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# Hospital Assessment and Recovery Guide

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# About This Hospital Assessment and Recovery Guide

This guide is designed to help organize the initial assessment of a hospital upon return after an evacuation/closure due to an emergency event. The specific assessments are meant to be conducted by hospital staff to assess the level and locations of damage sustained by the hospital, and provide information that will be needed to create the full recovery plan. This guide will be particularly useful for assessing a hospital that has sustained significant or widespread damage.

Each hospital—and every emergency event causing an evacuation—will have unique circumstances. The purpose of this guide is to help organize the initial assessment of the hospital; it is not intended to be a complete “reoccupation” or recovery plan.

This guide assumes that before these assessments begin, the structural soundness of the buildings has been established and the buildings have been deemed safe for human presence (i.e., no chemical, biological, or radiological contamination; no dangerous cracks in supporting walls). Other issues that could pose safety hazards for the assessment teams must also be addressed before a full hospital assessment can take place. For example, the hospital oxygen system and natural gas feeds should be turned off in case there are leaks in those systems. (Please note: emergency events resulting in community wide radiological or chemical contamination are beyond the scope of this guide.)



# How to Use This Hospital Assessment and Recovery Guide

This guide can be used to:

- Assess and document the specific damage that occurred in the hospital due to the emergency incident and the subsequent evacuation and vacancy.
- Identify necessary repairs.
- Identify and document equipment and supplies that must be repaired or replaced.
- Collect information that will be required by accrediting and licensing organizations.
- Estimate the amount of time needed to complete repairs/replacements prior to reopening.

This guide is divided into eleven sections, each with its own team and assessment assignment.

- Administration (ADMIN)
- Facilities (FACILITIES)
- Security and Fire Safety (SAFETY)
- Information Technology and Communications (IT/COMM)
- Biomedical Engineering (BIOMED)
- Medical (MEDICAL)
- Ancillary Services (ANCILLARY)
- Materials Management (MATERIALS)
- Building and Grounds Maintenance/Environmental Services (BUILDING)
- Support Services (SUPPORT)

The guide is organized so that each team can separate their section from the binder to take it with them when conducting their assessment.

Explanations of who should serve on each assessment team, and each team's general role, are included in the "Hospital Assessment Teams" section.

The ADMIN team will coordinate the assessments and assessment teams. They may choose to stagger the assessments such that the teams dealing with the more general or hospital-wide assessments (e.g., the FACILITIES and SAFETY teams) conduct their assessments first, followed by teams conducting more focused and specific assessments (e.g., MEDICAL, ANCILLARY, and SUPPORT teams). Each team should deal with high-level and more immediate concerns first, and then move to more detailed issues. The teams will need to coordinate with each other to conduct a complete and thorough assessment of the hospital.



## Other Considerations for Hospital Assessment

This guide can be used after evacuations caused by many types of emergency events, ranging from a fire to the loss of municipal water to earthquakes. The specifics of the emergency event will have implications for the type of damage sustained by the hospital and the assessment strategy upon return. Therefore, the Administration (ADMIN) team should consider the following issues when developing the hospital assessment strategy, and each team should consider these issues as they conduct their assessments.

1. What emergency event took place (e.g., fire, hurricane, flood), and what was the ultimate reason for evacuation (e.g., loss of municipal water or heat, smoke, flooding)?
  - The type of event that took place, and subsequent damage, will affect the scale, strategy, and approach of the hospital assessment that follows. For example, if the hospital was evacuated because a fire filled the building with smoke and soot, the hospital grounds will not need to be assessed. It is important to keep in mind that some damage may not be always be obvious (for example, a fungal agent that has spread within the ventilation system) or expected (for example, water damage can be caused by broken pipes due to extreme cold during the hospital vacancy as well as by a flood, earthquake, or the sprinkler system in the event of a fire).
2. Was the hospital able to implement the evacuation plan, or was departure so rapid that an orderly evacuation was not possible?
  - If the evacuation took place quickly and the full evacuation plan was not followed, there may be additional issues that will need to be considered and dealt with upon return. For example, the oxygen system may not have been turned off; biological samples may have been left in autoclaves or other equipment and may need to be decontaminated, paper documents containing confidential patient medical information may have been left scattered in patient care areas, and so on.
3. Did the hospital lose power or water during the emergency event or subsequent vacancy?
  - If power and/or water were lost, additional damage may have occurred, and additional testing will be needed to assure that systems throughout the hospital are functioning correctly and can be safely used (e.g., sprinklers, elevators). Damage from power surges can be caused when power returns suddenly; faucets left in the 'open' position may cause flooding when water returns suddenly. Also, if power was lost, frozen/refrigerated biological samples throughout the hospital may have been compromised.

4. Were environmental controls/HVAC lost, and was it very hot or very cold during the evacuation/vacancy?
  - Even if power remained on, loss of environmental control systems can mean the hospital sustained extreme heat or cold. Extreme heat or cold, or a rapid change in temperature, can cause condensation damage and the potential for short circuits to sensitive equipment throughout the hospital.
5. Was the hospital occupied by rescue workers or others (e.g., remaining staff, squatters, rescue personnel) while it was shut down?
  - If so, there may be additional damage to the hospital from this occupation (for example, toilets may need to be emptied of human waste, and areas of the hospital may have been vandalized).
6. How long was the hospital closed/evacuated (days, weeks, or months)?
  - A lengthy vacancy can mean greater damage, and additional regulatory inspections may be necessary.

# Hospital Assessment Teams

Ideally, each assessment team will be comprised of staff persons who worked at the hospital prior to its evacuation. These people will be most familiar with the specifics of the hospital, such as the usual location and inventory of equipment and supplies and, therefore, will be best able to conduct thorough assessments. Established relationships with vendors may also be helpful; vendors can be included on the teams for specific purposes (for example, checking/recalibrating sophisticated medical equipment) and if the hospital does not retain staff with all of the needed expertise to conduct these assessments (for example, to fully inspect the medical gases system).

## Administration (ADMIN)

The ADMIN team should include the senior administrators responsible for making decisions about when (and if) the hospital should reopen, as well as managers who work in the main administrative offices (e.g., human resources, billing, accounting, purchasing).

The ADMIN team will be responsible for coordinating the hospital assessments and assessment teams. After the hospital has been deemed safe for human occupation, the ADMIN team will conduct a preliminary, high-level assessment of the entire hospital (external and internal). Based on the degree of damage observed, the ADMIN team will determine the assessment strategy for the entire hospital: when each team will conduct their assessments and in what order, which assessments can occur simultaneously, and whether assessments are needed for every area of the hospital or not. The ADMIN team will determine who should serve as the leader of each of the other teams and then will let those team leaders build their own specialized teams.

After all of the individual assessments have been completed, the ADMIN team will work with the leaders from each team to make an overall assessment of the level of damage, determine how long it will take to reopen the hospital, and create a full recovery plan.

The ADMIN team will also assess the administrative offices throughout the hospital and will work with the MATERIALS team to inventory administrative supplies and equipment, and with the IT/COMM team to identify damaged administrative computer systems that require repair. If outside inspections will be needed (e.g., city/county, State, accrediting organizations), this team will determine when the hospital is ready for these inspections and will organize their sequencing.

## Facilities (FACILITIES)

The FACILITIES team should include engineers and other staff responsible for maintaining the hospital building and systems, such as heating/ventilation/air conditioning and refrigeration (HVAC-R), medical gases, plumbing, and electrical systems. The FACILITIES team will tour the entire hospital (external and internal),

paying particular attention to the area (usually the basement) housing the main hospital utilities and environmental control systems. The FACILITIES team will assess any negative and positive pressure rooms, rooms with high efficiency particulate air (HEPA) filters, and internal decontamination units, to assure that all are functioning properly. The FACILITIES team will also assess other specialized ventilation systems throughout the hospital, including those located in laboratories.

## **Security and Fire Safety (SAFETY)**

The SAFETY team should include hospital security and fire safety experts. The SAFETY team will assess the entire hospital (external and internal) to identify potential security and safety issues, and determine how to return to proper security and fire safety standards and monitoring throughout the hospital.

## **Information Technology and Communications (IT/COMM)**

The information technology (IT) experts on this team will be responsible for checking all general hospital computerized systems to identify malfunctions and make needed repairs/replacements. Communications experts will check all internal and external communication systems to identify and make necessary repairs.

Any specialized computerized systems, programs, or equipment that are used by departments throughout the hospital (for example, specialized databases used by fertility clinics and bone marrow registries) that are not part of the main hospital computer system will need to be tested and repaired by the vendors that regularly service these systems. However, the IT/COMM team will work with the vendors and the hospital personnel who use these specialized computer programs to assist with returning these systems to full operations.

Hospital security includes IT security: the carefully controlled and monitored user IDs and passwords that control access to information systems and to secured areas of the hospital (e.g., pharmacy, nuclear medicine). These electronic security systems also require inspection and testing by trained professionals, which may include IT vendors who routinely support and maintain such systems.

## **Biomedical Engineering (BIOMED)**

The BIOMED team will assess all medical equipment in the areas of patient and ancillary care that are supported by biomedical engineering during normal hospital operations. Some patient care areas (e.g., adult respiratory therapy, dialysis) and ancillary service areas (e.g., laboratories, pharmacy, blood bank) may maintain their own equipment separately from biomedical engineering, in which case these areas will be responsible for assessing, repairing or replacing their own equipment with the help of vendors.

The BIOMED team will determine what equipment has been destroyed, what is undamaged, what is damaged but salvageable/repairable, and what needs to be recalibrated by the team or by vendors. The team will determine how long it will take or for damaged equipment to be repaired.

## **Medical (MEDICAL)**

The MEDICAL team should include physicians, nurse managers, and other clinical staff who are intimately familiar with each patient care area of the hospital, inpatient and outpatient. Sub-teams with expertise in the following areas should make up the MEDICAL team:

- Inpatient care (floors/units)
- Emergency department
- ICUs (NICU, PICU, etc.)
- Operating rooms and post-operative/post-anesthesia care
- Radiology/nuclear medicine
- Respiratory therapy
- Outpatient care (including specialized clinics such as outpatient surgery, dialysis, chemotherapy, physical therapy, etc.)

The services provided by every hospital are different. If the hospital has other specialty units, such as a burn unit or a transplant unit, sub-teams with expertise in these areas should also conduct assessments and can use this guide to assist with their assessments. The MEDICAL team should first assess all patient care areas together, looking for common deficiencies and damage, and then personnel from each specialty care area (ED, ICU, etc.) should assess their own specific units in depth. The MEDICAL team will assist the BIOMED team to locate and reconfigure medical equipment that was moved during the event or the evacuation. The MEDICAL team will also assist the MATERIALS team to inventory necessary supplies and equipment (medical and non-medical), and will assist the IT/COMM team to test any specialized computer systems within each unit.

## **Ancillary Services (ANCILLARY)**

The ANCILLARY team should be made up of staff and technicians from departments that provide ancillary services throughout the hospital. Sub-teams with expertise in the following areas should make up the ANCILLARY team:

- Pharmacy
- Morgue
- Advanced diagnostic technologies (non-radiation emitting imaging such as ultrasound, MRI)
- Medical records/Medical informatics
- Blood bank/Tissue bank
- Clinical laboratories
- Research laboratories

The ANCILLARY sub-teams will assess and inventory equipment and supplies in their area, and work with the other teams and vendors to have all equipment and computer systems assessed, repaired, or replaced as needed. BIOMED, IT/COMM, and MATERIALS will assist in these activities whenever possible, but if the equipment/system is not usually supported by these departments (for example, the blood bank may operate its own donor database, or the clinical laboratory may have specialized scanning equipment that is not supported by hospital IT), the ANCILLARY team will need to work directly with vendors.

## **Materials Management (MATERIALS)**

The MATERIALS team should include staff members who regularly order the supplies and equipment for departments throughout the hospital. The MATERIALS team will assess all patient areas, ancillary service areas, and support service areas and work with all of the teams to inventory equipment and supplies and coordinate ordering needed replacements. The MATERIALS team will attempt to locate equipment that was evacuated with patients (e.g., ventilators) and determine whether it is possible and feasible for this equipment to be returned. The team will also determine whether equipment and supplies currently held in storage can be used and what outsourcing might be needed to reopen the hospital. The MATERIALS team will also work with vendors to determine how long it will take for replacement equipment to arrive. (This will be especially important for large equipment and if other hospitals were affected by the disaster and will be ordering similar equipment.)

## **Building and Grounds Maintenance/ Environmental Services (BUILDING)**

The BUILDING team should include managers and staff who provide maintenance services to the hospital buildings and grounds. This team will tour the entire hospital (external and internal) to determine where repairs are needed.

## **Support Services (SUPPORT)**

Managers from each of the main support service areas throughout the hospital (e.g., kitchen/nutritional services, housekeeping/linens, patient transport) will serve on the SUPPORT team and assess the area within their service specialty. The sub-teams will work with vendors as needed to repair/replace equipment and with the MATERIALS team to inventory and reorder needed supplies. These teams will advise the ADMIN team as to whether temporary outsourcing will be required (e.g., laundry service).

## General

- First:** Before assessments begin, ensure that buildings have been deemed safe by the proper authorities (i.e., buildings tested for structural integrity and, if necessary, cleared of any biological, chemical, radiological, or contagious agent contamination). Also ensure that FACILITIES team has turned off the main natural gas and oxygen feeds until these systems have been inspected for leaks.
- Before cleanup crews and non-medical staff return to the hospital, ensure that all paper medical records (if used) were secured or destroyed prior to evacuation—including those left on patient floors/units. If not, contain all records to protect personal health information. Notes:

Identify a leader for each assessment team, then let these team leaders determine who should serve on the team with them.

Establish a process for assessments, including determining the order of assessments and if full or partial assessment is needed. Organize and orient the teams regarding the assessment process. When all teams have completed these assessments, the ADMIN team will be responsible for coordinating across teams to develop a full recovery plan.

Depending on how long the hospital was closed and the type of damage that was sustained, the hospital may need to be inspected by various Federal, State, and local regulatory and licensing agencies prior to reopening. Administrators are advised to review pertinent laws and regulations to determine required inspections by these oversight bodies and arrange the correct sequencing of these inspections.

Inspections needed:

### Examples of inspections that might be needed:

- Accrediting organizations
- OSHA
- CMS
- Public health agency
- Pharmacy board
- Fire department

**Community**

A number of community-level issues will need to be considered before the hospital can reopen:

- Y / N** Are basic municipal services such as fire, law enforcement, and trash collection operational?
- Y / N** Is communications infrastructure such as telephone (land and cellular) systems and Internet access functional?
  - If not, determine whether the hospital can replace key infrastructure (e.g., by operating an EMS radio repeater station).
- Y / N** If the entire city or area was evacuated, has enough staff returned to adequately staff the hospital?
- Y / N** Is safe passage to/from the hospital on local roads possible for patients, staff, and deliveries? (Consider damage to roads as well as extreme civil unrest.)
- Y / N** Are Emergency Medical Services (EMS) or local ambulance and paramedic services fully operational? (It may not be possible to reopen full emergency department operations until they are.)

**Building Exterior**

General Observations:

*(Describe and record location of signs of damage to buildings and grounds, and general safety or security concerns.)*

**Building Interior**

General Observations:

*(Describe and record location of signs of damage, theft, pests/vermin, and general safety or security concerns.)*

**Administrative Offices**

In collaboration with the MATERIALS team, inventory administrative office equipment and supplies (fax machines, copy machines, desktop computers, microwaves, refrigerators, etc.). Create lists of equipment to be repaired and replaced, and needed supplies.

Determine if any laptops or other systems that contain confidential employee information are missing.  
Notes:

Work with the IT/COMM team to test functioning of administrative computer systems (e.g., payroll), communications systems (e.g., the internal telephone system), and electronic security measures such as user IDs and passwords.

Determine if vendors are needed to restore/repair/replace any administrative computer systems or equipment (e.g., Xerox machines). If yes, names of vendors:

Estimated time to get administrative offices up and running again:

**Other**

Condition of any hospital-owned vehicles:

Other administrative issues/concerns:

## General

- First:** Ensure that main oxygen and natural gas supplies have been turned off prior to assessments until these systems have been fully inspected.
- Check on power supply to refrigerators and freezers throughout the hospital (i.e., clinical and research labs, operating rooms, pharmacy, morgue, blood bank, etc.), and determine if back-up generators are needed to provide immediate support. Notes:

Work with ADMIN team to compile a list of all inspections and testing for hospital systems that are required based on the type and level of damage.

System inspections needed:

### Examples of inspections that might be needed:

- If AC cooling tanks were not operational during summer months, the AC system will need to be tested for *Legionella pneumophila*.
- If steam or natural gas lines into the hospital were damaged, those systems will need to be inspected before they come back online.
- If there was flood or earthquake damage, external oil tanks, oxygen tanks, and feeder lines/pipes should be inspected.
- If there was a loss of power, elevator wells were flooded, or there is other possible damage, elevators need to be re-inspected.

# FACILITIES

## Building Exterior

Condition of equipment on the roof (e.g., AC units, electrical boxes, water storage units):

Condition of utility connections (i.e., are any visible power or phone lines down?):

Condition of external utility fixtures, storage units, other equipment located on hospital grounds (e.g., oxygen and fuel storage tanks):

Estimated time to make needed repairs to exterior systems:

Feasibility of portable equipment use (e.g., generator, boiler, chiller) during hospital repairs:  
(Check for adequate space, access to power and water feeds, way to provide adequate exhaust.)

## Elevators

Test functionality of elevators, and work with vendor to make necessary repairs. (*Note: If power was out or there is any possibility of damage, elevators should be re-inspected*). Notes and name of vendor:

Estimated time to make needed repairs and have elevators inspected (if necessary):

## Natural Gas and Electrical Systems and Generators

Coordinate with BIOMED and IT/COMM before bringing power back on to prevent damage to equipment. (*Note: Return power incrementally to avoid overloading system and causing power surges.*)

Shut off electrical supply, and check system for damage. Notes:

If the hospital has an onsite power plant, check for damage and functionality. Notes:

If the hospital uses natural gas, check the system for leaks. Notes:

Other observations related to natural gas and electrical systems:

Estimated time to make needed repairs to natural gas and electrical systems:

Check condition and functionality of generators (main generators and backups) throughout hospital. (*Note: Fuel injectors may need to be re-primed and generators may need to be re-commissioned if they were used extensively.*) Notes:

Check fuel reserves for generators. Notes:

Other observations related to generators:

## Steam and Water Supply

If the hospital has an onsite steam plant, check for damage and functionality.

*(Note: If the steam system is also used to operate an electricity dynamo, take the dynamo offline, bring back the steam system, and then restart the dynamo.)* Notes:

If water was off, check plumbing grid for leaks prior to turning water back on.

*(Note: If there is any risk of water contamination, water will need to be tested prior to reopening.*

*Coordinate with BUILDING team to ensure that all faucets are in off position before water is returned.)*

Notes:

Check water pressure. Notes:

Other observations related to the steam and water supply:

Estimated time to make necessary repairs to steam and water supply systems:

## Environmental Control Systems and Refrigeration (HVAC- R)

Condition and functionality of heating system:

*(Note: If there was flooding or other damage, boiler will need to be re-commissioned by the vendor.)  
Name of vendor:*

Condition and functionality of air conditioning system:

*(Note: If there was flooding, water loss to cooling towers, or other damage, chiller will need to be re-commissioned.) Name of vendor.*

Check thermostats throughout hospital. Notes:

Check central control panel. Notes:

Estimated time to make necessary repairs to heating and cooling systems:

Clear intake air/vent locations throughout the hospital from debris and damage. Notes:

## Environmental Control Systems and Refrigeration (HVAC- R) (continued)

Test main ventilation system to identify any cracks or malfunctions (especially important for positive and negative pressure rooms). Notes:

Test functionality of positive and negative pressure rooms throughout hospital (including air seals). Notes:

Test functionality of high efficiency particulate air (HEPA) filters used throughout hospital. Notes:

Test functionality of ventilation systems in all clinical and research laboratories. Notes:

Estimated time to make necessary repairs to ventilation systems:

Check refrigerators and freezers throughout the hospital (i.e., kitchens, clinical and research labs, operating rooms, pharmacy, morgue, blood bank, etc.); work with vendors to make needed repairs. Names of vendors:

Estimated time to make necessary repairs to refrigerators and freezers:

Other observations related to environmental control systems (HVAC-R):

## Medical Gas System

Test integrity of medical gas system; check pressure and gas mix; check for leaks. Notes:

*(Note: Excessive heat during hospital closure could have caused compressor to overheat and shut down medical gas system.)*

Test functioning of pressure monitoring system. Notes:

Clean medical gas lines as needed.

Test functionality of medical gas outlets in all applicable patient care areas, including the emergency department, ICUs, operating suites (inpatient and outpatient), post-anesthesia recovery rooms, and patient rooms. (Also test medical gas outlets in areas with “contingency” or “swing” beds where medical gas may not currently be in use.) Notes:

Have vendor recertify oxygen/medical gas system (if necessary). Name of vendor:

Test functionality of medical vacuum and suction systems. Notes:

Other observations related to the medical gas system:

Estimated time to make needed repairs and have medical gas system recertified (if necessary):

*(Note: If recertification will be delayed or major repairs are needed, work with FACILITIES and ADMIN teams to determine if portable gases can be used in the meantime.)*

## Building Exterior

Signs of illegal/forced entry or vandalism:

Test automatic doors to ensure they close and lock properly and that external access systems (e.g., ID cards) are functioning properly. (*Note: It may be necessary to use a temporary ID system for construction workers/temp staff during repairs and assessments.*) Notes:

If hospital campus includes “blue light” emergency alarm stations, assure that all are functional. Notes:

Condition of fire escapes:

Condition and functionality of external security cameras and other monitoring devices:

Other observations regarding exterior security/fire safety:

Estimated time to make necessary exterior security/fire safety repairs:

## Building Interior

Signs of vandalism or theft throughout the hospital (*carefully check all sensitive security areas such as safe, pharmacy, automatic drug dispensing devices, laboratories with chain-of-custody specimens, areas with tissue storage in locked refrigerators/freezers [e.g., fertility clinic], etc.*):

Test that automatic ID scanners are working and communicating correctly with electronic employee ID system. Notes:

*(Note: It may be necessary to use a temporary ID system for construction workers/temp staff during repairs and assessments.)*

Check functionality of internal security cameras, other monitoring devices. Notes:

Check that all emergency doors are closed, alarmed, and functioning properly. Notes:

Condition of emergency exit signage and lighting:

## Building Interior (continued)

Check condition and functionality of fire alarm system:

*(Note: System may need to be inspected and recertified by fire marshal prior to reopening.)*

- If there was high humidity, smoke/heat detectors may have been damaged; UPS batteries may need to be replaced.
- Ensure that manual (wall) alarm boxes within the hospital are all connected and functional. Notes:
- Ensure that system is capable of issuing automatic outputs (e.g., visual and audible alarms, elevator recall, HVAC shut down). Notes:
- Ensure that automatic communication to municipal fire department or central alarm station is functional; conduct any necessary drills required for recertification. Notes:

Check condition and functionality of fire suppression system:

- If water was off, it may be necessary to 'bleed' air out of the sprinkler system.
- Check condition and location of fire extinguishers and hoses. Notes:
- Test functionality of all specialized fire suppression systems, such as those in operating rooms, laboratories, and hospital kitchen(s). Notes:

Other observations regarding interior security/fire safety:

Estimated time to make necessary interior security/fire safety related repairs:

**General**

*Note: Do not dispose of unsalvageable equipment. Everything must be inventoried and evaluated for insurance purposes.*

- First:** Unplug all computers and sensitive equipment to prevent damage due to power testing and power surges. Find out from FACILITIES when electrical systems will be fully functional.

Test functionality of:

- Onsite servers (containing employee or patient data). Notes:
  
- Internal and external phone system/phone and fax switches. Notes:
  
- Emergency radios. Notes:
  
- Other external communication systems (including Internet, connection to EMR vendors, electronic billing, etc.). Notes:
  
- Internal hospital paging system. Notes:
  
- Employee ID access to IT/Communications (test login/access from computers in all hospital areas). Notes:

Update employee ID access systems (i.e., staff who have not returned should not have active IDs in the system).

Restore data from offsite backup (if any).

Estimated time to get hospital-wide IT and communications systems up and running:

**Administrative Offices**

Work with ADMIN team to inventory all missing or damaged laptop/desktop computers, printers, scanners, etc., from all administrative offices.

Work with the ADMIN team to test and correct functioning of administrative computer systems (e.g., payroll), communications systems (e.g., the internal telephone system), and electronic security measures such as user IDs and passwords. Notes:

Test functionality of data connections, wiring, and fiber optics. Notes:

Test functionality of wireless data connections. Notes:

Other IT/COMM concerns in administrative offices:

Estimated time to get administrative IT and communications systems up and running:

**Patient Care Areas**

*Patient Care Areas include: inpatient care, ED, ICUs, ORs and post op, radiology/nuclear medicine, respiratory therapy, outpatient care, other specialty services.*

Work with MEDICAL team to inventory all missing or damaged laptop/desktop computers, printers, scanners, etc., from all patient care areas. Notes:

Test functionality of:

- Data connections, wiring, and fiber optics. Notes:
  
- Wireless data connections. Notes:
  
- Bedside nurse call system. Notes:
  
- Pneumatic tube message system (if used). Notes:
  
- All other internal communications systems (e.g., communication between ED/surgery and pathology). Notes:

Work with MEDICAL team to troubleshoot problems with any specialized computer and communications equipment and programs. Notes:

Determine what specialized computer and communication equipment in patient care areas need to be inspected and recertified by vendors prior to use. List of equipment and names of vendors:

Other IT/COMM concerns in patient care areas:

Estimated time to get IT and communications systems in patient areas up and running:

**Ancillary Service Areas**

*Ancillary Service Areas include: pharmacy, morgue, non-radiation emitting imaging technologies, medical records/medical informatics, blood bank/tissue bank, clinical laboratories, and research laboratories.*

Work with ANCILLARY teams to inventory all missing or damaged laptop/desktop computers, printers, scanners, etc., from all ancillary service areas. Notes:

Test functionality of data connections, wiring, and fiber optics. Notes:

Test functionality of wireless data connections. Notes:

Work with ANCILLARY team and vendors to troubleshoot and correct problems with specialized computer equipment and programs, and communications equipment. List of equipment and names of vendors:

Other IT/COMM concerns in ancillary service areas:

Estimated time to get IT and communications systems in ancillary service areas up and running:

**Support Service Areas**

*Support Service Areas include: kitchen/nutritional services, housekeeping/linens, and patient transport.*

Work with SUPPORT teams to inventory all missing or damaged laptop/desktop computers, printers, scanners, etc., from all support service areas. Notes:

Test functionality of data connections, wiring, and fiber optics. Notes:

Test functionality of wireless data connections. Notes:

Other IT/COMM concerns in support service areas:

Estimated time to get IT and communications systems in ancillary service areas up and running:

*Note: Do not dispose of unsalvageable equipment. Everything must be inventoried and evaluated for insurance purposes.*

- First:** Unplug all medical equipment to protect against possible power surges when power is restored and power testing occurs. Coordinate with FACILITIES around power restoration.

Work with the MEDICAL team to return and reconfigure medical equipment that was moved or disconnected during the emergency event. Notes:

Identify any medical equipment that is missing. Alert MATERIALS team so they can have these returned or replaced.

Test functionality of all medical equipment throughout the hospital, and make needed repairs (except for equipment that is not normally maintained by biomedical engineering such as the MRI scanner, laboratory instruments, physical therapy equipment, cell savers, apheresis instruments). Notes:

Determine what equipment is damaged beyond repair and will need to be replaced. Work with MATERIALS team to contact vendors. Notes:

Determine what specialized equipment needs to be inspected and recertified by vendors prior to use (e.g., anesthesia machines)? Names of vendors:

Have vendors check the structural integrity of booms holding all mounted medical equipment. Locations of mounted equipment and names of vendors:

Test functionality of autoclaves and sterilization equipment. (*Note: Prior to testing autoclaves, ensure that they have been properly cleared of any biomedical contamination that may have been left behind during the evacuation.*) Notes:

Inventory existing usable cables and lines for connecting monitors and equipment to patients (such as spo2 probes); work with MATERIALS team to reorder needed items. Notes:

Other observations regarding medical equipment:

Estimated time to get medical equipment inspected and repaired:

## General

*Note: Do not dispose of unsalvageable equipment. Everything must be inventoried and evaluated for insurance purposes.*

Work with ADMIN team and medical records/medical informatics to assure that all protected health information is secured. Determine if any laptops or desktop computers that may contain confidential information are missing. Ensure that all paper and electronic medical records are secured.

## Inpatient Care

Work with the BIOMED team to identify missing or damaged medical equipment in inpatient care areas, including bedside monitors (blood pressure monitors, glucose monitors, etc.), ventilators, bronchoscopes.

Alert MATERIALS team about equipment that was sent with patients when they were evacuated. Notes:

Assist BIOMED team to return and reconfigure medical equipment that was moved or disconnected during the emergency event. Notes:

Work with BIOMED teams and vendors to ensure that any medical equipment and systems are functioning correctly.

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Work with IT/COMM and vendors to ensure that any specialized computer and communications systems for inpatient care units are functioning correctly, including all unit computers and telephones/intercoms, etc. Notes:

**Inpatient Care (continued)**

Work with FACILITIES team to ensure that all gas and suction lines are working correctly. Notes:

Work with MATERIALS team create list of missing non-medical equipment (beds, commodes, televisions, phones, computers, etc.) and needed supplies, and create a resupply list. Notes:

Other observations regarding inpatient care areas:

Estimated time to get inpatient care areas fully up and running:

## Intensive Care Units

Work with the BIOMED team to identify missing or damaged medical equipment in intensive care units including: point of care testing machines, smart pumps, blood gas machine, ventilators, bronchoscopes, echocardiogram machines, ultrasound machines, cardiac tear testing machines, etc.

Alert MATERIALS team about equipment that was sent with patients when they were evacuated. Notes:

Assist BIOMED team to return and reconfigure medical equipment that was moved or disconnected during the emergency event. Notes:

Work with BIOMED teams and vendors to ensure that any specialized medical equipment and systems are functioning correctly.

Work with MATERIALS team to inventory supplies and create a resupply list.

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Work with IT/COMM and vendors to ensure that any specialized computer and communications systems for intensive care units are functioning correctly. This includes unit computers and telephones/intercoms, etc. Notes:

Work with FACILITIES team to ensure that all gas and suction lines are working correctly. Notes:

Other observations regarding intensive care areas:

Estimated time to get ICUs fully up and running:

## Emergency Department

Work with the BIOMED team to identify missing or damaged medical equipment in ED including: portable monitors, portable x-ray machines, ventilators, bronchoscopes, etc.

Alert MATERIALS team about equipment that was sent with patients when they were evacuated. Notes:

Assist BIOMED team to return and reconfigure medical equipment that was moved or disconnected during the emergency event. Notes:

Work with BIOMED teams and vendors to ensure that any specialized medical equipment and systems are functioning correctly. Notes:

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Work with IT/COMM and vendors to ensure that any specialized computer and communications systems for ED are functioning correctly. This includes unit computers and telephones/intercoms, etc. Notes:

Work with FACILITIES team to test decontamination units to determine if working properly. Notes:

Work with FACILITIES team to ensure that all gas and suction lines are working correctly. Notes:

Work with SAFETY team to test exterior doors/locks. Notes:

Work with BUILDING team to check ambulance bays, signage, and lighting. Notes:

Work with MATERIALS team to inventory supplies and create a resupply list.

Other observations regarding ED:

Estimated time to get ED fully up and running:

## **Operating Rooms/Post-op/PACU** *Inpatient and outpatient*

Work with the BIOMED team to identify missing or damaged medical equipment in OR and post-anesthesia recovery units, including portable monitors, portable x-ray machines, ventilators, bronchoscopes, etc.

Alert MATERIALS team about equipment that was sent with patients when they were evacuated. Notes:

Assist BIOMED team to return and reconfigure medical equipment that was moved or disconnected during the emergency event. Notes:

Work with BIOMED and vendors to ensure that any specialized electronic equipment and systems for ORs are functioning correctly, including:

- electronic monitors
- anesthesia and heart-bypass machines
- surgical equipment, including surgical microscopes
- surgical video systems and equipment (scopes, cameras, displays)
- audio-recording systems
- lights and equipment booms
- in-suite pathology and radiology
- surgical autoclaves

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Work with IT/COMM and vendors to ensure that any specialized computer and communications systems for OR and recovery are functioning correctly. This includes unit computers and telephones/intercoms, etc. Notes:

Work with FACILITIES team to ensure that all gas and suction lines are working correctly. Notes:

Work with MATERIALS team to inventory supplies and create resupply lists.

Other observations regarding ORs/post-op areas:

Estimated time to get ORs and post-op areas fully up and running:

**Nuclear Medicine and Radiology**  
*Inpatient and outpatient*

Inventory areas throughout hospital that contain radioactive materials, especially radiation emission sources, to assure that none are missing. If there are any signs of vandalism or theft, or if any radioactive materials are missing, alert the SAFETY team immediately. Notes:

Have vendors inspect and repair/recalibrate/recertify equipment (e.g., CT scanner, PET scanner, x-ray machines) prior to use, if necessary.

- If there was structural damage (in cases of earthquake or explosion) conduct 360° integrity test of lead lined rooms that contain radioactive equipment, material/solutions, or emission sources.
- If hospital experienced extreme cold, check for cracks in sodium iodine crystals in handheld detectors.
- If hospital experienced extreme heat, check for damage in crystal drone heads.

Work with the BIOMED team to identify missing or damaged medical equipment.

Work with BIOMED teams and vendors to ensure that any specialized medical equipment and systems are functioning correctly, including digital recording equipment. List of equipment and names of vendors:

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Work with MATERIALS team to inventory supplies and create a resupply list.

If film radiography is used, ensure that stored films are undamaged and light boxes are functional.

Other observations regarding nuclear medicine and radiology areas:

Estimated time to get nuclear medicine and radiology up and running

**Adult Respiratory Therapy**  
*Inpatient and outpatient*

Conduct an inventory of all ventilators and other medical equipment used in respiratory therapy (check things that may have been damaged or stolen, or may have gone with patients when they were evacuated).

Contact vendors as soon as possible to alert them if new ventilators will be needed. Name of vendors:

Work with MATERIALS team to determine if ventilators were sent out with patients when evacuating and, if so, where they went and if they can/should be retrieved. Notes:

Work with vendors to test condition and functionality of all ventilators and all other remaining respiratory therapy related medical equipment. Name of vendors:

Work with MATERIALS team to inventory supplies and create a resupply list.

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Work with IT/COMM team and vendors to check that any specialized computer and communications systems for respiratory therapy are functioning correctly. Notes:

Other observations regarding adult respiratory therapy:

Estimated time to get respiratory therapy running again:

## Outpatient Care Areas

*This section refers to all outpatient care areas not already mentioned in this guide, including: clinics, urgent care, endoscopy, ob/gyn, chemotherapy, physical/occupational/speech therapies, etc.*

Work with BIOMED team to identify missing or damaged medical equipment in outpatient care areas.

Work with BIOMED teams and vendors to ensure that any specialized medical equipment and systems are functioning correctly. Name of vendors:

Work with MATERIALS team to inventory supplies and create a resupply list.

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Work with IT/COMM team and vendors to check that any specialized computer and communications systems for outpatient care are functioning correctly. Notes:

Other observations related to outpatient care:

Estimated time to get outpatient care areas up and running again:

### **Outpatient Dialysis/Apheresis**

*In addition to general outpatient care area assessment as outlined above:*

Check that water lines for dialysis/apheresis machines are clear and tested for contaminants. Notes:

Have vendors check functioning of dialysis/apheresis machines. Names of vendors:

Estimated time to get outpatient dialysis/apheresis running again:

**General**

*Note: Do not dispose of unsalvageable equipment. Everything must be inventoried and evaluated for insurance purposes.*

**Pharmacy**

Signs of damage/vandalism/theft/pests:

*Note: Alert SAFETY team if any theft or vandalism is suspected (especially check secure areas [safe] containing controlled substances).*

Identify drugs that should be disposed of due to exposure to heat/cold/humidity/water or because they have expired. *Note: Prior to opening the hospital, all pharmaceuticals (e.g., vaccines) and biologicals will need to be approved for use by the appropriate governmental agency.* Notes:

Determine if stored chemicals have been damaged or contaminated, and if they continue to be stored properly and according to accreditation/licensure requirements. Notes:

Determine if automated drug dispensing devices (e.g., Omnicells) throughout the hospital (if any) are missing or damaged, and whether contents should be disposed of. Work with vendors to make needed repairs. Notes and name of vendor:

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Work with IT/COMM team and/or vendor to check that any specialized pharmacy computer and communications systems are functioning correctly, including interfaces with CPOE, EMR, and ePrescribing. Names of vendors:

Condition and functionality of any other pharmacy equipment, such as IV hoods:

**Pharmacy (continued)**

Condition of sterile water and sterile products:

Work with MATERIALS team to inventory supplies and create a resupply list.

Other observations regarding pharmacy:

Estimated time to get pharmacy fully up and running again:

**Morgue**

- First:** Assure that any cadavers or tissues in the morgue when the hospital evacuated are still there. Identify any cadavers that were brought to the hospital while it was evacuated (e.g., by emergency responders). Contact the appropriate authorities (coroner or law enforcement) if any cadavers or tissues are lacking identification. If a temporary mass morgue was established in the hospital during the disaster, contact authorities and assist with relocation. Assure proper documentation of the location of all cadavers and tissues.

Signs of damage/vandalism/theft/pests:

Determine if stored chemicals have been damaged or contaminated, and if they continue to be stored properly and according to accreditation/licensure requirements.

Work with BIOMED team to identify and missing or damaged medical equipment in the morgue, including pathology and forensics equipment.

Work with BIOMED or vendors to test all equipment and repair, recalibrate, and recertify as needed.  
Names of vendors:

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Check that any specialized computer and communications systems are functioning correctly. Work with IT/COMM team and/or program/system vendors to make needed repairs. Names of vendors:

Determine additional repairs/replacements needed prior to recertification. Notes:

Work with MATERIALS team to inventory supplies and create a resupply list.

Other observations regarding the morgue:

Estimated time to get morgue up and running:

**Advanced diagnostic Technologies**  
*(Non-Radiation Emitting – MRI/Ultrasound)*

Signs of damage/vandalism/theft/pests:

Test all equipment, and work with program/system vendors to repair, recalibrate, and recertify equipment as needed. Names of vendors:

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Check that any specialized computer and communications systems are functioning correctly. Work with IT/COMM team and/or program/system vendors to make needed repairs. Names of vendors:

Have vendors check if the structures around and beneath major technology installations were damaged (e.g., the floor beneath the MRI unit) or if major equipment must be replaced determine if additional building reconstruction is needed before installation.

Work with MATERIALS team to inventory supplies and create a resupply list.

Other observations regarding advanced diagnostic technologies:

Estimated time to get advanced diagnostic technologies up and running:

## Blood Bank and Tissue Bank

*The term "blood bank" here includes blood collection, blood testing, and blood product production as well as transfusion medicine. Some hospitals may separate these functions and will therefore need to adapt their assessments accordingly.*

- First:** If any samples were left behind that may pose a biohazard, ensure that areas have been properly decontaminated.

Signs of damage/vandalism/theft/pests:

Determine if blood and biologicals left in freezers/refrigerators were maintained at safe temperatures and if they were exposed to flood water or other contamination. Notes:

Test low temp freezers (-65 degrees C) and ensure that liquid oxygen flow is functional.

Test backup power supply and temperature recording monitors of all applicable equipment.

Inventory equipment to identify missing or damaged items, and identify needed repairs/replacements.

Test all equipment, and work with program/system vendors to repair, recalibrate, and recertify equipment as needed. Name of vendors:

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Check that any specialized computer and communications systems are functioning correctly. Work with IT/COMM team and/or program/system vendors to make needed repairs. Names of vendors:

**Blood Bank and Tissue Bank  
(continued)**

Determine additional repairs/replacements needed prior to recertification. Notes:

Alert Medical Records/Medical Informatics if any laptops or other systems that contain confidential patient or employee information are missing (e.g., lab results, research subject databases).

Work with MATERIALS team to inventory supplies and create a resupply list.

Other observations regarding blood and tissue banks:

Estimated time to get blood bank and tissue bank up and running:

**Medical Records/Medical Informatics**

Determine if any laptops or other systems that contain confidential patient information are missing (e.g., research subject databases).

Test functionality of EMR, electronic patient registry, admissions, CPOE, pharmacy systems, and all other online hospital systems. (This may include checking separate, or non-integrated, systems in the emergency department, clinical labs, or other patient care areas). Test all interfaces between EMR and other systems (e.g., lab, pharmacy). Notes:

If offsite or vendor backup was used, restore databases. Names of vendors:

Determine if "original" paper medical records were damaged or destroyed during hospital closure, or sent with patients; if there are no backups, work with legal department to address requirements for record retention. Notes:

Other observations regarding medical records/medical informatics:

Estimate time to secure paper records and get electronic records systems up and running:

**Clinical Laboratories/Pathology**

**First:** If any samples were left behind that may pose a biohazard, ensure that areas are properly decontaminated.

Determine if samples or biologicals left in freezers/refrigerators were continuously maintained at safe temperatures and if they were exposed to flood water or other contamination. (For example, if the hospital conducts fertility treatment, check whether freezer temperature control was maintained for sperm, ova, and embryos. Check the status of any other 'irreplaceable' specimens and biologicals such as cell lines engineered for individual patients). Notes:

Test low temp freezers (-65 degrees C), and ensure liquid oxygen flow is functional.

Test backup power supply and temperature recording monitors of all applicable equipment.

Determine if stored chemicals have been damaged or contaminated, and if they continue to be stored properly and according to accreditation/licensure requirements.

**Clinical Laboratories/Pathology (continued)**

Inventory equipment to identify missing or damaged items, and identify necessary repairs or replacements.

Test all equipment, and work with program/system vendors to repair, recalibrate, and recertify equipment. Names of vendors:

Work with SAFETY team to inspect and test fire suppression system. Determine additional repairs/replacements needed prior to recertification. Notes:

Alert Medical Records/Medical Informatics if any laptops or other systems that contain confidential patient or employee information are missing (e.g., research subject databases).

Work with MATERIALS team to inventory supplies and create a resupply list.

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Test functionality of specialized computer and communications systems. Work with IT and/or program/system vendors to make needed repairs, including interfaces with CPOE and EMR. Names of vendors:

Determine additional repairs/replacements needed prior to recertification.

Work with MATERIALS team to inventory supplies and create a resupply list.

Other observations regarding clinical labs/pathology:

Estimated time to get clinical labs/pathology up and running.

## Research Laboratories

- First:** If any samples were left behind that may pose a biohazard, ensure that areas are properly decontaminated. Also, check that research animals that were euthanized prior to evacuation were properly disposed of. Check on the condition of any animals left behind alive. Notes:

Determine if samples or biologicals left in freezers/refrigerators were maintained at safe temperatures and if they were exposed to flood water or other contamination. Notes:

Test low temp freezers (-65 degrees C), and ensure liquid oxygen flow is functional.

Test backup power supply and temperature recording monitors of all applicable equipment.

Determine if stored chemicals have been damaged or contaminated, and if they continue to be stored properly and according to accreditation/licensure requirements.

Test all equipment, and work with program/system vendors to repair, recalibrate, and recertify equipment. Names of vendors:

Work with IT/COMM to identify missing or damaged computers or communications equipment. Notes:

Test functionality of specialized computer and communications systems (work with IT/COMM team and/or program/system vendors to make needed repairs). Names of vendors:

Alert Medical Records/Medical Informatics if any laptops or other systems that contain confidential patient are missing (e.g., research subject databases).

Work with SAFETY team to inspect and test fire suppression system.

Work with MATERIALS team to inventory supplies and create a resupply list.

Other observations regarding research labs:

Estimated time to get research labs up and running:

# MATERIALS

## General

*Note: Do not dispose of unsalvageable equipment. Everything must be inventoried and evaluated for insurance purposes.*

Use pre-existing order lists of products and supplies for each area to inventory supplies and create resupply lists.

Identify any equipment and/or supplies currently in storage that can be used to replace missing or damaged items. Notes:

Ensure that the environmental staff has the chemicals and cleaning supplies needed to begin clean up.

## Patient Care Areas

*Patient Care Areas include: inpatient care, ED, ICUs, ORs and post-op, radiology/ nuclear medicine, respiratory therapy, outpatient care, other specialty services.*

Inventory medical supplies in each patient care area to identify anything that should be discarded, can still be used, or needs to be ordered. Notes:

Inventory non-medical items not covered by the BIOMED team, such as televisions, remote controls, commodes, etc. Notes:

Condition of supplies in the sterile materials storage rooms:

Work with MEDICAL and BIOMED teams to determine what equipment was sent out with patients when evacuating (e.g., ventilators, portable monitors, beds, etc.) and where the equipment went. Contact those facilities to determine if equipment can/should be returned. Notes:

Work with BIOMED team to determine what medical equipment will need to be replaced. Contact Vendors immediately to alert them of potential order (consider prioritizing the largest equipment, or equipment that must be built to specifications, which will take longer to receive and/or install).  
Names of vendors to contact:

Estimated time to resupply patient care areas:

## Ancillary Service Areas

*Ancillary Service Areas include: pharmacy, morgue, non-radiation emitting imaging technologies, medical records/medical informatics, blood bank/tissue bank, clinical laboratories, and research laboratories.*

In ancillary service areas that are normally supported by materials management, inventory equipment and supplies, and create a resupply list. Notes:

Estimated time to resupply ancillary service areas:

## Administrative Offices

Inventory office equipment and supplies, and create a resupply list. Notes:

Estimated time to resupply administrative offices:

## Support Service Areas

*Support Service Areas include: kitchen, linens/housekeeping, and patient transport.*

Inventory existing usable goods, and create a resupply list. Notes:

Work with SUPPORT team to inventory wheelchairs, walkers, and gurneys throughout the hospital; determine if any were sent elsewhere with patients during the evacuation and can be retrieved, and if any need to be replaced. Notes:

Estimated time to resupply support service areas:

## On-site Stockpiles

Check condition of storage or onsite stockpiles to determine level of damage to equipment and goods. Notes:

Check the condition and remaining supply of hospital emergency related supplies that may have been depleted during the evacuation (e.g., patient transport stretchers, respirators, ventilators). Notes:

Check supply of backup batteries for ventilators and other medical equipment. Notes:

Check condition of outdoor decontamination units. Notes:

Estimated time to resupply necessary onsite inventory:

## Hospital Grounds

General condition of grounds (i.e., downed trees, debris, standing water) *[record description and location]*:

Condition of outdoor lighting:

Condition and functionality of hospital gates and fences:

If external water storage is used for sprinkler system (e.g., roof water tank used to maintain pressure in the system), assure that this is functioning properly. Notes:

Check that storm drains are clear of debris. Notes:

Condition of dumpsters/trash disposal receptacles:

Condition of parking areas (staff and visitor/patient):

Other observations related to condition of hospital grounds:

Estimated time to make necessary repairs to hospital grounds:

## Building Exterior

Signs of damage to the building (i.e., cracks in foundation or façade, broken windows, wind damage) *[record description and location]*:

Condition of the roof:

Condition of external signage for patients/ambulances/visitors:

Condition of external lighting on buildings:

## Building Exterior (continued)

Condition of building tunnels and pedestrian bridges:

Check that hospital accessibility areas are clear, undamaged, and ready for use.

- Ambulance bays. Notes:
  
- Automatic doors. Notes:
  
- Fire escapes and other means of emergency egress. Notes:
  
- Loading docks. Notes:
  
- Helipad. Notes:
  
- Other: \_\_\_\_\_ . Notes:

Signs of pests or vermin (*record description and location*): Note: *Consider having an exterminator inspect the buildings and grounds even if there are no obvious signs of pests.*

Other observations about building exterior:

Estimated time to make necessary repairs to building exterior:

## Building Interior (General)

- First:** If water was off, and anyone stayed behind or used building after evacuation, clear toilets of waste. Also, make sure faucets are in the “off” position before water service returns, to avoid flooding.

Signs of damage to the interior of buildings, such as cracks in walls or ceilings, water damage/mold, smoke damage/soot (*record description and location*): Note: *If walls have been damaged, and the building is old, test for asbestos contamination.*

Signs of pests or vermin (*record description and location*): Note: *Consider having an exterminator inspect the buildings and grounds even if there are no obvious signs of pests.*

Ensure that hand sinks throughout the hospital are working/unclogged. Notes:

Test functionality of automatic doors, including handicap automatic door entry systems:

Condition of internal hospital signage and lighting:

Other observations regarding building interior:

Estimated time to make necessary repairs to general building interior:

**Waste Management**

Check that drains and waste lines are clear of debris and blockage. Notes:

If hospital has onsite waste treatment, check for damage and functionality. Notes:

Test functioning of hospital waste water pre-treatment and containment systems. Notes:

Check condition and functioning of storage and removal systems for medical and bio-hazardous waste. Notes:

Test any internal hospital decontamination units for to determine if they are functioning properly. Notes:

Check condition and functioning of storage, inventory, and disposal systems for radioactive source and waste, and pharmaceutical and chemical waste. Notes:

Estimated time to make necessary repairs to waste management and containment systems:

## Kitchen/Nutritional Services

Dispose of any perishable food items that were not discarded prior to evacuation, including anything left behind in freezers or refrigerators (in case proper temperature control was not maintained during closure).

Work with vendors to inspect equipment (e.g., stoves/ovens, dishwashers, oven ventilation) to identify needed repairs/replacement. Names of vendors:

Work with FACILITIES team to inspect refrigerators and freezers and identify needed repairs.

Work with SAFETY team to inspect and test kitchen fire suppression system.

Inspect canned food, dry foods, and paper products to determine what is salvageable. Notes:

Inventory existing usable goods, and create a resupply list.

Other observations regarding the kitchen:

Estimated time to get kitchen up and running:

*Note: If food services cannot be restored in time for hospital reopening, consider temporarily contracting with outside catering services.*

## Housekeeping/Linens

Work with vendors to inspect equipment (washing machines, dryers) to identify needed repairs/replacement. List of equipment and names of vendors:

Work with MATERIALS team to inventory existing usable goods and create a resupply list.

Other observations regarding housekeeping/linens:

Estimated time to get housekeeping/linens up and running:

*Note: If linen services cannot be restored in time for hospital reopening, consider temporarily contracting with an outside hospital linen service*

## Patient Transport

Work with MATERIALS team to inventory wheelchairs, walkers, and gurneys throughout the hospital; determine if any were sent elsewhere with patients during the evacuation and can be retrieved, and if any need to be replaced.

Other observations regarding patient transport:

Estimated time to get patient transport up and running:

## Appendix

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