

# American Red Cross Mortality Tracking Deaths Associated with Hurricane Sandy

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August 29, 2013



*“Regretfully, we were not prepared for Sandy”*



Hodnett's home in Long Island

CDC Public Health Matters Blog – by Gaetina Hodnett, Sandy survivor

<http://blogs.cdc.gov/publichealthmatters/2013/02/memories-of-superstorm-sandy/>

# Hurricane Sandy

- ❑ **“Perfect Storm”**
  
- ❑ **By Day 2 (October 31, 2012)**
  - 7-8 million customers without power
  - 20,000 persons in shelters
  - Numerous fatalities



**Monmouth Race Track Shelter, NJ**

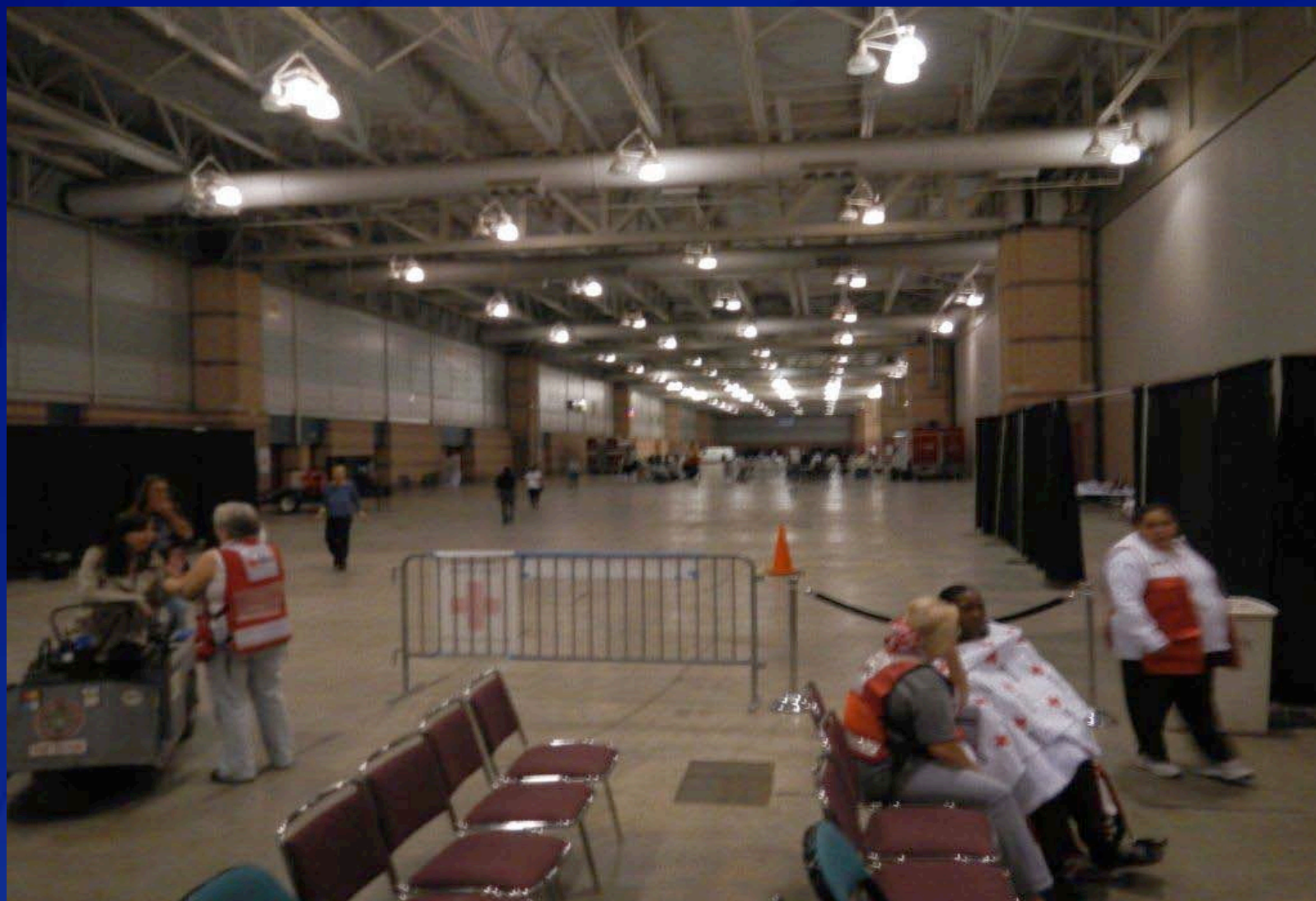
## ARC Mortality Tracking

- ❑ **Red Cross volunteer tracking of disaster-related deaths**
- ❑ **Purpose: Provide services to family members**
  - Crisis counseling
  - Assistance with disaster-related expenses
  - Locate emergency housing
  - Identifying recovery resources
  - Address disaster-related health needs

# Sources of Information

- ❑ **Funeral home directors**
- ❑ **FEMA**
- ❑ **Hospitals**
- ❑ **News reports**
- ❑ **Additional information**
  - Medical examiner/coroner
  - Physician
  - Fire department/police
  - Family of decedent





**Red Cross Volunteers, NJ**

## Objective

- ❑ Describe deaths related to Hurricane Sandy
- ❑ Describe drowning deaths related to Hurricane Sandy



# ARC Mortality tracking form

OR CAUSE OF DEATH CODES

# Disaster-Related Mortality

## ❑ Directly-related death

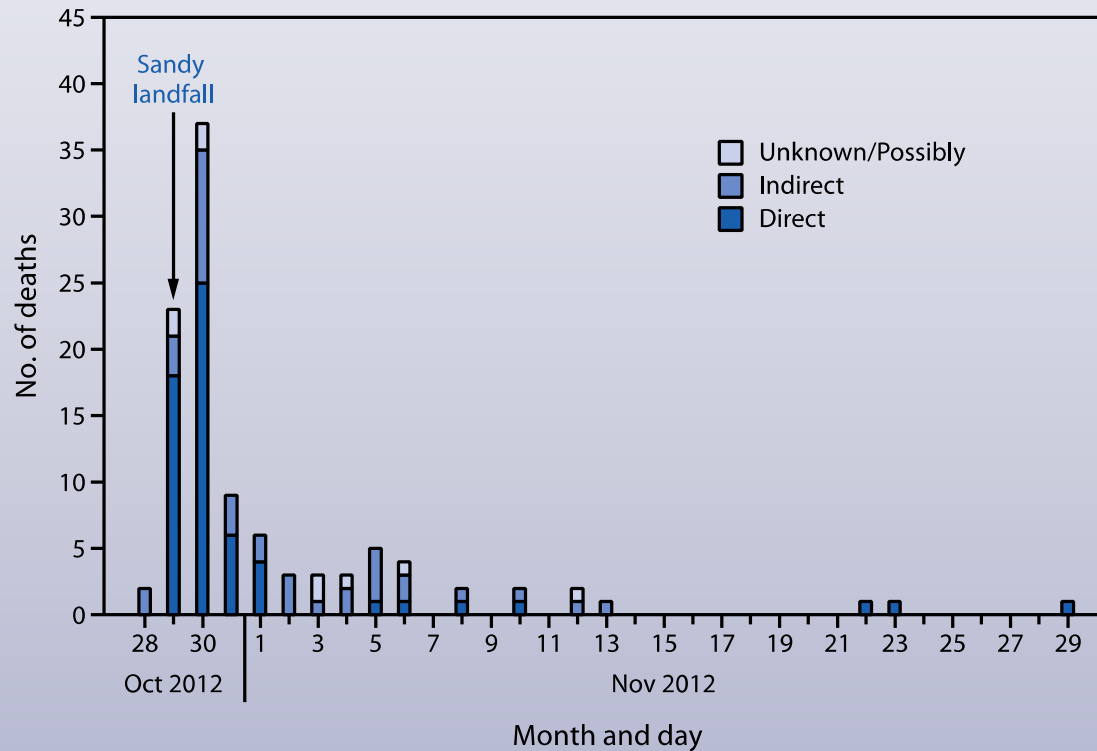
- Caused by environmental force of disaster (e.g., wind, flood), or by the direct consequences of these forces (e.g., structural collapse)

## ❑ Indirectly-related death

- Occurring in a situation in which disaster led to unsafe condition (e.g., hazardous road) or caused a loss or disruption of usual services that contributed to the death (e.g., loss of electrical services)

# Epi-Curve

FIGURE 1. Number of reported deaths related to Hurricane Sandy (direct, indirect, and unknown/possibly), by date — Connecticut, Maryland, New Jersey, New York, Pennsylvania, and West Virginia, October 28–November 30, 2012\*



\* Excludes deaths with an unknown date of death (n = 12).

## Sandy-Related Deaths Demographics

Characteristic	All Deaths (n=117)	
	No.	%
Age, median (yrs)	65	-
Age, range (yrs)	1-94	-
Sex, Male	71	60.7
Race, White	63	53.8

## Sandy-Related Deaths Location

State (location of death)	All Deaths (n=117)	
	No.	%
New York	53	45.3
New Jersey	34	29.1
Pennsylvania	12	10.3
West Virginia	6	5.1
Connecticut	4	3.4
Maryland	1	0.9
Unknown	7	6.0



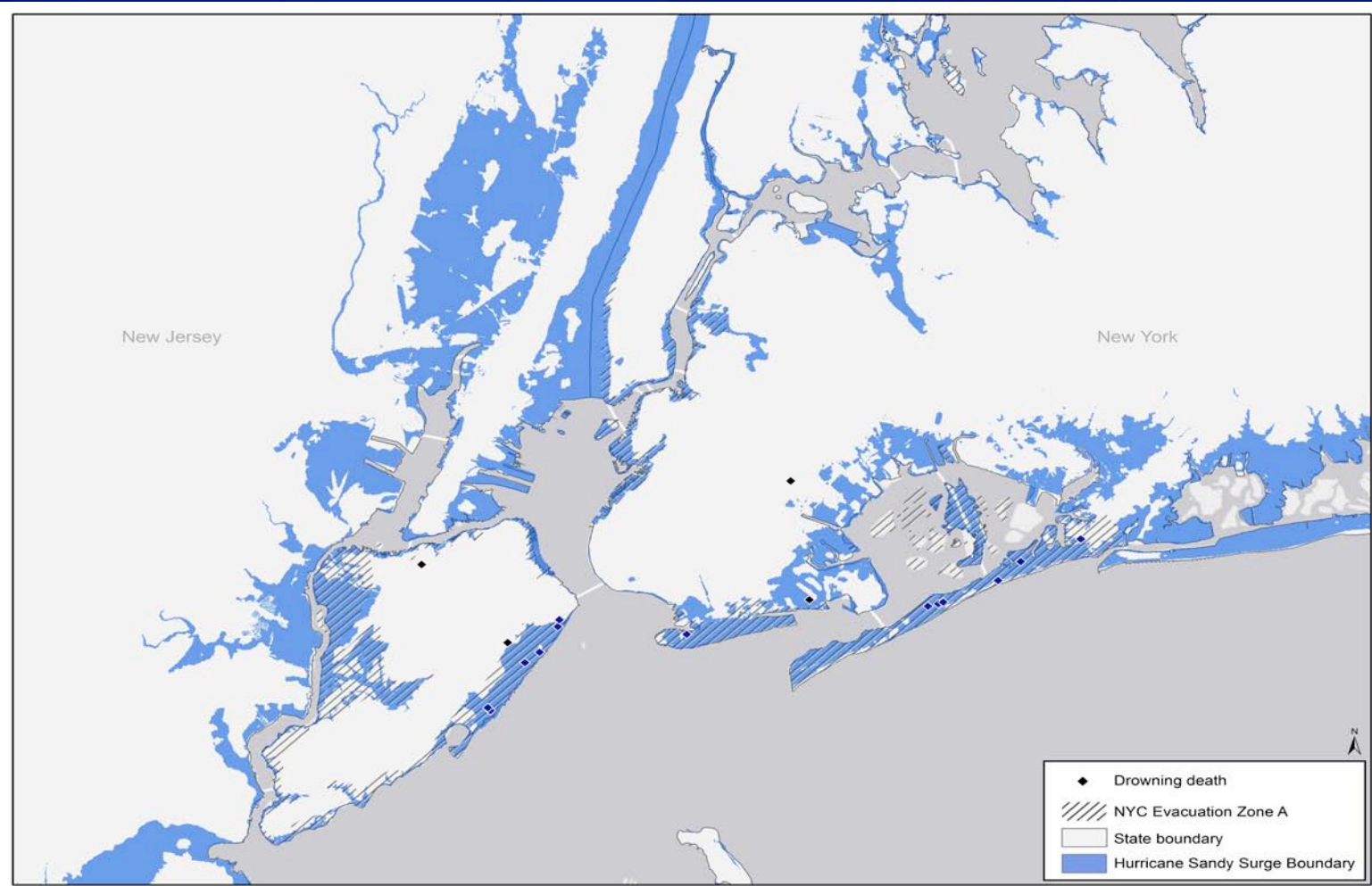
## Mechanism of Death

	All Deaths (n=117)	
	No.	%
<b>Directly related</b>	<b>67</b>	<b>57.3</b>
<b>Drowning</b>	<b>40</b>	<b>34.2</b>
<b>Indirectly related</b>	<b>38</b>	<b>32.5</b>
<b>Poisoning</b>	<b>10</b>	<b>8.5</b>
<b>Unknown/Possibly related</b>	<b>12</b>	<b>10.3</b>

## Drowning Deaths

	Drowning (n=40)		All (n=117)	
	No.	%	No.	%
Age, median	62	-	65	-
Sex, male	26	65.0	71	60.7
Race, White	22	55.0	63	53.8
State, New York	32	80.0	53	45.3

# Location of New York Drowning Deaths



## Drowning Deaths

- ❑ “went to basement to turn off gas and door closed to room unable to open, trapped and drowned in storm surge”
- ❑ “didn't want to leave home because he didn't believe the storm would be too bad”
- ❑ “deceased stayed in home with father to protect families belongings. Father and son found together in basement of the family's ...both had drowned”





## Limitations

- ❑ **Incomplete tally of Sandy-related deaths**
  - Only activated in areas with a Red Cross Disaster Relief Operation
  - Media sources identified 131 fatalities (vs 117)
- ❑ **Death certificates not complete at time of analysis**

## Findings

- ❑ **Hurricane-related drowning deaths leading cause of death**
- ❑ **Designation of evacuation zones**
- ❑ **Evaluation of evacuation warnings/procedures is warranted**
- ❑ **Vulnerable populations – older adults, coastal residents**
  - Interventions

# Acknowledgements

## American Red Cross CDC Health Studies Branch

**For more information please contact Centers for Disease Control and Prevention**

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

