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Debunking 10 Disaster and Preparedness Myths

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Personal preparedness can improve resiliency during and after disasters when not hindered by persistent disaster and preparedness myths. Knowing the facts behind disaster preparedness and response and available resources to build resiliency can help communities survive and recover.

Myth 1. Only certain natural hazards could affect Delaware.

While flooding, nor'easters, and hurricanes are Delaware's most prevalent natural hazards, there are other less frequent natural hazards and possible man-made disasters. These include industrial accidents involving chemical facilities and power plants, terrorism, and transportation accidents in the aviation, highway, marine, pipeline, and railroad infrastructure. Since 1954, Delaware on average has experienced a tornado once per year and earthquakes have occurred off our coast. The Delaware Emergency Management Agency (DEMA) developed a family preparedness resource for coastal storms, but it can be useful in many other situations (http://www.dema.delaware.gov/information/nat_haz.shtml). Being aware of what is around your home can help you prepare your disaster kit. DEMA developed an all-hazard mitigation plan for the state (http://www.dema.delaware.gov/usr/pdf/DE%20All-Haz%20Mit%20Plan_Aug%202018.pdf).

Myth 2. Calling 911 and waiting for aid is the best/only option postdisaster.

Individuals should be able to provide for themselves in the first several hours, or up to three days, post-disaster. Help may take a while to arrive, as many people will be in need of assistance. By having basic emergency supply kits and go bags, individuals are prepared to shelter in place or evacuate their homes. A household emergency supply kit should include enough food, water, and supplies per person for three days. To create a basic household emergency supply kit, visit https://www.preparede.org/make-a-kit/.

To become involved in community disaster response, individuals can attend Community Emergency Response Team (CERT) training. While not a replacement for first responders, CERT-trained citizens can aid their families and communities during disasters. To learn more about CERT in Delaware, visit https://nccde.org/158/Community-Emergency-Response-Team.

Myth 3. Individuals only need to worry about themselves during a disaster.

Many people besides oneself need to be considered in a disaster. Other household members, pets/service animals, neighbors, and family living outside of your neighborhood may be impacted. Vulnerable populations, including the elderly and those with medical conditions and disabilities, are disproportionally and negatively affected by disasters. The poor, the illiterate, those who do not speak English as their first language, and those who are isolated culturally, geographically, or socially are other examples of vulnerable populations. ²

Myth 4. Homeowner's and renter's insurance cover flood damage.

Flood insurance is typically a separate coverage than homeowner's or renter's insurance. As flooding is the most prevalent disaster, comprising 40 percent of natural disasters globally, extra precautions should be taken to protect homes and possessions.³ To determine if a home is within the Federal Emergency Management Agency's (FEMA) 100-year floodplain, use the interactive map developed by the Delaware Department of Natural Resources and Environmental Control (https://maps.dnrec.delaware.gov/FloodPlanning/default.html). Flood insurance can be purchased through insurance agents participating in the National Flood Insurance Program (NFIP). For more information on the NFIP, visit: https://www.fema.gov/national-flood-insurance-program.

Myth 5. Flooding only occurs in coastal areas.

While Delaware is a coastal state and flooding is one of the state's top disaster issues, flooding occurs frequently outside of coastal areas. The Northeast and Midwest have experienced the greatest increase in occurrence of heavy precipitation events since 1950.⁴ The Midwest is composed of landlocked states, which have experienced historic flooding in 2019. This demonstrates that flooding can occur far away from coastlines. Flash flooding can be caused by heavy rainfall, as well as debris flow (i.e. mudslides) and dam/levee breaks. Streams, creeks, streets, and highways can be the location of flash flooding events.⁵

The National Weather Service (NWS) found that weather-related fatalities were highest during excessive heat, followed by flood events (https://www.weather.gov/hazstat/). To view current flooding across the United States, visit the United States Geological Survey webpage (https://waterwatch.usgs.gov/?id=ww_flood) and the NWS webpage (https://www.weather.gov/crh/historic_flooding_2019).

Myth 6. Disasters cause epidemics.

The claim that disasters cause epidemics is not supported by evidence; however, instances of illness may increase due to crowded shelters or disease, such as cholera, resulting from limited safe water availability. Complex emergencies are humanitarian crises which include violence, political instability, poverty, and/or social injustices and are associated with the spread of vaccine-preventable diseases, as compared to natural disasters. Acquiring up-to-date vaccinations is a great way to protect yourself. Deceased individuals do not pose a greater risk for spreading most infectious diseases, although in certain cases, remains can spread diseases such as avian and pandemic influenza and Ebola Hemorrhagic Fever.

Myth 7. First aid and preservation of property are the only concerns during disaster.

It is important to address the mental health status of disaster victims and the first responders who come to their aid. While most people who experience a disaster are resilient, some can develop mental illness and children who experience disasters are especially vulnerable. Individuals with pre-existing serious mental illnesses are more at risk for being less prepared for disasters. A study that examined the mental health of survivors of 10 different disasters concluded that 14 percent of survivors developed major depression post-disaster and 20 percent suffered from disaster-related post-traumatic stress disorder. Furthermore, evidence suggests that the type of disaster can have a drastic effect on mental health. Mass violence events and human-made

technological disasters have even more of a negative effect on mental health than natural disasters. To connect with crisis intervention services, contact the Delaware Division of Substance Abuse and Mental Health by calling 800-652-2929 in northern Delaware and 800-345-6785 in southern Delaware.

Myth 8. Only one disaster will occur at a time.

Multiple disasters can occur simultaneously. Think of a fire that causes an explosion, or a train derailment that leads to a chemical leak. In 2011, the nuclear incident at the Fukushima Dai-ichi power plant in Japan resulted from multiple natural disasters. First, an earthquake struck offshore of Japan, triggering a 45-foot-tall tsunami. The tsunami caused damage to the power plant's nuclear reactors, which prompted a containment breach, and radioactive materials were released. ¹⁰ In this case, tens of thousands of people were evacuated and some communities are still uninhabited.

Myth 9. All radiation is harmful and it is difficult to decontaminate contaminated surfaces.

Not all radiation is harmful. Ionizing radiation is used in medicine, industry, research, and education. The average American receives a yearly radiation dose of about 620 millirem, half of which results from naturally occurring radiation from cosmic rays, radon in the air we breathe, and the Earth. By comparison, a full body computed tomography scan delivers a dose of about 1,000 millirem to patients. Should an individual come into physical contact with radioactive materials, removing the outer layer of clothing can eliminate up to 90 percent of radioactive material. This clothing should be placed in a sealed container, away from people and animals until the incident is stabilized. For more information about radiation emergencies, visit the Division of Public Health's Office of Radiation Control at https://dhss.delaware.gov/dhss/dph/hsp/orc.html or the CDC at https://www.cdc.gov/nceh/radiation/emergencies/index.htm.

Myth 10. Things are back to normal within a few weeks after a disaster.

It can take weeks, months, or even years for communities to recover from a disaster. Hurricane Michael made landfall in October 2018 and as of July 2019, federal disaster assistance exceeded \$1 billion, with recovery efforts continuing. In August 2019, FEMA Voluntary Agency Liaisons and Volunteer Florida continued to provide long-term recovery support for Floridians. In learn more about Voluntary Organizations Active in Disaster, visit https://www.nvoad.org/ and the Delaware chapter at https://devoad.communityos.org/cms/ home.

References

1. Davis, J. R., Wilson, S., Brock-Martin, A., Glover, S., & Svendsen, E. R. (2010, March). The impact of disasters on populations with health and health care disparities. *Disaster Medicine and Public Health Preparedness*, *4*(1), 30–38. PubMed https://doi.org/10.1017/S1935789300002391

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- 2. Centers for Disease Control and Prevention. (2018). Public health workbook to define, locate, and reach special, vulnerable, and at-risk populations in an emergency. Retrieved from https://emergency.cdc.gov/workbook/pdf/ph_workbookFINAL.pdf
- 3. Kouadio, I. K., Aljunid, S., Kamigaki, T., Hammad, K., & Oshitani, H. (2012, January). Infectious diseases following natural disasters: Prevention and control measures. *Expert Review of Anti-Infective Therapy*, *10*(1), 95–104. PubMed https://doi.org/10.1586/eri.11.155
- 4. National Academies of Sciences, Engineering, and Medicine. (2019). Framing the challenge of urban flooding in the United States. Washington, DC: The National Academies Press. Doi: https://doi.org/10.17226/25381
- 5. National Weather Service. (n.d.). Flash flooding definition. Retrieved from https://www.weather.gov/phi/FlashFloodingDefinition
- 6. Food and Agriculture Organization of the United Nations. (n.d.). FAO in emergencies. Retrieved from http://www.fao.org/emergencies/emergency-types/complex-emergencies/en/
- 7. Culver, A., Rochat, R., & Cookson, S. T. (2017, November 29). Public health implications of complex emergencies and natural disasters. *Conflict and Health*, *11*, 32. Retrieved from https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-017-0135-8 PubMed https://doi.org/10.1186/s13031-017-0135-8
- 8. Goldmann, E., & Galea, S. (2014). Mental health consequences of disasters. *Annual Review of Public Health*, *35*, 169–183. PubMed https://doi.org/10.1146/annurev-publhealth-032013-182435
- 9. U.S. Substance Abuse and Mental Health Services Administration. (2019). Disasters and people with serious mental illness. Retrieved from https://www.samhsa.gov/sites/default/files/disasters-people-with-serious-mental-illness.pdf
- 10. Nuclear Regulatory Commission. (n.d.). Backgrounder on NRC Response to Lessons Learned from Fukushima. Retrieved from https://www.nrc.gov/reading-rm/doccollections/fact-sheets/japan-events.html
- 11. U.S. Nuclear Regulatory Commission. (2017). Doses in our daily lives. Retrieved from https://www.nrc.gov/about-nrc/radiation/around-us/doses-daily-lives.html
- 12. Centers for Disease Control and Prevention. (2018). Radiation and Your Health. Retrieved from https://www.cdc.gov/nceh/radiation/emergencies/selfdecon_wash.htm
- 13. Federal Emergency Management Agency. (2019). Florida Hurricane Michael (DR-4399). Retrieved from https://www.fema.gov/disaster/4399
- 14. Federal Emergency Management Agency. (2019, August). Ten Months After Michael: Public Assistance Grants Flowing; Federal Aid for Panhandle at \$1.3B. Retrieved from https://www.fema.gov/news-release/2019/08/20/ten-months-after-michael-public-assistance-grants-flowing-federal-aid-0

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