NATIONAL CFRP
Center for Fatality Review & Prevention

Reviewing Deaths of Children in Disasters and Mass Fatality Events

National Center Guidance Report

October 2019

PROJECT FUNDING STATEMENT

2019

CONTENT

Cause for Concern and Definitions

A wide range of incidents, both natural and man-made, can result in mass fatalities.

Quantification of victims may pose a challenge due to the circumstances relating to the disaster.
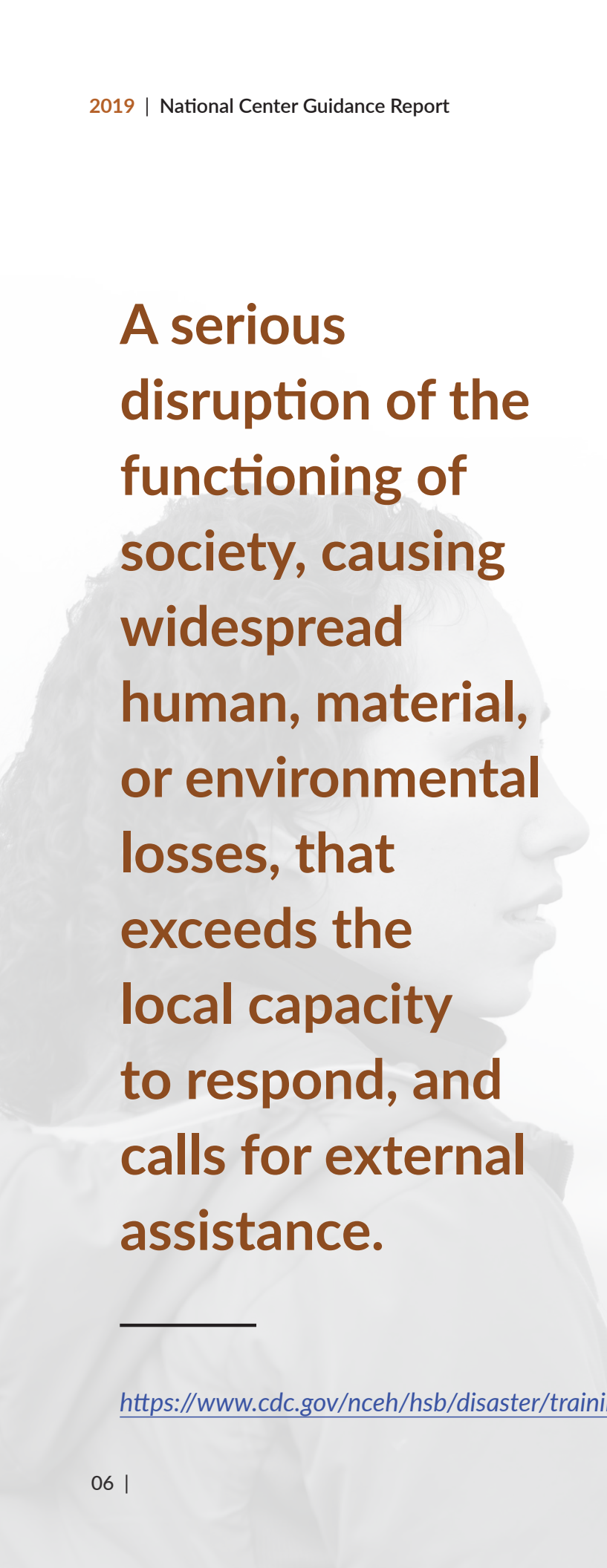
Despite these challenges counting deaths, approximately 2,000 deaths are attributed to severe weather-related events each year in the United States (U.S.). The majority of these deaths are from major floods, tornadoes, and exposure to excessive environmental heat and cold. Accurate quantification of deaths after any type of disaster can provide insight into the severity of the event and its burden on the affected population. Gathered data about decedents' demographics, locations of injury, and circumstances of deaths may be used to identify the leading

cause(s) of death, groups at higher risk (e.g., children), and common risk factors related to the disaster event. Information obtained by analyzing deaths attributed to the disaster serves to guide the public health and medical system response by helping to determine the appropriate type and amount of resources to request and mobilize and which preventive strategies to implement to address ongoing and emerging hazards (e.g., public health messaging). In addition, research and in-depth review of these deaths informs and supports preparedness policies and assists with planning for future disasters. Children have special vulnerabilities and needs during an emergency, and one in four people in the U.S. is younger than 18 years old. Due to the vulnerability of children in a disaster, a death review after such an event is warranted to identify how to improve preparedness.

A serious disruption of the functioning of society, causing widespread human, material, or environmental losses, that exceeds the local capacity to respond, and calls for external assistance.

———

https://www.cdc.gov/nceh/hsb/disaster/training.htm

What is a Disaster?

From the perspectives of health services and public health consequences, a natural disaster may be defined as "the result of a vast ecological breakdown in the relation between humans and their environment, a serious and sudden event (or slow, as in a drought) on such a scale that the stricken community needs extraordinary efforts to cope with it, often with outside help or international aid." The Centers for Disease Control and Prevention (CDC) offers a more concise definition of a disaster: A serious disruption of the functioning of society, causing widespread human, material, or environmental losses, that exceeds the local capacity to respond, and calls for external assistance.

Crises of Human Origin and Other Mass Fatality Events

Other causes of disasters are man-made mass fatality events. Man-made mass fatality events are assessed similarly to natural disasters and require no hard and fast number of deaths; it is enough for the event to simply overwhelm the available response resources. These events can be inadvertent; transportation accidents often require more response resources than are readily available. The events can also be purposeful, as in the case of mass shootings.

Direct vs. Indirect Deaths

Deaths can be directly or indirectly related to the disaster or crises event. Hurricane Katrina caused 520 directly-related deaths and 565 indirectly-related deaths when it hit the U.S. in 2005.

A directly-related death is defined as a death directly attributable to the forces of the disaster/crisis or by the direct consequences of these forces, such as structural collapse, flying debris, or radiation or chemical exposure.

Indirectly-related deaths are less clearly connected to the incident, but ultimately result from it.

An indirectly-related disaster death occurs when unsafe or unhealthy conditions are present during any phase of a disaster or crisis (i.e., pre-event or preparing for the disaster, during the disaster event, or post-event during cleanup after a disaster) and contributed to a death.

Examples include electrocutions from downed power lines that were caused by a storm, cancers caused by toxic exposures on September 11, 2001, or sepsis due to lack resources for proper hygiene in vulnerable populations.

Key questions for Medical Examiner/Coroner or other death certifier to ask are:

? *Was the death caused by <u>actual environmental forces</u> of a disaster such as wind, rain, flood, earthquake, or blast wave, or by the direct consequences of these forces such as structural collapse, chemical spill, or flying debris? If so, this is a directly-related death that was caused by natural or human-induced forces.*

? *Did <u>unsafe or unhealthy conditions</u> from the environmental forces of the disaster contribute to the death? These conditions could be loss or disruption of usual services (e.g., utilities, transportation, or health care). If so, this is an indirectly-related death.*

? *Did the forces, whether natural or human-induced disaster, lead to temporary or permanent displacement, property damage, or other personal loss or stress that contributed to the death? These <u>indirect circumstances</u> involve personal loss or lifestyle disruption. If so, this is also an indirectly-related death.*

NOTE:

For public health planning and preparedness purposes, recording sufficient information about the disaster-related circumstances on the death scene investigation report and on the death certificate provides useful data to determine whether deaths are directly or indirectly-related.

Gray Area in Confirming a Disaster Occurrence

Determining whether an incident can be considered a disaster or mass fatality event can be challenging. The determination is a function of the relationship between the event and the resources available to address the event. Given this, an incident considered a mass casualty event in one community may be easily managed by a neighboring community and not considered a mass fatality incident.

While there are challenges, medical examiners and coroners should use available information obtained from reliable sources, such as National Weather Service (NWS) official warnings or watches, emergency management information, and official alerts (e.g., state of emergency declaration or Federal Emergency Management Agency declaration), to determine whether a disaster has occurred in their jurisdiction.

》》 Only Governors and the President can declare a state or national state of emergency due to natural disasters or man-made crises, including terror attacks.

Best Practice Considerations:

1 **Should the deaths be reviewed by the fatality review team?** *This is a decision that can only be made by the community.*

2 **Are other groups of professionals reviewing the incident?** *If so, identify how the fatality review will add value to understanding the risk factors and circumstances surrounding the death.*

3 **What are the goals of the fatality review?** *Clarify what the team seeks to accomplish prior to starting the fatality review process. This will help the group focus on membership, records to request, and other process steps.*

4 **How should the community, especially survivors, be involved in the review process?** *Seeking input from the community is a vital step in ensuring the review process is understood and chances of secondary trauma are minimized. This can be done by sending questionnaires, holding listening sessions, or conducting family interviews.*

5 **Who should participate in the review process?** *Not everyone on the fatality review team can/should participate in the review. There may be team members who opt out of reviewing deaths or the team may need to seek specialized experts for the review.*

6 **Will there be a final report or product published?** *If yes, who should participate in the writing and how should the community, particularly survivors, be notified prior to the release.*

7 **What resources are available to those reviewing the deaths?** *Identify self-care and clinical resources prior to beginning to the review process. Even professionals who are accustomed working with difficult topics need support processing disasters and mass fatality events.*

Best Practices in Reviews

Multidisciplinary reviews provide an added depth of how systems work together during disasters and crises and help to identify gaps in preparation and response. With complete, detailed, and accurate information, research can be conducted to better understand contributors to disaster-related deaths. Emergency personnel, public health and public safety professionals, and others may use this information to plan for and implement targeted interventions to mitigate risk during disaster response and recovery. Every disaster or mass fatality event is different, and the needs for preparedness and response will vary accordingly. Evaluating deaths after a disaster will differ from reviewing deaths under different circumstances, for many factors have impact on the outcome. Communities will benefit from instituting a review following a disaster or mass fatality event because the information obtained will help them understand the outcomes and will provide insight on how to improve prevention.

Child Death Review Members

Typical child death review (CDR) members include pediatricians, medical examiner/coroner, child welfare, public health, legal system, law enforcement, hospitals, schools, and others who may have information about how and why a child died. Effective reviews for disaster deaths should also include professionals specializing in disaster work, such as the following:

☐ **PEDIATRICIANS**
The American Academy of Pediatrics (AAP) chapters have a preparedness contact that can serve as a resource for pediatric disaster issues. View a map of key contacts at http://bit.ly/2N6jl19.

☐ **EMERGENCY MEDICAL SERVICES FOR CHILDREN STATE PARTNERSHIP GRANTEES**
View key contacts at http://bit.ly/2MDpx1w.

☐ **STATE AND LOCAL PREPAREDNESS PROGRAMS**
View key contacts at http://bit.ly/2o6rTwo.

☐ **HOSPITAL PREPAREDNESS PROGRAMS THAT SUPPORT REGIONAL HEALTH CARE SYSTEM PREPAREDNESS**
http://bit.ly/2MBHoFZ

☐ **STATE HOSPITAL PREPAREDNESS AWARDEES**
http://bit.ly/2P9BJc1

☐ **EMERGENCY PLANNERS**
State and local emergency management programs.

☐ **PREPAREDNESS PLANNERS**
Individual(s) working with at-risk groups, including children.

☐ **FEDERAL EMERGENCY MANAGEMENT AGENCY REGIONAL OFFICES**
View key contacts at http://bit.ly/2Bz0AOE.

☐ **INCIDENT MANAGERS OR RESPONSE LEADERSHIP OF A LARGE INCIDENT**
Jurisdictions conduct after-action review for all large incidents resulting in published lessons learned. For example, after Hurricane Harvey, Texas published http://bit.ly/35V0myZ.

☐ **KEY AGENCIES INVOLVED IN THE EVENT**
Invite key agencies and individuals (e.g., schools in school shooting or if schools impacted by a tornado; fire department in fire deaths; environmental health in extreme heat; or carbon monoxide deaths after power outages).

☐ **CONDOLENCE RESPONSE TEAM FROM RESPONSE ORGANIZATIONS**
(e.g., Red Cross and FEMA)

☐ **MATERNAL CHILD HEALTH COORDINATORS**
View key contacts at http://bit.ly/2P5zVAS.

☐ **MENTAL HEALTH PROFESSIONALS WITH KNOWLEDGE OF VIOLENT AND THREATENING BEHAVIOR**

Critical Documents to Consider for Review

☐ **DEATH CERTIFICATE**

☐ **PREPAREDNESS PLANS**

☐ **THE AMERICAN ACADEMY OF PEDIATRICS RESOURCES FOR CHILDREN AND DISASTER**
http://bit.ly/2N2i4rU

☐ **AFTER-ACTION REPORTS PUBLISHED BY EMERGENCY MANAGEMENT PROGRAM**
This might not yet be published, but could be available.

    🔍 If reviews happen before the After-Action report is completed, ensure that recommendations/findings are created with the incident and emergency manager(s).

    🔍 Ensure CDR team and disaster professionals review all recommendations.

☐ **CDC WEBPAGES IDENTIFYING TYPICAL RISK AND PROTECTIVE FACTORS FOR THE TYPE OF DISASTER INVOLVED IN THE FATALITY**
(e.g., extreme heat, tornado)

☐ **MEDICAL EXAMINER AND/OR CORONER DEATH SCENE INVESTIGATION REPORT**
Share CDC Death Scene Toolkit to assist the medical examiners/ coroner in extracting meaningful data points for the review.

☐ **NATIONAL WEATHER SERVICE WARNING REPORTS**
Contact local offices for these reports. Local offices can be found at http://bit.ly/2PgIp86.

Key Discussion Questions During the Review

☐ *Was there a disaster plan for this type of incident? If yes, was it followed?*

☐ *Did the disaster plan have pediatric-specific components?*
Was the disaster plan drilled and did the drills include pediatric scenarios?

☐ *Had there been specific, effective training and dissemination of the response plan?*

☐ *What were the circumstances of the death?*

🔍 When considering your cases, review CDC webpages or input from preparedness staff – examine the typical risk and protective factors for the type of disaster involved in the fatality.

🔍 What were the disaster-specific risk factors associated with this death?
(e.g., outside, did not hear a warning)

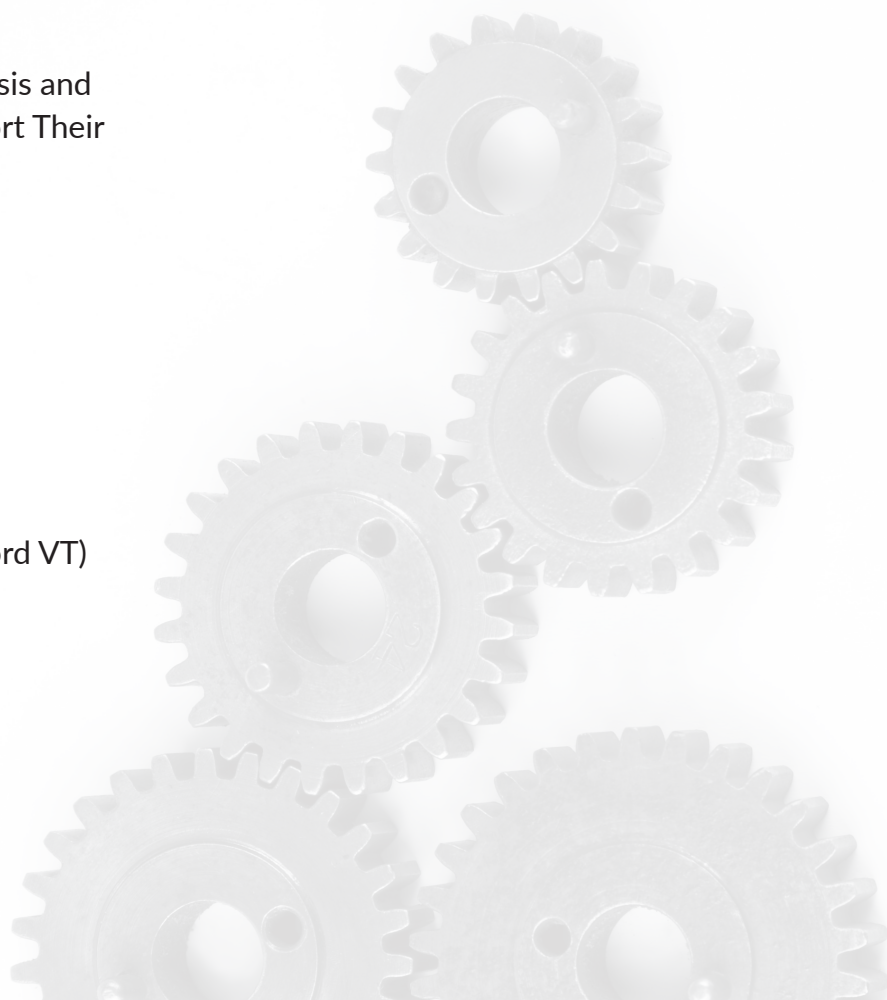🔍 What protective factors were taken by the child or caregiver in response to the threat?

☐ *Are there services that should be provided to the family, community or professionals as a result of this death?*

☐ *Should we recommend any changes to agency practices or polices based on what we know about the circumstances, cause, and manner of this death?*

☐ *What does this case tell us about how families are able to access existing local services and resources?*

☐ *What other risk factors were involved in this death, grounded in social determinants of health?*

☐ *What do we recommend should be done to prevent another similar death?*
Consider existing knowledge of risk factors and strategies included into jurisdictional response plans.

☐ *Were certain populations put at greater risk than others during this incident?*
Why? What other groups had similar death rates? What are common risk factors?

☐ *What environmental conditions contributed to the death? Some things to consider include access to clean water, adequate transportation, access to a fire extinguisher, chronic air pollution, or exits not available.*

☐ *Was this an isolated case or did this occur in a cluster?*

☐ *When was the last time a similar disaster occurred, and how does mortality then compare to this recent event? What factors may have contributed to the difference?*

☐ *Did the death occur before, during, or after the event?*

RESOURCES

- CDC's Death Scene Investigation Toolkit
  http://bit.ly/33XurMv

- National Center for Fatality Review and Prevention
  Case Report Form for Child Death Review
  http://bit.ly/2W389Gy

- CDC's Death Certification Completion Reference Guide
  http://bit.ly/2N0j0gm

- CDC's Children in Disasters Website
  http://bit.ly/35X6Nl8

- National Preparedness Resource Library
  http://bit.ly/2JaDSAf

- Healthcare Emergency Preparedness Information Gateway
  http://bit.ly/2p3ihD2

- Technical Resources Topic Collection: Children
  http://bit.ly/2MGxGCx

- The National Center for School Crisis and
  Bereavement Helps Schools Support Their
  Students Through Crisis and Loss
  http://bit.ly/2pGgSCu

SELF-CARE

- Vicarious Trauma Guidance
  http://bit.ly/2PbaJc0

- Vicarious Trauma Webinar (Password VT)
  http://bit.ly/2N2XoA7

- Vicarious Trauma Tool-Kit
  http://bit.ly/2W68NDg

Pilot for Disaster Variables

Case Reporting System

The National Center is currently (Fall 2019) working on a revision to the National Fatality Review-Case Reporting System (NFR-CRS). This revision will allow teams to categorize a death as a natural disaster or mass shooting. These questions are a revision of a question that was added in April 2018 with the release of NFR-CRS V 5.1.

The NFR-CRS will ask users if the death was attributed (either directly or indirectly) to an extreme weather event, natural disaster, or mass shooting. If yes, specify the type of event (e.g., tornado, heat wave, flood, etc.) and general circumstances surrounding the death. If yes, specify the name of the event if applicable (e.g., Paradise Wild Fire, Hurricane Irma, etc.).

In addition to adding these questions, the National Center staff will be adding details to the data dictionary. It is anticipated that NFR-CRS V 5.1 will be released in Spring 2020.

Pilot States

In order to gain a deeper understanding of what information would be valuable for disaster-related fatality reviews, the National Center is collaborating with the CDC on a small pilot. This group of states will work with the National Center, CDC, and HRSA to review potential data points and then begin data collection in NFR-CRS. If you are interested in participating in the pilot, please contact the National Center at info@ncfrp.org.