exercise #1: Determine who is responsible for developing, reviewing, revising and maintaining the Emergency Operations Plan for your facility. In addition, determine if there is an emergency preparedness or emergency management committee in your facility, and if not, consider starting one.

The EOP should address emergency response procedures and capabilities when the hospital cannot be supported by the community, recovery strategies, initiation and termination of response and recovery phases, activation of authority, and identification of alternate sites for care, treatment, and services. Every partner organization and specific person involved in the response to an emergency will have a predefined role and set of responsibilities specified as domains. The domains specific to an IP have been established and are discussed in the methods section of this chapter.

The EOP is tested on a regular basis through a formal evaluation and improvement planning process and using a variety of activities such as seminars, workshops, tabletop exercises, functional exercises, and full-scale exercises. These activities described in more detail below and are listed in order of effort put forth to test the EOP. It is recommended to build upon each activity and not to jump right into a full-scale exercise prior to training staff working through logistics in tabletop exercises first. It is through these activities that partners involved can determine the strengths, weaknesses and deficiencies of the EOP. While it is not typically the direct responsibility of the IP, unless the IP is also the Emergency Operations Manager for the facility, he/she is an important partner in developing, testing and refining the EOP. The end result of these activities to test the EOP is an after action report and

associated improvement plan. For more information and a template for developing an EOP, please visit the Federal Emergency Management Association (FEMA) website at: www.fema.gov/media-library-data/20130726-1828-25045-0014/cpg_101_comprehensive_preparedness_guide_developing_and_maintaining_emergency_operations_plans_2010.pdf. For more information on an after action report and associated improvement plan, please see the *Documentation and Reporting* portion of this chapter.

Seminars: A seminar is a type of discussion-based exercise designed to orient participants to new or updated plans, policies, or procedures through informal discussions.

Workshops: A workshop is a type of discussion-based exercise focused on increased participant interaction and focusing on achieving or building a product (e.g., plans, policies). A workshop is typically used to test new ideas, processes, or procedures; train groups in coordinated activities; and obtain consensus. Workshops often use breakout sessions to explore parts of an issue with smaller groups.

Tabletop Exercises (TTXs): A tabletop exercise is a discussion-based exercise intended to stimulate discussion of various issues regarding a hypothetical situation. Tabletop exercises can be used to assess plans, policies, and procedures or to assess types of systems needed to guide the prevention of, response to, or recovery from a defined incident. TTXs are typically aimed at facilitating the understanding of concepts, identifying strengths and shortfalls, and/or achieving a change in attitude. Participants are encouraged to discuss issues in depth and develop decision-making skills that would be necessary under actual or simulated emergency conditions. TTXs can be held as either a breakout session in which groups of participants split into functional areas, or as a plenary session in which one large group works on the scenario together.

Functional Exercises (FE): A functional exercise is a single or multi-agency operations-based exercise designed to evaluate capabilities and multiple functions using a simulated response. Characteristics of a functional exercise include simulated deployment of resources and personnel, rapid problem solving, and a highly stressful environment. This type of activity involves more than partners sitting in the same room talking about what they would do in the event of an emergency. A FE requires participants to act on their part of the EOP.

Full-Scale Exercises (FSEs): A full-scale exercise is a multi-agency, multi-jurisdictional operations-based exercise involving the actual deployment of resources in a coordinated response as if a real incident had occurred. A full-scale exercise tests many components of one or more capabilities within emergency response and recovery. It is typically used to assess plans and procedures under crisis conditions, as well as assess the coordination of the response. Characteristics of an FES include: mobilized units, personnel, and equipment, a stressful, realistic environment, and scripted exercise scenarios.

Incident Command System (ICS)

An incident command system (ICS) is a standardized, on-scene, emergency management construct specifically designed to provide an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. The ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to aid in the management of resources during incidents. The ICS is used for all types of emergencies and is applicable to small as well as large and

complex incidents. The ICS is used by various jurisdictions and functional agencies, both public and private, to organize field-level incident management operations. An IP should be familiar with this structure because in an emergency situation all responding agencies/ organizations/groups, etc. must work under this framework.

Exercise #2: Complete FEMA ICS courses for healthcare: IS-100.HCB, IS-200.HCa, and IS-700.a. To take the courses, visit the website: training.fema.gov/IS/NIMS.aspx and click on the appropriate course name.

National Incident Management System (NIMS)

While the ICS provides the personnel roles and structures the lines of communication in an emergency, the National Incident Management System (NIMS) provides a common language or terminology used within and between organizations during an emergency situation. The NIMS is a set of principles that provides a systematic, proactive approach guiding government agencies at all levels, including nongovernmental organizations and the private sector. The goal of the NIMS is to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life or property and harm to the environment.

Methods

The role of the IP in emergency management was originally developed using an evidence-based approach consisting of four steps: 1) review of literature, 2) review of meeting proceedings from the *Mini Summit on Emergency Preparedness* hosted by the Association for Professionals in Infection Control and Epidemiology (APIC) in May 2008, 3) initial drafting of the IP's role in emergency management, and 4) review by members of the APIC Emergency Preparedness Committee. Through the abovementioned process, nine domains were identified to describe the role of the IP in emergency management. The EOP of any facility will include each of the domains specified and focuses exercises to test the capabilities and competencies of the plan. The domains are listed and explained below.

Domain 1: Knowledge of disasters and emergency management

IPs must be familiar with the infectious disease impact of a mass casualty incident and the interventions needed to control the situation, as well as infectious disease disasters such as a pandemic. IPs must also understand the infection prevention strategies needed for mass casualty/pandemic incidents, including surveillance, patient placement, reporting, outbreak investigation, and communication/coordination. Also necessary to this domain is a basic understanding of emergency management principles, including the four phases of emergency management, mitigation, preparedness, response, and recovery (Figure 1). A brief description of each phase is also provided in Table 1.

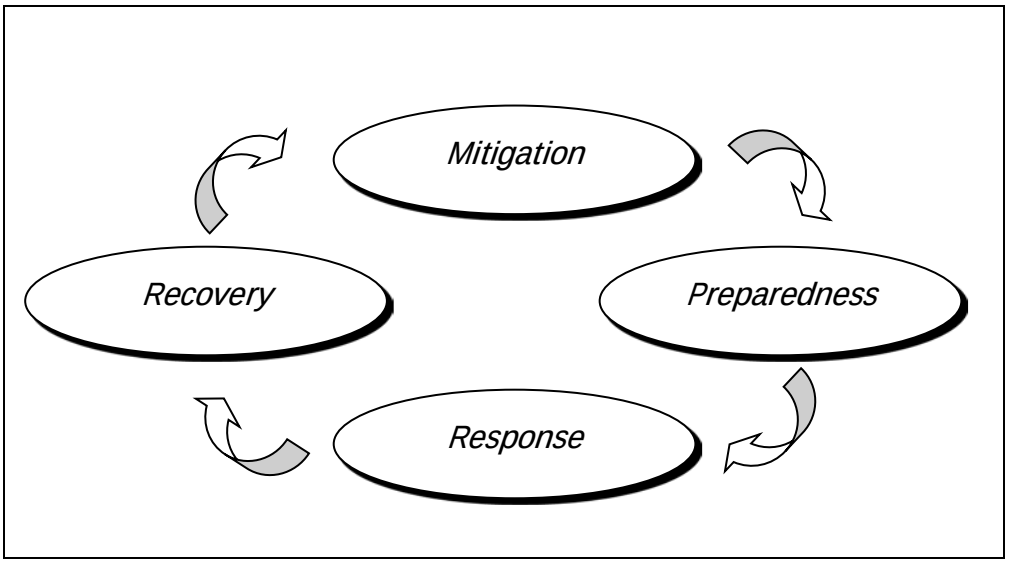

Figure 1. The four phases of emergency management. Adapted from FEMA training course IS-10, Animals in Disaster: Awareness and Preparedness. [1]

Table 1. The four phases of emergency management. Adapted from FEMA training course IS-10, Animals in Disaster: Awareness and Preparedness. [1]

Phase of Emergency Management	Definition and characteristics
Mitigation	Preventing future emergencies or minimizing their effects. : Includes any activities that prevent an emergency, reduce the chance of an emergency happening, or reduce the damaging effects of unavoidable emergencies. : Buying flood and fire insurance for your home is a mitigation activity. : Mitigation activities take place **before** and **after** emergencies.
Preparedness	Preparing to handle an emergency. : Includes plans or preparations made to save lives and to help response and rescue operations. : Evacuation plans and stocking food and water are both examples of preparedness. : Preparedness activities take place **before** an emergency occurs.

Response	Responding safely to an emergency. : Includes actions taken to save lives and prevent further property damage in an emergency situation. Response is putting your preparedness plans into action. : Seeking shelter from a tornado or turning off gas valves in an earthquake are both response activities. : Response activities take place **during** an emergency.
Recovery	Recovering from an emergency. : Includes actions taken to return to a normal or an even safer situation following an emergency. : Recovery includes getting financial assistance to help pay for the repairs. : Recovery activities take place **after** an emergency.

Domain 2: Assessing readiness and emergency management plans
IPs must be involved in assessing all aspects of readiness for mass casualty events as it relates to potential disease transmission. This includes being involved in preparedness efforts at the personal, facility, and community level for all types of mass casualty events. The IP should participate in any exercise activities as discussed in the *Key Concepts* section of this chapter. Furthermore, the IP should be involved in the creation, or at least in the review of, the after action reports discussed in the *Documentation and Reporting* section of this chapter.

Domain 3: Infection prevention coverage
All settings that administer health services must have an infection prevention program to prevent the spread of infectious organisms. An IP must be available for consulting purposes (i.e., having infection prevention coverage) 24 hours a day, 7 days a week if possible.

Exercise #3: Take a moment to discuss with your supervisor the expectations of you in terms of being on call 24-7. Answer the following questions:

1. *Are you provided a cell phone for contact at all times of the day?*

2. *Who is your back up in the event that you are on vacation and an emergency occurs?*

3. *To whom do you report during emergency situations (according to the ICS structure of your organization)?*

4. *Does your organization have a system to recall staff in the event of a disaster, and if so does this list include cellular telephone numbers?*

Domain 4: Participation in disaster response and recovery
In addition to playing a key role in preparing for mass casualty incidents, IPs are essential to an

effective response and recovery from an emergency. Regardless of the facility, type or scope of the disaster, the primary responsibility of the IP during a mass casualty incident is to prevent and control infectious disease spread. This involves implementation of infection prevention strategies outlined in facility policies and procedures and the facility emergency management plan, as well as monitoring the effectiveness of these interventions. It is important to remember that an IP will have a role in any emergency, not only those of an infectious nature. Whether the IP is needed only for the mass vaccination (i.e. tetanus) of those affected by a tornado or for the development of a disease surveillance system in a temporary shelter, the IP should be part of any process to prepare for an emergency.

Exercise #4: Locate all the policies and procedures in your facility that relate to disasters and emergency events. Ensure that you as the IP have a copy on file for future reference.

Domain 5: Healthcare policy development

Many issues surrounding emergency management have potential policy implications, especially those involving creation of new standards and recommendations related to infection prevention during a mass casualty incident. One critical policy area in which IPs need to be involved is the development of altered or crisis standards of care. Given the projected lack of resources that will be available during a mass casualty event, alternative approaches to patient care must be considered. Decisions must be made such as how to allocate limited numbers of ventilators or medications where contagious patients will be housed if all isolation rooms are full, and which staff will be given personal protective equipment if stocks become depleted.

Domain 6: Surveillance

Surveillance is a critical component of emergency management, especially for disasters involving a biologic agent such as those listed as Category A, B or C Bioterrorism Agents per the Centers for Disease Control and Prevention (Appendix A). There are two general types of surveillance programs needed for disasters: a system that aids in identifying a biologic event and one to monitor an event once it has been identified. These are based on individual facility policy, and can vary between and among facilities in any given area. IPs must be involved in the development of these surveillance programs to ensure that appropriate indicators are chosen. In addition, IPs should assist in surveillance program evaluation to determine the effectiveness of the systems used.

Exercise #5: Determine what surveillance systems are currently in place in your facility. Discuss the (these) system(s) with your emergency manager, nurse managers and IP mentor.

Domain 7: Patient management

Patient surge is expected after any type of mass casualty incident, and, in some events, such as an infectious disease disaster, the patients may pose a risk of infection transmission. Healthcare disaster planners must develop protocols for managing patient surge, including procedures for minimizing the risk of disease transmission. Healthcare disaster planners are typically the same people responsible for developing the EOP, designing the exercise activities, and creating the after action reports and can include: the emergency management/preparedness committee, emergency manager, IP, facilities staff, emergency preparedness coordinator, or a human resources person.

Exercise #6: Locate the protocols within your facility that relate to managing patient surge in the event of a disaster. If you cannot locate these protocols ask the Emergency Manager and or Nurse Manager for assistance.

Domain 8: Physical facility issues

Research indicates that the environment can play a part in infection transmission. This is especially true in mass casualty events when bioburden may be higher than usual, staff shortages may prevent adequate environmental decontamination, and cleaning/disinfection products may be limited. IPs must consult with facility emergency management planners, facilities engineering, and response agencies regarding assessing the physical facilities for potential infectious disease implications and implementation of environmental controls for mass casualty incidents. It is important to not only discuss the main building such as a hospital, but also include any other related off-site clinics, home healthcare, hospice, long term care, etc.

Domain 9: Infection preventionist as educator

One of the IP's primary roles is to educate others regarding infection prevention and control strategies, including when planning for and implementing emergency management. IPs should use competency-based curriculum whenever possible when developing education related to preventing infections prevention during emergency situations. Competency domains for hospital-based healthcare workers include basic microbiology, modes/mechanisms of infection transmission, standard and transmission-based precautions, occupational health, patient safety, critical thinking, and emergency preparedness. It is typically the responsibility of the IP to provide education on these topics to those healthcare staff working within the facility.

Exercise #7: Discuss with your IP mentor, and other pertinent facility personnel the following questions.

1. *Review the facility outbreak investigation plan and show how the plan is parallel to an EOP with the key domains of emergency management.*

2. *On a separate piece of paper or electronically in Excel worksheet, develop a table that lists the required emergency preparedness supplies and where they are located within your facility.*

3. *Describe how your facility will respond to the follow conditions:*

Include in the discussions where the patients will be housed (cohort, transferred, private rooms etc.), how the environment will be cleaned and disinfected, who and how will be responsible for communication with the Wyoming Department of Health.

   a. *Influx of 10 patients from local skilled nursing facility with diarrheal illness.*

   b. *Influx of patients from local elementary school with acute-onset respiratory symptoms resembling pneumonia.*

   c. *Patient in hospital who has been found to have <u>Y. pestis</u> isolated from sputum.*

   d. *Four patients seen in the Emergency Department over the last 24 hours with nausea, vomiting, diarrhea, and fever.*

Documentation and Reporting

24/7 All-Hazards Notification Line (1.888.996.9104): Alert the Wyoming Department of Health (WDH) if you are aware of a biological or chemical event, infectious disease outbreak, hazardous material spill, or natural disaster that threatens public health.

After Action Report/Improvement Plan (AAR/IP): After any activity performed to evaluate the EOP, such as a tabletop exercise or after an actual emergency situation, an after action report should be created. The after action report/improvement plan is the main written product of the Evaluation and Improvement Planning process used to assess the EOP. The AAR/IP has two components: an After Action Report (AAR), which captures observations of an exercise and makes recommendations for post-exercise improvements; and an Improvement Plan (IP), which identifies specific corrective actions, assigns them to responsible parties, and establishes targets for their completion. The main purpose of an AAR/IP is to document the weaknesses and strengths in the EOP in its current state. The AAR/IP also requires a plan for how to improve upon the weaknesses identified. For more information on developing an AAR/IP and for a template of such a report, please visit the FEMA website at training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-130.

Reportable Disease List: As per Wyoming State Statute there is a list of diseases and conditions that a healthcare provider must report at the time of suspicion, diagnosis, and/or laboratory confirmation (Appendix B). This list includes the disease or organism specific requirements to notify the Wyoming Department of Health (WDH) in any cases, outbreaks, and other emergency situations. Agents of bioterrorism, suspected biological, chemical or radiological incidents, unexplained illnesses, and other emergencies are also statutorily required to be reported by a facility (the IP or their designee). For the most complete and up to date list please visit the WDH website: www.health.wyo.gov/phsd/epiid/reporting.html .

Syndromic Surveillance: The purpose of syndromic surveillance is to identify possible outbreaks or health events before confirmed diagnosis or laboratory confirmation is complete. This information gives public health authorities the opportunity to detect and respond to outbreaks and health events more quickly. EpiCenter (by Health Monitoring Systems) is one of several syndromic surveillance systems currently available. EpiCenter collects disease surveillance information from hospital emergency department chief complaint data, analyzes it for aberrations, and notifies epidemiologists if an increase above the threshold is detected. Tables 1 and 2 below describe the symptoms and syndromes monitored by EpiCenter. The symptoms listed in Table 1 are combined electronically through the computer software system in order to determine the syndrome classifications listed in Table 2. No physical work such as record review or data entry by hand is required of any human in the classification, and notification of public health authorities through EpiCenter. Once the notification is received by public health authorities, the IP may be contacted to help investigate an anomaly by gathering records and charts.

Most hospitals have a syndromic surveillance system in place, if not EpiCenter exactly. The institution of a syndromic surveillance system within a hospital is not a requirement of any state licensure; however, it is required by the Centers for Medicare and Medicaid through their “meaningful use” program. This is not something that is likely to be instituted in long term care facilities or ambulatory surgical centers as the most likely location an outbreak or disaster will be detected is through an emergency department.

Table 1: The infectious disease symptom classifications available in EpiCenter

EpiCenter Infectious Disease Symptoms						
Abdominal	Diarrhea	Eyes	Hemorrhaging	Malaise	Neurological	Shock
Arthralgia	Ear, Nose, Throat	Fatigue	Hypoxia	Miscarriage	Paralysis	Stiff Neck
Congestion	Edema	Fever	Jaundice	Myalgia	Rash	Vision
Cough	Exacerbation	Headache	Lymphadenitis	Nausea	Respiratory	Vomiting

Table 2: The generic syndromic classifications available in EpiCenter.

EpiCenter Syndromes			
Botulinic	Gastrointestinal	Neurological	Respiratory
Consitutional	Hemorrhagic	Rash	Influenza-like-illness (ILI)

Other Issues

Hazard and Vulnerability Assessment/Analysis (HVA)

Also important in preparedness planning is the Hazard and Vulnerability Assessment/Analysis (HVA). An HVA is a systematic approach to recognizing hazards that may affect demand for the hospital or healthcare facility's services or its ability to provide those services. An HVA can be viewed as needs assessment for the emergency management program. An IP should, at a minimum, have knowledge of and access to their facility's HVA. The IP should work with the facility emergency manager to develop the HVA for the identification of risks and responsibility which encompass infection prevention for any mass casualty/disaster, whether natural or man-made. The IP should also be familiar with the county or local jurisdiction HVA in order to determine what potential hazards exist in the county, such as agriculture, chemical plants, mining, interstate highways and railways. For more details on the role of the IP in emergency management, please see the required readings. For general instructions and templates for how to complete and HVA, please see Appendices C and D.

Resources

Helpful/Related Readings

- Bennett G. Pandemic Influenza Preparedness Plan for Long Term Care Facilities. www.icpassociates.com/Products/PandemicInfluenza-PreparednessandReadinessPlanforLongTermCareFacilities/4,68,0.aspx
- Federal Emergency Management Agency. Glossary. Federal Emergency Management Agency. Available at: www.training.fema.gov/EMIWeb/emischool/EL361Toolkit/glossary.htm.
- Grota P, Allen V, Boston KM, et al, eds. *APIC Text of Infection Control & Epidemiology. 4th Edition.* Washington, D.C.: Association for Professionals in Infection Control and Epidemiology, Inc.; 2014.
    - Chapter 119, Emergency Management, by T Rebmann
    - Chapter 120, Infectious Disease Disasters: Bioterrorism, Emerging Infect ions, and Pandemics, by T Rebmann
- Bennett G, Morrell G and Green L, ed. Infection Prevention Manual for Hospitals; revised edition. Rome, GA: ICP Associates, Inc.; 2010. Section 12
- Bennett G. Infection Prevention Manual for Long Term Care; revised edition 2012. Rome, GA: ICP Associates, Inc.; 2012 Appendix Bioterrorism Readiness Plan
- Schweon S, Burdsall D, Hanchett M, et al. *Infection Preventionist's Guide to Long-Term Care*. Washington, D.C.: Association for Professionals in Infection Control and Epidemiology, Inc.; 2013.
    - Chapter 15, Disaster and Emergency Preparedness, by D Greene and SW Hilley
- Lautenbach E, Woeltje KF, and Malani PN, eds. SHEA Practical Healthcare Epidemiology (3rd

Edition). University of Chicago Press, Chicago, IL: 2010
    - Chapter 22 Biological Disaster Preparedness, by S Cinti and E Wells
    - Chapter 23 Exposure Workups, by LM Dembry, S Holley, H Honda, LA Herwaldt and JM Pottinger
- Mayhall CG ed. Hospital Epidemiology and Infection Control (4th Edition). Philadelphia, PA: Lippincott Williams & Wilkins, a Wolters Kluwer business; 2011.
    - Chapter 101 Biological Terrorism: An Overview, by MA Hamburg and CJ Peters
    - Chapter 102, The State and Local Response to Bioterrorism, by AI Winters, J Ackelsberg, M Layton, M Paladini, D Berg, and ST Beatrice
    - Chapter 104, Preparedness for Bioterrorist Attack with Smallpox, by WB Davidson, AM McCollum and IK Damon

Helpful Contacts

- Brittany Wardle, Hospital Preparedness Coordinator, Hospital Preparedness Program, Wyoming Department of Health, 307-777-6904, brittany.wardle@wyo.gov
- Sheryl Roub, Unit Manager, Public Health Emergency Preparedness Unit, Wyoming Department of Health, 307-777-7146, sheryl.roub@wyo.gov
- James Smith, Improvement & Development Supervisor, Public Health Emergency Preparedness Unit, Wyoming Department of Health, 307-777-6777, James.smith5@wyo.gov
- Public Health Emergency Response, 24/7 Telephone Response Line, Wyoming Department of Health, 1-888-996-9104

Related Websites/Organizations

- American Hospital Association, Emergency Readiness, www.aha.org/advocacy-issues/emergreadiness/index.shtml
- Centers for Disease Control and Prevention (CDC), emergency.cdc.gov
- APIC Emergency Preparedness, www.apic.org/Professional-Practice/Emergency-Preparedness
- U.S. Department of Homeland Security,
    - Disasters, www.dhs.gov/topic/disasters
    - Exercise and Evaluation (HSEEP), www.llis.dhs.gov/hseep
- Federal Emergency Management Agency, www.fema.gov and http://www.ready.gov
    - National Exercise Program (NEP), www.fema.gov/national-exercise-program
    - Introduction to Exercises, training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-120.a
    - Exercise Evaluation and Improvement Planning, training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-130
    - Exercise Design, training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-139
- Medical Reserve Corps, www.medicalreservecorps.gov
- Office of the Assistant Secretary for Preparedness and Response (ASPR), www.phe.gov
- Wyoming Activation of Volunteers in Emergencies (WAVE), www.volunteerwave.org

References

FEMA. IS-10.A. Animals in Disasters: Awareness and Preparedness. Module A, Unit 3. www.training.fema.gov/emiweb/downloads/is10_unit3.doc. Accessed 5/12/2014.

My Facility/City/County Contacts

Title	Name	Telephone Number(s)	E-mail
City/County Fire Chief			
County Coroner			
County Emergency Manager			
County Health Officer			
Emergency Medical Services (EMS) Director			
Facility Emergency Preparedness Coordinator			
Public Health Response Coordinator			
Facility engineering manager or director			
Other emergency management planners			
Emergency Management Committee members (if applicable)			

Appendices

Appendix A: Centers for Disease Control and Prevention Bioterrorism Agents/Diseases

As seen on the website: www.bt.cdc.gov/agent/agentlist-category.asp

Category A

Definition

The U.S. public health system and primary healthcare providers must be prepared to address various biological agents, including pathogens that are rarely seen in the United States. High-priority agents include organisms that pose a risk to national security because they

- can be easily disseminated or transmitted from person to person;
- result in high mortality rates and have the potential for major public health impact;
- might cause public panic and social disruption; and
- require special action for public health preparedness.

Agents/Diseases

- Anthrax (*Bacillus anthracis*)
- Botulism (*Clostridium botulinum* toxin)
- Plague (*Yersinia pestis*)
- Smallpox (variola major)
- Tularemia (*Francisella tularensis*)
- Viral hemorrhagic fevers (filoviruses [e.g., Ebola, Marburg] and arenaviruses [e.g., Lassa, Machupo])

Category B

Definition

Second highest priority agents include those that

- are moderately easy to disseminate;
- result in moderate morbidity rates and low mortality rates; and
- require specific enhancements of CDC's diagnostic capacity and enhanced disease surveillance.

Agents/Diseases

- Brucellosis (*Brucella* species)
- Epsilon toxin of *Clostridium perfringens*
- Food safety threats (e.g., *Salmonella* species, *Escherichia coli* O157:H7, *Shigella*)
- Glanders (*Burkholderia mallei*)
- Melioidosis (*Burkholderia pseudomallei*)
- Psittacosis (*Chlamydia psittaci*)
- Q fever (*Coxiella burnetii*)
- Ricin toxin from *Ricinus communis* (castor beans)
- Staphylococcal enterotoxin B
- Typhus fever (*Rickettsia prowazekii*)
- Viral encephalitis (alphaviruses [e.g., Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis])
- Water safety threats (e.g., *Vibrio cholerae*, *Cryptosporidium parvum*)

Category C

Definition

Third highest priority agents include emerging pathogens that could be engineered for mass dissemination in the future because of

- availability;
- ease of production and dissemination; and
- potential for high morbidity and mortality rates and major health impact.

Agents

- Emerging infectious diseases such as Nipah virus and hantavirus

Appendix B: Wyoming Department of Health Reportable Diseases and Conditions list

Commit to your health.

Wyoming Department of Health Reportable Diseases and Conditions

A report is required by law (State Statute § 35-4-107) from **both** the **attending healthcare provider/hospital and the laboratory performing diagnostic testing.**
Wyoming laboratories are responsible for reporting results when a reference laboratory is used.
Mail reports to: Wyoming Department of Health, 6101 Yellowstone Road Suite 510, Cheyenne, WY 82002 OR
Fax reports to our secure fax machine at **(307) 777-5573** OR
*electronic reporting at https://prismdata.health.wyo.gov is preferred for diseases marked with *
For all LABORATORY questions please call (307) 777-7431; REPORTING please call (307) 777-7953

DISEASES IN RED: Immediate Notification at 1-888-996-9104
Diseases in Black: Reportable within **24 hours** of diagnosis by fax or telephone
Diseases in Green: Reportable within 7 days of diagnosis by fax, phone, or mail
LAB: In addition to reporting, **submit an isolate or other appropriate material,** in accordance with IATA Dangerous Goods Regulations to: State Public Health Laboratory, Combined Laboratories Facility, 208 S College Dr., Cheyenne, WY 82002

- Amoebiasis (*Entamoeba histolytica*)
- Anaplasma/Ehrlichiosis
- ANTHRAX (*Bacillus anthracis*)
- Babesiosis (*Babesia* sp)
- Bartonellosis (*Bartonella* sp)
- BOTULISM (*Clostridium botulinum*)
- LAB Brucellosis (*Brucella* sp)
- California Serogroup Virus (Jamestown Canyon, La Crosse, others); neuro- and non-neuro invasive
- LAB Campylobacteriosis (*Campylobacter* sp)

Cancer

- *Chancroid (*Haemophilus ducreyi*)*
- **Chlamydia trachomatis* Infection*
- LAB Cholera (*Vibrio cholerae*)
- Coccidioidomycosis (*Coccidioides immitis*)
- Colorado Tick Fever
- Creutzfeldt-Jacob Disease (including classic CJD and variant CJD)
- Cryptosporidiosis (*Cryptosporidium* sp)
- Cyclosporiasis (*Cyclospora cayetanensis*)
- Dengue Fever
- DIPHTHERIA (*Corynebacterium diphtheriae*)
- Eastern Equine Encephalitis Virus (neuro- and non-neuro invasive)
- Ehrlichiosis/Anaplasma
- Encephalitis
- LAB *Escherichia coli*, shiga toxin-producing (0157:H7, non-0157:H7, or untyped)
- Giardiasis (*Giardia lamblia*)
- LAB Glanders (*Burkholderia mallei*)
- *Gonorrhea (*Neisseria gonorrhoeae*)*
- LAB *Haemophilus influenzae* (sterile site)
- Hantaviral Disease
- HEMORRHAGIC FEVER VIRUSES
- Hemolytic Uremic Syndrome
- Hepatitis A, B*, D, E

Hepatitis C
HIV/AIDS (Positive/reactive detection tests, All CD4's, and all viral loads)

- Influenza (lab confirmed, including rapid test positives)
- Influenza-Associated Deaths
- Kawasaki Syndrome
- Legionellosis (*Legionella* sp)
- Leprosy (*Mycobacterium leprae*)
- Leptospirosis (*Leptospira interrogans*)
- LAB Listeriosis (*Listeria monocytogenes*)
- Lyme Disease (*Borrelia burgdorferi*)
- LAB Malaria (*Plasmodium* sp)
- Measles
- LAB Melioidosis (*Burkholderia pseudomallei*)
- Meningitis (all types)
- LAB Meningococcal Disease (*Neisseria meningitidis*)
- Methicillin-Resistant *Staphylococcus aureus* (MRSA) Related Cases, Clusters, and Outbreaks ONLY
- Mumps
- LAB Pertussis (*Bordetella pertussis*)
- PLAGUE (*Yersinia pestis*)
- Poliomyelitis/Poliovirus Infection
- Powassan Virus (neuro- and non-neuro invasive)
- Psittacosis (*Chlamydophila psittaci*)
- Q-Fever (*Coxiella burnetii*)
- Rabies (human and animal)
- Relapsing Fever (*Borrelia* sp)
- Reyes Syndrome
- Rocky Mountain Spotted Fever (*Rickettsia rickettsii*)
- Rubella
- LAB Salmonellosis (*Salmonella* sp)
- SEVERE ACUTE RESPIRATORY SYNDROME (SARS)
- St. Louis Encephalitis Virus (neuro- and non-neuro invasive)
- LAB Shiga toxin (stool, broth, isolate, etc.)
- LAB Shigellosis (*Shigella* sp)
- SMALLPOX
- Streptococcal Disease, sterile site only
- *Syphilis (*Treponema pallidum*)*
- Tetanus (*Clostridium tetani*)
- Toxic-Shock Syndrome (Streptococcal, Staphylococcal)
- Trichinellosis (*Trichinella* sp)
- LAB Tuberculosis (*Mycobacterium tuberculosis* complex)
- TULAREMIA (*Francisella tularensis*)
- LAB Typhoid Fever (*Salmonella typhi*)
- Typhus (*Rickettsia* sp)
- LAB Vancomycin-Intermediate *Staphylococcus aureus* (VISA)
- LAB Vancomycin-Resistant *Staphylococcus aureus* (VRSA)
- Vancomycin-Resistant Enterococcus (VRE) Related Cases, Clusters, and Outbreaks ONLY

Varicella (chickenpox only)

- LAB Vibrio sp (including non-cholera)
- West Nile Virus (neuro- and non-neuro invasive)
- Western Equine Encephalitis Virus (neuro- and non-neuro invasive)
- Yellow Fever
- LAB Yersiniosis (*Y. enterocolitica, Y. pseudotuberculosis*)

Other Reportable Conditions

- Animal Bites
- Exposures Requiring Rabies Prophylaxis

Blood Lead (All levels)

- Clusters/Outbreaks (GI, respiratory, other illness)
- Methemoglobinemia/Nitrate Poisoning
- SUSPECTED BIOLOGICAL, CHEMICAL, OR RADIOLOGICAL INCIDENT
- TOXIN-ASSOCIATED ILLNESS
- UNEXPLAINED DEATH
- UNUSUAL ILLNESS OF PUBLIC HEALTH IMPORTANCE

Updated 1/2014

Appendix C: Medical Center Hazard and Vulnerability Analysis Instructions

Medical Center Hazard and Vulnerability Analysis

This document is a sample Hazard Vulnerability Analysis tool. It is not a substitute for a comprehensive emergency preparedness program. Individuals or organizations using this tool are solely responsible for any hazard assessment and compliance with applicable laws and regulations.

INSTRUCTIONS:
Evaluate potential for event and response among the following categories using the hazard specific scale. Assume each event incident occurs at the worst possible time (e.g. during peak patient loads).

Please note specific score criteria on each work sheet to ensure accurate recording.

Issues to consider for **probability** include, but are not limited to:
1. Known risk
2. Historical data
3. Manufacturer/vendor statistics

Issues to consider for **response** include, but are not limited to:
1. Time to marshal an on-scene response
2. Scope of response capability
3. Historical evaluation of response success

Issues to consider for **human impact** include, but are not limited to:
1. Potential for staff death or injury
2. Potential for patient death or injury

Issues to consider for **property impact** include, but are not limited to:
1. Cost to replace
2. Cost to set up temporary replacement
3. Cost to repair
4. Time to recover

Issues to consider for **business impact** include, but are not limited to:
1. Business interruption
2. Employees unable to report to work
3. Customers unable to reach facility
4. Company in violation of contractual agreements
5. Imposition of fines and penalties or legal costs
6. Interruption of critical supplies
7. Interruption of product distribution
8. Reputation and public image
9. Financial impact/burden

Issues to consider for **preparedness** include, but are not limited to:

1. Status of current plans
2. Frequency of drills
3. Training status
4. Insurance
5. Availability of alternate sources for critical supplies/services

Issues to consider for **internal resources** include, but are not limited to:

1. Types of supplies on hand/will they meet need?
2. Volume of supplies on hand/will they meet need?
3. Staff availability
4. Coordination with MOB's
5. Availability of back-up systems
6. Internal resources ability to withstand disasters/survivability

Issues to consider for **external resources** include, but are not limited to:

1. Types of agreements with community agencies/drills?
2. Coordination with local and state agencies
3. Coordination with proximal health care facilities
4. Coordination with treatment specific facilities
5. Community resources

Complete all the following worksheets/templates including Natural, Technological, Human and Hazmat. The summary section (right most column) will automatically provide your specific and overall relative threat.

Appendix D: Medical Center Hazard and Vulnerability Analysis Templates

Hazard and Vulnerability Assessment Tool for Naturally Occurring Events – note this tool can be created in a Microsoft Excel worksheet.

HAZARD AND VULNERABILITY ASSESSMENT TOOL
NATURALLY OCCURRING EVENTS

EVENT	PROBABILITY	SEVERITY = (MAGNITUDE - MITIGATION)						RISK
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
	Likelihood this will occur	*Possibility of death or injury*	*Physical losses and damages*	*Interuption of services*	*Preplanning*	*Time, effectivness, resouces*	*Community/ Mutual Aid staff and supplies*	*Relative threat**
SCORE	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 - 100%*
Hurricane								0%
Tornado								0%
Severe Thunderstorm								0%
Snow Fall								0%
Blizzard								0%
Ice Storm								0%
Earthquake								0%
Tidal Wave								0%
Temperature Extremes								0%
Drought								0%
Flood, External								0%
Wild Fire								0%
Landslide								0%
Dam Inundation								
Volcano								0%
Epidemic								0%
AVERAGE SCORE	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0%**

**Threat increases with percentage.*

RISK = PROBABILITY * SEVERITY		
0.00	0.00	0.00

Hazard and Vulnerability Assessment Tool for Technologic Events – note this tool can be created in a Microsoft Excel worksheet.

HAZARD AND VULNERABILITY ASSESSMENT TOOL
TECHNOLOGIC EVENTS

EVENT	PROBABILITY	SEVERITY = (MAGNITUDE - MITIGATION)						RISK
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
	Likelihood this will occur	*Possibility of death or injury*	*Physical losses and damages*	*Interuption of services*	*Preplanning*	*Time, effectivness, resouces*	*Community/ Mutual Aid staff and supplies*	*Relative threat**
SCORE	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 - 100%*
Electrical Failure								0%
Generator Failure								0%
Transportation Failure								0%
Fuel Shortage								0%
Natural Gas Failure								0%
Water Failure								0%
Sewer Failure								0%
Steam Failure								0%
Fire Alarm Failure								0%
Communications Failure								0%
Medical Gas Failure								0%
Medical Vacuum Failure								0%
HVAC Failure								0%
Information Systems Failure								0%
Fire, Internal								0%
Flood, Internal								0%
Hazmat Exposure, Internal								0%
Supply Shortage								0%
Structural Damage								0%
AVERAGE SCORE	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0%**

**Threat increases with percentage.*

RISK = PROBABILITY * SEVERITY		
0.00	0.00	0.00

Hazard and Vulnerability Assessment Tool for Human Related Events – note this tool can be created in a Microsoft Excel worksheet.

HAZARD AND VULNERABILITY ASSESSMENT TOOL
HUMAN RELATED EVENTS

EVENT	PROBABILITY	SEVERITY = (MAGNITUDE - MITIGATION)						RISK
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
	Likelihood this will occur	*Possibility of death or injury*	*Physical losses and damages*	*Interuption of services*	*Preplanning*	*Time, effectivness, resouces*	*Community/ Mutual Aid staff and supplies*	*Relative threat**
SCORE	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 - 100%*
Mass Casualty Incident (trauma)								0%
Mass Casualty Incident (medical/infectious)								0%
Terrorism, Biological								0%
VIP Situation								0%
Infant Abduction								0%
Hostage Situation								0%
Civil Disturbance								0%
Labor Action								0%
Forensic Admission								0%
Bomb Threat								0%
AVERAGE	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0%**

**Threat increases with percentage.*

RISK =	PROBABILITY *	SEVERITY
0.00	0.00	0.00

Hazard and Vulnerability Assessment Tool for Events Involving Hazardous Materials – note this tool can be created in a Microsoft Excel worksheet.

HAZARD AND VULNERABILITY ASSESSMENT TOOL
EVENTS INVOLVING HAZARDOUS MATERIALS

EVENT	PROBABILITY	SEVERITY = (MAGNITUDE - MITIGATION)						RISK
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
	Likelihood this will occur	*Possibility of death or injury*	*Physical losses and damages*	*Interuption of services*	*Preplanning*	*Time, effectivness, resouces*	*Community/ Mutual Aid staff and supplies*	*Relative threat**
SCORE	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 - 100%*
Mass Casualty Hazmat Incident *(From historic events at your MC with >= 5 victims)*								0%
Small Casualty Hazmat Incident *(From historic events at your MC with < 5 victims)*								0%
Chemical Exposure, External								0%
Small-Medium Sized Internal Spill								0%
Large Internal Spill								0%
Terrorism, Chemical								0%
Radiologic Exposure, Internal								0%
Radiologic Exposure, External								0%
Terrorism, Radiologic								0%
AVERAGE	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0%**

**Threat increases with percentage.*

RISK = PROBABILITY * SEVERITY		
0.00	0.00	0.00

WIPAG welcomes your comments and feedback on these sections.
For comments or inquiries, please contact:

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