



Pathology/Biology Section - 2016

H78 Defining “Mass Fatality Incident” for Medicolegal Jurisdictions in the United States: A Planning Tool

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The goal of this presentation is to provide a summary of the survey data collected and analyzed as part of a joint project between the Harris County Institute of Forensic Sciences and the Office of the Chief Medical Examiner of the City of New York. Preparedness is imperative for medicolegal jurisdictions of all sizes to ensure continuity of operations following a mass fatality incident that exceeds local capacity. The Disaster Victim Identification (DVI) Subcommittee of the Organization of Scientific Area Committees (OSAC) and other entities are focused on the development of best-practice guidance for the management of mass fatality incidents, but there is little empirical data that can be used to inform local application of best practices or planning initiatives.

This presentation will impact the forensic science community by providing a tool for medicolegal jurisdictions to evaluate local risk for mass fatality incidents.

The project was intended to: (1) generate a realistic definition of the term “mass fatality” for local jurisdictions that are in the process of developing mass fatality incident response plans; and, (2) provide a risk-assessment tool for mass fatality incident susceptibility research. Local jurisdictions often seek guidance for mass fatality planning from federal initiatives that are often associated with emergency management grant programs (such as Urban Area Security Initiative (UASI), State Homeland Security Program (SHSP), and Regional Catastrophic Preparedness Grant Program (RCPGP)) that are intended to provide preparedness benchmarks for large emergency management jurisdictions located in large urban areas. These programs are typically focused on preparations for catastrophic man-made or natural incidents that involve large numbers of decedents in complicated environments. This guidance is often of minimal utility for medium or small jurisdictions with limited or no mass fatality response capabilities. The need remains for a tool that can be utilized by jurisdictions of variable size and capability to determine their risk and thus develop appropriate preparations to respond to mass fatality incidents.

To develop this tool, data were gathered for all multiple fatality incidents that occurred in the United States between January 1, 2000 and December 31, 2014 that resulted in four or more fatalities. For each incident, the date, city, county, state, number of fatalities, incident type, incident subtype, and incident category were recorded. Incident type is a record of whether an incident was man-made or natural, and incident subtype is a record of whether the incident type is accidental, weather related, criminal, etc. The database also includes a brief description of the incident itself (bridge collapse, mass shooting, etc.), the population of the jurisdiction in which the incident occurred, whether a manifest was available, and whether the incident response included a federal disaster declaration. These data were extracted from federal databases including the National Transportation Safety Board (NTSB), National Oceanographic and Atmospheric Administration (NOAA), the Mine Safety and Health Administration (MHSA), the Bureau of Safety and Environmental Enforcement (BSEE), the National Incident-Based Reporting System, and the Fatality Analysis Reporting System (FARS). Single incidents affecting multiple jurisdictions that resulted in fatalities were split by county/city to avoid over-representing the burden of an incident on a single medicolegal jurisdiction.

A total of 2,934 incidents met the criteria for inclusion in the database, accounting for more than 19,000 fatalities. The average number of fatalities per incident during the 15-year period included in the sample is seven. There is significant variability in the frequency of incidents by location and incident type, but the average number of fatalities is less variable by location (with the exception of the few locations within which very large incidents occurred (New York City and New Orleans)). The median number of fatalities in these areas resembles the median number in other areas. The presentation will include Geographic Information Systems (GIS) mapping of the results to provide a more detailed illustration of the incident distribution. The end result is a valuable interactive planning tool that provides preparedness benchmarks and a scalable strategy for local medicolegal jurisdictions.

Mass Fatality, Disaster Victim Identification, Preparedness