

Direct and Indirect Disaster Related Deaths

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Disaster

Term encompasses many different things

Original meaning: an unfavorable aspect of a planet or star

Based on the belief that the positions of stars can influence the fate of humans, often in destructive ways¹

More common meaning: a sudden calamitous event bringing great damage, loss, or destruction; a sudden or great misfortune or failure¹

Mass disaster: A natural or human-caused incident that results in more injuries and/or fatalities, such that local resources are overwhelmed

1: www.miriam-webster.com/dictionary/disaster

Disasters

Natural disasters:

- Hurricanes
- Tornadoes
- Floods
- Earthquakes
- Wildfires

Human caused disasters:

- Mass shooting
- Mass vehicular homicide
- Plane crash
- Wildfires
- Terrorist attack

Types of deaths

Direct:

- Occur from the forces of the storm/event or the consequences of those forces
 - Flying/falling debris
 - Structure collapses
 - Drowning in flood waters

Indirect

- Occur before, during or after the disaster when an unsafe or unhealthy condition exists
 - Fall off ladder while preparing residence for hurricane
 - CO poisoning from generator
 - Inability to obtain medical care for acute or chronic condition (i.e., no access to dialysis)

Classification of deaths

Information on death certificates is mined by many agencies

If disaster name is not on the death certificate, the number of deaths will be incorrectly reported

Families receive benefits for disaster related deaths in federally declared disaster areas

Indirect deaths are the most likely to be overlooked/underreported

Classification of direct deaths

Non-natural disaster related deaths

All should be reported to ME/Coroner

- COD: as determined from the autopsy or review of records
 - MOD: as determined from the investigation/cause of the disaster
 - Most will be accident
 - Arson related wildfires, terrorist attacks: homicide
- The disaster name should go in the 'HOW INJURY OCCURRED' section
 - Driver of vehicle submerged in flood waters associated with Hurricane Harvey

Classification of indirect deaths

- May not get reported to ME/C
 - Educate local hospitals and law enforcement agencies during and after disaster
- COD: as determined by the autopsy/review of records
- MOD: as determined from the investigation
 - Will include natural, accident, homicide and undetermined
- Disaster name should go on the death certificate
 - How injury occurred section for non-natural deaths
 - Part 1 or Part 2 for natural deaths

Indirect disaster related deaths

- Blunt trauma after falling from ladder putting up storm shutters in preparation for Hurricane Ike
- Hyperthermia while evacuating in car ahead of Hurricane Rita while stuck in traffic
- End stage renal disease with lack of access to dialysis due to flooding from Hurricane Katrina
- Mechanical asphyxia due to compression of chest by watercraft while trawling jet ski ahead of Hurricane Sandy
- Chronic obstructive pulmonary disease
 - Part 2: Inability to obtain oxygen tanks due to flooded roadways from Hurricane Harvey
- Acute myocardial infarct due to atherosclerotic cardiovascular disease
 - Part 2: Medical responders delayed due to debris on roadway from tornado

When is the disaster over?

- For disasters with extensive displacement, deaths should be considered for as long as the displacement occurs
 - Can be up to 1 year or longer
 - 6 months was traditional cutoff
- Some disasters will have clear end points
 - Plane crashes
 - Mass shootings

Effects of displacement

Heavy financial burden

- Loss of all or part of home and belongings
- Loss of vehicles
- Pay for temporary shelter, basic necessities
- Maintain home involved in the disaster: mortgage, utilities, etc
- Repair home
- Replace lost belongings

Effects of displacement

Physical stress

- Demolition of damaged property
- Debris removal
- Exposure to toxins
 - Bacteria infested water
 - Rusted metal and electrical wires
 - Mold
 - Cleaning chemicals
 - Extensive dust

Effects of displacement

Emotional stress

- Forced evacuation
- Uncertainty for future: where to live, transportation, next steps
- Inability to get home repaired (competing with others for contractors, supplies and equipment)
- Lack of resources
- Finances and physical strain
- Fighting with insurance companies and/or FEMA
- Never-ending list of things to do, on top of regular duties/job
- Depression, anxiety and anger; increased substance abuse

Typical timeline

- 1-4 weeks evacuation
- 2-3 weeks for demolition
- 3-12 weeks for FEMA inspection
- 6-12+ months for renovations

Why is this important?

Benefits may be available for funeral/burial costs

Reimbursement for agencies handling deaths

Prevention of future deaths

- Hurricane Rita Evacuation September 24, 2005: 28 deaths in Houston area
- Millions of people on the roads, gridlock, gas shortages, record high temperatures (95-100 F)
- Hurricane turned east; minimal effects to Houston area
- Hurricane Katrina evacuees: many left without medications and succumbed to natural diseases (diabetes, hypertension)

Thank you!
