

Region 2 Mass Fatality Plan



Standard Operating Guidelines

The purpose of this document is to outline processes and procedures for the management of a Mass Fatality Incident (MFI) in Illinois IDPH EMS Region 2. Ultimately, it is the duty of the jurisdictions ME/Coroner to manage these types of incidents holistically. However, this document works to help the regional hospitals to cope with a surge of fatalities during these incidents.

This plan outlines best practices, along with basic principles and guidelines for hospitals and medical centers to follow.

REGION 2 MASS FATALITY MANAGEMENT PLAN

As the first priority in any disaster is addressing the needs of the living! With that in mind, this plan serves to provide guidance on handling large numbers of fatalities while maintaining respect for the dead, and to the extent possible, the wishes of family and friends of the victims of a disaster. This plan describes a coordinated response among city, county, regional, state and even federal agencies involved with conducting fatality management operations to ensure that both the living and the deceased, are treated with utmost respect. Public Health serves as the lead agency in the county for coordination of all Emergency Support Function (ESF) 8 tasks, which includes Health, Medical and Mortuary planning and response activities. County Medical Examiners or Coroners, along with law enforcement, will manage the response with regard to arranging for the investigation, recovery, transport, storage, tracking, processing and identification of decedents and communication with decedents' families.

Lead Agency: Medical Examiner's Office or County Coroner

- Document the context and coordinate the recovery of human remains.
- Establish positive identity of all disaster related decedents by scientific means.
- Determine and certify the cause(s) and manner of disaster related deaths.
- Collect and preserve all medico-legal evidence, and release said evidence to appropriate law enforcement authorities.
- Recover and document all personal property associated with the human remains and release to legal next of kin.
- Responsible for ensuring appropriate notification of next of kin.
- Coordinate the disposition of fatalities including interim storage of all human remains resulting from a disaster.
- Maintain the official log of reported and confirmed deaths resulting from a disaster.
- Serve as the lead agency for the release of all information regarding deaths resulting from emergencies or disasters.

Secondary Agencies: Hospitals or Medical Centers

- Decedent identification (if not already done upon admittance)
- Family / next of kin notification
- Coroner, County morgue or mortuary notification/contact
- Tracking decedents who die in the hospital to disposition out of the hospital
- Managing morgue capacity
- Managing surge morgue capacity

Assumptions

Natural disasters, man-made disasters (large scale accidents such as a plane crash or train wreck, chemical leaks, terrorist attacks, etc.), and infectious disease outbreaks may result in a large number of fatalities. Communities faced with a large number of fatalities (decedents) will be challenged to identify, process, and bury the bodies. A mass fatality incident will require the coordination of local and regional resources along with potential requests for state and/or federal assets.

Incidents, including a mass fatality event, start at the local level and end at the local level. Depending upon the size of the incident, there may or may not be state and/or federal assistance, and therefore local communities should plan for and not rely upon outside resources for dealing with mass fatalities.

The establishment of a Unified Command structure during the initial stages of the incident may help to coordinate all responding organizations and promote a more expedient and efficient conclusion to the incident.

It is recommended that hospitals and local agencies should each develop and maintain their own fatality management plan, which describes the capacity of their morgue and the triggers for activating said plan. In addition, hospitals or local agencies will notify their resource hospital along with notifying the Region 2 RHCC Hospital upon activation of such plans.

Decision Making:

Mass Fatality Incident Threshold –

- Any situation in which there are more human remains to be recovered and examined than can be handled routinely by local resources.
- Any situation in which there are a number human remains contaminated by chemical, biological, radiological, nuclear or explosive agents or materials.
- Any incident or other special circumstance requiring a multi-agency response to support mass fatality operations.
- Any incident involving a protracted or complex human remains recovery operation.
- The plan can be activated modularly; e.g., activation of one component does not necessitate activation of the whole plan. Additionally, while the above criteria generally apply, components of the plan, including public information, may be needed for an incident as small as one fatality, depending upon the circumstances of the event.

Operational Concepts

Lead Agency: Medical Examiner's Office or Coroner

- ✓ Document the context and coordinate the recovery of human remains.
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- ✓ Collect and preserve all medico-legal evidence, and release said evidence to appropriate law enforcement authorities.
- ✓ Recover and document all personal property associated with the human remains and release to legal next of kin.
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Augmenting morgue facility/staff

In a mass fatalities incident, identification of the deceased is a critical issue. The ultimate responsibility for the decontamination, collection (field or medical facility), identification, and proper storage, release of deceased victims, and transportation to funeral homes for burial will lie with the county medical examiner and/or county coroner, as per the regulations and rules of the State of Illinois.

Expanding morgue capacity

Each response organization should have its own specific operating guidelines for dealing with a mass fatalities incident. Hospitals and local agencies need to consider non-traditional morgue sites to be utilized until the county coroner and/or medical examiner can assist in the storage of human remains.

Sites to be considered as temporary morgue locations until the county coroner's/medical examiner's office is able to respond include areas such as local funeral homes, airport hangers, fair grounds, refrigerated trucks or cooler (not frozen) storage facilities.

Considerations should be made regarding the identification and tracking of Human Remains that are stored in temporary morgues established by hospitals and local agencies. Personal belongings of the Human Remains and chain of custody is imperative. This will assist the local county Coroner/Medical Examiner once they obtain jurisdiction over the temporary morgue.

All Human Remains should be tagged with supplied limb tag, triage tag or other proper marking tag. Photographs (if taken) of the Human Remains should be labeled with a bar code label and/or tag number from the disaster triage tag if possible.

****It should be noted – These types of incidents need to be managed by the local jurisdictions ME/coroner or in conjunction with the local jurisdictions ME/Coroner. No decedents are to be moved from your facility without approval and coordination your jurisdictions ME/Coroner.**

Procedures for decontamination/isolation of Human Remains

The assumption behind the universal precautions for infectious disease control is that every direct contact with body fluids is infectious. Therefore, every person exposed to direct contact must adhere to universal precaution standards. Additional personal protection equipment (PPE) may be indicated based on the specifics of the incident.

Decontamination should ideally occur at the scene of the event prior to transportation. Any Human Remains arriving from an incident site that has chemical, biological, or nuclear contamination will be assumed to be contaminated to some degree and will be treated appropriately at the morgue site. Human remains that have a possibility of continued contamination shall be decontaminated further according to resources and practical available conditions. This will not be considered an emergent decontamination. Planning will be done with involved parties and agencies to ensure both the chain and evidence is maintained, and safety of the responders is maintained to the highest degree possible.

Human Remains that have risks for infectious diseases or represent a continued threat to others will likely require isolation and should be quarantined. The use of sealed body bags is preferred in order to contain blood and body fluids.

Activation of Disaster Mortuary Operational Response Team (DMORT)

A Federal Disaster Mortuary Operational Response Team may be requested or activated by IEMA. This team has the ability to provide support staff and materials to help communities deal with large numbers of decedents.

Human remains may contain blood-borne viruses such as hepatitis viruses and HIV, and bacteria that cause diarrheal diseases, such as shigella and salmonella. These viruses and bacteria do not pose a risk to someone walking nearby, nor do they cause significant environmental contamination.

However, for people who must directly handle remains, such as recovery personnel, or persons identifying remains or preparing the remains for burial or cremation, there can be a risk of exposure to such viruses or bacteria.

Workers who handle human remains should use the following precautions:

- Protect your face from splashes of body fluids and fecal material. You can use a plastic face-shield or a combination of eye protection (indirectly vented safety goggles are a good choice if available; safety glasses will only provide limited protection) and a surgical mask.
- Protect your hands from direct contact with body fluids, and also from cuts, puncture wounds, or other injuries that break the skin that might be caused by sharp environmental debris or bone fragments. A combination of a cut-proof inner layer glove and a latex or similar outer layer is preferable.
- Maintain hand hygiene to prevent transmission of diarrheal and other diseases from fecal materials on your hands. Wash your hands with soap and water or with an alcohol-based hand cleaner immediately after you remove your gloves.
- Give prompt care—including immediate cleansing with soap and clean water, and a tetanus booster if indicated—to any wounds sustained during work with human remains.

Health and Safety of Responders and Staff

Consideration of the mental health of responders is imperative. Region 2 has assets for mental health and critical incident stress debriefing (CISD) that can be activated. Rehab stations for personnel, responders, and staff will ideally be set up at nearby appropriate locations in order to provide food, nutrition, rest, routine medical screening examinations, and counseling as appropriate. The Region 2 Medical Emergency Response Team (RMERT) may be activated to provide resources and personnel to augment medical facilities in need. RMERT may deploy to the incident scene if there are ongoing large-scale rescue or mortuary operations. The primary response objective of RMERT is to augment medical support services or provide emergency services and treat casualties that are injured.

Human Remains Storage Myths, Truths and Recommendations

Basic Infection Control for Staff Handling Human Remains

The safety of personnel performing these functions is paramount. Measures should be taken to reduce the risk of infection associated with handling dead bodies.

- Standard precautions are essential for those handling dead bodies; avoid exposure to potential pathogens and via wounds/punctures or mucus membranes. Follow universal precautions for blood and body and enteric fluids.
- Other PPE such as eye protection, gowns, and masks, may be required where large quantities or splashes of blood are anticipated.
- Appropriately dispose of used protective equipment such as gloves or other garments
- Avoid cross-contamination: personal items should not be handled while wearing soiled gloves. Hand washing is essential.
- In HazMat or WMD events, the appropriate level of PPE is required depending on the agent.
- Vehicles used for transportation should be washed carefully with a disinfectant or decontaminated when appropriate
- The use of BioSeal will further reduce the risk of infection and is useful for the transport of decedents that have been badly injured.
- There is NO risk of contagion from infectious diseases simply by being near or around human remains.

Best Practices:

Why Refrigeration is Recommended

- Most hospital morgues' refrigeration capacity will be exceeded during a disaster, especially if there are many unidentified bodies or remains recovered in the first hours of the event.
- Refrigeration between 38° and 42° Fahrenheit is the best option.
- Large refrigerated transport containers used by commercial shipping companies can be used to store quantiles of bodies. (Laying flat on the floor with walkway between).
 - Enough containers are seldom available at the disaster site.
 - Consider lightweight temporary racking systems. These can increase each container or room's capacity by 3 times.
- Refrigeration does not halt decomposition, it only delays it.
 - Will preserve a body for 1-3 months.
 - Humidity also plays a role in decomposition. Refrigeration units should be maintained at a low humidity.
 - Mold can become a problem on refrigerated bodies making visual identification impossible and interfering with medicolegal processes

Why Dry Ice is an OKAY Recommendation

Dry ice (carbon dioxide (CO₂) frozen at -78.5° Celsius) may be suitable for short-term storage.

- Use by building a low wall of dry ice around groups of about 20 remains and then covering with a plastic sheet.
- About 22 lbs of dry ice per remains, per day is needed, depending on the outside temperature.
- Dry ice should not be placed on top of remains, even when wrapped, because it damages the body.
- Dry Ice is Expensive and difficult to obtain during an emergency.
- Dry ice requires handling with special gloves to avoid "cold burns."
- When dry ice melts it produces carbon dioxide gas, which is toxic. The area needs very good ventilation.

Practices to stay away from:

Why stacking is not allowed

- Demonstrates a lack of respect for individuals.
- The placement of one body on top of another in cold or freezing temperatures can distort the faces of the victims, a condition which is difficult to reverse and impedes visual identification.
- Decedents are difficult to manage if stacked. Individual tags are difficult to read and decedents on the bottom can not be easily removed

Why Freezing is not Recommended

- Freezing causes tissues to dehydrate which changes their color; this can have a negative impact on the interpretation of injuries, as well as on attempts at visual recognition by family members.
- Rapid freezing of bodies can cause post-mortem injury, including cranial fracture.
- Handling bodies when they are frozen can also cause fractures, which will negatively influence the investigation and make the medicolegal interpretation of the examination results difficult.
- The process of freezing and thawing will accelerate decomposition of the remains.

Why Ice Rinks are not Recommended

- Ice rinks are frequently brought up as possible storage sites. As previously mentioned, freezing has several undesirable consequences.
- A body laid on ice is only partially frozen. It eventually will stick to the ice, making movement of the decedent difficult.
- Management and movement of decedents on solid ground is challenging in good circumstances. Workers having to negotiate ice walkways would pose an unacceptable safety risk.

Why Packing in ICE is not Recommended

- Difficult to manage due to ice weight and transport issues involving the melting ice.
- Large quantities are necessary to preserve a body even for a short time.
- Difficult to resource or obtain during an emergency.
- Ice is often a priority for emergency medical units, and difficult to acquire.
- Results in large areas of run-off water.

Recommended Methods of Storage

Protecting the Decedent

- Decedents and their personal effects must be secured and safeguarded at all times until the arrival of the coroner's or mortuary's authorized representative, or law enforcement (if evidentiary).
- Placed in a human remains pouch or wrap in plastic and a sheet.
- If personal effects have been removed from the body, ensure the items have been catalogued and are secure.
- Be sure the decedent is tagged with identification information.

Refrigeration is the storage method of choice

- Refrigeration between 38° and 42° Fahrenheit is the best option.
- Refrigeration units should be maintained at low humidity.
- Existing hospital morgue: most hospital morgues' refrigeration capacity will be exceeded during a disaster, especially if there are many unidentified bodies or remains recovered
- Surge Morgues

- Rooms, tents or large refrigerated transport containers used by commercial shipping companies that have the temperature controlled may also serve as surge morgues
- May be cooled via the HVAC system, portable air conditioners, or the correct application of dry ice (see Fact Sheet: Why Dry Ice Is An Okay Recommendation)
- Containers may be used by laying remains flat on the floor with walkway between

Beds, Cots or Racks – DO NOT STACK

- See Fact Sheet: Why Stacking is Not Recommended
- The floor can be used for storing remains, however it may be safer and easier to identify and move remains on beds, cots or racking systems
- Consider lightweight temporary racking systems. These can increase each room or container's capacity by 3 times, as well as create a specific storage location for tracking. These may be specifically designed racks for decedents, or converted storage racks (such as large foodservice shelving, 72" wide by 24" deep; ensure that these are secured and can handle the weight load).

Fatality Management Resources in Region 2

- Large Capacity Morgue Semi Trailer (Capacity: 61 decedents)
Semi is required to pull it!
Requires a Generator or a 30amp Twist lock 3-prong outlet
- Small Fatality Management Trailer (Capacity: 24 decedents)
Tongue towable with a ¾ ton or bigger truck
LP fired on board Generator or 50-amp RV hookup
- Body Bags



- [Bio-Seal](#) - (BSL-4) Flexible Biosafety Containment System fully hermetic body bag for infectious human remains.



Recovery/Demobilization

Upon termination of the incident, the temporary morgue areas and assets will be cleaned per industry standards. Special consideration should be made when cleaning the morgue after contamination from chemical exposure, infectious diseases, pathogens, or other agents.

References: [Region 2 Hospital Information, EMA, Coroner and Health Department Contacts](#)