

Federal Resources in Mass Disaster Response

Americans have endured a torrent of natural and man-made disasters in recent years—floods, hurricanes, bombings, and aircraft accidents. Amid these difficult events, disaster workers respond to return normalcy to the community, to recover and identify the dead, to help obtain and provide information, and to help families grieve.

A disaster becomes a “mass fatality incident” when the local resources of the medical examiner or coroner cannot manage the fatalities. The medical examiner or coroner, who has the legal responsibility to document and identify the dead, can request the assistance of experts in pathology, anthropology, dentistry, mortuary affairs, and search and recovery. Forensic anthropologists have played an increasingly important role in recent American disasters because of their archeological and physical anthropological skills.

Anthropologists are relatively recent additions to disaster response teams. T. Dale Stewart’s

Personal Identification in Mass Disasters, published in 1970, was the first publication combining physical anthropology and mass disaster response. Since then, forensic anthropologists have gained prominence in the medico-legal community not only in mass disaster response, but in other types of investigations.

Two federal organizations recognize the importance of forensic anthropology to disaster response. The Armed Forces Institute of Pathology and the Disaster Mortuary Teams of the Public Health Service provide aid to local communities in mass fatality incidents. Forensic anthropologists are important members of the emergency response teams for these agencies.

The Armed Forces Institute of Pathology, a Department of Defense agency, is known internationally for its expertise in consultative pathology and medical research. Additionally, it has a long history of documenting the remains of soldiers killed in battle. The Institute was founded as the Army Medical Museum in 1862 for advancing the state of medical care for Civil War soldiers. The Armed Forces Institute of Pathology’s role in military mass disaster victim identification is largely an outgrowth of military aircraft accident investigations after World War II.

Within the Institute, forensic anthropologists specializing in mass disaster victim identification are employed in the Office of the Armed Forces Medical Examiner and the National Museum of Health and Medicine.

The Office of the Armed Forces Medical Examiner (OAFME) is responsible for investigating all military fatalities as well as civilian deaths under federal jurisdiction. When called for emergency assistance, OAFME sends a team comprised of pathologists, dentists, anthropologists, and forensic scientists. OAFME has a close relationship with the Federal Bureau of Investigation’s disaster team, the National Transportation Safety Board, and other federal investigative agencies. Within OAFME, the Armed Forces DNA Identification Laboratory is responsible for the DNA identifications of military fatalities, including those from the Vietnam and Korean Wars. The staff of the Armed Forces DNA Identification Laboratory have also been involved in the identification of victims from several recent mass disasters.

The National Museum of Health and Medicine also has forensic anthropologists on staff to support OAFME needs and to conduct research and teach in the field. The museum’s collections of human skeletal specimens and archival materials are similarly available for research in forensic anthropology. In addition, both OAFME and the National Museum of Health and Medicine offer courses in forensic pathology, forensic dentistry,

Anthropological Skills in Mass Disasters

<i>Skill</i>	<i>Examples</i>
Devise grid systems for search and recovery	USAir 427 Oklahoma City bombing
Devise search criteria based on size and scope of disaster	Hardin cemetery flood Oklahoma City bombing
Identifying and reassociating fragmentary remains	USAir 427 American Eagle 4184 Valujet 592 TWA 800
Forensic anthropological analyses (age, sex, stature, etc)	All cases
Radiographic comparisons of skeletal structures	Oklahoma City bombing
Positive identification based on biological criteria	All cases
Reconstructing injury and fragmentation patterns	Operation Desert Storm USAir 427 Oklahoma City bombing
Determine reburial criteria based on remains recovered	Hardin Cemetery

DMORT Contact Information

Main Office: 1-800-USA-NDMS, extension 205

Regional Contact Information

Region 1: CT/MA/ME/NH/RI/VT	Dwight Camp	802-457-1222
Region 2: NJ/NY/PR/USVI	John Oldfield	212-362-6160
Region 3: DC/DE/MD/PA/VA/WV/VA	Howard McComas	410-676-4600
Region 4: AL/FL/KY/GA/MS/NC/SC/TN	Fred Berry, Jr.	423-577-6666
Region 5: IL/IN/MI/MN/OH/WI	Gary Strand	414-639-8000
Region 6: AR/LA/NM/OK/TX	Jack King	409-295-6363
Region 7: IA/KS/MO/NE	Dean Snow	816-776-2255
Region 8: CO/MT/ND/SD/UT/WY	Don Heer	970-842-2821
Region 9: AZ/CA/HI/NV	Robert Hennis	602-464-8728
Region 10: AK/ID/OR/WA	Charles Parks	503-397-1154

forensic anthropology, and DNA identification methods.

The Office of the Armed Forces Medical Examiner and the National Museum of Health and Medicine have supported local resources in several recent mass disasters, including USAir 427, American Eagle 4184, the Oklahoma City bombing, and TWA 800. Under a mandate to investigate all federal and military crashes and deaths, OAFME staff have identified remains from the crash of Department of Agriculture Secretary Ron Brown's plane in Bosnia in 1996 and the shutdown of two US Army Blackhawk helicopters over Iraq in 1994. National Museum of Health and Medicine staff also provided technical guidance for cemetery floods in the towns of Hardin, Missouri (1993) and Albany, Georgia (1994).

OAFME and NMHM staff can respond to non-military mass fatality incidents if a request is made through the Director of the Armed Forces Institute of Pathology. For assistance, contact Dr. William Rodriguez, Chief of Special Operations, Office of the Armed Forces Medical Examiner, at 301-319-0000, or Paul Sledzik, Curator, NMHM/AFIP, at 202-782-2204, or <sledzik@email.afip.osd.mil>.

Within the U.S. government's *Federal Response Plan*, Emergency Support Function No. 8 tasks the Public Health Service to staff an Office of Emergency Preparedness. This office provides the federal government with coordinated assistance to supplement state and local resources in response to mass disasters. Implementation of Emergency Support Function No. 8 provides medical assistance (patient evacuation, health surveillance, personnel, supplies, and equipment) and victim identification and mortuary services.

The Office of Emergency Preparedness established the National Disaster Medical System to further the ESF No. 8 function. A critical component of the National Disaster Medical System is the

Disaster Mortuary Teams, or DMORTS. Each team consists of forensic scientists (anthropologists, dentists, and pathologists), funeral directors, embalmers, medical records technicians, and specialists in mass fatality incident management. When activated for a mass fatality incident, the National Disaster Medical System pays all associated expenses for DMORT team members. DMORT teams can only be activated for a presidentially-declared disaster. Qualified specialists who are interested in professional participation with a team should contact the appropriate team leader in their region.

DMORT teams have been activated three times since formed in 1992. In July 1993, nearly 700 graves from the town cemetery in Hardin, Missouri, were eroded by flood waters. The DMORT team worked to locate, recover, and identify the remains, which dated from the US Civil War to the time of flood. In 1994, flood waters inundated two cemeteries in Albany, Georgia, forcing over 400 caskets into the central part of the city. Using their experience from the Hardin flood, DMORT teams worked with the Georgia Bureau of Investigation to recover and identify the remains. Following the Oklahoma City bombing in 1995, DMORT personnel provided anthropologists, funeral directors, and medicolegal investigators to support the Office of the Medical Examiner.

The National Foundation for Mortuary Care was founded in 1991 as a nonprofit organization with several objectives: to assist civil authorities with incident command and mortuary services during a mass fatality incident; to recruit and train DMORT team members; to coordinate disaster training and educational programs; to publish *Disaster Management News*; and to provide \$1,000,000 in liability insurance protection for DMORT staff active during a mass fatality incident.

The National Foundation for Mortuary Care also operates a mobile morgue containing equipment and supplies used in identification and morgue operations. The morgue supported activities at the crashes of USAir 427 and American Eagle 4184. For more information, contact National Foundation for Mortuary Care, 1900 Whittles Wood Road, Williamsburg, VA 23185-7697 (phone/fax: 804-258-4504).

Paul Sledzik is Curator of the Anatomical and Pathological Collections at the National Museum of Health and Medicine in Washington, DC. His specialties include the application of forensic anthropology to mass fatality incidents, paleopathology, and historic period skeletal biology.