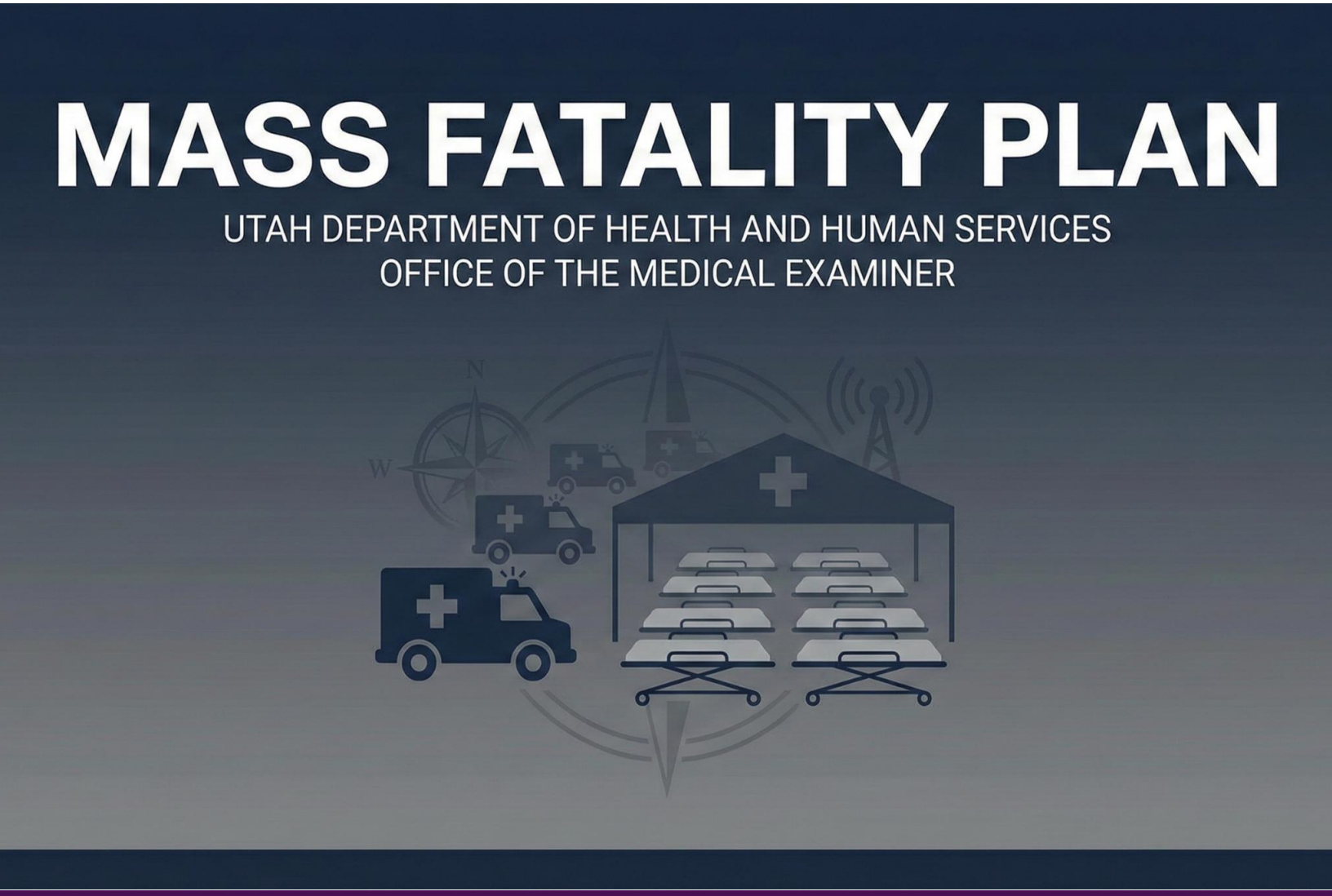

Utah Office of the Medical Examiner

Mass fatality plan

February 2026

Utah Department of Health & Human Services

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Introduction

In emergency preparedness, attention and resources often focus on survivors: triage, medical surge, evacuation, and patient management. However, the safe, dignified, and efficient handling of human remains is a critical component of disaster response that is often overlooked.

A mass fatality incident (MFI) is an event in which the number of human bodies to recover, examine, and identify overwhelms local resources. Agencies at all levels must have robust plans to manage an MFI to be truly prepared for disasters of all scopes.

Justification and historical context
While the United States has experienced few disasters (excluding wars) with more than 1,000 fatalities, the threat remains significant. Historically, disasters were primarily natural, but recent history includes major technological and man-made events.

- 1918 influenza epidemic: 650,000 US deaths.
- 1995 Oklahoma City bombing: 168 deaths.
- 2001 terrorist attacks: 2,972 deaths.
- 2005 Hurricane Katrina: More than 1,300 deaths.

Effective MFI planning must include detailed, up-to-date procedures for responding to diverse events, from pandemics to terrorist attacks or nuclear detonations.

The Utah Department of Health and Human Services (DHHS) Office of the Medical Examiner (OME) has developed this mass fatality plan (MFP) to make sure Utah is prepared.

This plan was created by a multidisciplinary team, drawing on the experience of other jurisdictions, published best practices, and a clear understanding of local challenges. This plan is presented in a general, "all-hazards" approach first. The main body of the plan details the core operations, roles, facilities, and biosafety procedures common to any MFI response.

The appendices provide detailed information for specific types of MFIs (aviation disasters, bioterrorism, natural disasters, nuclear releases). These appendices include contact information for participating agencies and lists of special equipment or personnel required for those specific scenarios.

Questions regarding the content of this plan can be directed to the OME at (801) 816-3850.

Notification and activation

The OME investigates any death that occurs in the state of Utah that is sudden, violent, untimely, unexpected, or when a person is found dead and the cause of death is unknown. This would include any MFI in our jurisdiction. The OME takes responsibility for the removal, storage, examination, identification, and certification of death of the fatalities.

The OME central office is located in Taylorsville, UT and has forensic pathologists who are designated as MEs. Medical examiner investigators (MEI) conduct scene investigations and live locally in or near the counties they serve. MEIs who work at the OME in Taylorsville are central office investigators (COIs) while those outside the Taylorsville office are part-time or contracted investigators. Every county in Utah is served 24 hours a day and 7 days a week by an investigator.

In the event of a mass fatality, the county or city emergency manager must notify the OME using the current framework for all reported deaths. This framework would start by contacting the OME through the main number at (801) 816-3850. After OME receives notification of an MFI they notify DHHS by calling 1-866-364-8824 (1-866-DOH-UTAH).

The chief or designee will be responsible for the MFP activation and DHHS will activate ICS in coordination with OME.

The OME may become aware of a MFI by a variety of sources: from the local first responder at the incident site, from the media, or from the state or other emergency notification system. The OME contact notifies the chief as soon as there is a known or suspected MFI.

OME submits requests through the ICS for support that includes security, communications, additional resources, funding, and staffing.

Activation

When the OME becomes aware of an incident that may require activation of the MFP, the chief evaluates the incident to determine:

1. Jurisdiction over the incident
2. Potential or real number and location of remains
3. Condition of the bodies
4. Potential number of remains for autopsy
5. Level of difficulty in recovery

6. Types and numbers of personnel and equipment needed
7. Accessibility of the incident site
8. Possible biological, chemical, physical, or radiological hazards
9. Level of personal protective equipment needed
10. Staffing needs

The chief determines the activation level of the plan. The chief may alter the level of the response based on changing information or resources. The levels of response are:

Incident response levels matrix

Level	Definition and resource capability	DOC activation	Notification and MFP activation
Level 3 Local	• Significant/high profile • Draws unusual media attention or outside agency response. • Resources: Fatalities are within the capability of local county resources (investigators, transport, storage, etc.). • Example: Natural disaster with few fatalities.	May or may not be activated.	• Notify: Central office supervisor and pathologist via on-duty COI. • Action: Chief may activate MFP if specialized resources are needed. Typically involves sending specialized personnel to assist local investigators and coordinating transport.
Level 2 Regional	• Exceeds local capability • Incident cannot be handled by the local county alone. • Resources: Can be handled with assistance from surrounding counties. Fatality numbers are not beyond central office capabilities.	May or may not be activated.	• Notify: Central office supervisor and pathologist via on-duty COI. • Action: Chief activates MFP to provide additional resources. Typically involves sending personnel for recovery/investigation assistance, temporary storage, and transport.
Level 1 State or	• Exceeds regional capability	Will probably be activated.	• Notify: Standard notification

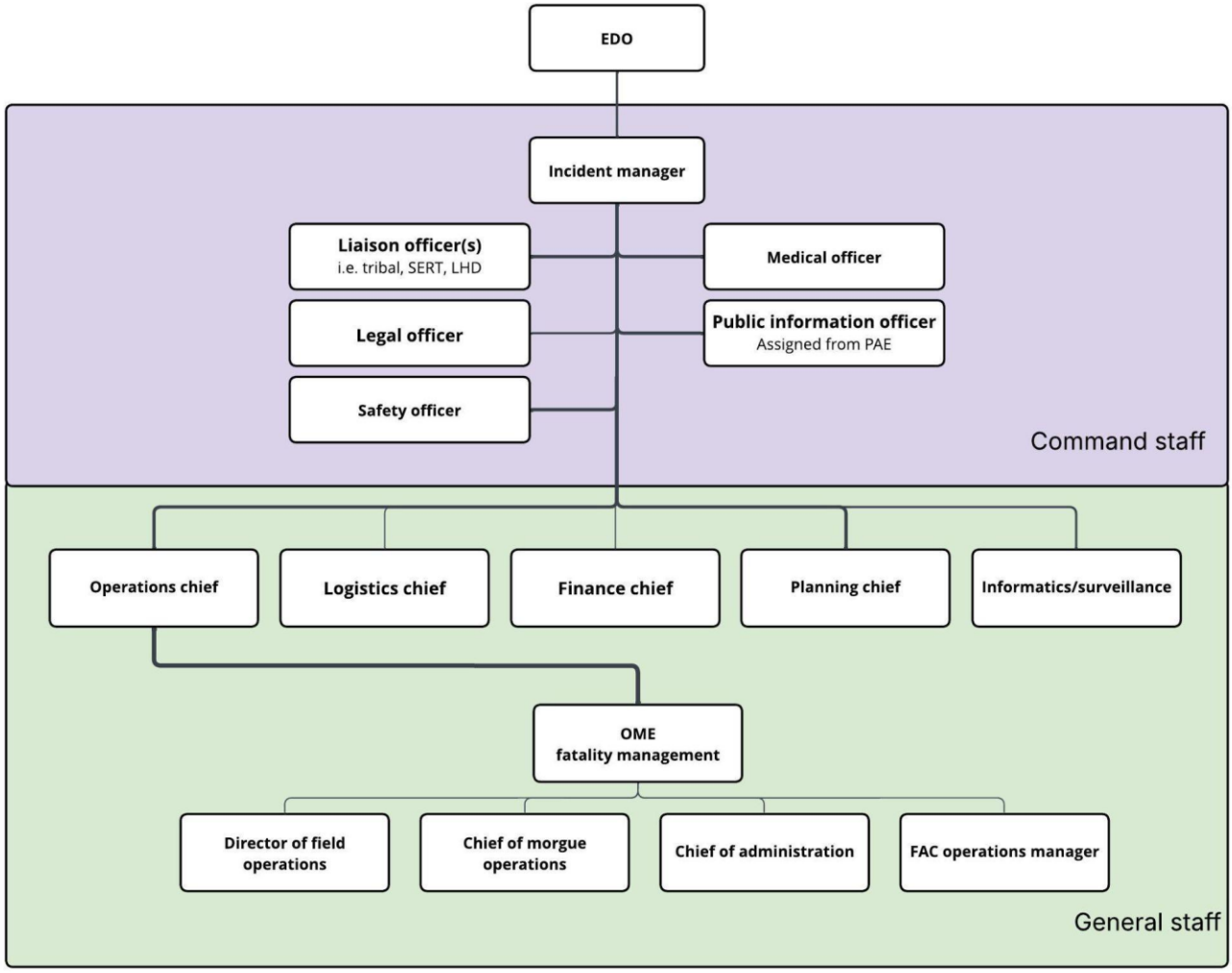
higher	• Cannot be handled by local county or surrounding counties. • Resources: Declared disaster with large quantities of known, suspected, or anticipated deaths.		protocols. • Action: The chief activates the OME MFP immediately following notification.

The MFP works in conjunction with the EOP, including ICS core concepts and organizational processes. It is adaptable for any size of MFI and can be expanded or contracted as need arises.

The IM or their designee may request assistance from state and federal agencies as necessary. Federal assistance may be sought by the governor through the regional FEMA administrator as per the Stafford Act requesting the presidential declaration of a disaster.

The IM will determine when to demobilize the response

Organization chart



Biosafety

Death scene investigators and autopsy prosectors (personnel involved in assisting or conducting autopsies) must be protected from a variety of biohazards. These biohazards are sometimes suspected based on symptoms and other clinical information. Protections include policies and procedures, personal protective equipment (PPE), and facility design. Investigators are exposed principally to blood borne pathogens (e.g., human immunodeficiency viruses and hepatitis viruses). However, when interviewing family members and representatives of a decedent who are sick with the same illness, investigators might also be exposed to airborne pathogens. Autopsy prosectors can be exposed to both bloodborne and airborne pathogens.

Risk assessment

In a mass fatality event, the OME biosafety officer and chief conduct a risk assessment and inform OME investigators, autopsy staff, volunteer staff (e.g., DMORT representatives), and the IM/IC of the appropriate biosafety level for investigations and body removal as well as autopsy work.

Biosafety level (BSL) 2 is required to provide protection from bloodborne pathogens. Primary barrier equipment must be used such as face shields, gowns, and gloves.

BSL 3 is required to provide protection from airborne pathogens. More emphasis on primary and secondary barriers is enforced and access to the work area is strictly controlled.

BSL 4 is required to provide protection from exotic viruses that cause highly fatal infections for which there is no cure (e.g., Ebola virus).

Autopsy

Facility design

The present OME autopsy suite is designed to function at BSL 2. In the event of a risk assessment that indicates a need for a BSL 4 facility (e.g., potential viral hemorrhagic fever cases), the OME will consult with the Centers for Disease Control and Prevention (CDC) to develop an appropriate response. Potential appropriate responses could include not performing autopsies, obtaining skin biopsies for immunohistochemical analyses, and transporting the bodies to a federal BSL 4 facility, such as the United States Army Research Institute of Infectious Diseases. In a mass fatality event that requires a portable morgue to handle remote autopsy examinations away from the main OME facility, the chief and the OME biosafety officer shall discuss the biosafety requirements for such a facility with the IC. DMORT portable morgues can function at BSL 2. If BSL 3 is required, a unique temporary facility might need to be constructed. If BSL 4 is required, these cases should not receive autopsies in a remote portable facility unless the facility has been certified as meeting BSL 4 standards.

Personal protective equipment (PPE)

OME personnel currently wear PPE that provides BSL 3 protection in all cases. Such protections should be maintained in a mass fatality event whether the autopsies are performed in the main facility or remotely. The PPE includes surgical scrubs, surgical gown, impervious apron, shoe covers, impervious sleeves, N-95 or powered air purifying respirator (PAPR), surgical cap, and layers of surgical gloves (See Appendix I).

Policies and procedures

The current policies and procedures allow OME prosectors to function at BSL 3. If the risk assessment is BSL 4, the chief ME will consult with the CDC Office of Health and Safety to determine how to safely transport bodies to a BSL 4 facility.

Investigations and body removal

OME investigators

The following tasks conducted by scene investigators have potential risks of exposure:

1. Scene investigation
2. Handling of bodies, blood, fluids, tissue, or contaminated personal property accompanying bodies
3. External examination
4. Processing toxicology samples, evidence, or items of property from the body
5. Interviewing families and friends who were exposed to a decedent's illness prior to death

For purposes of understanding what precautions the investigators should take while conducting an investigation, responses can be divided into four categories—clean, blood contaminated, contaminated by other substances, and working with possibly infectious families.

Clean: A natural home death where there is no blood or body fluids present and the decedent and family members did not have flu-like symptoms or other symptoms that could be caused by an infectious disease. The investigator must wear protective gloves at a minimum in this situation.

Blood contaminated: This term is an assumption about the condition of an item, person, or location. The assumption is that a soiling or potential soiling has occurred or can occur that has the potential to injure, infect, or somehow harm a person or property.

Universal precautions: Universal precautions is an approach to infection control to treat all human blood and human body fluids as if they were known to be infectious for HIV, HBV, and other bloodborne pathogens.

Required protective equipment: For those who participate in an external examination or conduct a scene investigation in which there is a large amount of blood and body fluid present, a full suit is required, (including protective gloves, plastic apron, surgical mask, shoe covers, over sleeves, and protective eyewear), which must be worn for the duration of the examination and until the scene investigation is complete. For those who participate in the handling of personal property accompanying bodies, items of property from the body or scene, processing toxicology samples, or conducting scene investigations that are clean (no blood or body fluids visible), protective gloves are required.

Contaminated by other substances: This term describes any situation in which body fluids are not present; however, other contaminants are most likely present that could pose a risk for responders. This would include nuclear, radioactive, chemical, or infectious agents. Processing these scenes requires coordination with hazardous materials (HAZMAT) personnel. HAZMAT personnel and potentially federal partners (e.g. weapons of mass destruction) will be required to decontaminate the scene and bodies before they can be processed by OME personnel.

Working with possibly infectious families: When OME Investigators need to interview family members who appear to be ill or are sneezing or coughing, they should ask the sick individual to wear a surgical mask during the interview. In addition, the investigator should wear an N-95 and eye protection. At the end of the interview and after leaving the dwelling, the investigator should wash their hands or use hand sanitizer.

Preventing exposures

Reporting bloodborne pathogen exposure:
Exposure control plan:

Investigators will encounter an extremely diverse range of potential scene situations. Investigators must assess each scene prior to entry to determine what contamination exists and the appropriate PPE to wear. Personnel should make sure that any cuts or abrasions are covered with bandages. Cross-contamination should be avoided in the sense that used PPE equipment must be removed and placed in a red biohazard waste container. Personnel should wash their hands with antimicrobial soap or hand sanitizer before they touch any clean areas.

When handling sharp items, whether equipment, evidence, or other articles, take every precaution to prevent puncturing the skin. Avoid recapping needles. If there is no alternative to recapping a needle (i.e. no sharps container), use the one-handed scoop method. Place the cap on the countertop and “scoop” it up with the needle. After they are used, needles, scalpel blades, and other sharp items should be placed in puncture-resistant containers for disposal; the puncture-resistant containers should be located as close as practical to the use area. The puncture-proof container must be clearly labeled with "DANGER SHARPS."

Investigators should wash their hands or use a hand sanitizer after removing gloves and other PPE. All equipment should be disinfected using solutions of 70% ethyl alcohol, 70% isopropyl alcohol, or 10% household bleach. If an employee is exposed to blood or other potentially infectious material, post exposure follow-up and prophylaxis is provided as outlined in OME policy on blood borne pathogen exposure. If exposure occurs on a weekend, the employee must report to the emergency room for follow-up. If an employee has been potentially exposed, the following protocols apply:

- STOP WHAT YOU ARE DOING

- Remove any contaminated PPE
- Wash exposed skin with soap and water for a minimum of five minutes
- Dispose of any contaminated clothes and materials appropriately
- Report the incident to the supervisor
- Report to EOC or a local ER or the nearest emergency room for severe injuries

Non-OME personnel

Emergency medical services (EMS), funeral homes, and contracted body removal services remove decedents from the location of death to a holding facility and to the central office. These personnel are responsible for their own protective equipment and procedures for exposure follow-up.

MFI scene evaluation, organization, and operation

The purpose of the initial scene evaluation is to identify risks and safety hazards that might still exist on the scene, estimate the number of decedents or remains, determine the difficulties in processing the remains and the personal effects, and to communicate the information to the chief.

The first concern in any investigation is to make sure the scene is safe to enter. Law enforcement, federal agencies, and/or HAZMAT teams will make the initial determination when the scene can be entered and processed. Potential safety risks include biological, chemical, and radioactive agents, as well as those imposed by weather and terrain. The second concern is to tend to injured survivors. When these concerns have been addressed, the recovery process can proceed.

When the incident scene is determined to be safe for recovery of bodies/remains, an investigator designated by the chief as the DFO will supervise the recovery operation.

Initial body recovery may be done by untrained volunteers or by agents from many agencies, which can lead to difficulty in controlling and properly documenting the scene. It is imperative to have law enforcement secure the scene and the OME assume control of body retrieval as soon as possible. It is also important to remember that the site in many situations will be treated as a crime scene.

1. The DFO will be present at the scene and direct the activities of:
    a. Search and recovery
    b. Field supplies and equipment
    c. Field transportation
    d. Temporary body storage

e. The transportation of remains

2. The DFO will be responsible to:
    a. Maintain a record of all field activity
    b. Evaluate the staffing and resources needed to investigate deaths of individuals who were removed from the scene and transported to emergency rooms and hospitals
    c. Determine whether to establish a morgue facility at the site or transport the remains directly to the central office facility
    d. Identify of a temporary holding facility for remains
    e. Communicate with the incident manager and the central office on a regular basis
    f. Coordinate with appropriate agencies to make sure that security is established around the scene so that access is controlled; and remains, personal effects, and evidence are not moved or disturbed
    g. Establish an investigation, search, and recovery
    h. Supervise the storage of remains, personal effects, and evidence at a temporary storage site
    i. Supervise the transport of remains, personal effects, and evidence to a permanent examination site
    j. Divide OME responders into appropriate teams with specific duties and designating team leaders

3. Search and recovery teams may consist of:
    a. OME (at least one of the following)
        i. OME investigators
        ii. Forensic pathologists
        iii. Forensic anthropologists
        iv. Forensic odontologists
        v. OME photographers
        vi. OME autopsy technicians
    b. Law enforcement or other representative from another agencies
    c. Volunteers
    d. Ideally one representative from each of the above in each team
    e. A team leader will be assigned by the DFO

Guidelines for the search and recovery teams

Search and recovery team members should assess each scene prior to entry to determine potential contamination and hazardous exposure so they can use the appropriate PPE. They should follow these guidelines:

1. Remove dirty equipment before touching clean areas
2. Prevent puncturing skin when handling sharp tools, equipment, or evidence

3. Avoid recapping needles
4. Place used sharp instruments in puncture-resistant containers for disposal
5. Label used sharp instrument containers “DANGER SHARPS”
6. Wash hands or use hand sterilizer after removing gloves and PPE
7. Disinfect all equipment after use
8. Wear appropriate clothing for the scene conditions

Equipment and supplies for search and recovery include the following:

1. Protective clothing
2. Body bags or disaster pouches
3. Refrigerated trucks
4. Commercial trucks to transport remains
5. Tents
6. Flags for marking locations
7. Pre-numbered ID tags for bodies and property
8. Biohazard bags
9. Permanent ink pens
10. Photography equipment
11. GPS devices
12. Gridding equipment (stakes, compasses, twine, etc.)
13. Cell phones, radios, or other communication device
14. Computer equipment with software
15. OME forms for individual case records, logs, etc.
16. ID badges for volunteers
17. Body boards for carrying bodies or remains
18. Clipboards
19. Flashlights
20. Evidence labels
21. Hard hats
22. Safety vests

Search teams should have the following clothing which should be adjusted to meet the conditions of the scene:

1. Heavy jacket
2. Work gloves
3. Rain gear
4. Boots

Search teams will report to the staging area for:

1. A briefing by the DFO or IC
2. Assignments

3. Creation of teams

Initial search

1. Search teams will conduct a thorough search of the disaster site using a line formation.
2. All remains will be marked with a locator flag.

Expanded search

1. Teams will then establish a grid encompassing the site based upon the initial assessment of the scene.
2. The site grid will be further divided into grid squares. The sizes of the site grid and the grid squares are dependent upon size, location, terrain, and obstacles that exist at the site. All grid squares will be given specific labels (A1, A2, etc.).
3. Teams will be assigned to one grid square at a time and conduct a comprehensive search.
4. A pre-numbered body identification tag will be attached to each body. The numbering system will not coincide with the numbering system used in the central office. Instead, it will differentiate the mass fatality victims. For instance, HR 0001 (Human Remains 1).
5. Each team will photograph and map remains and personal property that are located in their grid squares with GPS coordinates.

Personal property

1. All items of property that are on the body should remain on the body (watches, rings, etc.).
2. A color-coded tag with the word “PROPERTY” and the grid square number printed on it is attached to all property or effects not attached to a body such as purses, briefcases, etc. The number should be PP001 (Personal Property 1).
3. Include the body tag number on the property tag when it is evident that the property belongs to a body.
4. When it is not apparent which body the property belongs to, number the property tag with reference to the location of the most proximate bodies. For instance, a tag might read “10 feet S.W. of #23, 13 feet N. of #24, etc.”

Body Parts

1. Never commingle disassociated body parts.
2. Use a color-coded tag printed with the words “PARTS” if it cannot be ascertained to which body a body part belongs. Note and record the location of the body part in reference to the closest body BP 001 (Body Part 1).
3. Each body part will receive a pre-numbered body identification tag.

Put all remains and personal effects into a disaster bag or body bag after documentation so they may be removed. Seal the bags with evidence labels that contain the grid number, date of collection, the number from the pre-numbered body identification tag, and the initials of the person verifying the contents. Take additional photographs once the remains/evidence/property are removed. Use

portable computer tablets and software to make every effort to create an OME case number prior to removal from the scene.

Each team will completely document all remains and personal effects recovered prior to being relieved of their duties or starting another grid square.

The field deputy supervisor (FDS) will supervise the work occurring in the overall grid. All documentation should be turned over to the DFO before the end of shift change and before starting a new grid.

Emergency room deaths

In an MFI, first responders will report to a site and tend to sick and injured individuals. Many of those people will be transported to emergency rooms (ER) for treatment and may die from their illness or injuries. The DFO will need to establish an ER response team to attend to those decedents in a timely manner. The team should consist of one or more investigators depending on the number of deaths.

ER response team responsibilities

1. Make every effort to remove the decedents to a holding facility as soon as possible to keep the ER rooms available for live individuals.
2. Obtain all medical records and antemortem blood specimens, if collected.
3. Take Identification photos of all decedents.
4. In many ER deaths, family members will come to the hospital. They can make a positive identification and provide demographic information. When working with families who might be sick, in the case of pandemic influenza, make sure to take bio-safety precautions. (Refer to appendix on pandemic influenza.)

Equipment required

- PPE for the investigator, materials for properly packaging decedents, and cameras.

Removal and temporary storage of remains

The OME currently has agreements with funeral homes, hospitals, and EMS throughout the state for the removal and temporary holding of remains. These can be used in cases of a mass fatality but may quickly become overburdened. The DFO is responsible for identifying and securing a temporary holding facility and transportation to the facility

1. Temporary storage facilities (in order of preference)
    a. Refrigerated trailers (DHHS)
    b. Refrigerated trailers (contracted)
    c. Funeral homes and hospital morgues
    d. Temporary burial trenches

   i. About 5 feet deep
   ii. At least 700 feet away from drinking water sources
   iii. Bodies in body bags placed side by side, not stacked
e. Group bagged bodies in clusters of 20 (not stacked) with two feet of dry ice in a low wall around each group and cover with tarps if trenches can't be dug. Do not place regular ice on bodies.

2. Transportation
   a. Contracted transporters and/or funeral homes
   b. Contracted long distance transporters that can be pulled into the response area for assistance
   c. EMS (however, they may be tied up tending to the injured)

3. Remains should be properly handled following these guidelines:
   a. Place the body bags on wooden pallets in the event of muddy or wet conditions
   b. All identification tags will be verified by the team leader before being removed from the site
   c. Body bags containing remains shall be placed shoulder-to-shoulder while awaiting transport and shall not be stacked
   d. Remains should be screened from public view as best as possible

4. Chain of custody of remains
   a. A team member shall be assigned to the temporary storage facility to oversee the receipt of remains
   b. An accurate log of the remains shall be maintained indicating the case number, the date and time the remains were received, the name of the transporter, and the date and time the remains are released
   c. The team member at the storage facility shall ensure the facility is secure
   d. Body inventory and release sheet

Morgue operations

The major purpose of morgue operations is to identify the remains and determine the cause of death.

Chief of morgue operations (CMO)

The activities in the morgue in any mass fatality will be under the control of the CMO who will be appointed by the chief medical examiner or their designee. Depending on the type and extent of the

mass fatality, the CMO may be the chief or other faculty member. If the extent of the mass fatality requires operation of more than one shift per day, there may be a deputy CMO.

Responsibilities of the CMO
Designate a director for morgue body storage and gatekeeper. The gatekeeper will manage the movement of remains and bodies into and out of the examination area from the storage facility (permanent or temporary). They will document entry and exit of all bodies or remains using the autopsy OME IT human remains tracking system designed for mass fatalities. The gatekeeper should preferably be a senior autopsy technician knowledgeable in the OME IT mass fatality tracking system.

The number and complexity of the different examination stations will depend on the type and extent of the mass fatality. The CMO will determine the location and space for each station. The CMO will designate a director of autopsy examinations and a director of identifications. Each station will have a team leader who will be assigned by either the director of autopsy procedures or the director of identifications. The CMO is responsible for determining which station and in which order the bodies or remains will circulate through the stations. In general, the different stations will include one or more of the following functions.

a. Radiology
b. Recovery of personal effects/trace evidence
c. Photography
d. Specimen collection
e. Autopsy evaluation
f. Anthropology
g. Odontology
h. Fingerprints
i. Specimen processing
j. Normal operations

If the morgue operations are conducted at the permanent OME, the recovery of personal effects/trace evidence, photography, specimen collection, and autopsy evaluation functions will likely take place at the same station.

Activate the established mass fatality forensic specialists resource plan to determine the need for additional professional/technical personnel to assist at the different stations. The plan includes names and contact information for forensic specialists who might be needed beyond the current professional staff. See appendix A for lists of forensic specialists and their contact information.

k. Pathologists
l. Anthropologists
m. Odontologists
n. X-ray technicians
o. Autopsy technicians

p. Radiologists

Designate a supply director.

The supplies director is responsible for providing each station with adequate supplies and anticipates and communicates those needs to the director of finance. The supply director may also serve as the director for morgue office personnel and/or the director for morgue security. The supply director may be the same person in the OME who is responsible for maintaining inventory of readiness for a MFI.

q. Thes supply director has the following responsibilities:
    i. Order and purchase of supplies through the director of finance
    ii. Receive and verify all shipping documents
    iii. Maintain ordering and shipping records
    iv. Maintain supplies and rotating stock
    v. Perform inventory
    vi. Maintain housekeeping of warehouse

Designate a personnel director.

The personnel director tracks and posts work schedules and coordinates relief personnel for the different stations.

Designate a security director.

The security director monitors and enforces security guidelines set up by the CMO for entry to and exit from the examination area and body accessioning area.

Conduct a briefing session at the beginning of each shift, which will include:

r. Input from each function leader
s. Updates of progress of mass fatality examinations
t. Orientation for new staff
u. Safety features review

In most mass fatalities, bodies/remains will pass through a succession of workstations each with its own function. The number of workstations for each function will depend on the size and type of the mass disaster. Effective and organized workstations at the morgue facility provide for an orderly and consistent operation and reduce the potential for error.

Function #1—Gatekeeper

The gatekeeper monitors and documents the entry into and exit from the examination area of all bodies and remains. This function is under the control of the gatekeeper. This function is not responsible for entry into or exit from the examination area of personnel; that is the responsibility of the security director.

In the permanent OME morgue, the gatekeeper operates out of the body recovery area using two stations, one for entry and one for exit. In a temporary morgue, the gatekeeper sets up a workstation to monitor the physical movement of bodies and remains into and out of the examination area. There will be either one or two workstations for this function depending on the size of the mass fatality. If two workstations are necessary, one workstation will handle entry and one workstation will handle exit. Each workstation will be manned by a data entry person knowledgeable in the OME database system and one or two autopsy technicians.

Responsibilities of the gatekeeper

1. Make sure that all bodies or remains enter or exit the examination area in a sealed body bag or other appropriately sealed container
2. Electronically enter the date, time, and identification information of each body or remains as it enters the examination area
3. Print labels and armbands as necessary
4. Weigh body bag with body or remains
5. Photograph body bag seal
6. Per instructions by the CMO, make a routing assignment through the different stations
7. Electronically enter the date, time, and identification information of each body or remains as it exits the examination area
8. Assign escorts to accompany bodies or remains to and from the storage facility and to the proper workstations
9. If during examination at any of the stations, the body, remains, or personal effects are split or merged, and make sure that the proper electronic entries are made and the exiting sealed body bag has the correct identification information

Function #2—Radiology

The purpose of the radiology function is to capture radiologic images on each body or set of remains as necessary. The radiology team will have at least four members and will be led by a radiology supervisor who will be a radiologist, radiologic technologist (RT), or a senior autopsy technician with imaging experience. Other members of the team will include a radiation safety leader and two autopsy technicians.

Responsibilities of radiology supervisor

1. Enter date, time, and type of examination into the OME mass fatality IT database
2. Perform radiographs as directed by CMO and radiology supervisor with as little disruption of body parts and personal effects as possible
    a. RTs and autopsy technicians performing radiographs will place a marker on each radiograph indicating the decedents' assigned identification number

   b. Specialized radiographs may be requested to aide specifically in identification with regard to incoming antemortem radiographs
3. Enter digital film data using the appropriate identification number into the VIP system, the OME's mass fatality IT database.
4. Communicate needs for additional equipment, facilities, or supplies to the supply director
5. Work with CMO to integrate post mortem radiologic examinations into the VIP system
   a. Maintain an electronic log of all images
      i. Images from all radiology modalities are reviewed in the Picture Archiving and Communications System (PACS)

Responsibilities of the radiation safety leader

1. Address and monitor radiation safety issues
   a. Work with CMO to designate dedicated area to perform radiographs
2. Monitor radiation dosage of team members
   a. Temporary thermoluminescent dosimeters will be issued to team members who work near the radiology area

Function #3—Photography/evidence collection/personal effects

This function will be under the management of the supervisor of evidence collection (SEC). The purpose of this function is to photograph the body or remains as received and recover any necessary evidence. This function also involves recovery and documentation of personal effects, including clothing, and, if appropriate, repeat photographs after cleaning and recovery. Since this may be a time-consuming function in a MFI, there may be many stations performing this function each under the supervision of an evidence collection leader. Each station should have a photographer and two autopsy technicians, with at least one of them experienced in recovery and documentation of clothing and personal effects. A forensic pathologist may be assigned to this function if evidence collection is an important feature of the MFI and would serve as the SEC. The SEC may cover more than one station. A deputy SEC will be named if more than one shift is necessary for this function.

Responsibilities of the SEC

1. Assign the body or remains to a station
2. Oversee opening of the body bag
3. Instruct the photographer in type and initial extent of photography of body or remains as is
4. Determine the extent and sequence of clothing and personal effect removal and documentation
5. Determine the extent and sequence of removal and documentation of evidence
6. Determine the extent of cleaning or preparation of body or remains prior to sending to the next function

7. Determine which function is appropriate for the next portion of the examination (autopsy/anthropology/odontology)

Function #4—Autopsy evaluation

The management of the autopsy evaluation function is under the supervision of the director for autopsy procedures. The purpose of this function is to document injuries and natural disease on the outside of the body or remains and to perform an internal examination, if appropriate, with documentation of injury and disease.

This function may have many stations. Each station is led by an autopsy procedure supervisor who will be a forensic pathologist.

Each station will have two autopsy technicians in addition to the forensic pathologist. One of the technicians will have experience in autopsy photography.

Responsibilities of the director for autopsy procedures and the autopsy procedure supervisors

1. Determine the extent of the examination; full autopsy or an external examination if the case is a body
2. Determine extent of examination required if the case is only partial remains
3. Perform examination
4. Collect evidence as indicated by case
5. Properly collect cultures as indicated by case type
6. Properly collect toxicology samples as indicated by case type
7. Collect proper samples for DNA analysis
8. If there is a possibility of commingled remains, separate remains
9. Re-label separately packaged potentially commingled remains as a subset of the original identification number (A, B, C, etc.)
10. Determine if the body or remains need to be sent to another function or back to the MOS for exit and re-storage

Function #5—Anthropology evaluation

The management of this function is under the anthropology supervisor. The purpose of the anthropological examination is to evaluate fragmented, decomposed, mummified, burned, or skeletonized remains for identification, injury, or natural disease. The anthropology section may assist in two functional areas of the morgue:

1. Assist with the initial evaluation, documentation, and sorting of human remains from nonhuman remains and non-biological materials in the morgue triage
2. Provide comprehensive forensic anthropological documentation of human remains in the morgue.

The anthropologist may also be asked to provide additional types of analyses and support within the morgue. The anthropology function may have more than one station. Each station will have an anthropology team leader if more than one station is necessary. Each station will have at least one forensic anthropologist and an autopsy technician. The autopsy technician will have photographic expertise.

Staffing and equipment needs may vary according to disaster-specific needs and the functional assignment of the section. Standard equipment needed to evaluate and document anthropological findings include the VIP software for recording anthropological data for each decedent, measurement tools (including calipers, etc.), a ring-light magnifier with clamp base, a digital camera with standard and macro lenses, camera tripod, photo lights, ultraviolet (UV) flashlights, and small digital scale. Examination of small bone fragments to determine origin (human vs. non-human) and trauma analysis may require examination by microscope with a dedicated fiber optic light source such as a trinocular stereoscope with adjustable boom stand and dedicated digital image camera system.

The anthropology supervisor will assess the remains in the triage area using an event-specific probative index to identify remains such as dental fragments or orthopedic appliances that are more likely to lead to identification and assign the body/remains to an anthropology station.

At the anthropology station, the anthropology team leader will:

1. Log in and document remains as they are processed at the anthropology station
2. Complete standardized forensic anthropology report forms via VIP software
3. Evaluate and document the condition of the remains
4. If the remains are fragmented, describe the anatomical structure(s) present, indicate side, and if possible, assess biological parameters such as age, sex, ancestry, etc.

Responsibilities of the anthropology team leader

1. Document measurements and morphology for identification (age, sex, stature, ancestry, antemortem trauma, pathological conditions, anomalies/idiosyncratic variation (surgical hardware, etc.)
2. Process the body or remains for appropriate anthropological evaluation
3. Collect samples for toxicology and DNA as appropriate for case
4. Repeat photography or repeat radiology evaluation as necessary
5. If evaluation reveals a possibility of commingling of remains, separate remains into containers and label as a subset of the original identification number
6. Document, remove, and save non-human and non-biological materials for proper disposal
7. Interpret perimortem trauma in consultation with the pathologist
8. Obtain and isolate dental evidence in consultation with the odontologist

9. Interpret and compare antemortem and postmortem records/radiographs and assist in identification
10. Examine identified remains prior to release to confirm that the biological profile used for identification matches the biological parameters of the remains
11. Determine the next function necessary or notify anthropology supervisor for decision to send to gatekeeper exit and re-storage

Function #6—Odontology evaluation

This function is under the management of the supervisor of odontology. The purpose of the odontology function is to evaluate each dental element for identification characteristics and evidence of injury or natural disease. The odontology function may have more than one station. Each station will be the responsibility of the odontology team leader. Each odontology station will include at least one dentist and a technician. Dental elements arrive at the odontology function directly from triage, autopsy, or anthropology. A detailed description of the operations of the odontology function is found in the Odontology training manual.

Responsibilities of the odontology team leader

1. Assign dental evidence to an odontology station
2. Take dental radiographs with a portable dental radiograph machine
3. Take photographs of oral structures and dental evidence as per established protocol
4. Process and/or clean specimen for better analysis if appropriate
5. Examine and chart dental elements
6. Compare dental elements data with dental radiographs or records of putative victims for preliminary identification. All final identifications will be confirmed by the chief medical examiner or their designee.
7. Determine if the body or dental elements need to be sent to another function or to the gatekeeper for exit and re-storage

Function #7—Fingerprints

This function is under the management of the supervisor for fingerprints. Since fingerprint comparison can provide a positive identification, it is important in any MFI to obtain fingerprints whenever possible on all bodies or remains. Since fingerprint processing on remains that are fragmented, burned, or decomposed may be long and tedious, it will probably be necessary to have a separate station or stations for this function. Each station will be supervised by the fingerprint team leader (FTL). Each station will include one or more technicians and may include a fingerprint specialist.

Responsibilities of the FTL or fingerprint specialist include:

1. Obtain antemortem prints

2. Establish a log of antemortem prints and their source
3. Establish files of antemortem and postmortem prints
4. Coordinate with CMO before processing prints
5. Initiate and maintain an examination log
6. Photograph friction ridge surfaces prior to processing
7. Collect any trace evidence prior to processing
8. Print all available friction ridge skin on fingers and all available friction ridge surfaces on hand and feet if necessary
9. Document fingerprint process if special techniques are necessary
10. Compare antemortem with postmortem prints
11. Initiate automated searches
12. Communicate with CMO regarding comparison findings

Function #8—Specimen processing

This function is under the supervision of the supervisor of evidence collection (SEC). The purpose of the specimen processing function is to assure that all specimens collected for additional testing (trace evidence, toxicology, microbiology, DNA) are properly documented, packaged, stored, and delivered. The SEC will be a senior autopsy technician experienced in processing specimens. This function may require more than one team; one for each type of specimen (toxicology, trace evidence, DNA). Each team will have a team leader including at least two technicians.

Responsibilities of the SEC

1. Coordinate with each of the function leaders to receive and package specimens from the different stations
2. Document each specimen with its source, identification number, type of specimen, time of collection, and requested testing or type of storage
3. Properly maintain specimen in temporary storage (refrigeration, drying, etc.) prior to sending to proper long-term storage or to a laboratory
4. Maintain inventory of specimens
5. Coordinate with director for body examination for needed equipment, supplies, or transportation

Function #9—Normal operations

This function is under the supervision of the supervisor for normal autopsy operations. The purpose of the normal operations function is to competently examine the non-mass disaster cases that routinely come to the medical examiner's office. A section/area of the autopsy room will be dedicated to normal autopsy operations.

Responsibilities of the supervisor for normal autopsy operations

1. Maintain communications with investigator assigned to normal operations to triage which cases need to be transported to central facility given the limited resources of the office
2. If morgue operations are at the central office, accept body directly from gatekeeper
3. Photograph the body bag seal
4. Open the body bag and review information from investigations
5. Determine if radiology is necessary and, if so, use portable radiology unit
6. Conduct autopsy or external examination as necessary
7. Release body to gatekeeper for exit and indicate readiness for next case
8. Assist mass fatality autopsy function if normal operations are completed

Administration support

The IM will designate an administration (admin) chief.

The duties of the admin chief are to:

1. Collect and analyze information on the current status of the MFI
2. Manage the resources to support the MFP
3. Obtain, order, maintain, and account for essential personnel, equipment, and supplies
4. Maintain incident facilities
5. Prepare summaries of incident progress
6. Arrange for transportation for support personnel
7. Maintain archives
8. Arrange for medical services to incident personnel as required
9. Manage demobilization of OME
10. Provide daily summaries of incident progress to defined stakeholders (operations section chief) electronically or by hard copy, as appropriate

Depending on the size of the MFI, the admin chief may designate directors of the following areas:

1. Director of communications
2. Director of information technology
3. Director of finances
4. Director of family assistance center

Public communications

The IM will assign a director of public communications to be responsible for all public communications coming from the OME regarding the mass disaster.

Responsibilities of the communications director are to:

1. Work closely with the DOC and, when necessary, the DHHS public information officer to make public statements concerning the mass fatality. Information should be accurate, consistent, timely, and pertinent
2. If the Utah All Hazards Emergency Operations Plan has been activated, the communications director will coordinate information with the communications department of the emergency operations command center and the joint information center to coordinate public statements concerning the mass fatality
3. Maintain communication with the director of the family assistance center to ensure that no personal information or identifications are released to the public prior to notification of families
4. Provide daily summaries of public information to authorized stakeholders electronically or by hard copy, as appropriate

The communications director manages the OME information center for the mass fatality incident. Depending on the type and size of the mass disaster, the information center may be large or small. Members of the information center under the supervision of the communications director will include administrative and clerical employees of the OME and at least one information technology support person.

Responsibilities of the information staff include:

1. Coordinate flow of information between the functional units such as between site operations and morgue operations
2. Keep staff apprised of developments and progress during the mass fatality
3. Attend briefings with other agencies involved in the mass disaster such as law enforcement, hospitals, funeral directors, etc.
4. Receive and triage all requests from outside agencies for support or for information
5. Deal with all media requests and logistics
6. Generate reports regarding recovery operations, number of victims, and identifications
7. Generate reports regarding health and safety issues related to the mass fatality

If the incident site is removed from the morgue site and from the information center, the communications director may assign an incident site communications supervisor to accommodate the media at the incident site. The incident site communications supervisor works with the

communications director to make sure the media representatives have appropriate access when possible without creating safety hazards

The communications director appoints security supervisors at the morgue operations site and the family assistance center (FAC) whose duties include:

1) Restrict media from entering the operational areas and the FAC
2) Establish briefing areas near but not in the incident site, the morgue, or the FAC
3) Issue one-time credentials for media personnel

Financial support

The admin chief will, if necessary, designate a finance director to provide accounting, procurement, time recording, and cost analysis to support the operations associated with a MFI.

The finance director will follow state of Utah policies and procedures as purchases are made to support a MFI.

The responsibilities of the finance director are to:

1) Coordinate with the logistics chief to order supplies and equipment as necessary
2) Maintain copies of all transactions
3) Monitor and reconcile expenditures per the state of Utah Procurement Policies and Procedures
4) Monitor all OME procurement cards
5) Increase limits on OME procurement cards through the state Purchasing/Finance necessary
6) Create index code to isolate expenses associated with MFI; work with finance to set up billing codes when the plan is activated.

Information technology

In the event of activation of the MFP, the IM will coordinate with the Division of Technology Services at DHHS to designate a director of Information Technology (IT director) for the event.

The IT director will be responsible for coordinating all IT systems to track decedents from first discovery to final disposition.

The IT director will be responsible for maintaining communication systems among all components of the mass fatality plan system and between components of the plan and other involved agencies.

The IT director will also provide all necessary computer support to all personnel working on the MFI including data entry, data entry security, backup of information, storage of data, and interoperability of information sharing with other agencies.

Family assistance center

The establishment of a family assistance center (FAC) following a mass fatality incident (MFI) represents one of the most complex, sensitive, and critical responsibilities of the Utah Department of Health and Human Services (DHHS) and the Office of the Medical Examiner (OME). Established in close coordination with local emergency management (EM), the FAC serves as a secure location to provide information regarding missing or unaccounted persons and the deceased. It acts as a "one-stop shop," offering a variety of services to victims and their families, including mental health support, spiritual care, and assistance with both short-term and long-term needs.

The FAC is not merely a physical location; it is a comprehensive operational environment designed to;

1) Facilitate information exchange between the OME and families so that families are kept informed and the OME can obtain antemortem data needed to assist in identifying the victims

2) Address family needs (responding quickly and accurately to questions, concerns, and needs - psychological, spiritual, medical, and logistical)

3) Provide death notifications and facilitate the processing of death certificates and the release of human remains for final disposition

4) Collaborate with the local, state and/or federal partners to establish a trauma informed family assistance center.

5) Provide a private place for families to grieve

6) Protect families from the media and curiosity seekers

More information can be found in the DHHS family assistance center SOP

Plan maintenance and implementation

The OME director of operations is responsible for updating and maintaining the MFP.

1. **Physical access:** Keep updated hard copies of the Plan at key office stations and distribute them to relevant state agencies.
2. **Digital access:** Host a current electronic version on the DHHS website in a prominent, easy-to-find location.
3. **Promotion:** Periodically remind relevant individuals and agencies about the Plan's existence and where to find it.
4. **Updates:** Promptly notify key stakeholders whenever the electronic version of the Plan is updated.
5. **Ongoing records:** Maintain a dedicated system or file to store information relevant to the Plan between scheduled updates.
6. **Archiving:** Retain outdated versions of the Plan for OME records.
7. **Onboarding:** Train all new employees on the Plan's contents and their specific roles during a mass disaster.
8. **Annual coordination:** The MFI committee will meet annually to manage training, exercises, and updates.
9. **External collaboration:** Local OME medical investigators are encouraged to attend local emergency planning committee (LEPC) meetings chaired by city or county emergency managers.

Plan lifecycle

The Plan operates on a continuous three-year cycle to ensure readiness:

Year	Primary focus	Key activities
Year 1	**Staff training**	Comprehensive training and refresher courses for all staff.
Year 2	**Validation**	Required tabletop exercises using scenario-based discussions to test Plan aspects. A functional exercise must also be conducted at least every five years. All exercises must conclude with an "after action" report and a list of specific items for improvement.
Year 3	**Evaluation**	Formal assessment, updates, and revisions to the Plan.

Appendix A: Acronyms

BSL	Biosafety level
CDC	Centers for Disease Control and Prevention
CME	Chief medical examiner
CMO	Chief of morgue operations
COI	Central office investigator
DFO	Director of field operations
DHHS	Department of Health and Human Services
DMORT	Disaster Mortuary Operational Response Team
DTS	Division of Technology Services
EMS	Emergency medical services
ER	Emergency room
FAC	Family assistance center
FAA	Federal Aviation Administration
FTL	Fingerprint team leader
HAZMAT	Hazardous materials
IC	Incident commander
ICS	Incident Command System
IM	Incident manager
IT	Information technology
ME	Medical examiner
MEI	Medical examiner investigator
MFI	Mass fatality incident
MFP	Mass fatality plan
NIMS	National Incident Management System
NTSB	National Transportation Safety Board
OME	Utah Office of the Medical Examiner
OTL	Odontology team leader
PPE	Personal protective equipment
RT	Radiologic technologist
SEC	Supervisor of evidence collection
UMED	Utah Medical Examiner Database
VIP	Victim Identification Program

Appendix B: Contact information

OME Contact list can be accessed here: OME Contact information
OME maintains OME contact information which includes:

Hospital contacts: Names, addresses, phone numbers, and specific department contacts (medical records, lab, etc.).

Funeral home contacts: Names, phone numbers, and email addresses.

Police department contacts: Department names, addresses, office/dispatch numbers, fax numbers, and emails.

Sheriff's office contacts: County names, addresses, office/dispatch numbers, fax numbers, and emails.

Health department contacts: Department names, addresses, phone, and fax numbers. For a comprehensive list of contacts within the different public health departments, refer to the Utah Public Health Key Contact List.xlsx

Language interpretation: Service names, addresses, phone/VP numbers, and emails.

OME ME investigators: Investigator names, status (active/full-time), cell/work phones, and emails. For a comprehensive list of all death investigators throughout the state of Utah, active and inactive, refer to OME Investigators Roster.

OME consultants: Consultant/service names and contact numbers.

DHHS internal contacts: Leadership names, titles, and division/office affiliations. Can be found at PUBLIC 10.16.2025 DHHS Leadership Structure

Religious/spiritual contacts: Organization names, addresses, and phone numbers, organized by district.

Cultural resource contacts: Organization names, addresses, and phone numbers.

Refugee community organizations: Organization names, contact person(s), phone/emails, and languages supported.

Bereavement resources: Resource names, contact methods (phone/text/email), and websites

Criminal justice advocates: Contact List of advocacy in Utah

Appendix C: Religious and cultural considerations

A major disaster will likely involve victims and families of different faith, religious, and cultural backgrounds.

It is recommended that all personnel involved in mass fatality management read this section.

Consideration must be given to the specific needs for the autopsy process, handling of the body and tissues, and support for the grieving families and friends. MFIs will very likely involve victims from communities for whom postmortem investigations are unwelcome and/or require a prompt burial.

Family concerns and religious/cultural considerations must be addressed by all levels of mass fatality management with the understanding that not every family request can be met. It's important to be sensitive to family concerns during this difficult time.

When family concerns and religious/cultural considerations cannot be met, it is critical to explain why requests cannot be met and reassure families of the OME's commitment to treating their loved ones with dignity and respect.

Data/information collection from families should include:

1) Information on religious and cultural beliefs and death practices
2) The language the victim's family is most comfortable communicating in
3) Appropriate interpreters if needed

Religious and cultural considerations should be dealt with in as sensitive a manner as circumstances allow.

Early in the process, talk with appropriate religious and community leaders, including tribal representatives.

Communication with families should include:

1) Assurances that the spokesperson is releasing accurate information that was officially issued by the OME
2) A warning that only information from the OME and FAC is credible and that information from other sources may not be correct
3) Information about where families will be notified of the identification of a family member as a victim, which family members are notified, and how they are contacted. Families should be

given the choice to be notified at the FAC or at a location they choose that is convenient for them

The following are examples of some common questions families may have that should be addressed:

How are identifications made?

1) Provide information on all methods of identification that will be used
    a. Explain what each method involves and how reliable it is
2) DNA testing, in particular, involves considerations that should be explained to families
    a. Make copies of Identifying Victims Using DNA: A Guide for Families, in the National Institute of Justice's Lessons Learned From 9/11: DNA Identification in Mass Fatality Incidents, September 2006
    b. Give families a realistic timeframe for DNA testing (may take 6-12 months before identifications can be made)
    c. Tell families that during the DNA identification process no material will be released until DNA testing is completed of all common tissue or at the discretion of the OME in consultation with families

When and how will victims' personal effects and belongings be returned to families?

1) A loved one's personal effects may be very important to the family
2) Establish the process for recovering and returning personal effects as soon as possible after the incident and understood by all involved agencies
3) The process needs to be communicated to families so they understand it and know how long it will take until personal effects are returned, or if they cannot be returned, why not
    a. If the incident is the result of a crime, some or all personal effects may be evidence and cannot be returned until after the trial

Can families go to the incident site?

For many families, being able to go to the incident site is extremely beneficial. It allows them to feel close to their deceased loved ones, imagine their last moments, and honor them and say goodbye.

1) Visits to the incident site should always be coordinated with the organization that has jurisdiction at the site (OME, FBI for crimes, National Transportation Safety Board for commercial airline accidents, etc.)
    a. Spiritual care and mental health personnel should be present during visits and available to family members
2) If the visit takes place during recovery, work should stop to show respect
3) Visiting families should not be exposed to bodies, body parts, or personal effects
4) Separate visits should be arranged for families of surviving victims and for families of the deceased

5) Prepare families for what they will see. Describe the conditions, the destruction/wreckage, and the odors

What is the condition of the body/bodies?
A common wish of families is to know details of their loved one's final moments before and after death and a desire to know that their dignity was not compromised. How the condition is explained requires compassion, honesty, and tact.

1) Provide context—explain the condition of physical structures and how the location of a victim in relation to the cause of the incident affects the condition of the body
2) Assure family members that their loved one's body is treated with the highest degree of respect and dignity, regardless of its condition
3) Avoid these words or phrases: "damage to the body," "fragmentation," "dismemberment," "pieces," "parts," "destroyed body parts," "damage to the body," and "the body is in bad condition"
4) Use these words or phrases instead: "severe," "significant," "trauma to the body" or "condition of the body"
5) Often family members prefer the term loved one to victim
6) Take cues from the family and tell them what they want to know. The amount of information families can handle is usually revealed by the questions they ask and their feedback

Will an autopsy be performed?

1) The nature of the incident and the decision of the OME determines whether an autopsy is performed
2) Make sure to consider family requests, cultural customs, and religious beliefs that prohibit autopsies
3) If an autopsy is recommended, tell families why it is necessary

How do families know the information they receive is accurate?

1) Information regarding a MFI will become public through many sources such as print media, television, radio, and the Internet. Families need to learn about the death of a loved one from a credible source in a compassionate way, not through communications to the public
2) Remind families that information from any source other than officially recognized sources, which should be identified, may be inaccurate
3) Provide families with written records to make sure they have correct information

Can families obtain copies of the OME's report?

1) Utah treats post-mortem Reports of Examination as private documents; only certain relatives and agencies are authorized to receive reports. Immediate family members, as defined in state law, is limited to a:
    a. spouse (legally married at the time of death; the state of Utah does not recognize so-called "common law" marriage, except in very limited circumstances)

   b. child of the deceased who is at least 18-years-old
   c. parent
   d. sibling
   e. grandparent
   f. grandchild
2) A legal representative, defined as a legal guardian of the deceased or a personal representative of the deceased's estate who was appointed by a court of competent jurisdiction, may also access these records. All immediate family members and/or legal representatives have equal access to medical examiner records without preference or priority.

Cultural and religious references

Death, dying, and disposition

The information below provides a brief summary related to cultural and religious preferences, beliefs, and traditions surrounding death. Attempts should be made to care for the deceased consistent with these preferences and with guidance from the family.

BUDDHIST

1) BELIEFS: Buddhists believe in rebirth and that when they die they will be reborn again. The goal is to escape the cycle of death and rebirth and attain nirvana or a state of perfect peace. There are a lot of different denominations of Buddhism and many different ways of dealing with death.

2) PREPARING: The dying person may ask a monk or nun in their particular Buddhist tradition to help them make the transition from life to death as peaceful as possible. Buddhists believe that a person's state of mind as they die is very important so they can find a happy state of rebirth when they pass away. Before and at the moment of death and for a period after death, the monk, nun or spiritual friends may chant from the Buddhist scriptures.

3) AT THE TIME: Buddhists believe the spirit leaves the body immediately but may linger in an in-between state near the body. In this case it is important to treat the body with respect so the spirit can continue its journey to a happy state. The time it is believed to take for the spirit to be reborn can vary depending on the type of Buddhism practiced.

4) FUNERAL: Because there are so many different types of Buddhism, funeral traditions vary. Funerals will usually consist of a simple service held at the crematorium chapel. The coffin may be surrounded by objects significant to the person who died. Monks may come with the family to the funeral and they may chant scriptures.

5) BURIAL: The person may either be cremated or buried depending on their tradition. There may be speeches and chants on the impermanence of life.

6) AFTER: The grave may be visited by friends and family in remembrance of the person who passed away. The importance of the gravesite depends on the particular Buddhist tradition. Buddhists believe that it is just the physical body that lies in the grave because the person's spirit has been reborn. Buddhists will often do things to wish for the happiness of the deceased person. For example, in Southeast Asia, lay people give offerings to the monks in memory of the dead person.

CATHOLIC

1) BELIEFS: Catholics believe there is an afterlife and that once a person dies they will see God face to face. If a person committed a grave offence and has not repented at the time of death that person does not enter into the full glory of heaven.

2) PREPARING: The sick and the elderly can receive the Sacrament of the Anointing of the Sick on a regular basis if they wish. If they can't get to church on their own they will be taken there by other members of the church.

3) AT THE TIME: When a person is close to death the family or friends ask a priest to come and pray with the sick person and administer the Sacrament of the Anointing of the Sick. This includes anointing with holy oils and the reception of the Sacraments of Reconciliation and Holy Communion. After the person passes away the priest comforts the family and helps them prepare the funeral arrangements.

4) FUNERAL: The Catholic funeral rite is called the Order of Christian Funerals. Family and friends pray for the soul of the deceased person and ask God to receive their soul into his eternal glory. The Vigil of the Deceased (a prayer service) is held the night before the funeral. On the day of the funeral a Requiem Mass for the deceased person is celebrated. This includes scripture, prayers, and hymns. Family and friends are invited to take part in the service.

5) BURIAL: The Rite of Committal is celebrated at the grave or place where the body has been entombed. Family members and friends along with the priest pray once again for the deceased person as they commit the body or cremated remains to the final resting-place. The gravesite is also blessed.

6) AFTER: Family members and friends often have Mass celebrated for the peace of the soul of the deceased person over the next year. On special occasions such as the deceased's birthday, Christmas, or anniversary of the death, family and friends will often visit the grave.

Flowers or other objects to remember the deceased are sometimes placed on the grave as a sign of respect.

PROTESTANT

1) BELIEFS: Christians trust they will go to heaven to be with God once they have died. In some respects a funeral is a time of joy, and sadness, as the person will be missed by friends and loved ones.

2) PREPARING: The church minister may come and visit the person and their family to discuss any concerns and to help the person to prepare for their death. Depending on the form of Christianity (i.e., Anglican, Presbyterian, etc.) and the particular church, slightly different customs may be followed.

3) AT THE TIME: The church minister will offer any comfort or assistance the family needs to help them cope with the death and to organize the funeral. Friends will often send their sympathies in the form of cards and/or flowers to the deceased's family.

4) FUNERAL: A Christian may be either buried or cremated, depending on their preference. The ceremony is typically held at the deceased person's church and conducted by the minister, but it may also be held at a funeral home. The ceremony may involve hymns, readings and prayer by both the minister and the deceased's family and friends. The casket may be present in the room during the ceremony and carried out at the end by pallbearers—usually members of the deceased's immediate family. There is often the opportunity for people to view the deceased and say their last goodbyes before the deceased is buried.

5) BURIAL: The ashes may be scattered if the deceased has been cremated. Otherwise, the ashes or body will be buried in a cemetery and marked with a gravestone to remember the deceased.

6) AFTER: On special occasions such as the deceased's birthday, Christmas, or anniversary of the death, family and friends may come and visit the grave. Often, flowers or other objects to remember the deceased will be placed on the grave as a sign of respect.

CHURCH OF JESUS CHRIST LATTER DAY SAINTS (LDS)

1) BELIEFS: Church of Jesus Christ Latter Day Saints (or LDS as they are also known) believe that at death the body and the spirit separate. The spirit goes to the spirit world before it is reunited with the body. The judgment then occurs and the person then lives in Heaven with God.

2) PREPARING: The ward bishop and members of the church offer support to the person who is dying and their family.

3) AT THE TIME: The ward bishop goes to the deceased's home and offers assistance to the family as they make arrangements for the funeral.

4) FUNERAL: Funeral services are generally conducted by the bishop in a ward chapel or in a mortuary. Although people mourn the loss of a loved one, the funeral service is viewed as a celebration of the life of the deceased. The service consists of a eulogy, doctrinal messages, music, and prayer. The funeral is designed to bring peace and solace, as church members believe families may be reunited in the life hereafter. Mourners often send flowers to the family to show their support.

5) BURIAL: Church members who have received temple ordinances are buried in their temple clothing. The grave is dedicated as a place of peace and remembrance for the family.

6) AFTER: The gravesite is considered to be a sacred place for the family to visit and place floral remembrances.

HINDU

1) BELIEFS: Hindus believe in reincarnation. When a person dies their soul merely moves from one body to the next on its path to reach Nirvana (Heaven). While it is a sad time when someone dies, it is also a time of celebration.

2) PREPARING: Family members and a priest may come to pray with the dying person, sing holy songs, and read holy texts. The priest may perform last rites.

3) AT THE TIME: Family pray around the body soon after death. People try to avoid touching the body as it is considered unclean.

4) FUNERAL: The deceased is bathed and dressed in white traditional Indian clothing. If a woman dies before her husband she is dressed in red. The procession may pass by places that were important to the deceased. Prayers are said at the entrance to the crematorium. The body is decorated with sandalwood and flowers. Someone reads from the scriptures. The head mourner is usually a male or the eldest son and he prays for the body's soul.

5) BURIAL: Hindus are cremated as they believe burning the body releases the spirit. The flames represent Brahma (the creator).

6) AFTER: A priest purifies the family's home with spices and incense. A mourning period begins during which friends and relatives visit the family and offer their sympathies. After the funeral, mourners must wash and change their clothing before they enter the house. Shradh occurs one year later. This is either a one-off event or may become an annual event. Shradh

is when food is given to the poor in memory of the deceased. Shradh lasts one month and a priest says prayers for the deceased. During this time the family does not buy any new clothes or go to any parties.

JEHOVAH'S WITNESS

1) BELIEFS: Jehovah's Witnesses believe that when they die they go into a kind of sleep until God resurrects them from the dead. Those who gain entrance to Heaven live with God but the vast majority of mankind will be resurrected to a restored paradise on earth.

2) PREPARING: The church elders visit the person, pray with them, and share scriptures to bring the person comfort.

3) AT THE TIME: No rituals are performed at time of death but an elder comforts friends and family of the deceased.

4) FUNERAL: The funeral is usually held at the Kingdom Hall where the deceased attended or at the funeral home. The body may either be cremated or buried depending on the wishes of the deceased. Mourners usually wear dignified clothing in muted colors out of respect for the deceased. A church elder runs the service with a sermon, prayers, and singing.

5) BURIAL: A committal service may take place at the graveside if the family wishes. It would include prayers and scripture, which are led by the church elder.

6) AFTER: Mourners gather at the family's house so friends and relatives can offer their sympathies. Flowers and cards are usually sent. Family and friends may come and visit the grave in the coming years to remember the deceased.

JEWISH

1) BELIEFS: Beliefs may vary depending on whether the Jewish person is Orthodox, Reform, or Conservative. Jews believe that when they die they go to Heaven to be with God. This next world is called Olam HaEmet or 'the world of truth.' Death is seen as a part of life and a part of God's plan.

2) PREPARING: Family and friends gather. A rabbi may be called to offer comfort and to pray for the person who is dying.

3) AT THE TIME: The person's eyes are closed, the body is covered and laid on the floor. Candles are lit. The body is never left alone. Eating and drinking are not allowed near the body as a sign of respect. In Jewish law, being around a dead body causes uncleanliness so often the washing of the body and preparations for burial is carried out by a special group of volunteers from the Jewish community. This is considered a holy act.

4) FUNERAL: Jews may not be cremated or embalmed. In Israel a coffin might not always be used but outside of Israel a coffin is almost always used. The body is wrapped in a white shroud. Mourners have the opportunity to express anguish. Tears are seen as a sign of sadness and show that the mourner is confronting death. Mourners also tear their clothing as an expression of grief.

5) BURIAL: The burial takes place as soon as possible following the death. Pallbearers carry the casket to the grave. A family member throws a handful of earth in the casket with the body. This is to put the body in close contact with the earth. Jewish law says each grave must have a tombstone to remember the deceased.

6) AFTER: A candle is lit after returning from the cemetery to mark seven days of mourning called Shivah. This is when people can offer sympathies to the mourners. Friends prepare a meal to help the mourners regain their strength. Each year the anniversary of the death is commemorated according to the Hebrew calendar. This day is observed as a solemn day of remembrance.

MUSLIM

1) BELIEFS: There are two types of Muslims—Shi'ite and Sunni. Beliefs and customs may be slightly different for each. Muslims believe that the soul continues to exist after death. During life, a person can shape their soul for better or worse depending on how they live their life. Muslims believe there will be a day of judgment by Allah (God). Until then, the deceased remain in their graves but on judgment day they either go to Heaven or Hell. Muslims accept death as God's will.

2) PREPARING: Muslims should be prepared for death at any time, which is why daily prayers are so important. A dying person may wish to die facing Mecca, the Muslim holy city. Family members and elders recite the Muslim scripture called the Koran and pray for the person.

3) AT THE TIME: The eyes of the deceased will be closed and the body is laid out with their arms across their chest and head facing Mecca. The body is washed by family or friends. It is then wrapped in a white shroud and family or friends pray.

4) FUNERAL: The body is buried within 24 hours as Muslims believe the soul leaves the body at the moment of death. The funeral takes place at the graveside and involves prayer and readings from the Koran.

5) BURIAL: No women are allowed to go into the graveyard. A prayer is recited before burial. Mourners are forbidden from excessive demonstrations of grief. The body will not be cremated as this is not permitted in Islam. The deceased is buried with their face turned to

the right facing Mecca. They usually do not use a coffin. Instead, a chamber is dug into the grave and sealed with wooden boards so no earth touches the body. The grave is usually simple without any fancy decoration.

6) AFTER: Three days of mourning follow the burial. Visitors are received during this time and a special meal may be held to remember the departed. Mourners avoid decorative jewelry and clothing. Male family members go to visit the grave daily or weekly for 40 days. There are also prayer gatherings at the home for 40 days. A large prayer gathering of family and friends is held after one year. After that, male family and friends visit the grave and everyone remembers the deceased in prayers.

SCIENTOLOGIST

1) BELIEFS: Scientologists believe that humans are immortal spiritual beings called thetans who live several lives. Each thetan has a body and a mind, which exists from lifetime to lifetime. When a person dies they simply move into a new life.

2) PREPARING: The Scientology minister may visit the person who is dying and the family to provide guidance and assistance. After the person passes away the minister offers comfort to the family and helps them organize the funeral if required.

3) AT THE TIME: There are no particular protocols after the person has died—it is up to the family and the wishes of the deceased.

4) FUNERAL: The funeral service is taken by the Scientology minister who asks the mourners to remember that the deceased has simply moved into a new life and to wish them well. The minister speaks directly to the thetan acknowledging it for its contributions in this life, releasing it from any obligations, and freeing it to move on to its new life. There will probably be a eulogy and reading from the Scientology scripture. It is up to the family to decide what else they want to include. The congregation is encouraged to say goodbye to the person.

5) BURIAL: A scientologist is usually cremated but the body may also be buried. If the family decides to go to the gravesite they generally say some words by the graveside.

6) AFTER: Usually families receive mourners at their home after the funeral. Mourners may give their sympathies with flowers or cards. The deceased is remembered on special occasions and flowers are placed on the graveside.

SEVENTH DAY ADVENTIST

1) BELIEFS: Seventh Day Adventists believe that death is an unconscious sleep. When Christ returns to the earth he will awaken all those who believe in him and they will all go to be with God in Heaven.

2) PREPARING: For a Seventh Day Adventist, death is not something to be afraid of but is part of God's plan. The church minister or lay group leader may come and offer support to the person who is dying as well as their family members.

3) AT THE TIME: Friends may visit and offer sympathies to the family. The church minister or lay group leader may offer assistance in helping with preparations for the funeral.

4) FUNERAL: The funeral usually takes place within a week. Friends may be able to view the deceased if the family wishes. The service usually takes place at the church, a chapel, or crematorium and includes music, singing, scripture readings, a sermon, and prayers.

5) BURIAL: Seventh Day Adventists can be buried or cremated. There will be a committal ceremony at the graveside or crematorium. The minister or lay group leader prays and reads scripture as they commit the body to the earth.

6) AFTER: Friends may visit the family to offer help and offer words of comfort. They may also send flowers or food to the house.

SIKH

1) BELIEFS: Sikhs believe in reincarnation but also believe that if a person lives their life according to God's plan they can end the cycle of rebirth in this life. They believe in an afterlife where the soul meets God.

2) PREPARING: Friends and relations are with the dying person and recite from the Sukhnami Sahib.

3) AT THE TIME: The deceased will be washed and dressed in clean clothes after they pass away. If the deceased has fulfilled the Sikh baptismal ritual then the five symbols of Sikh membership are also placed in the coffin.

4) FUNERAL: Friends and family drive in procession to the crematorium. Death is not seen as a sad occasion but an act of God and it is forbidden to cry. There may be an opportunity to view the deceased. They sing hymns, pray and recite the poem Sohila.

5) BURIAL: Cremation is the preferred method of disposition for Sikhs. A male family member switches the cremation oven on. The ashes are spread in running water and are traditionally sent to India.

6) AFTER: The mourners come to the temple for more hymns and readings afterward. They also distribute parsad, a kind of bread/pudding, which is a symbol of God's blessing. For days

after the death, Guru Granth Sahib is read or sung regularly in order to ease the sorrows of the family.

Appendix D: Locally available assets

Deployable assets owned by the Utah Department of Health and Human Services that may be used in mass fatality operations. Note: the total numbers of equipment and supplies listed in the tables below may fluctuate over time. Numbers provided here are best estimates at the time of plan development and serve only as general guides for planning purposes.

Resource	#	Location(s)	Contact #	Description
Portable refrigerated morgue (reefer truck)	1	Weber County Sheriff Yard	(801) 778-6682	53' insulated semi-trailer—self-contained refrigeration unit. Includes 14 (4) tray heavy duty rolling cadaver racks, 56 cadaver trays with cam straps, rear motion-controlled LED area and ramp lighting, power cable for interior lighting, crates, and straps.
Environmental containment units (ECUs)	30	Distributed to hospitals and coalitions across the state	(385) 239-2967	Regionally prepositioned equipment to protect sensitive healthcare environments/airborne contaminants/patient isolation. Includes HEPA filtering for one 2500 sq ft room, negative pressure HEPA corridors.
Environmental containment unit 2 system (ECU2)	3	Salt Lake City (DHHS Warehouse)	(385) 239-2967	3 Each small MF100 collapsible, portable unit for single room entry/exit anterooms ECU2.
BioSeal Mass Fatality Response Systems	6	Salt Lake County, Weber, Washington counties	(385) 239-2967	One re-closable container on pallet with tools needed to ensure absolute containment of whole or partial human/animal remains. Packaging for about 1,200 adult bodies. Requires forklift and truck to move.
BioSeal Portable Systems	12	Salt Lake, Utah, Cache, Uintah, Emery, Sevier & Grand, Weber, Washington counties	(385) 239-2967	Case with power and tools for absolute containment of about 12 adult bodies. Easily transportable.
Mass fatality recovery kits	4	Salt Lake City (DHHS Warehouse)	(385) 239-2967	Supplies needed for mass fatality response supported by DHHS Office of the Medical Examiner.
Mass fatality trailer	1	Salt Lake City (DHHS Warehouse)	(385) 239-2967	Towable trailer for deployable field site response; rakes, shovels, buckets, backboards, mega movers, safety glasses, work gloves, zip ties, tags and notepads. (Box Elder and Summit county also have local trailers for mass fatality recovery operations)

PPE (personal protective equipment)	B/I	Salt Lake City (DHHS Warehouse)	(385) 239-2967	N95 and surgical masks, gloves, isolation gowns, face shields, protective coveralls
Support items cache	B/I	Salt Lake City (DHHS Warehouse)	(385) 239-2967	Generators, field toilets and sinks, cots, litters, blankets, radios, lighting, body bags, heaters, fans

A disaster portable morgue unit is available at Weber County. It can be obtained by calling 801-395-8221 or 801 778-6682. This unit is owned by Weber County.

Appendix E: IT support

System support

In the event of a mass fatality incident, the Division of Technology Services (DTS) focuses on maintaining organizational stability for the Office of the Medical Examiner (OME). Primary objectives include reducing disruptions, establishing alternative operational methods, and facilitating the swift restoration or expansion of services.

DTS maintains the following critical applications and databases:

- **Utah Medical Examiner Database (UMED):** Operates via mobile hotspot with minimal bandwidth and does not require a VPN.
- **Utah Mortality Application Portal (UMAP):** Serves as the foundational platform for both UMED and EDEN.
- **Office of Vital Records and Statistics (OVRS).**

Infrastructure and remote connectivity

DTS establishes IT infrastructure at satellite locations, including alternative government buildings or open-air sites. Technical support for these operations—including the OME—is guaranteed 24/7 through a special business agreement (SBA) between DTS and the Utah Department of Health and Human Services (DHHS).

DHHS maintains a 110V mobile Starlink kit for remote statewide connectivity. As a low-orbit satellite provider, Starlink delivers high-speed, low-latency internet in areas where traditional networks are unavailable. For optimal performance, the unit requires a 110V power supply and a clear, unobstructed view of the sky. Additionally, DTS provides a mobile networking solution to ensure secure state network access for all responding employees and guests.

Emergency contact information

- DTS resource availability: 800-678-3440
- Office of Preparedness and Response hotline: 866-364-8824

Appendix F: Examination of skeletonized remains

I. Procedure and practice

A. Put a plug in the table so small bones do not fall through the hole and get lost.

B. After the pathologist has completed their initial exam and before any bones are rearranged, use paper bags to secure each of the hands and feet so the small bones are not mixed up or lost. Label the bags with the appropriate information—for example "left hand" or "right foot" or "foot—unknown if right or left" or even "bones from sock."

C. Photographs
   1. Remains as received—clothing in place
   2. Remains laid out/without clothing
   3. Photographs of hands before removal if tissue is still present—see section (H.2.) for further instruction about removal of hands.
   4. Close-ups of all teeth still in the mouth from multiple angles.
   5. Anything unusual—surgical hardware, obvious injuries, etc.
   6. Clothing—make sure to get good overall pictures as well as close-ups of tags, logos, and sizes.
   7. Personal effects
      a) Make sure to get clear close-ups of identifying information on personal effects if present.

D. Paperwork
   1. Provide the doctor with a skeleton diagram if requested.
   2. Toxicology request form
      a) See toxicology reporting for details.
   3. Autopsy worksheet
      a) Fill out all of the usual fields on the autopsy worksheet. Be sure to select autopsy, partial, or external. Fully skeletonized remains are considered external. If the decedent is still partially fleshed and cut open and organs removed, then it is considered an autopsy.
   4. Body inventory and release sheet
      a) Fill out all of the usual fields on the inventory form. Remember to specify autopsy or external. List personal effects and clothing. Package personal effects and clothing as usual.
   5. All of the other usual paperwork should be completed according to standard operating procedures.

E. Toxicology
    1. Collect a sample of maggots if present (try to fill an NMS liver cup)
    2. If no maggots are present, collect pupa casings (try to fill up to three NMS liver cups because we need about 6 grams of pupa casings)
    3. Fill out the tox form and label the samples according to the following SOPs: Filling out the OME Toxicology Analysis Request Form, MOR-020.00; Filling out form labels and toxicology labels, MOR-061.00.
    4. Ask the doctor if they would like to send soft tissue (if present), bone, maggots (if present), or pupae casings (if present) for toxicology testing or to save in case of future testing.
        a) If the doctor needs time to decide, place the sample(s) in the "waiting for vitreous/hospital samples" area in the tox fridge and put the tox form on the side of the fridge with a note indicating the doctor is still deciding about toxicology testing.
        b) If the doctor wants toxicology testing, order an expanded drug panel. For maggots or pupa casings, when doing an NMS requisition, in the "special instructions" field on the first page, specify whether the sample is maggots or pupa casings. When adding the sample on the second page, choose "other" for the field on the left. Nothing needs to be specified for the field in the middle. Add the date and time collected on the right.
        c) To order an expanded drug panel on bone, muscle, or some other tissue type, choose "tissue" for the left-hand field and the specific tissue type (bone, muscle, etc.) in the middle field. Add the date and time collected on the right.
    5. If the doctor wants sample(s) collected but does not want to order testing, collect the sample and label it normally but note on the tox form that the samples were placed in the doctor's save bin. Follow the protocol for putting samples in the save bin and documenting them on the save bin log.
    6. If the doctor does not want toxicology testing or does not want toxicology samples collected, write that on the tox form and enter it into UMED as follows:
        a) Add the toxicology analysis request form.
        b) Enter the synopsis given by the doctor under synopsis.
        c) Under suspected drugs list any drugs the doctor specified.
        d) Check off the box "Send directly to the reference lab." This will hide the sample from the state lab and avoid confusion.
        e) In the "reference lab requested tests" field, type either "no tox collected" or "no testing requested, samples in doctor's save bin."
        f) Enter the storage date, time, and who, as usual. If no tox samples were collected, the current date and time and your own name is fine.

g) UMED currently requires you to enter sample information for at least one sample, so if no sample was collected, enter the following:
   1) Sample type: other
   2) Sample type, specify: N/A
   3) Sample container: other
   4) Other (specify): N/A
   5) Collection date and time: current date and time
   6) Collected by: N/A
   7) Sample volume: 0

F. Postmortem dental x-rays
   1. Ask the doctor if they want postmortem dental x-rays. If they say yes, make sure the case number is on the board, and that the need for postmortem dental x-rays is indicated on the whiteboard next to the special procedures cooler.

G. Anthropology exam
   1. Ask the doctor if they want to conduct an anthropological examination and write it on the whiteboard next to the special procedures cooler.

H. Sending hands for fingerprints
   1. If the skin of the hands is present, ask the doctor if they want the hands sent to the crime lab for fingerprinting. If so, write it on the whiteboard next to the special procedures cooler.
   2. Cut off the hands after the doctor's approval has been obtained. Place each hand in a paper bag. Label the bag with a form label and "left hand" or "right hand." Notify investigations that the hands are ready to be taken up to the crime laboratory.

II. References

A. OME toxicology analysis request form, MOR-020A.00
B. Autopsy worksheet: reference appendix H.
C. Body inventory and release sheet, MOR-001A.00
D. Filling out form labels and toxicology labels, MOR-061

Appendix G: Toxicology request form

OME Toxicology Analysis Request Form

4431 South 2700 West Taylorsville, UT 84119 (801) 965-2400	Evidence Receiving Phone# (801) 965-2451 Evidence Receiving Fax # (801) 968-1315

Date of Death	Initial Synopsis	
	Suspected Drug(s)	

Item #	Sample Type	Container Type/Volume	Collected Date/ Time	Tests Requested (✓ all that apply)	Collected By
	Blood _____	Gray _____ ml		☐ Volatiles ☐ Drugs of Abuse ☐ Rx screen	
	Blood _____	Gray _____ ml			
	Blood _____	Red _____ ml		☐ CO	
	Vitreous	Red _____ ml		☐ Volatiles	
	Urine	Red _____ ml		☐ Drugs of Abuse	
	Bile	Red _____ ml			
	Gastric ☐ Retained at OME	Cup _____ ml			
	Liver ☐ Retained at OME	Cup _____ g			

Reference Lab	Option 1: Screen at lab. If positive, send to Reference Lab for quantitation. Option 2: Send directly to Reference Lab for quantitation.	
Drug(s), Test(s)	**Item # to test**	**Option**
1.		☐ Option 1 ☐ Option 2
2.		☐ Option 1 ☐ Option 2
3.		☐ Option 1 ☐ Option 2

Chain of Custody	Date	Time	By
Stored in OME fridge			
Released by OME			
Received at lab			

DOB:

Issue Date: June 5, 2012

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Appendix H: Autopsy worksheet

MOR-001C.00

OFFICE OF THE MEDICAL EXAMINER **Body ID:** Y ☐ N ☐ **SD Card #:**

Taylorsville, Utah

Autopsy Worksheet - Case #

Name: **DOB:** **DOD:**

Dr: **Asst:** **OME Invest:**

Invest Summary:

Autopsy / Partial / Exam **Date/Time:** ____ : ____ **Inv. Agency:**

Witnesses Print name & agency: _____ **Height** (cm/in): / **Eye Color:**

_____ **Weight** (kg/lbs): / **Hair Color:**

_____

Disposition of Clothing: **Release to FH:** Y ☐ N ☐ **Released to LE Agency:** Y ☐ N ☐

Photos	Date	By
Intake		
Overall		
I.D.		
Other		
Clothing		

X-Rays #	Date	By
A/P		
A/P		
A/P		
LAT		
LAT		

Prints	Date	By
Fingerprints		
Thumbprints		
Footprints		
Palmprints		

Weight	Description
Brain	
Neck	
Heart Measurements	
	LV: IVS: RV: TV: PV: MV: AV:
R Lung	
L Lung	
Liver	GB: Y ☐ N ☐
GI Tract	Appendix: Y ☐ N ☐
Spleen	
R Kidney	
L Kidney	
Reproductive	Uterus: Y ☐ N ☐ Ovaries: R ☐ L ☐ Testes: R ☐ L ☐
Body Cavities	Pleural R: Pleural L:
	Pericardium: Peritoneal:
Body Fluids	Bile: Urine:
	Gastric:

DNA Spot Card: Y ☐ N ☐ **Save Jar:** Y ☐ N ☐ **Brain Fixed:** Y ☐ N ☐ **Other Orgs Fixed:** Y ☐ N ☐

Histology	Serology/Virology	Cultures	Clinical

Appendix I: Pandemic infectious disease

Mass fatality incidents (MFI) due to pandemic infectious disease have historical precedent, notably the 1918–1919 H1N1 Spanish influenza, which caused an estimated 50 to 100 million deaths worldwide and 650,000 in the U.S., often affecting young, healthy individuals. More recently, the COVID-19 pandemic, caused by SARS-CoV-2, resulted in significant excess mortality and emphasized the critical need for robust planning.

The Utah Office of the Medical Examiner (OME) is likely to be the first agency to recognize unusual patterns of infectious disease-related deaths. While both influenza and SARS-CoV-2 pose risks to the elderly, past experience, including the 2003–2004 flu season and the COVID-19 pandemic, has shown that a significant number of related deaths can occur in younger people and outside of healthcare facilities.

These rapid, out-of-hospital deaths fall under OME jurisdiction. Effective and timely public health measures will depend on ongoing, seamless communication between OME, the state public health laboratory, and the state public health department, especially following autopsies of deaths that are unusual in their temporal occurrence, involve larger-than-usual numbers, or result rapidly after symptom onset.

1) Special considerations
    a. Deaths during pandemics might occur both within and outside of a hospital. Unattended deaths fall under the jurisdiction of OME. However, attended natural disease deaths are certified by physicians. Given the importance to public health of accurate mortality tracking, the OME will, in consultation with the Department of Health and Human Services, manage these functions for both unattended deaths as usual, and review cause of death for all attended deaths.
    b. As a pandemic worsens, it is possible that full autopsies cannot be performed in all cases; diagnoses can be confirmed by culture or PCR from a nasopharyngeal swab.
    c. When hospitals and funeral homes have numbers of fatalities that exceed their capacity to manage the bodies, they can contact their county emergency management for guidance including biosafety retrieval, storage, and disposal of remains. The OME is notbe responsible for storage of bodies. The OME will provide technical advice on best practices.
    d. Maintaining both normal OME operations and handling pandemic fatalities in light of staff shortages caused by illness or unwillingness of key staff members to leave their families or risk exposure might be impossible. In such a situation, the office will triage only the most important cases for autopsy and focus on transporting other bodies to storage facilities to be processed as staffing allows.

2) Diagnosis
    a. At autopsy, obtain a nasopharyngeal swab for viral culture and PCR and bilateral bacterial lung cultures as individuals with viral illnesses often have secondary bacterial pneumonia and individuals presenting with pneumonia often have antecedent influenza. Also, obtain histologic samples from main bronchus and trachea so they can be used, if necessary, for immunohistochemistry. In early cases, pathologists should conduct widespread histologic sampling to characterize the pathologic effects (myocarditis, encephalitis, primary or secondary pneumonia, etc.) of a potentially novel respiratory virus and to help guide clinicians with treatment strategies. Once the number of fatalities exceeds the capacity for autopsy, nasopharyngeal swabs can be obtained by the investigators or pathologists in conjunction with an external examination in order to confirm the diagnosis.

3) Steps to be taken
    a. The chief medical examiner will contact the incident manager or state epidemiologist when fatal cases are initially recognized.
    b. When fatalities exceed the capacity of hospitals and funeral homes, arrange for local body storage (county level) in conjunction with emergency management officials.
    c. Determine whether additional regional or central storage facilities for bodies will be necessary.
        i. One OME refrigerated trailer for storage or mobile morgue facilities will be available for overflow storage capacity at the OME
        ii. If refrigerated trailers do not meet the needs for storage, consider rail containers (2 to 4 degrees C or 36 to 40 degrees F) or renting/purchasing local refrigerated trucks
        iii. If refrigerated trailers or rail containers are not available and additional storage is needed, bodies can be buried in temporary trench graves
            1. About 5 feet deep
            2. At least 700 feet away from drinking water sources
            3. Single layer of bodies
        iv. If trenches can't be dug, group bodies in clusters of 20 (single layer) with 2 feet of dry ice in low wall around each group and cover with tarps
        v. Do not put regular ice on bodies
    d. Perform autopsies on designated remains
        i. Perform external examinations on all remains if possible
        ii. Confirm identity for all descendants
    e. Establish a family assistance center as needed
    f. Maintain contact with DHHS incident command structure

Appendix J: Bioterrorism

The number of fatalities resulting from bioterrorist attacks in the U.S. have been low. Letters with anthrax spores resulted in five deaths in 2001, shortly after the September 11 terrorist attacks. However, the lethality of potential bioterrorism agents such as yersinia pestis, bacillus anthracis, and hemorrhagic fever viruses is high. Deaths as a consequence of bioterrorism are homicides and therefore fall under medical examiner jurisdiction.

Biologic agents are categorized based on their risk to national security, with high risk, Category A agents able to be easily disseminated and/or transmitted person-to-person and with high potential mortality. **Category A** agents include:

Agent	Type	Transmission
Anthrax (Bacillus anthracis)	Bacteria	Inhalation, ingestion, or skin contact (spores)
Botulism (Clostridium botulinum toxin)	Toxin	Ingestion or inhalation of the toxin
Plague (Yersinia pestis)	Bacteria	Flea bites or respiratory droplets
Smallpox (Variola major)	Virus	Person-to-person (respiratory)
Tularemia (Francisella tularensis)	Bacteria	Inhalation, insect bites, or contaminated water
Viral Hemorrhagic Fevers (VHFs)	Virus	Direct contact with infected body fluids

Category B agents are more moderate in their morbidity and mortality and are less easy to disseminate. Category C agents are emerging infections that have high potentials for easy dissemination and resulting morbidity and mortality.

The OME might be alerted to a potential act of bioterrorism by the occurrence of an endemic disease at an unusual time or location, clusters of patients from one location, or large numbers of rapidly fatal cases.

Special considerations

a. Specific guidance for medical examiners to manage bioterrorism fatalities is provided in: A Guidebook for Surveillance and Case Management. This report covers background information, biologic agents, consequent clinicopathologic diseases, autopsy procedures, diagnostic tests, biosafety risks and autopsy precautions, surveillance issues, operational and evidentiary concerns, and federal resources for support.
b. Ideally, complete autopsies with extensive histologic, microbiologic, and serologic testing will be performed on any cases suspected of being the victims of bioterrorism.

c. In the case of a large-scale bioterrorist attack, full autopsies with extensive tissue sampling on all cases might become impossible if the number of fatalities exceed the capacity of the medicolegal death investigation system. With some bioterrorism-related diseases (smallpox, viral hemorrhagic fevers), diagnoses can be made with immunohistochemistry on skin samples without an autopsy.
d. Chain of custody must be maintained for these cases as legal proceedings will require autopsy reports and laboratory test results as evidence in prosecution of cases. When bioterrorism is suspected, the OME must work with the IM to determine what biosafety level will be required for OME and non-OME personnel who retrieve remains and evidence and if prophylactic vaccination or antibiotic administration will be needed.
e. The OME is the content expert for the safe handling of bodies and the gatekeeper for law enforcement personnel's access to infectious disease experts, epidemiologists, and public health responders.

Diagnosis

1. Diagnostic specimens and testing will be obtained as under guidance in 1a above. Testing for suspected BT agents (Categories A and B) can be performed at UPHL, except for Arenaviruses (Category A), and Alphaviruses, epsilon toxin of Clostridium perfringens, and Staphylococcus B toxin (Category B). Only tuberculosis testing (Category C) can be performed at UPHL. All other Category C agent testing would be referred to the CDC.

Steps to be taken

1. The chief will contact the IM or state epidemiologist when fatal cases are initially recognized or clinical cases are occurring.
2. Determine whether additional regional or central storage facilities for bodies will be necessary.
    a. Use the three OME refrigerated trailers/mobile morgues. If trailers are not available or body number exceeds capacity, request refrigerated trucks or rail containers (2 to 4 degrees C or 36 to 40 degrees F).
    b. If refrigerated trucks or rail containers are not available and additional storage is needed, bodies can be buried in temporary trench graves:
        i. About 5 feet deep
        ii. At least 700 feet away from drinking water sources
        iii. Single layer of bodies
    c. Group bodies in clusters of 20 (single layer) with 2 feet of dry ice in low wall around each group if trenches can't be dug. Cover with tarps.
    d. Do not put regular ice on bodies.

3. Perform autopsies on designated remains.
    a. Perform external examinations on all remains if possible.
    b. Confirm identity for all decedents.

Appendix K: A guidebook for surveillance and case management

The report, titled "Medical Examiners, Coroners, and Biologic Terrorism: A Guidebook for Surveillance and Case Management," establishes medical examiners and coroners (MEs) as vital partners in public health and national security efforts. It emphasizes that MEs are uniquely positioned to detect and investigate sudden, unexplained, or suspicious deaths that may result from biologic terrorism. By conducting medicolegal autopsies and providing organism-specific diagnoses, these investigators offer critical data for early surveillance and the broader multidisciplinary response. The guidebook aims to bridge the gap between local preparedness and national response strategies by clarifying the statutory authority and roles of MEs alongside law enforcement and public health agencies.

The document also provides comprehensive technical guidance on potential biologic agents, their clinicopathologic presentations, and the specialized diagnostic testing required for forensic pathology. It addresses significant operational challenges, such as the widespread lack of biosafety level 3 (BSL-3) facilities in local jurisdictions and the necessity for standardized communication during emergency situations. To mitigate these gaps, the report discusses federal resources for funding and suggests the development of regional or mobile BSL-3 autopsy centers. Ultimately, it underscores that effective management of terrorism-associated fatalities requires seamless collaboration between MEs, the FBI, and emergency management systems to ensure both public safety and the preservation of forensic evidence.

Appendix L: Conventional explosives

As opposed to bioterrorism attacks and natural disasters, explosions often result in fragmentation of bodies, which usually results in recovery of remains over a period of time. Other unique factors in mass disasters from explosives include the need to preserve forensic evidence to assist law enforcement agencies in their investigations, and the need for rigid safety procedures during recovery.

The following steps should be taken:

1. Law enforcement responds to the scene and assesses safety issues.
2. If there is a potential for chemical contamination, law enforcement or OME will contact the local HazMat personnel.
3. If there is a potential for radioactive contamination, the OME will coordinate with appropriate state and federal partners.
4. If there is an assessed need for heavy equipment or stabilization of the explosion site, recovery personnel will not enter the scene until safety issues are addressed.
5. If the Department emergency operations plan is activated, recovery personnel will enter the scene and assist in recovery under the direction of the incident manager.
6. Document remains on site after the safety of the site is ensured. All remains should have individual identification numbers and a GPS location.
7. Establish a temporary morgue to hold remains on site until they can be transported to a more permanent processing site.

Morgue procedures for fragmented remains:

10. All bodies and fragments are received at the morgue based on their recovery identification numbers.
11. All bodies and fragments are photographed and x-rayed.
12. Intact bodies are scanned by CT.
13. Depending on the number of remains, the forensic odontologist is notified and may elect to activate additional forensic odontologists.
14. Depending on the number of bodies and remains, the forensic anthropologist may elect to activate additional forensic anthropologists.
15. The bodies and remains are examined by forensic pathologists with a special goal to recover and retain forensic evidence.
16. Body handlers and forensic pathologists take special caution to avoid injury during handling of bodies and removal of shrapnel.
17. Appropriate samples are taken of fragmented remains for potential DNA evaluation.
18. Fragmented remains are retained under their recovery identification numbers for possible identification after DNA evaluation.

Appendix M: Nuclear detonations/radioactive contaminants

Any mass disaster that results in contamination of individuals or the surrounding environment with radioactive material requires a unique approach to victim recovery, handling of personal effects, examining, and disposal of the remains. Management of large numbers of radioactive victims would be beyond the scope of the state facilities and would require federal assistance. Assets available to states are listed in FEMA's "Nuclear/Radiological Incident Annex to the Response and Recovery Federal Interagency Operational Plan:

In any death or deaths where contamination with radioactive material is strongly suspected, the OME should refer to the DHHS Radiological/nuclear incident concept of operations plan.
In incidents where there is a death or low numbers of deaths with a low suspicion of radioactive contamination, the OME should respond with a Gieger counter to determine the possibility of radioactive contamination. If a Geiger counter is not readily available the OME responder should not transport the victim(s) until the possibility of contamination is confirmed or eliminated.
As with other MFIs, the OME reports to the designated IC to coordinate the retrieval, processing, decontamination, and disposal of human remains. The OME must work within the contamination control boundaries established by the IC and use any required radiation monitoring equipment provided for both their own safety and for determining the radiation levels and decontamination needs of the remains.

The following are steps to be taken if there are a large number of fatalities from an obvious incident involving contamination with radioactive material. In this case, the State emergency operations plan will be activated and will probably involve a federal response.

1. Contact the incident commander (IC) upon arrival at scene. OME reports to IC.
2. All OME personnel adhere to instructions provided and enter the scene with an escort.
3. IC will provide information to OME personnel regarding radiation hazards, monitoring requirements, and when remains are safe to remove from site.
4. Assess the scene and document photographically, but do not touch human remains other than placing a radioactive tag on the remains for radiation monitoring.
5. Department of Energy recommends leaving bodies in place for a minimum of 72 hours following the incident.
6. Non-OME personnel will conduct a radiologic survey of remains and identify contaminated areas.
7. Follow the decontamination measures put in place by non-OME staff who conduct a gross decontamination of contaminated remains and personal effects.
8. Authorized non-OME personnel will monitor remains following decontamination and determine if double gloving, double bagging, etc., are needed.

a. Remains will be decontaminated in the “hot zone” (75 feet around incident site), re-surveyed, and moved to the “warm zone” (contamination reduction zone).
b. Re-survey for radiation in the warm zone and decontaminate again if needed.
c. Once “radiologically clean,” remove from site, place radiation tag on body bag, and transfer custody to OME.
d. Move bodies/remains to morgue for additional autopsy/identification procedures.
e. Non-OME radiation personnel are responsible for proper disposal of all decontamination and autopsy waste.
f. Non-OME radiation personnel determine if a radioactivity report needs to be attached to the death certificate.

Radiation protection precautions in the morgue

1. Establish a triage station for a technician with a survey meter.
2. Bodies that register more than 100 millirem per hour should be moved to an isolated refrigerated area (refrigerator truck) to allow for radioactive decay to decrease the dose rate.
3. Bodies with no contamination can be handled in the main morgue.
4. Bodies with measurable contamination below 100 millirems per hour will be examined in the isolation suites.
5. The radiation safety officer will establish worker’s doses measured on the dose rates from the decedents and the number to be processed.
6. Use one person at the table at a time when possible. Worker’s not actively involved in the examination should move away from the work area.
7. If the victim contains radioactive shrapnel, remove it from the body as soon as possible and place it in a bucket with forceps (not hands) and place the bucket at least 30 feet from the work area.
8. If there is internal contamination, do not perform an autopsy unless absolutely necessary.
9. After the victim identification and forensic examination are complete, move the victim to a secondary decontamination area. Perform a dry vacuum with a HEPA filter or spray and wet wipe until the body meets the decontamination standard set by the radiation officer.
10. If an autopsy is necessary and there is no internal contamination try to wait until the exterior of the body is decontaminated.

Appendix N: Chemical releases

The appropriate decontamination procedures for accidental or intentional chemical releases depends on the specific agent, and the OME may not handle remains until decontamination is complete. The NIMS includes a HAZMAT branch director and victim decontamination unit leader who direct the response activities of medical personnel attending to survivors as well as the ME handling potentially contaminated remains. HAZMAT scenes are under the IC of the responding fire department or agency jurisdiction. The IC could request external resources from all over the state, if needed.

1) In consideration of the Department of Justice/Department of Defense Guidelines, the following steps should be taken.
    a. Obtain the following information from the IC:
        i. Type of release and potential hazards
        ii. Estimated number of remains
        iii. Location of scene and accessibility of remains
        iv. Location of incident command post

    b. Form evaluation team with HAZMAT directors and law enforcement agencies.

    c. Check and confirm the required level of PPE.

    d. Perform evaluation
        i. Determine relevant issues (fragmentation, needed excavation, etc.)
        ii. Take initial photographs
        iii. Assess the number of remains and locations and determine the initial number of autopsies

    e. Coordinate specific operations with law enforcement, HAZMAT, DMORT, DHHS, etc.
        i. Coordinate security requirements with IC
        ii. Designate locations for holding morgue and temporary morgue
        iii. HAZMAT unit directors determine chemical monitoring methods and safe handling procedures and when and where PPE must be worn. The county or city and/or state emergency management office will have contact information for HAZMAT response capabilities and department of health resources.
        iv. Only trained, certified, and authorized OME personnel will be permitted into the hazardous environment
        v. Establish autopsy criteria

vi. Create infrastructure to process remains
vii. Establish effective communications between holding morgue, temporary morgue, FAC, and OME headquarters
viii. Avoid 24-hour operations whenever possible

f. Remains processing
    i. Assign tasks to each agency assisting in recovery
    ii. Determine order in which each agency's personnel will enter the site to perform tasks
    iii. Use waterproof tags for remains and personal effects
    iv. Triage remains: autopsy or external examination
    v. Bodies/remains move from a hot zone through decontamination and monitoring to a warm zone and to a cold zone when cleared by HAZMAT unit director (similar to the procedure for decontamination following nuclear events)
    vi. OME personnel take custody of bodies/remains for autopsy and identification only when remains are determined as clean by HAZMAT directors

g. Holding morgue
    i. Establish private area at incident site for:
        1. Evidence collection
        2. Initial external evaluation
        3. Initial ID check
        4. Removal and tagging of personal effects
    ii. Determine if law enforcement is needed to help identify evidence and the need for additional procedures (swabs, clothing samples, etc.)
    iii. Obtain refrigeration units based on situation and bulk storage for personal effects (could use 55-gallon drums or unused paint cans)
    iv. Establish an area to perform decontamination
        1. Water and bleach/decontamination agents
        2. Minimize run-off of contaminated water
        3. Use double body bags; the first sealed with duct tape

h. Transportation and storage
    i. Obtain refrigerated vehicles: trucks, railroad cars, portable morgue trailers
        1. Do not stack remains (use shelving units)
        2. Do not place remains higher than waist level of workers

i. Morgue operations

i. Determine if all morgue operations can be centralized in one location or if several smaller locations will be needed
ii. Establish morgue flow
    1. May need to perform detailed decontamination and monitoring if remains are not previously verified clean
    2. Perform autopsies on designated remains
    3. Perform external examinations on all remains
    4. Perform identification procedures

j. Final disposition
    i. Determine location for storage until final disposition
    ii. Determine if a public health hazard exists
    iii. Dispose of remains
        1. Returned to families (sealed casket or voluntary cremation)
        2. Government-sponsored disposition (burial or cremation)

Appendix O: Natural disasters

In Utah, natural disasters like floods, earthquakes, and forest fires typically result in intact remains rather than the fragmentation found in mass-casualty accidents or the contagion risks of a pandemic. However, Utah's vast geography and sparse population mean a major event could still yield a high volume of fatalities across wide areas. Because these remains pose minimal health risks to the general public, the Office of Medical Examiner (OME) should coordinate with public information officers to provide clear, reassuring messaging to the community.

Local infrastructure may be badly damaged, presenting logistical challenges and significant delays for the arrival of supplies and personnel, as was seen in the case of Hurricane Katrina. The practical problems associated with a mass fatality due to a natural disaster include bodies spread over a large area, difficulty in getting access to the victims, difficulty in finding and recovering the victims, and difficulty in transporting and storing victims to prevent decomposition.

1) Steps to be taken
    a. OME will contact the incident commander (IC) to determine what level of response is needed
    b. The chief medical investigator of the OME makes a preliminary determination of the extent of disaster location, and estimate numbers and locations of remains
    c. The chief medical investigator appoints a director of field operations who is responsible for coordinating the recovery of remains and works with law enforcement/search and rescue personnel to create an approach and needed resources, including those no longer available locally
    d. The director of field operations identifies or establishes (in coordination with the incident manager) a field command base where recovery personnel will receive assignments and safety instruction
    e. The chief medical investigator, in consultation with the director of field operations and the incident manager will, if necessary, activate DMORT
    f. The director of field operations designates locations for a holding/temporary morgue
    g. The director of field operations requests refrigerated trucks or mobile morgues deployed to the holding/temporary morgue if necessary
    h. The director of field operations institutes field recovery operations as described earlier in this plan (Page 18) and determines additions and alterations of the recovery process unique to the type of natural disaster
    i. The director of field operations determines storage, transportation and disposal needs with particular emphasis on preventing decomposition of bodies
        i. If available, refrigerated trucks are preferred for temporary storage

ii. If refrigerated trucks are not available and there are too many bodies for immediate transportation, bodies may be buried in temporary burial trenches
    1. About 5 feet deep
    2. At least 700 feet away from drinking water sources
    3. Bodies in body bags placed side by side, not stacked
        a. Group bagged bodies in clusters of 20 (not stacked) with two feet of dry ice in a low wall around each group and cover with tarps if trenches cannot be dug. Do not place regular ice on bodies.

iii. Take samples for DNA analysis if there is inability to transport bodies before decomposition

Appendix P: Fires

Most preparedness planning information for fires focuses on medical triage and treatment of surviving burn victims and coping with the resource strains on local burn units. MEs will work closely with other investigating agencies in cases of fires, not only for victim identification and determination of cause of death, but to help determine the cause of the fire and its movement and effects throughout the burned area. Fires with multiple victims are all too common, from house fires to hotels to nightclubs, and all ME jurisdictions need to have a plan in place to handle large numbers of burn victims.

1) Special considerations
    a. Interagency cooperation: accidental fires versus arson/government agency involvement (Branch Davidian compound)
    b. Accelerants/solvents present on remains; potential need to preserve and collect evidence
    c. Commingled remains
    d. Storage of victims while awaiting identification

2) Steps to be taken
    a. As with other mass fatalities, OME contacts either the IC or fire marshal in charge of scene
    b. Determine safety of scene and extent of destruction
    c. Attempt to locate a manifest of potential victims (building occupants)
    d. Work with the fire department and law enforcement to assign needed tasks and determine the order of each agency entering the scene
    e. Document the scene with photographs, video, mapping, etc.
    f. Establish a holding morgue to collect remains at the scene
    g. Determine where more extensive processing, autopsying, and identification will be done, either close to the scene or transport the remains to OME
    h. Identify storage capability for remains

Appendix Q: Aviation disasters

Unlike nuclear detonations and bioterrorism, most ME offices will have had experience with airplane-related fatalities, even if only small aircraft with few fatalities. The crash of a commercial airliner with hundreds of potential fatalities would severely strain most ME offices and should be included in MFI preparedness planning.

The FBI is the primary law enforcement agency for all aviation crashes. The NTSB has absolute authority over the aircraft wreckage and legal authority to investigate and to determine the cause(s) of air crashes. The ME is responsible for the deceased except if the crash is located on exclusive federal jurisdiction (e.g. air force base). The ME's objective is to determine what, if any, human factors caused or contributed to the initiation of the crash.

1) Type of crash
    a. Large commercial airliner versus small private aircraft
    b. When crash occurred: on take-off or landing will have larger, more intact remains; mid-air collisions or explosions result in extreme fragmentation and scattering of remains
    c. Location of debris field: remote areas, water, heavily populated areas
    d. Fires: either on plane causing crash, or after impact

2) Special considerations
    a. Recognition of data recorders, for retrieval and analysis by FAA or NTSB
    b. Presence of jet fuel on bodies and evidence
    c. Difficulty of retrieving remains, particularly in remote or challenging areas
    d. Resources available to retrieve and identify all remains
    e. Mapping of remains and personal belongings
    f. Most likely will not have widespread disruption of communication or risk of infection as with other MFIs
    g. Storage of remains while awaiting identification and release
    h. Need for holding morgue at crash site
    i. Transportation of remains to morgue
    j. Contact other forensic pathologists, odontologists, and anthropologists, particularly those with aviation disaster expertise
    k. Implementation of Federal Family Assistance Plan for Aviation Disasters

3) Utah Federal Aviation Administration: part of FAA's Northwest Mountain Region (with WA, OR, ID, MT, WY, and CO)
    Federal Aviation Administration, Northwest Mountain Region
    2200 S. 216th Street

Des Moines, WA 98198
Phone: (206) 231-2393

4) Steps to be taken
    a. Contact the IC
    b. Assist IC with restricting access to site and debris fields
        i. Establish a secure perimeter and entry/exit corridors (check identification to limit entry and preserve the scene)
    c. The IC and/or supervisor of search and recovery surveys the crash site and debris field, and if possible, conducts an aerial survey
        i. Note essential information, such as number of bodies, security issues, worker safety issues, and special requests by investigating agencies
        ii. Develop a search plan for the area and identify the number of personnel, equipment, and special resources needed
        iii. Brief the search and recovery unit members prior to commencing activities
    d. Mark outlying debris, remains, and personal effects using a visible indicator
        i. Equipment needed: GPS, pin flags, clothes pins with bright colored flagging tape, spray paint, etc.
    e. Obtain manifest of passengers and crew on board and determine needed resources
    f. If needed, contact search and rescue personnel familiar with retrievals in rugged or challenging landscapes (mountains, deep canyons, remote desert locations, cadaver dog services, etc.)
        i. Cadaver dog service
            1. Rocky Mountain Rescue Dogs, Inc.
            1042 Fort Union Blvd #334
            Midvale, UT 84047
            (801) 943-0108 (Any staff member that answers this emergency line could assist)
    g. Decide whether to process remains near crash site or transport to OME
    h. Federal guidance for family assistance plan: https://www.ntsb.gov/tda/tdadocuments/federal-family-plan-aviation-disasters-rev-12-2008.pdf
        i. Assign tasks by agency, working with IC and FAA
    i. Documentation of the crash site
        i. When applicable, the site will be divided into sectors and then grids.
            1. Equipment needed: stakes, heavy duty string, metric fiberglass measuring tapes, north arrows with scale, GPS units
        ii. Photography
            1. Equipment needed: digital cameras with removable digital storage cards, standard and telephoto lenses for existing digital SLR camera body, digital SLR tripod

iii. Mapping
    1. Equipment needed: GPS, total station and prisms
    2. Sketch mapping of grids
        a. Equipment needed: clipboards, compasses, grid paper, scale rulers, and GPS units
iv. Description and numbering of remains and items recovered, including reference to location found
    1. Equipment needed: clip boards

j. Blood samples gathered from all remains at the scene, prior to removal (lessens impact of decomposition in the field)
    i. Equipment needed: blood spot cards, large supply currently at ME
k. After full documentation of crash site (remains, personal effects, debris), coordinate removal of remains with responding agencies
l. In conjunction with IC, FAA, and NTSB, identify an area where debris can be moved to (hangar, warehouse, etc.)
m. Process and hold at temporary morgue or arrange for transportation to more permanent morgue facility
n. Establish morgue work flow
    i. Perform autopsies on designated remains
    ii. Collect additional samples from pilots/crew for FAA tox boxes
        1. Equipment needed: FAA tox boxes provided by FAA
    iii. Perform external examination on all remains
    iv. Perform identification procedures
o. Determine disposition of remains and unidentified common tissue

Appendix R: UT OME odontology manual

The Utah odontology manual, updated in February 2026, serves as the operational manual for the Utah Office of the Medical Examiner (OME) odontology team during mass fatality incidents. The plan establishes a clear command structure led by an odontology team leader (OTL), who operates under the chief of morgue operations and the director of identifications.

Core operational sections

The team is organized into three primary functional areas to ensure a systematic identification process:

- **Antemortem section:** Collects, interprets, and codes dental records from missing persons into the WinID3 database.
- **Postmortem section:** Conducts dental autopsies, takes digital radiographs (using Dexis and Nomad units), and performs dental photography of remains.
- **Comparison section:** Uses WinID's "best match" algorithms to correlate antemortem and postmortem data, resolves discrepancies, and justifies identifications to the OTL to manage the final identification process.

Technical infrastructure

The protocol relies heavily on WinID3 software for database management and Dexis for digital imaging. It outlines specific requirements for:

- **Personnel:** Minimum of two-member teams (primarily dentists) for each section to ensure accuracy through secondary verification.
- **Facility and equipment:** Detailed logistics including necessary software (Adobe Photoshop, Microsoft Office), specialized hardware (NOMAD x-ray units, digital SLR cameras), and specialized surgical instruments.
- **Data protocols:** Standardized WinID coding for dental restorations and missing teeth to maintain database integrity across all sections.

View the Odontology manual here.

Appendix S: Human forensic identification guide

The U.S. Department of Justice, National Institute of Justice published *Mass Fatality Incidents: A Guide for Human Forensic Identification* to assist all jurisdictions nationwide in creating new mass fatality plans, specifically in the area of forensic-victim identification. The procedures presented can help the ME fulfill their legal duties, even when the number of victims exceeds their agency's daily operating capacity.

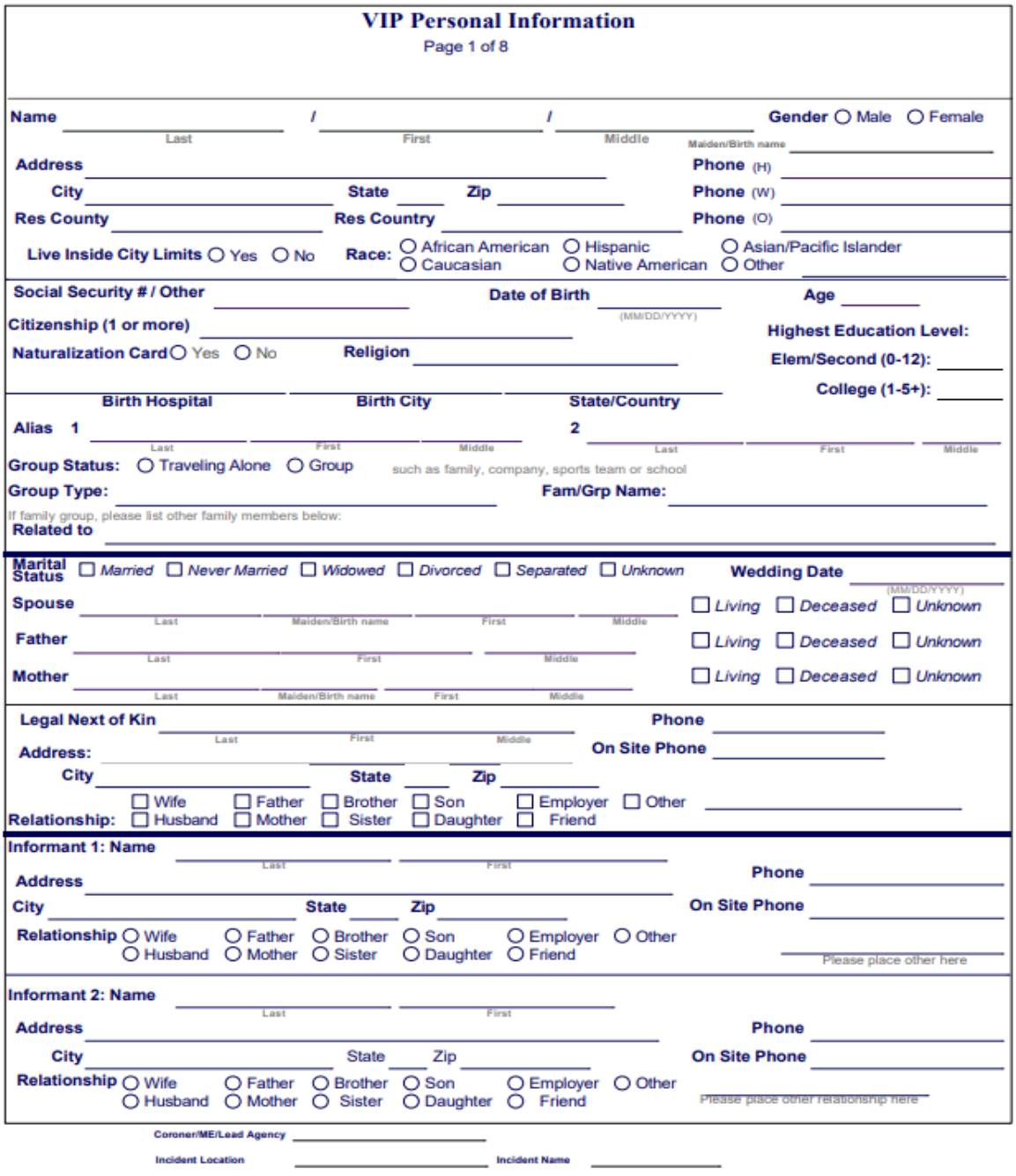
1. The guide is divided into six main sections: (1) initial response considerations; (2) arriving at the scene; (3) processing the scene; (4) identification of human remains in the areas of ME, administration/morgue operations, forensic anthropology, DNA analysis, fingerprints, odontology, radiology, and antemortem data collection; (5) disposition of human remains, personal effects, and records;
2. Other related issues, such as reimbursement, implementing a transition plan, mutual assistance agreements, release and control of information, stress management, and language, cultural, and religious considerations.

The 83-page plan can be found at Mass Fatality Incidents: A Guide for Human Forensic Identification.

Appendix T: VIP personal information questionnaire

The VIP form provides a format for the complete documentation of all victim information. If information is not applicable, enter “NA” in that space. If the information is unknown, enter “UNK” in that space. It is imperative that each space is marked since this will illustrate that a question was not overlooked. The form has been attached to the subsequent pages and can also be found at VIP Personal Information.

Appendix U: VIP system forms



VIP Personal Information

Page 1 of 8

Name _____ / _____ / _____ **Gender** ○ Male ○ Female
Last First Middle Maiden/Birth name _____

Address _____ **Phone** (H) _____

City _____ **State** _____ **Zip** _____ **Phone** (W) _____

Res County _____ **Res Country** _____ **Phone** (O) _____

Live Inside City Limits ○ Yes ○ No **Race:** ○ African American ○ Hispanic ○ Asian/Pacific Islander ○ Caucasian ○ Native American ○ Other _____

Social Security # / Other _____ **Date of Birth** _____ (MM/DD/YYYY) **Age** _____

Citizenship (1 or more) _____ **Highest Education Level:**

Naturalization Card ○ Yes ○ No **Religion** _____ **Elem/Second (0-12):** _____

College (1-5+): _____

Birth Hospital _____ **Birth City** _____ **State/Country** _____

Alias 1 _____ Last First Middle **2** _____ Last First Middle

Group Status: ○ Traveling Alone ○ Group such as family, company, sports team or school

Group Type: _____ **Fam/Grp Name:** _____

If family group, please list other family members below:

Related to _____

Marital Status ☐ *Married* ☐ *Never Married* ☐ *Widowed* ☐ *Divorced* ☐ *Separated* ☐ *Unknown* **Wedding Date** _____ (MM/DD/YYYY)

Spouse _____ Last Maiden/Birth name First Middle ☐ *Living* ☐ *Deceased* ☐ *Unknown*

Father _____ Last First Middle ☐ *Living* ☐ *Deceased* ☐ *Unknown*

Mother _____ Last Maiden/Birth name First Middle ☐ *Living* ☐ *Deceased* ☐ *Unknown*

Legal Next of Kin _____ Last First Middle **Phone** _____

Address: _____ **On Site Phone** _____

City _____ **State** _____ **Zip** _____

Relationship: ☐ Wife ☐ Husband ☐ Father ☐ Mother ☐ Brother ☐ Sister ☐ Son ☐ Daughter ☐ Employer ☐ Friend ☐ Other _____

Informant 1: Name _____ Last First

Address _____ **Phone** _____

City _____ **State** _____ **Zip** _____ **On Site Phone** _____

Relationship ○ Wife ○ Husband ○ Father ○ Mother ○ Brother ○ Sister ○ Son ○ Daughter ○ Employer ○ Friend ○ Other _____ Please place other here

Informant 2: Name _____ Last First

Address _____ **Phone** _____

City _____ State _____ Zip _____ **On Site Phone** _____

Relationship ○ Wife ○ Husband ○ Father ○ Mother ○ Brother ○ Sister ○ Son ○ Daughter ○ Employer ○ Friend ○ Other _____ Please place other relationship here

Coroner/ME/Lead Agency _____

Incident Location _____ **Incident Name** _____

VIP Personal Information

Name _____ / _____ / _____ ○ Male ○ Female
(Last / First / Middle)

Dentist Name _____

Address _____

City _____ State ____ Zip _____

Phone _____

☐ Extensive Dental Work ☐ Most/all teeth
☐ Lower dentures ☐ Dental Films
☐ Upper dentures ☐ Bridge
☐ Upper & Lower ☐ Other
☐ Partial Plate _____
☐ Braces
☐ No teeth

Dentist 2 _____

Address _____

City _____ State ____ Zip _____

Phone _____

Medical Radiographs? ○ Yes ○ No

Physician(s) _____

Address _____

Medical Radiographs Location	Potential Type of Radiographs - and dates taken if known

Objects in Body: ☐ Pacemaker ☐ Steel plate ☐ Shrapnel ☐ Bullets ☐ Needles ☐ Other

Please place other objects here _____

Old Fractures: ○ Yes ○ No Description: _____

Surgery ☐ Gall Bladder ☐ Laparotomy ☐ Breast Implants ☐ Appendectomy ☐ Caesarean ☐ Open heart ☐ Tracheotomy ☐ Mastectomy ☐ Other

Please place other surgery here _____

Unique Characteristics ○ Yes ○ No

Description of: Scars, Operations, birthmarks, burns, missing organs, amputations, other special characteristics _____

Prosthetic ○ Yes ○ No

Prosthetic Location/Description _____

Prints on File: ○ Yes ○ No

☐ Fingerprints
☐ Footprints

Prints Located _____

Employer & Address Please list last employer if retired - Information on additional employers should be placed on page 6

_____

Type of Business _____

Occupation _____

VIP Personal Information

Page 3 of 8

Name _____ / _____ / _____ ○ Male ○ Female
Last First Middle

Height inches ○ Less than 24 ○ 24-36" ○ 37-48" ○ 49-60" ○ 61-72" ○ 73-84" ○ 85-96" ○ Over 96"

Weight in Pounds ○ less than 10 ○ 11-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81-100 ○ 101-120 ○ 121-140 ○ 141-160 ○ 161-180 ○ 181-200 ○ 201-220 ○ 221-240 ○ 241-260 ○ 261-280 ○ 281-300 ○ Greater than 300

Eye Color ☐ Blue ☐ Green ☐ Grey ☐ Brown ☐ Hazel

Eye Status ☐ Missing R ☐ Glass R ☐ Cataract R ☐ Blind R ☐ Missing L ☐ Glass L ☐ Cataract L ☐ Blind L

Optical ☐ Glasses ☐ Contacts ☐ None **Description** _____

Hair Color ☐ Auburn ☐ Blonde ☐ Brown ☐ Black ☐ Gray ☐ Red ☐ Salt & Pepper ☐ White ☐ Other _____ Please place other here

Hair Colored ○ Yes ○ No ○ Unknown **Color** _____ **Hair Style** _____

Hair Accessory ☐ Wig ☐ Toupee ☐ Hair Piece ☐ Hair Transplant

Hair Length ○ Short 1-3" ○ Medium 4-8" ○ Long 8-12" ○ Very Long 12-24" ○ Over 24" ○ Bald

Hair Description _____

Facial Hair Color ○ Blonde ○ Brown ○ Black ○ Gray ○ Red ○ Salt & Pepper ○ White ○ N/Applicable

Facial Hair Type ○ Beard ○ Beard & Moustache ○ Moustache ○ Clean Shaven ○ Goatee ○ N/Applicable

Facial Hair Style ○ Fu Manchu ○ Handle Bar ○ Whiskers Under Lower Lip ○ Mutton Chops ○ Pencil Thin Upper Lip ○ Full Upper Lip

Facial Hair Notes _____

Ear Lobes ○ Attached ○ Unattached ○ Unknown **Circumcision** ○ Yes ○ No ○ Unknown ○ NA

Fingernail Type ○ Natural ○ Artificial ○ Unknown **Length** ○ Extremely Long ○ Long ○ Medium ○ Short

Fingernail Color _____ **Fingernail Characteristics** ☐ Bites ☐ Mishapen ☐ Decorated ☐ Stained

Description _____

Toenail Color _____ **Toenail Characteristics** ☐ *Bites* ☐ *Mishapen* ☐ *Decorated* ☐ *Stained*

Toenail description _____

Complexion: ○ Light ○ Medium ○ Dark ○ Acne ○ Tanned ○ Olive ○ Ruddy

Tan Mark Description _____

Tattoo(s ○ Yes ○ No **Description/ Body Location** _____

Can family draw a picture?

Tattoo Photos ○ Yes ○ No ○ Unknown ○ NA **Tattoo Photo Location** _____

Body Piercing(s)? ☐ Yes ☐ No

Body Piercing Location(s) _____

Body Piercing Description _____

VIP Personal Information

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Name _____ / _____ / _____ ○ Male ○ Female

Last First Middle

A= Data not available B= Photo C= Further information available on page 6

#	Clothing Items	Material	Color	Description	Size	A	B	C
01	Hat					☐	☐	☐
02	Overcoat					☐	☐	☐
03	Scarf					☐	☐	☐
04	Gloves					☐	☐	☐
05	Jacket					☐	☐	☐
26	Suspenders/Braces					☐	☐	☐
14	Sweater					☐	☐	☐
09	Vest					☐	☐	☐
07	Tie					☐	☐	☐
08	Shirt					☐	☐	☐
15	Blouse					☐	☐	☐
06	Undershirt					☐	☐	☐
18	Chemise/Camisole					☐	☐	☐
19	Bra					☐	☐	☐
11	Underpants					☐	☐	☐
20	Girdle					☐	☐	☐
17	Slip					☐	☐	☐
10	Trousers/Slacks					☐	☐	☐
23	Shorts/walking					☐	☐	☐
13	Dress					☐	☐	☐
16	Skirt					☐	☐	☐
12	Socks					☐	☐	☐
21	Hose/Stockings					☐	☐	☐
22	Tights					☐	☐	☐
24	Belt					☐	☐	☐
25	Belt Buckle					☐	☐	☐
27	Other 1					☐	☐	☐
28	Other 2					☐	☐	☐
29	Other 3					☐	☐	☐
30	Other 4					☐	☐	☐

VIP Personal Information

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Name _____ / _____ / _____ ○ Male ○ Female
Last First Middle

Shoes

A= Data not available B= Photo C= Further information available on page 6

#	Material	Color	Description	Label	Size US	Size cm	A	B	C
01 Shoes							☐	☐	☐

Watch

A= Data not available B= Photo C= Further information available on page 6

#	Type	Material	Color	Description	Make	Inscription			
01	Digital						☐	☐	☐
02	Analog						☐	☐	☐
03	Other						☐	☐	☐

04 Worn ☐ Right Wrist ☐ Left Wrist ☐ Finger ☐ Pin On ☐ Pocket Watch

05 Band ☐ Leather ☐ Metal ☐ Other Specify Other Band Color

A= Data not available B= Photo C= Further information available on page 6

#	Jewelry	Material Color	Stone Color	Description	Inscription	Where Worn			
01	Wedding Ring						☐	☐	☐
02	Finger Rings						☐	☐	☐
03	Ear Rings						☐	☐	☐
04	Earclips						☐	☐	☐
05	Neck Chains						☐	☐	☐
06	Pendant Chain						☐	☐	☐
07	Other Chains						☐	☐	☐
08	Bracelets						☐	☐	☐
09	Medic Alert						☐	☐	☐
10	Other2						☐	☐	☐
11	Other3						☐	☐	☐
12	Other4						☐	☐	☐
13	Other5						☐	☐	☐

Use this space for more info regarding jewelry:

VIP Personal Information

Page 6 of 8

Name _____ / _____ / _____ ○ Male ○ Female
Last First Middle

Wallet: Description _____
Contents _____

Purse: Description _____
Contents

Other Personal Effects

Ever in Armed Forces? ○ Yes ○ No ○ Unknown Military Branch _____

Military Service Number _____ Nation Served _____

Approximate Service Date _____

Additional Data

VIP Personal Information

Page 7 of 8

Name _____ / _____ / _____ SS# _____
Last First Middle

○ Male ○ Female

Potential Living Biological Donors

Mother/Father of Missing Individual

Name	Age	Address	Phone	DNA Collected	Consent Form Signed
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No

Brother and Sisters of Missing Individual

Name	Age	Address	Phone		
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No

Spouse of Missing Individual

Name	Age	Address	Phone		
				○ Yes ○ No	○ Yes ○ No

Children of Missing Individual

Name	Age	Address	Phone		
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No

Primary donor for Nuclear DNA Analysis

An "appropriate family member" for **nuclear DNA Analysis** is someone that is biologically related to and only one generation removed from the deceased. The following are the family members who are appropriate donors to provide reference specimens, and in the order of preference (family members highlighted in bold print are the most desirable):

1. Natural (Biological) **Mother and Father**, OR
2. **Spouse** and Natural (Biological) **Children**, OR
3. A Natural (Biological) Mother or Father and victim's biological children, OR
4. Multiple Full Siblings of the Victim (i.e., children from the same Mother and Father

VIP Personal Information

Page 7 of 8

Name _____ / _____ / _____ SS# _____

Last First Middle

○ Male ○ Female

Potential Living Biological Donors

Mother/Father of Missing Individual

Name	Age	Address	Phone	DNA Collected	Consent Form Signed
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No

Brother and Sisters of Missing Individual

Name	Age	Address	Phone		
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No

Spouse of Missing Individual

Name	Age	Address	Phone		
				○ Yes ○ No	○ Yes ○ No

Children of Missing Individual

Name	Age	Address	Phone		
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No
				○ Yes ○ No	○ Yes ○ No

Primary donor for Nuclear DNA Analysis

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4. Multiple Full Siblings of the Victim (i.e., children from the same Mother and Father

VIP Personal Information

Page 8 of 8

Name _____ / _____ / _____
Last First Middle

Interview Location _____ Interview Date _____ Interview Time _____
(MM/DD/YYYY)

Interviewer Info:

Interviewer Name _____ _____
First Last

Interviewing Organization _____

Interviewer **Home** Information

Interviewer Address _____
Street, City State, Zip

Interviewer home phone _____

Interviewer cell phone _____

interviewer work phone _____

Interviewer **On-Site** Information

interviewer onsite address _____
Street, Hotel, Room #

interviewer onsite phone _____

interviewer onsite cell _____

Reviewer Info:

Reviewer Name _____

Reviewer Signature _____

Reviewing agency _____

Coroner/ME/Lead Agency _____

Incident Location _____ **Incident Name** _____

VIP/DMORT Program

Requested Records List

Victim Last/First/Middle

Case #

Informant LAst/First/Middle

Address

Informant phone

On Site Phone

Dental

Type	Location	Contact	Phone	Date Ord	Date Rec

Prints

Radiographs

Medical Records

Photo Requests

Requested Records Notes