



Catastrophic Fatality Management: Guidelines for Cities

The following information is meant to assist Cities in preparing for a catastrophic mass fatality incident when KCMEO¹ staff members may not be able to retrieve decedents due to downed infrastructure or an overwhelming number of fatalities. By reviewing this document and taking the suggested steps, Cities can prepare themselves for those instances when they will be expected to manage fatalities until relief is available.

Definitions

Reporting Death: The process of notifying the King County Medical Examiner's Office (KCMEO) regarding a death and providing specific information as to the circumstances surrounding the death. KCMEO must be informed of all deaths required by law to be reported

Assuming Jurisdiction of a Death: The KCMEO will triage all reported deaths and determine if it will assume jurisdiction. Assuming jurisdiction means KCMEO will conduct an investigation into the cause and manner of death.

Investigating Death: Investigation is done by the KCMEO to determine the circumstances surrounding the death.

Certification of Death: The official determination of cause and manner of death. This is determined by the pathologist after autopsy or by a medical provider responsible for the care of an individual prior to death.

Reporting and Certifying Death

Reporting Deaths to the King County Medical Examiner's Office

The role of the KCMEO is to investigate sudden unexpected, violent, suspicious or unnatural deaths. In any emergency or disaster, deaths that result from the incident, or occurred during an incident are potentially unnatural deaths and therefore are within the legal jurisdiction of the King County Medical Examiner's Office, and should be reported to the KCMEO as soon as is practically possible. At the time the death is reported the KCMEO will determine whether it will assume jurisdiction of the death.

- Examples:
 - During an earthquake, if someone dies as a result of a structural collapse, the KCMEO will take jurisdiction over the death.
 - All influenza deaths should be reported to the KCMEO unless otherwise notified by Public Health.

Reportable Deaths

Per RCW 68.50.010 the following types of cases must be reported to the KCMEO:

- Persons who die suddenly when in apparent good health and without medical attendance within thirty-six hours preceding death.

¹ Wherever KCMEO is mentioned, it should be understood that this could also include any state, federal or other mutual aid assets that are operating under their authority.

- Circumstances that indicate death was caused *in part or entirely* by unnatural or unlawful means.
- Deaths that may have resulted from complications of therapy or where equipment, medication, or other supplies were faulty.
- Suspicious circumstances.
- Unknown or obscure causes.
- Deaths caused by any violence whatsoever, whether the primary cause or any contributory factor in the death.
- Contagious disease.
- Unidentified human remains.
- Unclaimed human remains.

To report a death when telephone lines are up, call the King County Medical Examiner's Office at 206-731-3232 – 24 hours daily.

If communication systems are down, Cities should keep track of the fatalities until such time as they are able to report them to KCMEO via telephone. Work is currently being done to plan for scenarios when telephone reporting is not possible.

Certification of Death

Each death has to be legally documented and a cause and manner of death identified.

Deaths that the KCMEO Investigates:

The KCMEO is responsible for certifying deaths resulting from any type of disaster or mass fatality incident.

Deaths that the KCMEO does not Investigate:

When KCMEO declines jurisdiction on a reported death, the death should be certified by the attending medical professional [this can be done by a Physician (MD or DO), Physician's Assistant, ARNP or Chiropractor within the state of Washington, before human remains are released to the funeral home]. These deaths must still be reported to the KCMEO.

The funeral home is responsible for filing the death certificate with Public Health per county protocol.

Planning Considerations

Identifying Vulnerable Populations/Concentrations of people

Each jurisdiction should identify vulnerable populations. King County has a diverse population, with over 150 different languages spoken. Cities should consider these where populations with limited English proficiency are located to ensure that they are able to communicate information about mass fatalities if necessary. Cities should also make note of locations that could have a high concentration of people in their community: hospitals, long-term care facilities, day care facilities, schools, churches, community centers, sporting events, etc. While Public Health, including KCMEO, has responsibility for overall mass fatality planning, given the reality that there may be a time when KCMEO is unable to assist in decedent removal immediately, jurisdictions should communicate and coordinate with facilities and organizations in their community about local mass fatality planning.

Responding to 911 calls concerning bodies/missing persons

Immediately following a mass fatality event, prior to a regional or state call center being established, 911 will be flooded with calls concerning bodies and missing persons. These require different responses; sample templates for both types of calls are attached. Each jurisdiction should have a plan in place to offload calls concerning bodies and unaccounted for persons from 911 operators to allow them to respond to emergency calls; Public Health is currently working on guidance to help formulate these plans.

Once a call center is established all calls concerning missing or deceased persons should be referred to the call center. Consider having a recorded message referring people to the call center for information on unaccounted for persons. Ensure that all 911 operators are aware of the importance of unaccounted for persons calls.

In place vs. central morgue strategy

There are two strategies for caring for human remains in the event of a disaster. Remains can be left in place to await the KCMEO, or they can be carefully documented, tagged, tracked, and placed into a central morgue location in the region to await the KCMEO. It is preferable for jurisdictions to use one method for consistent messaging, but KCMEO recognizes that some situations may necessitate a combination of both methods. However, it is important to understand that unless communications with KCMEO are completely down, you must get approval from KCMEO prior to moving bodies from the incident location.

Body Bag Caches/Tips if no Body Bags Available

Body bags will be strategically deployed and distributed throughout the county to facilitate emergency access. Locations will be shared with local emergency managers.

Suggested body bag specification:

- Handles – for easy lifting
- Zipper on the top of the bag – to prevent leaking
- Durable – for long term storage

If body bags are not available consider using some of the following materials to store remains:

- Plastic sheets
- Plastic bags
- Plastic Tarps
- Sheets/blankets

Behavioral Health Considerations

Behavioral health encompasses both mental health and spiritual care of the community. Jurisdictions should plan to support the behavioral health needs of their community as well as their staff in coordination with PHSKC and the King County Department of Community and Human Services Mental Health Division. Our ability as a region to respectfully handle the deceased will in turn support the wellbeing of the living. Cities should follow King County plans and messaging for fatality management and public messaging to provide consistent messaging. Having systems in place

and coordinating with the County will help alleviate behavioral health impacts in the community and staff.

Communications

Public Messaging

How to handle remains following a disaster

Health and Medical Area Command will be responsible for public messaging concerning the handling of human remains through the internet, media, a call center, radio, press releases, and recorded messages. We encourage all communities to provide links to county messages through community resources.

KCMEO Procedures

- Please do not make any assumptions about the procedures the KCMEO may or may not take. Do not promise a specific time frame in which an examination and release of remains may occur. Do not comment on whether or not an autopsy will be required. Only the KCMEO can provide confirmed numbers of dead following a disaster.
- If families are requesting information about Medical Examiner cases, please refer them to the KCMEO. The KCMEO may or may not require additional investigation into the cause and manner of death. Each death will require a determination by the KCMEO as to the appropriate steps to take.

Cultural Considerations

When reporting deaths during a disaster, it is important to alert the KCMEO of any cultural factors. There is no guarantee that the KCMEO will be able to accommodate specific cultural practices, especially in a mass fatality situation. However, every effort will be made to respect cultural practices. The KCMEO may work with community or religious leaders to best manage the death within the appropriate traditions or customs.

Reporting Deaths – Media Issues

Individuals who work in government roles (e.g. fire fighters, police officers, city officials) are likely to be approached by the media for information on the number of decedents. In order to limit confusion, that information should only be shared with the media by Public Health. If you are approached by a member of the media, you should always direct that person to Public Health.

If you find that officials in your jurisdiction are sharing numbers with the media, please ensure that those deaths have also been reported to KCMEO. Deaths must be reported to KCMEO to be included in the official numbers; without this there could be widely divergent reports in the media, including double-counting of decedents.

Notifications to Families

Positive forensic identification procedures may be required to properly identify the deceased. It is the responsibility of the KCMEO to establish positive scientific identification. Following a mass casualty or mass fatality incident a Regional or State-level Family Assistance Center will be established to take inquiries into the status of victims thought to be injured or deceased. The Family Assistance Center will coordinate with the KCMEO to make notifications. During an incident, the

Public Health will provide information about the status of Family Assistance Center(s) or phone numbers families should call for more information.

Death Investigation

In general, permission must be obtained from the KCMEO before remains are removed from any incident site. There are three scenarios in which a community may be required to conduct death investigation in lieu of the KCMEO.

1. A mass fatality incident has occurred in another jurisdiction and KCMEO does not have the resources to send someone to respond to non-disaster-related deaths in other jurisdictions.
2. There is a mass fatality incident within a city but the city is isolated due to the nature of the incident (e.g. infrastructure breakdown after an earthquake).
3. There is a catastrophe throughout the region and response will be delayed region wide due to overwhelming demand and infrastructure impacts.

If any of these events occur and death investigations are necessary without KCMEO, law enforcement is the next authorized, trained and recommended interim replacement for KCMEO. KCMEO will ensure they provide clear objectives surrounding their need for law enforcement engagement in fatality recovery/death investigation. The recoveries may include victims of potentially or known criminal actions and deaths occurring due to the known catastrophe. Law enforcement should be responsible for death investigations in the interim and apply standards they would employ in any potentially criminal investigation. Victim recovery without any obvious indications of criminal activity reduces law enforcement investigation responsibilities to basic information collection surrounding the recovery. These steps will include:

- Photography: photograph the scene and the body in place, including the positioning of the body, any clothing or jewelry, any covering, relevant scene indicators (drugs, medications, etc.).
- Police Report (preferred) or Narrative: Document information surrounding the location, condition, and means of death of the victim, documentation of the person's identity (if possible), to include a description of how the body was found, the position of the body, the immediate surroundings, the circumstances of death (if known), medical history, physician contact information, name/contact of Next of Kin (if known), and any suspicious circumstances.²

In anticipation of law enforcement being overwhelmed, law enforcement may work with their city government in advance to train and organize people from other disciplines to follow these steps and work under a local law enforcement member assigned to lead the multidiscipline team's efforts during mass fatality incidents.

Tracking of Human Remains

In place tracking/Death at home tracking

Tagging: Fire jurisdictions have been equipped with Fatality Packets that will include tags. If these tags are not available print out tags or write information on a piece of paper, complete the outlined information, laminate them (or cover them completely with clear packing tape), and, using a zip tie, affix one tag to the ankle of the decedent and one tag to the bag or wrapping around the body.

² Forms are being developed to assist with this.

Tag Information

- Tentative Identification
- Location Found (specific and address)
- Date and Time of Death **OR** Date and Time Found
- Person Completing Tag
- Other

Forms: In addition to any police report and narrative completed, the Decedent Information Form should be completed for each decedent. Describe the circumstance of death, including how the body was discovered, if it was in a locked or secure location, etc. Describe in detail how the body was identified. In lieu of a KCMEIO investigator on the scene, KCMEIO will rely upon the police report; ensure that the following information is captured in the police report: how the body was identified and was the death attended.

If the identification of the deceased is unknown, in lieu of a name write “unknown” and the incident location where found. Do not use John or Jane Doe.

Temporary Morgue Tracking

Tagging/Forms: Use the procedures listed above to properly tag/track and complete the decedent information form.

Movement, Storage and Release of Human Remains:

Keep detailed records like that of a chain-of-evidence for each individual body and personal effects bag.

Ensure dates, times, persons involved and locations are recorded. A simple spreadsheet may be used to list the decedent names and/or the unique identifier, delivery date and by whom, date in and date out, removal date and by whom, personal effects accounted for, etc. Keep these records as part of the official record for the response as there may be questions by the families of decedents about the identity, correct release of bodies and loss of personal effects in such large scale events.

Personal Effects

Whether personal effects are left on the body or removed they should be carefully documented. If personal effects are the only thing that can assist the Medical Examiner in determining the decedent’s identity they should be left on the body. Personal effects may also be used as evidence in a criminal event and may be needed for law enforcement’s investigation.

Personal effects should be carefully tracked with the decedent. If personal effects are relinquished to the Next of Kin they should be thoroughly documented (be very specific) using the attached form and the receiving family member should sign for them upon receipt. Personal effects should only be released when the relationship and identification of the family member can be reliably determined, and only after the items are photographed to ensure there is no confusion as to what has been returned to the family after the fact.

Care of Human Remains after Death

In place human remains care

Individuals caring for remains at the incident locations should be aware that bodies will emit fluids after death. Human remains should be kept as cool as possible (ideally between 34-37 F degrees) to help slow postmortem changes. Remains can be placed on plastic (sheeting, garbage bags, tarps) and covered with a cotton sheet or towel. Bodies should be kept in a secured and isolated location, as they will begin to smell after death. Human remains are not dangerous but precautions should be taken with respect to blood borne pathogens in bodily fluid.

Personal effects can remain on the body or can be removed. If removed, all personal effects should be carefully documented and stored. If removing personal effects and the decedent has any form of identification, this should be removed from his or her belongings and placed in a sealable sandwich bag for protection. The bag should be pinned or stapled to the clothing so that it is secured to the body.

After the body has been recovered and removed from site, the area where the body has been stored should be disinfected. This can be done by washing the area with a 10% bleach solution (1 part bleach to 9 parts water).

Temporary Morgue Facility

Human remains should be placed in fully sealed impermeable human remains pouch (disaster body bag) prior to storage or removal. The decedent's body and the pouch should be clearly tagged with the individual decedent's identifiers such as name, date of birth, social security number, where body was found etc. Complete labeling reduces the number of times mortuary staff needs to open pouches to confirm the contents.

Human Remains Storage

The following considerations are important when assessing your options for human remains storage:

Security: Location should be fully secured with access limited to a minimal number of approved staff. Law enforcement may be tasked with supporting security efforts until private contractors can be secured. A log should be kept of all who access the storage site, including the date, time, and reason for access.

Access: Ensure that human remains can be transported into and out of the location with ease. To the extent possible, any path traveled with a body should be devoid of stairs. Elevators on the access route should be large enough to accommodate a gurney, or similar transport equipment needs to be able to move in and out of the space. If used, refrigerated trucks/trailers will require appropriate ramps for loading and unloading.

Temperature: 34-37 F degrees is ideal for storing human remains. If this is not achievable, space should be kept as cool as possible.

Placement: Human remains should be stored on gurneys, pallets or on a non-porous floor (something that can be disinfected with a bleach solution). At no time should remains be stacked on

top of each other to prevent distortion of features (which could affect identification) and to allow easier moving and lifting of remains. Thought should be given at all times to respect the decedent.

Privacy: Human remains should be stored away from public view.

Ventilation: As human remains decompose they will begin to smell. Your storage location should not be connected into a main ventilation system.

Pest Control: Human remains should be placed on pallets to prevent rodent/pest problems. Other pest control measure should be taken as necessary (e.g. traps).

Location: Keep in mind that any location used for a temporary morgue site may not be able to be used again for its original purpose. Places to consider for storing human remains:

- A secured portion of a parking garage
- A conference room with air conditioning and non-porous floors
- Other secure, cool spaces

Body Bags: Consider using body bags with the following specifications

- Handles – for easy lifting
- Zipper on the top of the bag – to prevent leaking
- Durable – for long term storage

Considerations for Using Refrigerated Trucks or Trailers:

During a disaster the supply of refrigerated trucks or trailers will be severely limited and KCMEC will not be able to provide one. Please consider other forms of storage.

Specifications for refrigerated trucks or trailers:

- A normal 40' trailer will hold 22 pouched remains. If shelving is installed at 3-3 ½ feet off the floor the number can be doubled.
- The interior (including the floor) needs to be metal (not wood).
- Electricity and/or diesel fuel will be required to run the refrigerated unit.
 - Electric requirements: 230 volts, 3-phase, 50 amp circuit
 - Fuel: average of 50 gallons per 7 days
- Refrigerated units will require sufficient space for parking, transport and access and exchange of units.
 - Location: accommodate 40ft long by 8 ft. wide; may require tailgate lift, use of forklift or loading dock location
- Truck drivers will be required for movement and transport of the unit.
- Refrigerated units will require maintenance to maintain ongoing operations.

Temporary Burial

Temporary burial is the last choice for temporary storage as it may require permanently taking possession of land.

General considerations:

- If possible, cities should dig individual graves; however it can be done by rows if necessary

- Spiritual care workers should be present to help observe any religious and cultural practices
- Must be designated a cemetery by the state (unless the state has issued a waiver)

Site considerations:

- Easy highway access
- Easily fenced off
- Security available all day every day during temporary burial
- High ground with good drainage outside flood planes
- Check for underlying rock formations

Burial Procedures:

- Row Construction
 - Individual graves are the first choice.
 - Each column should hold 10 human remains head to foot.
 - Each row should hold 25 human remains side by side.
 - Each row should be three feet deep, as wide as the backhoe blade (at least 2.5 feet) and seven feet apart.
 - Use earth-moving equipment if possible.
 - Need clear labeling and grid numbering for ease of identifying location of remains

Any information collected on the individual to be temporarily buried (e.g. identification form, personal effects list) should be sealed in a watertight bag and buried with the individual.

Health Risks Associated with Human Remains

As a rule, human remains do not pose a public health risk to the general population or the environment. Any viruses and bacteria that may be present in human remains do not pose a risk to someone walking nearby, nor do they cause significant environmental contamination. Per the Centers for Disease Control and Prevention (CDC) there is no direct risk of contagion or infectious disease from being near human remains for people who are not directly involved in recovery or other efforts that require handling dead bodies. This includes human remains from pandemic influenza. There are general precautions that should be taken by individuals who may directly handle human remains with regards to minimizing risk associated with blood borne pathogens or bodily fluids that could be infectious.

Personal Protective Measures

Handling Human Remains – Non-Pandemic Incident:

For people who must directly handle human remains there can be a risk of exposure to some viruses or bacteria (i.e. blood borne pathogens). Workers who handle human remains should follow general precautions as outlined by the Occupational Safety and Health Administration (OSHA). These include personal protective equipment such as hand protection, foot protection and eye and face protection.

Handling Human Remains – Pandemic

Workers who handle pandemic related human remains should utilize the current recommendations of the World Health Organization (WHO) for personal protective equipment when exposed to infectious agents. These include:

- Disposable, long-sleeved, cuffed gown (waterproof if possibly exposed to body fluids)
- Single-layer non-sterile ambidextrous gloves which cover the cuffs of the long sleeve gown.
- Surgical mask (a particulate respiratory mask if handling the body immediately after death)
- Waterproof shoe covers if required.
- Proper hand washing after handling human remains
- Avoid touching face and mouth with hands

Changes or updates to the guidelines concerning personal protective equipment in handling human remains will be communicated by Public Health – Seattle & King County.

Response Staffing Structure Recommendations

If you elect to establish a temporary morgue we suggest that you use the following to staff to run the operations. Personnel do not have to consist of law enforcement but should be pre-approved and vetted members of the community who could function in the following capacities.

Mission: Ensures that all human remains are handled, transported, and stored in an appropriate, dignified manner, consistent with policies and procedures.

Morgue Team Leader/Manager

- Ensure that human remains and associated paperwork and identification are linked via chain of custody.
- Ensure staff are consistently using recommended personal protective equipment and following all other safety and infection control guidelines
- Establish system to receive deceased patient medical records and any associated forms (e.g. death certificate), which accompany the deceased from various treatment areas.
- Follow protocol and procedures for receipt, registration, placement into disaster body bag, tagging of the body and/or body bag and storage of all human remains in a dignified manner.
- Maintain a roster/manifest of the deceased who are placed in storage.
- Ensure that necessary identification and documentation is linked to associated remains until collection by authorized mortuary personnel or the KCMEO.
- Direct how and where bodies are placed within morgue/temporary storage to maximize space utilization.
- Identify and indicate which bodies are MFI incident cases vs. day to day cases for appropriate pick up by KCMEO/Funeral Home.
- Provide KCMEO with as much information as possible regarding decedent, Next of Kin, identification, and determination of cause and manner of death (may be designated to report deaths to KCMEO).
- Notify appropriate supervisor of the number of bodies requiring collection.

Personal Effect Manager

- Maintain roster/manifest of personal effects including description, associated decedent identification information, location and when and to whom the items are handled and are released.
- Manage storage of personal effects for extended period of time.
- Coordinate with KCMEO/Health and Medical Area Command regarding personal effects if no Next of Kin are available.
- Ensure two people are documenting all property (e.g., one person counts money, then the other counts it as well to confirm).

Morgue Security Manager or Officer

- Ensure security of morgue/temporary storage by providing general surveillance of the storage location and surrounding area.
- Monitor access into and out of morgue/temporary storage to authorized personnel only.
- Maintain roster of those who enter/exit morgue/temporary storage area.

Storage Facility Maintenance Manager

- Work with Morgue Manager to identify/establish human remains storage location.
- Monitor condition of storage location to check for temperature control, maintenance and sanitation issues.
- Manages logistical requirements (e.g. access to fuel, appropriate power supply, coordinate w/drivers if refrigeration trailer used) for maintaining storage operations.