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 ways
More common meaning: a sudden calamitous event bringing
great damage, loss, or destruction; a sudden or great misfortune
or failure
Mass disaster: A natural or human-caused incident that results in
more injuries and/or fatalities, such that local resources are
overwhelmed

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 hospitals)

Classification of deaths

Information on death certificates is shared 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 the 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/scene of records
MOD: as determined from the investigation
  - Will include natural, accident, homicide and undetermined
Disaster name should go on the death certificate
  - New 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 shelters 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 traveling jet ski ahead of Hurricane Sandy
- Chronic obstructive pulmonary disease
  - Part 2: inability to obtain oxygen tanks due to flooded medics from Hurricane Harvey
- Acute myocardial infarct due to atherosclerotic cardiovascular disease
  - Part 2: Medical responder delayed due to debris on medics 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

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

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
5-12 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: 48 deaths in Houston area
Millions of people on the roads, gridlock, gas shortages, record high temperatures (95-100°F)
Hurricane turnedassets: minimal effects to Houston area
Hurricane Katrina evacuees: many left without medications and succumbed to natural diseases (diabetes, hypertension)

Thank you!