

## Guidelines for Biologic Disaster Planning in Hospitals

The following checklist outlines essential components for a hospital biologic disaster plan, with a special emphasis on detection and response to a bioterrorist event:

### I) Disaster Response Infrastructure

- Presence of an active, functional disaster response committee with an incident command or management system
- Pre-designated roles, lines of authority and chains of communication, with an appropriate alternate/back-up person for each position.
- Notification protocol to ensure that all relevant hospital staff and outside agencies are notified rapidly in the event of a disaster (*requires having 24-hour contact numbers for all key staff*).
- Maintenance of an up-to-date list of all key agency contacts (e.g, local and district health departments, the Georgia Division of Public Health, the Georgia Emergency Management Agency, the Centers for Disease Control and Prevention, and the regional FBI office)
- Existing mechanism to rapidly provide information to all hospital staff (broadcast facsimile, email, electronic bulletin board, etc)

### II) Surveillance Issues

- Recognition of attack:
  - Increase awareness among medical and laboratory staff regarding the potential threat of bioterrorism and the key diagnostic clues to the more likely agents (*e.g., febrile illness with widened mediastinum in an otherwise healthy adult is highly suggestive of inhalational anthrax*). An annual review by lectures/in-services will be needed to maintain awareness of the bioterrorist agents.
  - Ensure that all clinical staff are aware of their legal responsibility to report all suspect or confirmed notifiable diseases, including any unusual manifestations or cluster of illness (*e.g., suggest that hospitals have posters in all clinical staff areas listing all notifiable diseases, along with telephone numbers for reporting during business and non-business hours*)
  - OPTIONAL: Consider instituting a syndromic surveillance system to monitor

for infectious disease outbreaks, in collaboration with the Georgia Division of Public Health (*e.g., sharing electronic data without personal identifiers in real time that contain information on clinical syndromes (diagnostic codes) for emergency department visits or hospital admissions, or sharing admission logs noting patients with unexplained infectious diseases in ICU settings*)

· POST-EVENT: Tracking morbidity and mortality to facilitate citywide assessments of hospital capacities and needs to local, state and federal authorities

Ability to implement daily tracking system to monitor for:

- Number of new and prevalent cases diagnosed with bioterrorist agent
- Number of case fatalities due to bioterrorist agent
- Number of treatment failures (*in event of unrecognized antibiotic-resistant bacteria*)
- Number of patients requiring ventilatory support
- Number of visits to ER, clinics (assess impact of “worried well”)

(Each hospital should pre-designate appropriate staff responsible for tracking this information on a daily basis, with regular communication to centralized, local authorities (*e.g., District Health Office or Georgia Division of Public Health*))

Establish a mechanism to provide information on staffing, equipment and supply needs so that additional resources can be mobilized from local, state, or federal authorities, when required.

### III) Laboratory issues

- Training all laboratory staff re: diagnostic and safety issues related to testing bacterial bioterrorist agents (anthrax, plague, tularemia)
  - Ensure that appropriate level biosafety cabinets are present, as well as staff trained in their use and the appropriate handling of these specimens.
- Develop protocols to ensure coordination with the Georgia Division of Public Health for confirmatory testing for any suspect bioterrorist agent. Specimen packaging and transport must be coordinated with local and state health departments and the FBI. A chain of custody document must accompany all specimens from the time of collection.

**IV) Mass care issues** - In the event of massive numbers of infectious patients presenting for acute care, city hospitals will need to work closely with the Georgia Emergency Management Agency, local and district health departments, the Division of Public Health, Georgia Hospital Association, and the US

Public Health Service to assess hospital capacity and needs, and to rapidly determine the need for additional staff, supplies and equipment (*See Section II*). Pre-planning is recommended to:

- Ensure the ability to triage large numbers of potentially infectious patients presenting in the ED, including at intake and through the hospital's Admission Department to expedite admissions to the hospital, if needed (*e.g., surge capacity to assist with paperwork, pre-prepared charts with pre-designated hospital numbers that can be entered later into the admission database*). Establish a mechanism to efficiently and rapidly separate the "worried well" from symptomatic persons, and to move them quickly away from the urgent care section of the ED.  
  
Ensure that appropriate infection control measures are followed, depending on the suspected or confirmed biologic agent.
- Call up additional staff (including off duty staff) from all departments to assist with patient care. All department/unit heads should have 24 hour contact numbers for all of their staff. (*May need to implement 12 hour shifts to ensure adequate coverage*)
- Cancel all nonurgent admissions and transfer all non-critical patients to hospitals outside of the affected area.
- In the event that patient volume precludes routine patient placement in single rooms, have contingency plans to cohort patients who present with similar syndromes, in a designated clinic or ward. Designated cohorting sites should ideally be selected in advance by the hospital's infection control committee, in consultation with the facilities engineering staff based on airflow and ventilation, availability of adequate plumbing and waste disposal, and capacity to safely hold potentially large numbers of patients. The triage or cohort site should have controlled entry to minimize the possibility for transmission to other patients at the facility and to staff members in other areas.
- If sufficient material and staff resources are available, be prepared to open all closed patient wards or other areas (*e.g., cafeteria, auditorium, medical school areas*) to care for an increased volume of inpatients. The US Public Health Service Disaster Medical Assistance Teams may be available to supplement hospital staffing needs as well as staff alternate acute care facility sites.
- Implement contingency plans for handling large numbers of potentially infectious patients with respect to (*See Section V*):
  - Ability to mobilize sufficient isolation supplies (masks, gloves, gowns).
  - Handling of large amounts of infectious waste (chemical treatment)
- Ensure that cleaning, disinfection and sterilization of equipment and environment always

adhere to current standards of Standard Precautions

- Ensure that your hospital is currently on the Division of Public Health and/or Georgia Hospital Association broadcast facsimile or electronic mail system. In addition, in the event of an attack, ensure the capacity to rapidly distribute GDPH advisories on the medical management of the specific disease to all clinical staff (*e.g., posting on hospital Intranet site accessible for all relevant staff*)
- Pre-determination of sources for additional medical equipment and supplies - in coordination with the Georgia Office of Emergency Management, Georgia Hospital Association and federal response agencies (Public Health Service)
- If the hospital is part of a network, consider ways to move needed personnel and materials within the network to support individual hospital shortages.
- Consider establishing mutual aid agreements with other local hospitals in the region.

#### **V) Employee Health Issues\Personal Protection**

Unlike chemical terrorism, decontamination is typically not necessary or recommended for patients presenting with any disease due to one of the bioterrorist agents. However, washing with soap and water and routine laundering of clothes would provide adequate decontamination for patients who present immediately after direct exposure to an aerosolized product. Agents of bioterrorism are generally not transmitted person to person (*except smallpox and pneumonic plague*), and re-aerosolization of these agents is unlikely. As always, all patients should be managed using standard precautions. For certain disease syndromes, additional precautions may be needed:

Pneumonic Plague - Respiratory isolation with droplet precautions;

Smallpox - Isolation in a negative pressure air flow room, with airborne and contact precautions

Specific issues to consider:

- Ensure sufficient personal protective equipment is available in the event of a large outbreak of a communicable disease requiring aerosol, droplet and/or contact precautions (*e.g., plague or smallpox*), and that staff is appropriately trained in their use. Have sufficient signs to post outside patient rooms/wards.
- Ensure capacity to provide mass prophylaxis to staff, if needed, depending on the contagiousness of the agent (*e.g., doxycycline for plague*). Consider maintaining a limited hospital antibiotic stockpile to prophylax staff for at least 3 days, to ensure that the hospital is able to function until additional antibiotic supplies are available.

- Develop tracking system to identify staff contacts if the index cases are unrecognized at first, and offer prophylaxis to exposed staff who may have had direct patient contact without proper personal protective equipment.

#### **VI) Pharmacy Issues - Surge Capacity**

- Ensure ability to mobilize, distribute and track large amounts of antibiotics and/or vaccine to patients from pharmacy suppliers, and/or in coordination with the Office of Emergency Management from the National Pharmaceutical Stockpile.

#### **VII) Mortuary Issues**

All autopsies should be performed using personal protective equipment and standards of practice, in accordance with Standard Precautions, including the use of masks and eye protection whenever the generation of aerosols or splatter of body fluids is anticipated. Specific issues to address include:

- Develop contingency plans for handling, tracking and temporary storage for large numbers of potentially contaminated corpses
- Ensure all deaths related to the event are reported to the Office of the Chief Medical Examiner (OCME), and that death certificates are completed using the OCME's designated cause of death

#### **VIII) General disaster planning issues**

- Ensure the ability to increase hospital security, especially in patient care areas and at all entrances.
- Ensure the capacity to provide patient and family educational materials that provide clear, consistent and easily understood information about the situation. The Division of Public Health will work with hospitals to provide fact sheets and other such material specific to the event.
- Coordinate any communication with the media through the City's Emergency Operations Center
- Ensure mental health resources are available to meet needs of hospital staff, patients, and families
- Ensure communication capacity with sufficient two-way or 800-megahertz radios and cell-phones, in the event that land-line communications are down.

- Ensure a system to track patients and their personal belongings
- Ensure the capacity to accurately track costs for reimbursement by federal disaster funding, if available.
- Conduct regular drills to maintain awareness of roles and responsibilities for infectious disease disasters

