

Mass Fatality Management for Community Health Centers (CHCs)

I. Introduction/Overview of Mass Fatality Management and CHCs

The Indiana Primary Health Care Association (IPHCA), as the membership organization and representative of Indiana's CHCs, has for several years been a consistent partner with the Indiana State Department of Health (ISDH) in emergency management initiatives.

Beginning with grant year 2004-2005, ISDH has included IPHCA, through deliverables-based contracts, in annual cooperative agreements on bioterrorism and emergency management, e.g., the Hospital Preparedness Program (HPP) between the Department of Health and Human Services (HHS) and ISDH. The contracts have allowed IPHCA to build emergency management programs for the primary care association (PCA) and Indiana's CHCs. Previously, the HHS agent was the Health Resources and Services Administration (HRSA). The current agent, resulting from December 2006 legislation on Pandemic and All-hazards Preparedness Act, is the Office of the Assistant Secretary of Preparedness and Response (ASPR).

IPHCA once again applied for and received funding through ISDH for the 2007-2008 ASPR cooperative agreement/grant year. The ASPR grant is no longer focused primarily on bioterrorism, but is now termed the Hospital Preparedness Program (HPP) Cooperative Agreement. IPHCA has reviewed the HHS/ASPR guidance for the 2007-2008 cooperative agreement. Although grant language is oriented primarily toward hospitals, the framework has been adapted for deliverables submitted on behalf of CHCs to ISDH.

The overall goal of IPHCA's deliverables is to comply with the ASPR stated purpose to improve medical surge capacity and enhance community (and hospital) preparedness for public health emergencies, recognizing that CHCs are a critical component of surge enhancement and expansion.¹

The 2007-2008 ASPR guidance cites five Level One sub-capabilities:

- Interoperable communication system,
- Bed tracking system (explain),
- ESAR-VHP (define),
- Fatality management; and
- Hospital evacuation.

These sub-capabilities comprise the cornerstone of expectations for hospitals and other grant/contract recipients.

The enhanced preparedness of both IPHCA and the CHCs will also enhance Indiana's overall surge capacity and demonstrate their value as partners.

¹ IPHCA also acknowledges ASPR's goals of Integration, Medical, At-Risk Populations, Coordination and Continuity of Operations; overarching priorities of regional collaboration, implementation of National Incident Management System (NIMS) and implementation of the National Infrastructure Protection Plan (NIPP) and capability-specific priorities of information sharing and collaboration, interoperable communication, chemical, biological, radiological/nuclear, explosive (CBRNE), and medical surge/mass prophylaxis.

This concept paper addresses the sub-capability of mass fatality, in order to better prepare CHCs to integrate with hospitals, the public health sector and other entities impacted by mass fatality events, as well as to strengthen their service to their client base and community-at-large. IPHCA plans to make this information available to the Indiana statewide CHCs through web-postings, in-service trainings and other means.

II. National/Federal Level Mass Fatality Management History, Origin, Organization, Resources and Mission(s)

A. Mass Fatality Management History/Origin and Organization

Prior to the early 1980's, no national (or other) formal mechanism or standards existed to respond to and manage a disaster or other event resulting in mass fatalities. Recognizing this gap, the National Funeral Directors Association (NFDA) assembled to propose national protocol to address this critical gap.

The group initially concentrated on the role of funeral directors, but soon realized that funeral directors alone could not manage all of the elements of a mass fatality event. The group formed a nonprofit organization and invited in all types of forensic practitioners (all volunteers).

At the same time, national/Federal focus on disaster response and recovery was surfacing. In 1984, the Reagan Administration expressed concern about the absence of an organized national approach to managing the human element (injury, illness, public health effects and death) resulting from a disaster or other catastrophic event.

The response to this concern was the formation of the National Disaster Medical System (NDMS). The initial structure of NDMS was a partnership of federal agencies, including HHS, Department of Veterans Affairs (VA), Department of Defense (DoD) and the Federal Emergency Management Agency (FEMA). (NDMS was not codified into law until 2002 within the Public Health Security and Bioterrorism Preparedness and Response Act [PL 107-188].) NDMS became the national/Federal disaster response and recovery resource and has since responded to hundreds of disasters, terrorism, mass gatherings and other events.

The primary NDMS missions are:

- Field Medical Response;
- Patient Transportation; and
- Definitive Care.

Mass Fatality Management currently resides under the NDMS field medical response mission. NDMS is managed by HHS-ASPR and is also a resource under Emergency Support Function (ESF) # 8 (Health and Medical Services) of the National Response Framework (NRF) (previously the National Response Plan and Federal Response Plan). During an activation of the NRF, NDMS deploys appropriate resources and/or activates specific activities and plans. In an incident requiring mass fatality management, the NDMS Disaster Mortuary Response Teams (DMORTs) may be deployed. (An example of another type of NDMS team/resource is the Disaster Medical Assistance Team [DMAT].)

DMORTs from the ten HHS/FEMA Regions throughout the United States are composed of volunteer private citizens, each with a particular field of expertise, who are activated in the event of a disaster. When activated by NDMS, DMORT members are assigned as temporary Federal employees who are compensated for their duty time by the Federal Government.

In order to accomplish this mission, Disaster Mortuary Operational Response Teams (DMORTs) were developed. DMORT members are required to maintain appropriate certifications and licensure within their disciplines. When members are activated, licensure and certification are recognized by all States. DMORTS also consistently train together and with other teams and partners, and conduct special training each year at the annual NDMS conference.

Mass Fatality Management (and DMORT) Resources and Mission(s)

During an emergency response resulting in deployment, DMORTs function under the guidance of local authorities by providing technical assistance and personnel to recover, identify, and process deceased victims.

Services include:

- temporary morgue facilities
- victim identification
- forensic dental pathology
- forensic anthropology methods
- processing
- preparation
- disposition of remains

DMORTs are composed of funeral directors, medical examiners, coroners, pathologists, forensic anthropologists, medical records technicians, transcribers, fingerprint specialists, forensic odontologists, dental assistants, x-ray technicians, mental health specialists, computer professionals, administrative support staff, security and investigative personnel. With the continuing threat of terrorism resulting from chemical, biological, radiological/ nuclear and explosive (CBRNE) agents, the DMORT program also includes a special team of members who are trained and equipped to manage contaminated victims or those in a CBRNE environment.

DMORTs also maintain and can deploy three (3) Disaster Portable Morgue Units (DPMUs). These DPMUs are staged at locations on the East and West coasts for immediate deployment in support of DMORT operations. The DPMU is a depository of equipment and supplies for deployment to a disaster site. It contains a complete morgue with designated workstations for each processing element and prepackaged equipment and supplies.

In the mid-1990's, DMORTs worked with and supported families who had lost loved ones in airline incidents, and who felt that the treatment received was inadequate. These families demanded a response from the U.S. Congress. As a result, Congress passed The Family Assistance Act in October of 1996, which requires that all American-based airlines (and later, all of those operating in the U.S.) to have plans to assist families in the event of air accidents. DMORTs are, as cited by the National Transportation Safety Board, the official primary responders to transportation accidents. They also work closely with other Federal agencies to coordinate mass fatality victim identification planning and response.

Since their inception, DMORTs have responded to many mass fatality incidents throughout the U.S. Examples are air accidents, hurricanes (including Katrina and Rita) and the tedious recovery process resulting from the 9-11 terrorist incidents in New York, the Pentagon and Shanksville, Pennsylvania.

III. Indiana State and Local Mass Fatality Management

A. Indiana Mass Fatality History

One cannot predict where and when a disaster or other incident resulting in mass fatalities will occur. A mass fatality – producing incident usually implies that the number of deaths at one time exceeds the local capabilities to manage such an event. Not surprisingly, most of these types of events in Indiana have occurred as a result of weather-related incidents, specifically, tornadoes.

Weather-Related Mass Fatality Incidents

Below is an account of known tornadoes in Indiana where mass fatalities resulted. Although some States may have more frequent tornadoes, Indiana has a history of tornadoes with more intensity. Unfortunately, the intensity factor makes Indiana vulnerable to potential tornadoes that may generate mass fatalities.

Indiana tornado disasters

April 13, 1852: New Harmony - 16 killed
 May 14, 1886: Anderson - 43 killed
 March 23, 1913: Terre Haute - 21 killed
 March 11, 1917: New Castle - 21 killed
 March 23, 1917: New Albany - 45 killed
 March 28, 1920: Allen through Wayne counties - 39 killed by three tornadoes
 April 17, 1922: Warren through Delaware counties - 14 killed
 March 18, 1925: "Tri-State Tornado", Posey, Gibson & Pike counties - 74 killed
 March 26, 1948: Coatesville destroyed - 20 killed
 May 21, 1949: Sullivan and Clay counties - 14 killed
 April 11, 1965: "Palm Sunday Outbreak", 11 tornadoes, 20 counties - 137 killed
 April 3, 1974: "Super Outbreak", 21 tornadoes hit 39 counties - 47 killed
 June 2, 1990: 37 tornadoes hit 31 counties - 8 killed
 Nov. 7, 2005: Vanderburgh and Warrick counties - 22 killed

Indiana was one of three mid-western states in the path of the deadliest tornado in American history. On March 18, 1925, the Tri-State Tornado traveled a record 219 miles on the ground from Missouri through Illinois and into Indiana where it struck Posey, Gibson and Pike counties. The town of Griffin was devastated. About half of Princeton was destroyed. The funnel finally dissipated just outside Princeton, 3 1/2 hours after it began. Nearly 700 people died, 74 of them in Indiana.

On Palm Sunday, 1965, 11 tornadoes struck 20 counties in central and northern Indiana, killing 137 people. It was Indiana's worst tornado disaster. Twin tornadoes tore through Goshen, destroying close to 100 trailer homes. In Russiaville, 90 percent of the buildings

were damaged. The tornadoes that devastated Indiana were part of an outbreak in which nearly 50 tornadoes struck the Great Lakes region on April 11-12, causing 271 deaths. The most destructive tornado outbreak of the 20th century was the "Super Outbreak" of April 3-4, 1974. During a 16-hour period, 148 tornadoes hit 13 states, including Indiana. More than 300 people died. (The most notable tornado in this group destroyed much of Xenia, Ohio.) In Indiana, 21 tornadoes struck 39 counties, killing 47 people.

In June 1990, a large outbreak of tornadoes hit Indiana. Thirty seven tornadoes ripped across 31 counties; 8 people died and more than 200 were injured. Downtown Petersburg was severely damaged. Across the Midwest, this outbreak produced 64 tornadoes in nine states, and caused nine deaths.

Unlike hurricanes, which usually involve warning (allowing emergency management and public health officials a brief window for assembly of resources for response) tornadoes are unpredictable in their course, appear suddenly and do not allow time for such assembly. The aftermath of Indiana's aforementioned tornadoes and resulting mass fatalities have resulted in somewhat disorderly, if not chaotic responses. Management of an unusually large number of fatalities has occurred in the absence of organized systems, limited resources and no standardization in approach.

Local funeral directors, law enforcement and volunteer responders in or nearby the impacted area(s) have managed fatalities through local means. This approach can be very challenging and demanding on personnel and systems accustomed to much smaller and less severe incidents and may be extremely stressful on the survivors and community.

The Halloween Explosion

One of the worst mass fatality tragedies in Indiana history occurred on the night of October 31, 1963, when an explosion occurred at the Indiana State Fairgrounds Coliseum, Indianapolis. Four thousand spectators were in attendance for the Holiday on Ice show when a faulty valve of a propane tank exploded. Minutes later, a secondary explosion occurred. The blasts caused bodies to soar over 60 feet in the air. Over 400 individuals were injured, many severely, and 74 died, many from severe burns or crushing injuries caused by falling and flying concrete and other debris.

Many recorded accounts of the event describe the ensuing chaos, as responders and shocked families and other spectators scurried to transport victims by ambulances or private vehicles to hospitals in Indianapolis and beyond. Many subsequent published accounts reported that Indianapolis was not prepared to manage the massive number of injured, and even less prepared to manage the overwhelming number of deceased. The local coroner decided to use the Coliseum as an impromptu morgue, where bodies were positioned by gender/estimated age on plywood placed on the ice. Family members or friends were then asked to walk through the rows of bodies, identifying the dead. Many of those in attendance, as well as survivors and responders, continue to anecdotally describe the event, the chaos and psychological impact associated with that fateful night. The response to the event has been cited over the years in emergency management circles, particularly by those seeking to learn lessons in management of mass casualties and mass fatalities.

Halloween Plane Crash

Until Halloween, 1994, the deadliest air crash (in terms of numbers of lives lost) in Indiana history was the December 13, 1977 crash of a DC-3 charter plane carrying the University of Evansville basketball team to Nashville, Tennessee.

The plane crashed just minutes after takeoff from Evansville Dress Regional Airport, killing 29 people, including the head coach and 14 team members. Responders, funeral directors and law enforcement from Evansville (Vanderburgh County) and surrounding areas managed the response and recovery operation of this devastating event.

It was the October 31, 1994 American Eagle Flight 4184 commuter crash in Roselawn (Newton County) however, that was to become the State's deadliest air disaster. A total of 68 individuals, including 64 passengers and four crew members, lost their lives. A soybean field, inaccessible by vehicle, was the site of the wreckage of this aircraft that was bound for Chicago O'Hare Airport.

Once responders arrived at the scene, they quickly discovered that there were no intact bodies of this violent crash, where the aircraft and its contents practically disintegrated. One of the only pieces of recognizable debris was a piece of the aircraft's tail section.

Local rescue workers from the Lincoln Township Volunteer Fire Department, Newton County Emergency Medical Services and the local American Red Cross comprised the initial group of responders. Firefighters and other responders from nearby communities like Lowell, Lake Dalecarlia, Shelby and Wheatfield also assisted. Within days, Indiana National Guard units, activated by then Governor Evan Bayh, were deployed to the area to begin the several weeks of tedious work of recovering the thousands of components of body parts and assisting in the process of identifying and handling victims' remains. An almost 100 member National Transportation Safety Board (NTSB) team arrived and remained for days.

Initially, the local junior-senior high school gymnasium served as the site for a temporary morgue, but was quickly relocated to the Remington National Guard Armory. Victims' families were provided food, lodging, and counseling in near-by Jasper County (counselors and clergy were also available in the recovery area.) They were also escorted to the crash site and to the Armory, where they could identify any recognizable possessions. A memorial service was conducted at the Merrillville High School gymnasium. Victims and their families represented States from throughout the country, as well as Canada, England, Sweden, and Columbia. Christian, Jewish and Muslim religions were represented among the passengers.

** An important feature of the response and recovery to the aforementioned air disaster is that the Federal government (HHS) deployed DMORT resources, including a DPMU, to assist in the ongoing operation. By all reports, the response and recovery to the Roselawn tragedy was well executed, and demonstrated the value of local, State and Federal entities working collaboratively in mass fatality management.

The aforementioned descriptions of mass fatality events are intended to inform the reader of the historical aspects of some of Indiana's mass fatality incidents, enhance awareness of the complex and unique factors of these types of incidents and highlight the value of using Federal (and other expert) resources in mass fatality management.

B. Indiana State and Local Mass Fatality Planning and Plans

There has not been a mandate from the national/Federal level that requires State (or local) DMORTs or similar formalized groups. Regions (e.g., HHS), States and local entities throughout the country vary in their levels of development of teams or resources to manage mass fatality events. At the time of the writing of this document (June 2008), Indiana, through ISDH, is in the process of developing a State-sponsored plan to address management of mass fatalities. Once completed, it is anticipated that ISDH would share the plan with those in health care, local public health and the emergency management communities. (As cited earlier, the ASPR 2007-2008 HPP cooperative agreement includes

guidelines indicating that management of mass fatalities, as a Level One Sub-capability, will be addressed by grant recipients. Therefore it is likely that ISDH, local public health, hospitals and other ASPR – funded entities will indeed develop or participate in mass fatality planning.)

As is the case with other States, Indiana includes varying levels of mass fatality planning and preparedness at the local level. For instance, the District V 2007-2008 ASPR partnership award recipient, Marion County Health and Hospital Corporation, is currently exploring and reviewing mass fatality planning and resourcing in Marion County/Indianapolis and the other District V counties. It appears that, where local level mass fatality planning is more formalized or robust, it is usually initiated by the funeral director or medical examiner professional community and is part of the local emergency management or public health planning.

One example of this approach is in Putnam County, Indiana where the County Local Health Department leads and has published a public health emergency management plan that reflects the ESF #8 (Health and Medical Services) structure. The plan states that

“The purpose of this function is to aid in the coordination and mobilization of health, medical, and mortuary services during emergencies. It includes provisions for accomplishing those necessary actions related to life saving, treatment of the injured, disposition of the dead, and crisis mental health services during response operations, as a result of an emergency or disaster.”

The plan cites local health care, Emergency Medical Services and the Coroner’s Office as the key support entities and describes tasks/roles according to the comprehensive emergency management phases of mitigation, preparedness, response and recovery. It also cites expected tasks/roles for ALL support entities. They are listed below:

Primary and Support Agencies

- Assess scope, magnitude, extent, and potential duration of incident
- Assist in the development of the incident action plan
- Alert personnel needed to carry out mission
- Ensure necessary resources are available
- Coordinate back up communications
- Provide for an emergency first response to incidents that threaten lives or property
- Deploy equipment and personnel to sites in greatest need during an emergency
- Establish on-going radio communications between EOC and site of emergency
- Provide appropriate representation to the EOC
- Coordinate with communications function to provide emergency communications as needed
- Record response activities taken, noting improvements or corrective actions required
- Collect information concerning field activities
- Provide technical assistance as required
- Provide hourly situation reports to EOC
- Attend meeting for periodic situation updates
- Document incoming and outgoing notifications

The Coroner's Office's specific tasks/roles are described as:

CORONER

- ❑ Process and prioritize requests for additional resources regarding disposition of remains
- ❑ Request the activation of the Indiana Funeral Directors and Coroners Disaster Team through the EOC, as needed
- ❑ Implement county Mass Fatality Plan
- ❑ Provide coordination between morgue and funeral directors to assist in the timely processing of remains
- ❑ Determine the location of a temporary morgue and activate
- ❑ Coordinate information regarding fatalities with the Red Cross through the EOC
- ❑ Coordinate with search and rescue teams
- ❑ Determine causes of death
- ❑ Identify mass burial sites
- ❑ Protect the property and personal effects of the deceased
- ❑ Provide emergency information through the PIO to the news media on the number of deaths, morgue operations, etc., as appropriate
- ❑ Coordinate services of funeral directors, ambulances, EMS, and other pathologists; the Red Cross for location and notification of relatives; dentist and X-ray technicians for purpose of identification; and law enforcement for security, property collections, and evidence collection

It is evident that there is currently no standard approach beyond that associated with the national/Federal DMORT guidelines and practices. It appears, however, that today's climate of terrorism and evolving threats such as a potential pandemic resulting from avian influenza or other cause is prompting national public health and other leaders to issue expectations to State and local entities, urging them to include mass fatality planning in their comprehensive emergency management programs.

IV. Implications of and Potential Roles for Mass Fatality Management for CHCs

A. Implications of Mass Fatality Management for CHCs

The CHC is an important and unique resource in local emergency management. The CHC is typically the familiar partner in its neighborhood and is frequently managed and staffed by local residents. In essence, the CHC is "in and of the community."

If a mass fatality incident occurs within a particular community, it will certainly both impact and rely upon the healthcare community. It is therefore important that the CHC become engaged in and aware of emergency management systems, including those that would likely be involved in managing a mass fatality incident.

Many of Indiana's mass fatality – producing incidents cited earlier (e.g. tornadoes, air accidents) occurred in areas and counties where CHCs are now prevalent resources.

These unpredictable events can occur anywhere, any time, necessitating readiness on the part of healthcare entities. In 16 of Indiana's counties, there are no hospitals. There are, however, CHCs or Rural Health Clinics in or "responsible for" the residents in all of those counties. If a tragedy occurs, the CHC would likely be on the front-lines of rendering support.

The current emergency management climate includes concerns about a potential pandemic resulting from influenza or another infectious agent. National and international planning projections predict an unprecedented number of impacted outpatients, many of whom would be CHC clients. An unprecedented number of deaths is also expected. Many of these would likely be CHC clients or families of clients.

Deaths	89-200 K	0.03-0.07% pop.
Hospitalizations	314-733 K	0.1-0.3% pop.
Outpatient care	18-42 million	6-15% pop.
Total infected	43-100 million	15-35% pop.

Estimated impact of pandemic influenza in U. S.

In addition, a pandemic resulting from the novel H5N1 virus will, as in past pandemics, most severely impact the young healthy population which has no previous immunity. CHCs are prominent among the healthcare resources that specialize in pediatrics and would therefore be significantly impacted.

Another important factor to consider when addressing pandemic influenza or other emerging threats and their potential impact on the population is the potential authority of the State government. The Model State Emergency Health Powers Act (MSEHPA), proposed by an HHS-funded forum of public health experts from Georgetown and Johns Hopkins Universities, gives authority to the States (Governor or other official, e.g., State Health Commissioner) to more effectively control epidemics and manage bioterrorism. The Act would revise some subjects covered by existing public health laws, such as reporting contagious diseases, disposal of the dead and quarantines.

To date, thirty-three States have adopted the Model Act. Indiana has not officially adopted the Act, but believes that it already has, through existing legislation, the needed authority, primarily through the State Health Commissioner. Depending on the emergency management/public health scenario, the State would be granted the authority to essentially issue mandates to healthcare entities and others, as necessary, to support the greater good. In the case of mass fatality management, for instance, the State could order body disposal that may not align with certain cultural and religious practices and principles. The State can also mandate how patient information is obtained and shared, and mandate additional or altered roles for healthcare and related services.

It is important that CHC leaders, representing critical healthcare resources, be represented and informed about their potential roles and State impact on CHCs and their patients, if a public health emergency arises.

B. Potential Roles of CHCs in Mass Fatality Management

- Support/provision of on-site healthcare to survivors, responders, etc.
- Use of CHC facility or resources for support of mass fatality management team
- Mental health services to responders, survivors, local community post – mass fatality incident

- Translation services for non-English speaking survivors, families, others
- Social work service support to survivors, families, others
- Liaison/supportive services on behalf of those representing diverse cultures, religions, etc.
- Administrative support to mass fatality management team
- Dental, laboratory, X-ray support for initial local mass fatality management team

C. Steps for CHCs to Become Engaged in Mass Fatality Management Plan

- Meet with local public health, medical examiner, coroner and others responsible for mass fatality management; seek information on mass fatality management plan.
- Become involved in local emergency management planning committee, including those that focus on mass fatality planning.
- Brief local public health, medical examiner, coroner and others on mission and roles of CHC, and how it may be involved in the mass fatality plan. Offer suggestions.
- Meet with CHC staff about mass fatality planning and develop internal CHC plan for this role, identifying staff members and potential roles.
- Conduct or arrange in-service training with CHC staff about mass fatality management in Indiana, locally and nationally. Invite public health and medical examiner/coroner as guest presenters to CHC staff.
- Clarify with PCA or Bureau of Primary Health Care national guidelines regarding CHC's role, scope of practice, and FTCA issues with local mass fatality management.
- Stay apprised of local and State mass fatality management planning progress, applicable legislation, e.g., The Model State Emergency Health Powers Act.
- Become involved in training and exercises that address mass fatality management.
- Form agreements and memoranda of understanding, as applicable.

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