



*Victim Accounting: Best Practice Recommendations for Medicolegal Authorities in Mass Fatality Management*

**2021-N-0008**

# **Victim Accounting:**

## **Best Practice**

### **Recommendations for**

### **Medicolegal Authorities in**

### **Mass Fatality Management**

*Disaster Victim Identification Task Group  
Medicolegal Death Investigation Subcommittee  
Medicine Scientific Area Committee  
Organization of Scientific Area Committees (OSAC) for Forensic Science*



## **OSAC Proposed Standard**

# **2021-N-0008 Victim Accounting: Best Practice Recommendations for Medicolegal Authorities in Mass Fatality Management**

Prepared by  
Medicolegal Death Investigation Subcommittee  
Medicine SAC  
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## **Foreword**

The concept of accounting for the names of the dead is germane to the process of disaster victim identification. Another concept to be considered is the need to account for victims in the case of fragmented remains. These concepts are integrated into expectation by the public, media and public officials to accurately report the number of fatalities in a mass fatality incident.

## **1.0 Scope**

The purpose of this document is to provide guidance on the various aspects of victim accounting, accounting for fragmented remains, reconciling unaccounted for persons lists, and reporting numbers of fatalities including those who are identified, unidentified and unclaimed. The medicolegal authority should consider their role in the collection and dissemination of victim accounting information to the survivor families, media and partnering response agencies.

## **2.0 Normative References**

There are no normative references. Informative references are included at the end of this document.

## **3.0 Definitions**

For the purposes of this document, the following definitions and acronyms apply.

### **3.1**

#### **Closed Population Incident**

An incident in which the number of victims and their names are known.

### **3.2**

#### **Group Remains**

Unidentified human remains that are not examined beyond the initial triage either due to the tissue lacking all potentially identifiable characteristics or yielding no information useful to death investigation and determination of incident causation.

### **3.2**

#### **Medicolegal Authority**

The medical examiner, coroner or other office responsible for medicolegal death investigation in a given jurisdiction.

### **3.3**

#### **Mass Fatality Incident (MFI)**

Any incident which produces fatalities of a sufficient number or complexity that special operations and organizations are required.

### **3.4**

#### **Minimum Number of Individuals (MNI)**

The fewest number of individuals represented in a skeletal assemblage.

### **3.5**

#### **Open Population Incident**

A disaster in which neither the number of victims nor their names are known.

### **3.6**

#### **Unaccounted for Person**

Any individual believed to be involved in a mass fatality incident including living survivors and fatalities.

### **3.7**

#### **Victim Information Center**

The Victim Information Center (VIC) is the component of the Family Assistance Center. The VIC is a controlled area within the FAC where the acquisition of antemortem data occurs to enable the identification of victims of a mass fatality incident (MFI). Establishment of the VIC is the responsibility of the local medicolegal authority.

### **4.0 Recommendations**

#### **4.1 The Difference between Victim Accounting and Accounting of Victims**

The concept of victim accounting in its simplest form is reconciling the total number of unaccounted for persons with the number of fatalities. In a closed population incident, this will result in a 1:1 ratio where the total number of unaccounted for persons is equal to the number of fatalities. This is equally true for closed populations when there is no fragmentation of the remains. The number of remains collected from the incident site and processed in the morgue will equal the number of unaccounted for persons. This type of victim accounting can be performed using a whiteboard or computer matching database.

In an open population incident, the number of unaccounted for persons reported may be significantly higher than the actual number of fatalities. This over reporting is due to a number of reasons, but should be expected. Historical data suggests that for every victim involved in a mass fatality incident, ten people will attempt to report them as unaccounted for. So, for every 100 victims, the medicolegal authority can reasonably expect 1000 unaccounted for persons phone calls.

Open populations with fragmented remains exponentially increase the complexity of victim accounting. This is due to the need to process each identifiable fragment until the unaccounted for persons manifest is exhausted.

Mass fatality incidents resulting in any degree of remains fragmentation may result in the opposite effect. In a closed population, the number of missing persons will be lower than the number of remains collected and processed in the morgue.

The concept of accounting of victims, and its complexity, is demonstrated by remains fragmentation. The medicolegal authority is faced with the challenge and decision to pursue identification processes until either the unaccounted for persons manifest is fully reconciled, including the survivors, or each individual victim is fully accounted for amongst the fragments recovered. This implies that every fragment will be associated with a victim name. This decision to continue with accounting of victims may be impacted by funding, resource capabilities, and desire of the families. In a closed population, it may be acceptable to account for each victim, and engage the families regarding disposition of the remaining grouped remains.

In an open population incident, reconciling the unaccounted for person manifest without complete identification of all recovered or fragmented remains, notwithstanding group remains, will only result in an estimated number of fatalities. This is because some victims may not have been reported as missing, or amongst the recovered victims or identified fragments and therefore will never be accounted for. This can also be true in incidents involving intense fire/explosion, or natural disasters (i.e. sinkholes, floods, hurricanes/tsunamis) where remains are never recovered.

#### **4.2 Unaccounted for Persons, Missing Persons, and Fatalities**

The medicolegal authority should work with partner agencies involved in the response to develop a list (or, manifest) of all individuals involved in the response, including healthcare agencies (e.g. hospitals), first responder agencies, shelter managers, the agency(ies) responsible for managing the missing persons call center, and other partners involved in the response. The medicolegal authority relies on these lists to cast a broad enough net to incorporate the total population of victims. The term victim is even misleading in the sense that a victim may be classified as suffering psychological trauma, physical injury or be deceased. The medicolegal authority is attempting to reach a singular conclusion; how many people died as a result of the incident and who are they.

Traditionally the term “missing person” has been favored by emergency management planners when discussing the concept of incident populations, living and dead. It is widely accepted that until an individual has been classified as either a survivor or fatality, they are simply missing. This narrow definition fails to consider the variety of victim classifications, and the legal implications of labelling someone as a missing person. For instance, law enforcement may be required to initiate an investigation into a missing person, or a court order may be needed to reduce the waiting time to declare the person dead in absentia. In some cases, missing persons are not missing at all. This could include survivors who disperse from an incident location, presently unidentified persons admitted to hospitals or walking wounded who are not yet reunified with family members.

Therefore, it is recommended to classify persons believed to be involved in the incident as “unaccounted for persons”. This classification can further be defined through the process of reunification or identification, either as a survivor or confirmed fatality. This methodology will make the process of reconciling the incident population and fatalities less complex. It also supports the idea of centralized reporting with multi-agency involvement.

#### **4.4 Establishing an Unaccounted for Persons Manifest**

In a mass fatality incident, the responsibilities of the medicolegal authority are focused on identification of deceased persons. This central focus suggests that reconciliation of unaccounted for persons lists is a priority. Commonly, law enforcement agencies will establish a missing persons list; hospitals will establish lists of injured victims and non-governmental organizations will collect information from the public on unaccounted for persons. It is only in the Victim Information Center (VIC) that medicolegal authorities gather names of individuals believed to be deceased.

It is recommended that medicolegal authorities work with partner response agencies to establish a mechanism for collating various lists into a singular unaccounted for persons manifest. This list should be reconciled with the postmortem data to establish a list of confirmed fatalities.

#### **4.4 Importance of Centralized Reporting of Unaccounted for Persons**

This disparate nature of gathering the names of unaccounted for persons highlights the inherent flaws in the system. The definitions applied to groups of individuals do not represent the totality of the affected population, and therefore may not incorporate all of the deceased persons depending on the characteristics of the mass fatality incident.

Another limitation of compartmentalized reporting is the ability, or lack thereof, to share data. Once gathered and filed, data may be subject to various privacy laws which inhibit the sharing of information both internally through organizations, but also across agencies responding to the incident.

If data is able to be shared, it is typically done at defined times, such as in advance of a press conference or end of an operational period. These delays further inhibit the ability of the medicolegal authority to use critical data in the identification process.

It is recommended that medicolegal authorities work with their local response agencies to develop a centralized reporting mechanism for unaccounted for persons. There are a variety of options to consider, the most common being a dedicated call center. This has proven effective in recent years for mass shootings involving a large open population. The advantages of a dedicated call center include the simplicity by which the phone number can be disseminated to the media and general public, and ease of reporting through that number. The limitations include a need for space, set-up time, personnel to answer phones, a script for the operators, and a database to record entries. Agencies in small jurisdictions may not have the resources to stand up a centralized call center.

The use of electronic reporting systems is beginning to emerge. NAMUS recently released their module for critical incidents which incorporates a web-based form that members of the public can use to submit information of unaccounted for persons. This NAMUS system also incorporates a feedback mechanism for survivors to enter their information to be reconciled against the database. Similar homegrown versions are being developed by medical examiners and other partner agencies to gather information on unaccounted for persons in a centralized database. The advantages of this model are the lack of relative overhead (space, equipment and personnel) needed to activate it in the aftermath of a mass fatality incident. By using electronic databasing, it also limits the number of touches on the data, thereby reducing the potential for human error due to transcription and typos. An electronic form is widely accessible via computer, tablet or mobile device from anywhere in the world. The ability to share databases, or give permissions to various agencies to access the information permits real-time accessibility to critical information. The limitations include having internet access to both distribute the form link and access the form for reporting. This type of form is not quickly modified, so consideration should be given to the content so that it is useful across a wide range of incident types.

#### **4.4 Reporting Metrics (Identified, Unidentified and Unclaimed)**

Medicolegal authorities rely on confirmatory methods of identification to accurately establish victim identities. In a mass fatality incident, this process may involve a multi-disciplinary analysis of the remains in a high throughput morgue.

In this type of setting, it is common that remains will be transported from the incident scene and stored until the process is complete. Re-examination may be necessary when additional information is needed to achieve an identification. Remains which have completed the examination process, but have not produced an identity remain Unidentified.

As the fatality management operation progresses, the available data produces identifications. These victims are referred to as “Identified”.

As the operations end, there may be a subset of Identified fatalities for whom no family or next of kin is located, or the located family has declined to arrange for disposition for a variety of reasons. These fatalities are referred to as “Unclaimed”.

This variation on victim accounting methodology and its limitations should be considered when reporting numbers of fatalities. It is not an accurate statement to suggest the sum total of unidentified and identified represent the total number of fatalities, unless all of the remains are intact. In other words, when fragmentation exists the unidentified may already be represented in the identified population.

However, these classifications may prove useful when interacting with the media, families, and elected officials. Medicolegal authorities can use these established metrics when reporting progress to the media and families without speculating on the number of deceased persons. They can also use the Unclaimed metric to garner media interest in hopes of locating family or seeking funding for a memorial.

#### **4.5 Numbers of Fatalities (Estimates vs Official vs Confirmed)**

In any mass fatality incident the media and elected officials will seek reporting on the number of fatalities almost immediately following the incident occurrence. In some instances, such as an all-fatal airline crash with a flight manifest, this may be a simple exercise. In other circumstances, such as natural disasters, the medicolegal authority may encounter difficulties establishing the number of fatalities accurately and the process may continue for days or weeks following the incident.

Estimates of the number of fatalities are often established by non-official sources soon after an incident occurs. These numbers may be proffered by the media, government officials, or first responders based on known parameters, such as the capacity of a building or aircraft. These estimates can vary widely and are usually inaccurate.

Medicolegal authorities should refrain from providing estimates to the media or government officials, even if pressed. Estimates established by the medicolegal authority should be based on a determination of the minimum number of individuals (MNI). Incident characteristics and fragmentation can produce estimations which vary by orders of magnitude. For this reason, estimations of the number of fatalities should only be used by the medicolegal authority for the purpose of evaluating response plans and resource needs.

In some catastrophic incidents involving open populations, estimates may be the only method of quantifying the number of fatalities. This occurs when medicolegal authorities are unable to reconcile lists of unaccounted for persons with confirmed fatalities and survivors. Incident examples include the Indian Ocean earthquake and tsunami of 2004 and 9/11 World Trade Center terrorist attack.

The concept of official death tolls is referred to in historical context when examining an incident retrospectively. The medicolegal authority has the statutory responsibility to determine the manner and cause of death for individuals. The department of vital records has the responsibility for recording the death, and classifying it for statistical purposes. The CDC also records and reports on statistical information collected from death records.

In some states, the death record now contains a field allowing the medicolegal authority to assign a death as being related to a specific incident. Despite academic efforts, there is no standard by which medicolegal authorities are required to assign a manner and cause of death as it relates to a specific incident. The result is that medicolegal authorities are free to apply whatever criteria they choose to certifying deaths from a mass fatality incident. The consequence of this is that official death tolls are often no more reliable than estimates in jurisdictions where the death record does not permit categorizing a death related to a specific incident. Even then, the medicolegal authority may exercise judgement and discretion when certifying the manner of death. The failure to properly classify deaths related to a mass fatality incident may have implications on emergency funding, disaster declarations, and personal life insurance policies.

The concept of confirmed fatalities seems straightforward and innocuous. An identification which is confirmed on remains recovered from the site of mass fatality incident would constitute a confirmed fatality. However, depending on the incident characteristics an unaccounted for person who is presumed to be deceased may never be identified, and therefore is not on the list of confirmed fatalities. They may be added to the official death toll through the process of having them legally declared dead by the courts.

The concepts of establishing estimates, official death tolls and numbers of confirmed fatalities are fraught with inconsistency and speculation, which is magnified by the scope of the incident. It is recommended that medicolegal authorities establish standardized, transparent processes for determining each metric.

#### **4.6 Reporting of Fatality Numbers**

The reporting of fatality numbers, regardless of the methodology is the responsibility of the medicolegal authority. The number of fatalities, and information related to victim accounting should be conveyed to the victim families prior to any media or government official.

The medicolegal authority or designee should be present at press conferences to address questions regarding the fatality management operation, and specifically those pertaining to victim accounting. The medicolegal authority should prepare a message that is concise, accurate and transparent regarding the methodology being used to report any statistical data.

This information is critical to ensure a consistent, accurate message is conveyed to the media and families. A medicolegal authority who fails to assert this responsibility or permits other response agencies to report on the number of fatalities or victim accounting may undermine their credibility if discrepancies exist.

##### **4.10.2 Victim Accounting and the Media**

The concept of victim accounting during mass fatality incidents garners significant media attention. Criticism of the process may arise from a poor understanding of complex victim accounting methodologies resulting in a perceived lack of transparency by the responsible authorities. The medicolegal authority should utilize the media to accurately and definitively report this information.

**Appendix A**  
**(informative)**  
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