## D26 Restructuring Data Collection Strategies and Investigation Priorities in the Resolution of Mass Fatality Incidents

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After attending this presentation the participant will have gained an awareness of the need for restructuring the organization of investigations into mass fatality incidents. By use of supporting data and guided questioning the authors demonstrate that the decedent identification process in particular is being led by poorly tailored postmortem data collection standards. Participants will gain an understanding of the relevance of antemortem data standards. The authors will demonstrate that a balance needs to be redressed whereby antemortem data quality and availability become the guiding principles for determining the types of postmortem data collected and the standards of collection implemented.

This presentation demonstrate the overwhelming need for those forensic scientists involved in dealing with the aftermath of mass fatality incidents to start focusing on the "other half of the identification equation," i.e., antemortem data. The authors propose some structuring principles and guidelines that may be used to assist in more fully integrating antemortem data sets and to more successfully tailor postmortem data collection strategies to the antemortem data sets available for a given decedent population. This will lead to higher identification success rates, and, in the long run, a more timely repatriation of decedents.

The mass fatality incident (MFI) decedent identification process is driven by the collection and comparison of antemortem (AM) data and postmortem (PM) data to arrive at a positive identification. Current investigative efforts emphasize PM data collection methods and morgue operation procedures while paying relatively little attention to the relevance of AM data and congruence between the data sets. MFI investigations are currently driven by the PM data collection process.

The authors propose a new approach whereby PM data collection is driven by the availability and integrity of AM data. This approach requires that effective AM data collection procedures are tailored appropriately for the relevant populations and the underlying availability of data sources. Thus AM data appropriate to the incident must be made available prior to the onset of morgue operations, or simultaneous AM/PM data collection protocols must be rigorously constructed and implemented. To allow sufficient lead time the first priority of all mass fatality investigations is to stabilize the remains of decedents in order to minimize the loss of PM data. This stabilization period can be used to accommodate the development of effective and integrated AM and PM data collection and chain of custody procedures. Only once these are in place can PM data collection begin. The stabilization period is also a highly appropriate time to allow the resolution of national jurisdictional and international diplomatic issues.

To establish effective data collection protocols requires a fuller understanding of the variables that affect the identification process. Investigators must develop/address questions regarding four critical parameters:

1) Decedent population demographics
2) Incident dynamics
3) Capacity of available identification/investigation resources
4) Quality control of data collection

This information can then be used to construct hypotheses regarding the availability and applicability of AM information that will essentially guide the postmortem data collection process. Collection of PM data in advance of a full understanding of these four critical areas leads to wasted work and inappropriate (poor quality) underlying data that compromises the identification process. By delaying morgue operations until appropriately tailored data collection procedures are established the identification process effectively becomes a program of hypotheses testing utilizing high quality preliminary data. The authors will present data that identifies the primary variables affecting the MFI decedent identification process and how understanding these variables will expedite data collection and data synthesis.

The authors will also present case studies including the responses to a variety of aviation disasters, the 2004 South Asia Tsunami, and postconflict human rights investigations in the Balkans. These will illustrate how the identification process and identification success rates following a large scale MFI are affected by AM and PM data collection strategies. These case studies focus on irreconcilable AM and PM data collection strategies as well as the collection of congruent AM and PM data that is inappropriate given the four parameters identified above. The authors will conclude by proposing a series of questions designed to prompt investigators to recognize and classify the most appropriate AM and PM data for the decedent population they are intending to identify. It is hoped that these will facilitate the identification process. Restructuring investigative priorities and data collection strategies provides the best opportunities to

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maximize returns from the identification process to include the greatest degree of resolution for post-incident communities.

**Mass Fatality Incident, Antemortem Data, Decedent Identification**

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