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Recognizing Vulnerability and Capacity: Federal Initiatives Focused on Children and Youth Across the Disaster Lifecycle

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5.1 Prologue

Ryan[1] found out just before his sixteenth birthday that he had been selected to serve as one of the Federal Emergency Management Agency (FEMA) Youth Preparedness Council (YPC) representatives for his region of the United States. Although he had always been a high-achieving stu-

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dent and involved member of his broader community, Ryan said there was "something really special" about being a member of YPC.

Founded in 2012 to convene youth leaders interested in supporting preparedness efforts and developing a culture of disaster readiness, the YPC typically includes between 10 and 15 youth leaders who are identified through a competitive application process to participate in the program. These YPC members are invited to attend an annual meeting, held in the summer in Washington, DC, where they receive training and mentoring from leading emergency management professionals and child protection experts. During their two-year appointment on the council, all of the YPC members are encouraged to develop and launch their own local- or national-level disaster preparedness project. They are also regularly invited to provide input and a youth perspective on new programs and initiatives.

Ryan—who was raised in a community subject to weather extremes, where it is especially hot and dry in the summer months and extremely cold and snowy in the winter—decided that he wanted to help equip teens with the information, skills, and materials necessary to survive a severe winter storm. His idea for the "Blizzard Bag" was borne out of his belief that teens may be especially vulnerable[2] if they are trapped in their vehicle in freezing weather conditions, and his desire to encourage teens to take action to create their own disaster supply kit so that "new drivers can be ready for about anything."

Ryan made posters, flyers, and a website and participated in a variety of local events where he would encourage awareness of the threat of winter storm conditions and work to influence teens to act to reduce their risk. He gave talks on the Blizzard Bag in his community and even delivered a plenary presentation on his efforts at a national conference. He raised donations so that he could give away some of the necessary but costlier supplies that the kit requires (which includes a gallon of water, warm clothing or a blanket, nonperishable food, a weather radio, flares, a flashlight, a first-aid kit, and an extra cell phone battery or other power source).

As he neared the end of his term of service with the YPC, Ryan estimated that hundreds of teens had created their own Blizzard Bags in response to the program he developed. In reflecting on his service through the YPC, Ryan noted how much it had changed him. He said that for the first time, he "really understood how much of a difference one person can make." He

also acknowledged that while it is true that "no one person can do everything, we can all do something together to make the world a safer place."

Ryan obviously recognized that his individual actions created positive change. He was quick to point out, however, that he would not have been able to make such a contribution without the guidance and various forms of support provided by FEMA. Although Ryan had thought about disasters previously—some of his extended family members in India were displaced by catastrophic flooding the year before he applied for the YPC program—he did not know what to do to help reduce risk and to get others thinking about simple, concrete steps that they can take to become better prepared. Ryan clearly had the personal motivation and desire to take on a disaster preparedness project, but it was FEMA that provided a formal *structure of opportunity*—here referring to how the chance to gain certain rewards or achieve certain goals is shaped by the ways that society and specific institutions are organized (Cloward and Ohlin 1960)—for him to get involved and make a difference.

5.2 Introduction

Researchers have systematically studied children's reactions to disaster since the 1940s, although interest in both the subfield and practical interventions to reduce children's vulnerability has grown tremendously over the past decade (Pfefferbaum et al. 2012). In fact, a recent meta-review found that nearly half of all studies on children and disaster have been published since 2010, and most of this recent literature has focused on a limited number of large-scale catastrophic events (Peek et al. 2018). The same review also highlighted six major waves of research on children and disaster that have been prevalent over time, including contributions regarding (1) the effects of disaster on children's mental health and behavioral reactions; (2) disaster exposure as it relates to children's physical health and well-being; (3) social vulnerability and sociodemographic characteristics; (4) the role of institutions and socio-ecological context in shaping children's pre- and post-disaster outcomes; (5) resiliency, strengths, and capacities; and (6) children's voices, perspectives, and actions across the disaster lifecycle (Peek et al. 2018, 244).

Just as scholarship has increased and changed in focus over time, so too have the number and range of federal, state, and local programs that concentrate on children and disasters. This institutional trend is, in many ways, aligned with the aforementioned waves (5) and (6) and the associated scholarly emphasis on children's capacities and their actions in disaster risk reduction.

This chapter provides a brief summary of social vulnerability approaches to understanding disaster and then offers an overview and analysis of a number of programs, educational initiatives, and guidance documents created by federal agencies[3] to engage children and child-serving organizations in emergency management. The chapter demonstrates that these "top-down" responses reflect an increasing commitment on the part of the federal government to reduce children's vulnerability in disasters. Additionally, they underscore a rising awareness of children's ability to participate in activities that reduce their own risk. However, as we argue in this chapter, there are many avenues for the federal government to further engage children in long-term recovery, mitigation, and other disaster risk reduction efforts to further bolster their existing capacities and overall community resilience.

5.3 Social Vulnerability, Children, and Disasters

While some initial studies of disasters cast them as equal opportunity events that caused indiscriminate harm, by the mid-1970s, scholars writing from a social vulnerability perspective began to question and challenge the "naturalness" of so-called natural disasters (O'Keefe et al. 1976). These researchers and others who continued to work in the same vein point out that while many disasters are indeed triggered by natural hazards such as tornadoes, earthquakes, or hurricanes, it is actually social, historical, and economic arrangements that determine the scale and scope of disasters and their effects on diverse populations (Tierney 2014; Wisner et al. 2004).

Because disaster risk is distributed in ways that reflect pre-existing inequalities, groups that are marginalized and have less power and fewer resources often have the hardest time preparing for, responding to, and

recovering from disaster (Hewitt 1997; Wisner et al. 2004). Entire volumes have been dedicated to exploring the root causes and the consequences of social vulnerability for specific sociodemographic groups, including women, racial and ethnic minorities, low-income persons, persons with disabilities, the elderly, and children (see Phillips et al. 2009; Thomas et al. 2013; Veenema 2018). And while the majority of available social vulnerability scholarship considers how social class, racial and ethnic status, and gender influence pre- and post-disaster outcomes (Cutter et al. 2003; Morrow 1999), recent publications have also focused on how age—especially among the very old and very young—can impair disaster preparedness, response, and recovery (Peek 2013). For example, older adults are at a greater risk of injury or death in disaster (Bourque et al. 2007). Their susceptibility to harm is caused by a number of factors, such as economic and social marginalization that reduces their ability to stockpile food and medicine, receive and interpret warning messages, safely evacuate, find adequate medical care post disaster, and recover financially and emotionally from trauma (Elmore and Brown 2007–2008). Similarly, age also influences the vulnerability of infants and very young children who may be dependent upon others for care in disasters and are more susceptible to deleterious physical health effects following public health emergencies and disasters (Peek et al. 2018).

Federal mission agencies with the responsibility for effectively responding to disasters have clearly been influenced by the social vulnerability scholarship that is now so prevalent in the hazards and disaster field. For instance, the Centers for Disease Control and Prevention (CDC) has a dedicated Vulnerable Populations Officer within the Office of Public Health Preparedness and Response, the Assistant Secretary for Preparedness and Response in the US Department of Health and Human Services (HHS) has a comprehensive collection of resources on access and functional needs, and FEMA developed the Communication, Medical, Independence, Supervision, and Transportation (C-MIST) framework in recognition of potential needs among varying populations in the categories of C-MIST.

Today, it is hard to imagine any emergency planning guidance that does not include recommendations concerning high-risk, high-vulnerability populations (Davis et al. 2018). This is a testament to how far the hazards and disaster field has come since the 1970s, and to how much the science and practice of vulnerability reduction and crisis

response has advanced. At the same time, scholars have called for more nuanced and complex disaster management frameworks that recognize interdependencies between broader social and cultural systems and how they intersect with more micro-level behaviors and actions to ultimately influence individual and community capacity (Enarson 2012; Luft 2016; O'Sullivan and Craig 2013). Indeed, this newer wave of social vulnerability scholarship recognizes the utility of naming so-called vulnerable groups to ensure they are not left behind in emergency preparedness planning but also challenges researchers and practitioners to explore how a particular marker of vulnerability intersects with historical and contemporary patterns of inequality (see Table 5.1).

The *recognition* of socially vulnerable groups is a *prerequisite* for the types of more complex and dynamic definitions represented in Table 5.1. This is important to underscore because the marginalization of populations is often what leads to their invisibility in structures of power and opportunity and ultimately drives their vulnerability. It is through the process of naming potentially vulnerable groups that scholars and emergency management professionals can begin to unpack the complex historical and contemporary processes that influence unequal outcomes.

Children, for example, make up nearly 25 percent of the total US population. Yet, before Hurricane Katrina brought their suffering into such sharp relief, they were rarely included or considered in emergency management planning and practice (Peek 2008). Indeed, the presidentially appointed National Commission on Children and Disasters (2010) identified the lack of recognition of children as a distinct population within other "at-risk" populations as a major barrier to prioritizing children's needs in disaster, such as their need for mental health services, pediatric health care, or educational support services. Today, that has changed in many ways, as is evidenced by the rise in scholarship on children's vulnerability and capacities in disaster (Peek et al. 2018) and the ever-growing number of federally focused programs on children, youth, and disasters (FEMA 2016). While these developments are certainly encouraging and indicative of a wider awareness of children's unique needs, as we shall later discuss, there are still many opportunities for top-down disaster responses to better serve children and recognize their capacity to initiate change within their social environments.

Table 5.1 Examples of static versus dynamic and intersectional definitions of social vulnerability

Examples of static indicators of social vulnerability—"The vulnerable populations checklist" model	Examples of dynamic indicators and intersectional lenses for understanding social vulnerability
Children	Age alone does not render a child vulnerable to disaster—except in the case of infants and the youngest children, who may need complete protection and care in the face of disaster. For most children and youth, their vulnerability is influenced by their age as well as by other factors such as family structure; exclusion from the public sphere and from decision-making bodies that influence their lives; a lack of voting rights; cultural systems that devalue the perspectives and ignore the voices of children and youth; stigma or stereotypes against young people; and high rates of child poverty (Marchezini and Trajber 2017; Peek 2008).
Elderly	Age alone does not render a person over the age of 60 or 65—which most societies use to define those who are considered elderly—vulnerable in disaster. Instead, older persons may be more susceptible to harm and suffering in disaster under certain conditions, such as when they: experience physical or medical conditions that limit their mobility; depend on particular devices or medical treatments that require power or access to prescription medications; experience physical disabilities that may limit their ability to receive warnings or to take necessary protective actions; and lack access to the Internet, a computer, or other resources necessary to apply for and receive post-disaster aid (Peek 2013).
Gender	There is nothing inherent about gender that renders women and girls more susceptible to death, injury, or harm in disaster. Instead, patriarchal systems that privilege male perspectives and power generate disparate post-disaster outcomes. In most places around the world, women are less likely to: experience political representation proportionate to their share of the population, sustain financial and social independence, and earn wages and salaries commensurate with their male counterparts. Women and girls are more likely to: experience violence and abuse, be politically and socially marginalized and economically exploited, and live in poverty. It is these factors, and many others, that shape their vulnerability to disaster, not their gender alone (Enarson 2012; Fothergill 2004; Luft 2016).

(*continued*)

Table 5.1 (continued)

Examples of static indicators of social vulnerability—"The vulnerable populations checklist" model	Examples of dynamic indicators and intersectional lenses for understanding social vulnerability
Racial and ethnic minorities	In the United States, Hispanics/Latinos, Blacks/African Americans, Asians/Asian Americans, and American Indians/Native Americans represent the four largest racial and ethnic minority groups. Taken together, they comprise about one-third of the total US population. Each of these groups has experienced a unique history of overtly racist and discriminatory policies that institutionalized their exclusion and segregation and led to the denial of various resources, rights, and opportunities. Those formal policies and the informal practices associated with them have resulted in centuries of unequal allocation of resources and present-day social, economic, and health disparities. It is these racial fault lines—and nothing inherent about racial and ethnic minority status itself—that actually determine the unequal losses and harm often experienced among racial and ethnic minorities in disasters (Fothergill et al. 1999).
Low-income populations	People living in poverty or near-poverty often have the hardest time mitigating, preparing for, responding to, and recovering from disaster. Low-income populations are more likely to live in the most vulnerable housing and tend to lack the resources necessary to relocate, to elevate, or to retrofit. Where the poor live, and their lack of capacity to mitigate or prepare, can then translate into higher rates of death and injury in disaster, more mental health distress, delayed recovery times, and protracted or permanent displacement (Fothergill and Peek 2004).

Source: Authors' creation

5.4 Top-Down Approaches to Engaging Children and Youth in Disasters: A Summary of Federal Programs

The increased recognition of children's vulnerability has coincided with the development of federal programs, initiatives, and curricular materials aimed at engaging children and youth in understanding and reducing the risks that they may face in their homes, schools, and communities. In this section of the chapter, we describe several illustrative examples of such programs that are explicitly designed for children and youth. We found these materials through conducting internet searches of federal agency websites and using terms such as "children," "youth," and "schools." We also identified programs while reviewing guidance documents from federal entities (FEMA 2016; GAO 2016) and published literature summarizing resilience interventions for children and youth (Abramson et al. 2014; Peek et al. 2018).

Table 5.2 includes a list of current federal-level programs and initiatives focused on children and youth. We reviewed the associated websites, guidance documents, and other materials for these programs and initiatives. We then prepared a brief description of each program, highlighting in bold the phase of the disaster lifecycle (e.g., preparedness, emergency response, recovery, mitigation) that the program is focused on, as well as the target age for the population the program is geared toward.

The resources and educational curriculum described in Table 5.2 cover a range of natural and environmental hazards and focus on different age groups from pre-Kindergarten to beyond high school. Most are designed to actively engage children and youth in understanding the natural hazards and other environmental risks they may face in their community. The programs are often meant to be embedded in existing networks of local organizations such as schools, universities, service clubs, child-serving organizations, and local government.

As emphasized in bold in Table 5.2, almost all of these programs are about educating children and youth and helping them to prepare for and, in some cases, effectively respond during the emergency phase of disaster. For example, FEMA's YPC and Teen CERT program are two initiatives

Table 5.2 Description of federal disaster programs and initiatives focused on engaging children and youth

Program or initiative	Responsible federal agency	Description	Target age
America's PrepareAthon!	Federal Emergency Management Agency (FEMA)	This is a grassroots campaign intended to encourage communities to conduct **preparedness** drills and exercises and have hazards-related discussions. It is sponsored by FEMA, but it is about promoting local action. FEMA provides a number of resources pertaining to how organizations can participate in the event. The campaign is for the whole community, and as such, children and youth are meant to be a part of activities (https://www.fema.gov/media-library/assets/documents/94719).	All ages, families, and schools are encouraged to participate
Ready Kids	FEMA	This is a curriculum for emergency **preparedness** for children and contains additional resources for educators and parents. Interactive games for children and teens focused on building a disaster kit and preparing for various hazards and disasters are included (https://www.ready.gov/kids).	Elementary through high school students
Student Tools for Emergency Planning (STEP)	FEMA	STEP is a classroom-based emergency **preparedness** curriculum where students learn about disasters, emergencies, hazards, and how to create a disaster supply kit and communication plan for their family. Lessons focus on communication plans, building a supply kit, and what to do in fire, severe weather, earthquake, and other hazards (https://www.fema.gov/media-library/assets/documents/110946).	4th- and 5th-grade students
Teen Community Emergency Response Team (Teen CERT)	FEMA	The CERT program trains community members in disaster emergency response skills, such as: fire safety, light search and rescue, team organization, incident command, and disaster medical operations. The purpose of Teen CERT is to train students in emergency preparedness and basic response to ensure that they have the skills needed to protect themselves, and assist others, in the event of emergencies. This program was established to help build **preparedness** and **emergency response** capacities within high schools and among teens (https://www.fema.gov/media-library/resources-documents/collections/481).	High school age students

Youth Preparedness Council	FEMA	This program was created by FEMA to help youth implement disaster **preparedness** projects. The youth who are selected meet with FEMA staff who provide input on their projects. The members of the council also meet annually for a summit (https://www.ready.gov/youth-preparedness-council).	8th- to 11th-grade students are eligible to apply
Kids Environment: Kids Health	National Institutes of Health (NIH)	This educational, **preparedness**, and **emergency response** resource contains links to lessons on over 70 topics related to environmental health, including chemicals, harm prevention, and illness outbreak. The page also has games, activities, and topics that kids and teens can explore (https://kids.niehs.nih.gov/).	Kindergarten to 12th grade and beyond
National Weather Service Education Page	National Weather Service (NWS)	This webpage features links to weather science and weather safety educational materials. Additionally, there are links to interactive games for kids and teens, along with links for parents and educators on **preparedness** and **emergency response** for floods, hurricanes, thunderstorms, winter weather, and tornadoes (https://www.weather.gov/owlie/).	All ages
StormReady	NWS	This is a certification **preparedness** program that requires that to be "officially StormReady," a community must: establish a 24-hour warning point and emergency operations center, have more than one way to receive severe weather warnings and forecasts and to alert the public, create a system that monitors weather conditions locally, promote the importance of public readiness through community seminars, and develop a formal hazardous weather plan that includes training severe weather spotters and holding emergency exercises (https://www.weather.gov/stormready/).	Encourages participation of the whole community, with an emphasis on participation from schools ranging from pre-school to high school

(*continued*)

Table 5.2 (continued)

Program or initiative	Responsible federal agency	Description	Target age
Ready Wrigley	Centers for Disease Control and Protection (CDC)	Ready Wrigley is a dog that also serves as a public health **preparedness** mascot. Ready Wrigley educational resources include books in English and Spanish on preparedness for extreme weather, flu, earthquakes, tornados, and floods, and an app that teaches children about preparedness and response (https://www.cdc.gov/phpr/readywrigley/index.htm).	Ages 2–8 years
Medical Reserve Corps (MRC)	US Department of Health and Human Services (HHS)	This is a program for volunteers who want to get engaged with **preparedness** and **emergency response**. Approximately 22 percent of MRC units across the county let youth join or have Junior MRC units. MRC units often support and supplement youth health education programs like CPR and first aid training (https://mrc.hhs.gov/HomePage).	Ages 5 years to adult
Recipes for Healthy Kids and a Healthy Environment	US Environmental Protection Agency (EPA)	This educational and **preparedness** curriculum includes lessons on environmental health, pests and household hazards, air quality, sun protection, and climate change (https://www.epa.gov/children/student-curriculum).	Ages 9–13 years
Earthquakes for Kids	US Geological Survey (USGS)	This page contains links for earthquake educational materials that are designed for children, including science fair projects and earthquake facts. This page also contains links to **preparedness** documents and resources, like the "Great ShakeOut Earthquake Drills" webpage (https://earthquake.usgs.gov/learn/kids/).	All ages

Source: Authors' creation

that involve teens in keeping their schools and families safe by encouraging them to disseminate their knowledge of disaster preparedness and response to their families and social networks and by encouraging them to take action in disaster situations (FEMA 2012). These programs are based on the principle that active participation from youth is critical to cultivating their ability to effectively respond to emergencies and leads to better post-disaster outcomes (Flint and Stevenson 2010).

5.5 Top-Down Approaches to Engaging Adults and Organizations in Child-Focused Risk Reduction: A Summary of Federal Guidance

While the resources described in Table 5.2 are designed to engage children and youth in emergency management, our search also yielded several additional published reports, framework documents, training modules, factsheets, and other materials prepared by federal mission agencies for adult leaders and professionals. Specifically, we found a number of federal guidance documents geared toward emergency managers, school administrators, childcare providers, and other persons and groups responsible for preparing children, families, and child-serving institutions for disaster.

Table 5.3 lists and briefly describes federal resources and guidance documents aimed toward adults and organizational leaders regarding children and disasters. In each program description, we highlight in bold the phase of the disaster lifecycle (e.g., preparedness, emergency response, recovery, mitigation) that the information is focused on, and we also include a brief statement on the target audience. Taken together, these documents (1) describe the range of vulnerabilities that may be experienced by children and youth, (2) provide guidance for incorporating children and youth into disaster planning, (3) promote cross-sector collaboration and partnership building to address children's needs in disasters, and (4) offer strategies for mitigating hazards risk, implementing educational programs, and promoting preparedness and recovery among children.

Table 5.3 Summary of available federal guidance documents for adults and focused on children, youth, and disasters

Name of document	Responsible federal agency or agencies	Description	Audience
Multihazard Planning for Childcare	Federal Emergency Management Agency (FEMA)	This course material is for childcare providers developing multi-hazards **preparedness** plans (https://training.fema.gov/emiweb/is/is36/student%20manual/is-36_complete_sm_feb2012.pdf).	Childcare providers
Preparedness Tips for School Administrators	FEMA	This factsheet includes disaster **preparedness** resources for school administrators, emphasizing keeping children and teens safe in schools during disaster (https://www.fema.gov/media-library/assets/documents/30509).	School administrators
Safer, Stronger, Smarter: A Guide to Improving School Natural Hazard Safety	FEMA	This guidebook focuses on safe building standards, structural **mitigation**, emergency **preparedness**, and long-term **recovery** planning for schools (https://www.fema.gov/media-library/assets/documents/132592).	Primary: school administrators, teachers, school safety advocates, and emergency managers Secondary: parents and school children
Youth Preparedness Catalog: Disaster Preparedness Programs and Resources	FEMA	This catalog provides a comprehensive and regularly updated summary of national, state, and local programs on youth **preparedness** education (https://www.fema.gov/media-library/assets/documents/94775).	Persons or organizations involved in youth preparedness programs
Youth Preparedness: Implementing a Community Based Program	FEMA	This document helps guide communities and community-based organizations in developing and implementing youth **preparedness** programs (https://www.ready.gov/youth-preparedness).	Community-based organizations

Helping Children and Adolescents Cope with Violence and Disaster: What Parents Can Do?	National Institutes of Health (NIH)	This document provides an overview of children's vulnerability to trauma and describes the potential short- and longer-term impacts of trauma on mental health. It also outlines steps to help children cope during the **emergency response** and **recovery** phase (https://www.nimh.nih.gov/health/publications/helping-children-and-adolescents-cope-with-violence-and-disasters-parents/index.shtml).	Parents with children exposed to violence or disaster
Caring for Children in Disaster	Centers for Disease Control and Prevention (CDC)	Webpage content discusses why children are vulnerable in disasters, how to help children cope in emergencies, and how to plan for **all stages** of emergency, and describes specific threats to children (https://www.cdc.gov/childrenindisasters/index.html).	General public, teachers, childcare professionals, families, health professionals, and emergency planners
Emergency Preparedness and Children: Protecting our Future	CDC	This issue brief contains a short summary of children's vulnerability in emergencies and offers advice for emergency **preparedness** actions (https://www.cdc.gov/phpr/whatwedo/children.htm).	General public
Planning for an Emergency: Strategies for Identifying and Engaging At-Risk Groups: A Guidance Document for Emergency Managers	CDC	This document outlines steps for defining at-risk groups, locating at-risk groups before disaster strikes, and reaching at-risk groups, including children, during the emergency **preparedness** phase (https://rems.ed.gov/docs/REMS_K-12_Guide_508.pdf).	Emergency managers and planners

(*continued*)

Table 5.3 (continued)

Name of document	Responsible federal agency or agencies	Description	Audience
Identification and Engagement of Socially Vulnerable Populations in the USACE Decision Making Process	US Army Corps of Engineers (USACE)	This document outlines strategies for identifying and engaging populations that are vulnerable to environmental hazards, including children and youth, during the emergency **preparedness and planning** phase of the emergency management lifecycle (https://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/Identifying_and_Engaging_Socially_Vulnerable_Populations_%20IWRv2_08_01_2016.pdf?ver=2016-08-11-125141-427).	USACE personnel and other government agencies
Practical Information on Crisis Planning: A Guide for Schools and Communities	US Department of Education (ED)	This guidance document lists action items across **all stages** of the disaster lifecycle for stakeholders to consider when developing crisis plans (https://rems.ed.gov/docs/PracticalInformationonCrisisPlanning.pdf).	Schools, school districts, local communities
Children and Youth Task Force in Disasters: Guidelines for Development	US Department of Health and Human Services (HHS)	This document introduces community partners to the Children and Youth Task Force Model. The document includes case studies and explains the role of HHS departments in providing support during **emergency response** and in public health emergencies (https://www.acf.hhs.gov/ohsepr/resource/children-and-youth-task-force-in-disasters).	States, tribes, territories, local communities
Protecting Children's Health During and After Disaster	US Environmental Protection Agency (EPA)	This page lists information on children's health in the **emergency response** and **recovery** period after floods, extreme heat, and wildfires/volcanic ash events (https://www.epa.gov/children/protecting-childrens-health-during-and-after-natural-disasters).	General public, local, state, and federal agencies, and healthcare providers

National Strategy for Youth Preparedness Education: Empowering, Educating, and Building Resilience	FEMA, the American Red Cross, and ED	This document outlines a strategy for catalyzing youth **preparedness** programs and building partnerships among stakeholders involved in disaster planning (https://www.fema.gov/media-library/assets/documents/96107).	Child-serving organizations, local government, federal agencies, non-profit organizations
Guide for Developing High-Quality School Emergency Operations Plans	ED, HHS, Department of Homeland Security (DHS), Department of Justice (DOJ), Federal Bureau of Investigation (FBI), FEMA	This document offers comprehensive guidance for creating and implementing school emergency operations plans. The document focuses primarily on **emergency preparedness** and **emergency response** (https://rems.ed.gov/docs/REMS_K-12_Guide_508.pdf).	School leaders, emergency managers, other partners involved in school emergency response planning
The Impacts of Climate Change on Human Health in the United States: Populations of Concern	EPA, HHS, National Oceanic and Atmospheric Administration (NOAA)	This scientific assessment discusses the vulnerability of different populations, including children, to climate-related hazards and the potential impacts of a range of climate stressors on human health and well-being. The document offers recommendations for identifying vulnerable populations during the emergency preparedness phase and effectively mobilizing in **emergency response** (https://health2016.globalchange.gov/).	Policy makers, public, government agencies

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Table 5.3 (continued)

Name of document	Responsible federal agency or agencies	Description	Audience
Post-Disaster Childcare Needs and Resources	Interagency Working Group	This document catalogs resources available to communities, states, and childcare providers for **preparedness** and **planning**, **emergency response**, and **recovery**, highlighting potential gaps for in care for families and childcare providers (https://www.acf.hhs.gov/sites/default/files/ohsepr/post_disaster_child_care_planning_matrix_11mar2016_final.pdf).	States, childcare providers, community members
Post-Disaster Reunification of Children: A Nationwide Approach	FEMA, HHS	This document describes the coordination processes associated with reunifying unaccompanied minors with their parents or legal guardians during the **emergency response** phase and following a large-scale disaster (https://www.fema.gov/media-library/assets/documents/85559).	State and local governments, community stakeholders and leaders

Source: Authors' creation

The resources and guidance documents described in Table 5.3 address various human-caused threats and natural and environmental hazards. They also cover a range of potential impacts to children, families, childcare providers, schools, and communities. Because these documents are geared toward adults who are parents, childcare providers, school administrators, emergency managers, or community leaders, they aim to increase understanding of children's vulnerability while also promoting action to reduce that vulnerability.

As emphasized in bold in Table 5.3, these websites, reports, and guidance documents span the disaster lifecycle, focusing on emergency preparedness, response, recovery, and mitigation. As with the child-centered emergency management curriculum summarized in Table 5.2, most of the documents included in Table 5.3 also focus on the emergency preparedness and planning phase of the disaster lifecycle. In addition, a few of the documents also consider the early- and longer-term stages of recovery, and what actions adults might take to help children to cope and adjust after a potentially traumatic event. Notably, the FEMA (2017) *Safer, Stronger, Smarter* guidebook is the only document represented in Table 5.3 that is explicitly concerned with mitigation actions intended to ensure the structural integrity of schools and other buildings that children might occupy during the school day.

5.6 Analysis of Gaps and Opportunities for Federal Guidance on Children and Disasters

With the rise of social vulnerability research, federal agencies have clearly recognized children as a potentially vulnerable group in disaster. Furthermore, these agencies have made tremendous strides in offering educational curriculum and other materials for involving children in disaster preparedness and emergency response efforts through interactive educational opportunities that build skills and seek to reduce harms caused by disaster. In addition, the federal government now offers a wide variety of guidance documents to adult leaders and formal organizations regarding child-centered needs in disaster preparedness, response, and recovery.

Although much progress has been made, especially since Hurricane Katrina devastated the US Gulf Coast in 2005, some important gaps remain regarding both the *participatory nature* and the *content* of these initiatives. We believe, however, that these gaps present opportunities for strengthening the federal government's commitment to risk reduction, child and youth empowerment, and community resilience.

The educational programs in Table 5.2 differed in the degree to which they provide *formal structures of opportunities* (Cloward and Ohlin 1960), as described in the opening vignette to this chapter. The YPC represents a high standard in this regard, in that it allows teens like Ryan to actively engage in risk reduction by giving them the opportunity to design their own projects. Furthermore, this program also provides the tools and material resources to act on their ideas for risk reduction. This allows for the "co-production" of public services (Parks et al. 1981) by fostering buy-in and utilizing local knowledge that can be applied to ensure risk reduction is effective. For instance, Ryan's Blizzard Bag project was designed around his insight that first-time drivers who are teenagers are especially vulnerable to severe winter weather. FEMA then provided him the requisite mentorship and support to implement a program based on his passion and commitment to emergency planning.

A growing body of research has shown that children are especially adept at recognizing key drivers of disaster vulnerability and of identifying innovative approaches to building community resilience (Ronan and Johnston 2005). Far from being scared or intimidated by hazards-related information, children and youth repeatedly express a strong desire to know more about the risks in their environment and to actively engage to reduce those threats (Towers et al. 2014). Thus, we see an opportunity for the federal government to continue to provide resources and leadership regarding the active engagement of children and youth across the disaster lifecycle.

However, to date, most of the programs for children and youth draw upon a model of personal preparedness (as opposed to collective empowerment) and focus on emergency planning and response (as opposed to the entire emergency management lifecycle). Indeed, the programs represented in Table 5.2 for children and youth emphasized understanding and reducing their individual risk and aiding in the immediate aftermath

of disaster. Federal guidance documents that targeted adults, as shown in Table 5.3, as the primary stakeholders in disaster risk reduction addressed organizational and institutional dynamics that are critical to reducing vulnerability. For example, the FEMA (2017) guidebook *Safer, Stronger, Smarter* explicitly addressed hazards mitigation—or activities meant to reduce the long-term risk to people or properties in disaster (Mileti 1999). Children and youth were not the primary audience for this extensive guidebook, although as the authors note, "parents, caregivers, and students" can use the guide to "advocate for safe schools in their communities" (FEMA 2017, 1–6). We argue that the lack of engaging, interactive, child- and youth-friendly mitigation programs represents a serious oversight in terms of top-down interventions for young people. Examples of structural hazards mitigation activities include retrofitting unreinforced masonry schools located in earthquake country, elevating homes located in floodplains, installing tsunami evacuation structures, and building storm shelters or safe rooms in tornado-prone regions. Mitigation actions, especially those that require new legislation or policies, or that require changes in engineering or urban planning practice, can be costly, time-consuming, and politically challenging to implement. But mitigation is also perhaps the single most important activity that individuals and communities can take to reduce economic losses and other consequences from disasters (Multihazard Mitigation Council 2017). As such, it is crucial that children and youth be educated about the importance of mitigation and collectively empowered to engage in activities that can help make their homes, schools, and communities safe from hazards.

Recovery, here defined as children regaining or attaining stability in all the spheres of their lives (family, housing, education, extracurricular activities, peer groups, and health care) after a disaster (Fothergill and Peek 2015), was also significantly underrepresented in the child- and adult-specific programs and initiatives that we reviewed. Recovery was nevertheless recognized as a key concern for children and youth (for example, see NIH 2015). In 2017, the costliest disaster loss year in US history, millions of Americans were directly affected in disasters. In the case of the most catastrophic events, recovery may take years, if not decades. With the increased frequency and magnitude of US disasters, the lack of focus on long-term recovery also represents an opportunity for

engaging children and youth in helping to foster their own and others recovery through interactive peer listening programs, problem-based learning curricular activities, and other initiatives that engage cycles of disaster impact, recovery, and rebuilding. Similarly, it is important to recognize that child-serving institutions such as childcare centers, schools, and child-friendly spaces such as parks and playgrounds may be slow to recover after disaster and may require additional resources. This is worthy of further top-down focus and guidance from the federal level.

An additional gap that we recognized in our review was regarding acknowledgment of the diversity of children and youth. Now that this group is on the radar as a potentially vulnerable population, it is crucial that top-down guidance adopt an intersectional lens that is attentive to age-based differences in vulnerabilities and capacities, as well as other forms of diversity that children experience. Most of the guidance documents treated children as a monolithic group, as opposed to a dynamic category of people marked by difference in terms of racial and ethnic status, gender identity, sexual orientation, immigration status, family income, and family structure.

5.7 Conclusion

This chapter offered a summary of federal initiatives and programs that recognize children's vulnerability to negative physical, psychological, and educational impacts of disaster (Peek 2008), while also acknowledging their capacity to meaningfully contribute to disaster readiness and response. Additionally, this chapter has identified key gaps and opportunities for federal leadership in the children and disasters space.

We see the implications of this chapter as twofold. First, we argue that the federal-level recognition and acknowledgment of children and youth as a vulnerable population in disasters is exceptionally important, in that it renders this group *visible* in disaster planning and response. The visibility of this group is crucial not only because they make up nearly one-quarter of the total population of the United States, but also because they have unique needs that will only be met once they are identified and resources are allocated to react accordingly.

Second, the education and empowerment of children and youth as well as of adults who care for and educate young people is a first step toward vulnerability reduction. The programs and initiatives represented in Table 5.2 and the guidance documents described in Table 5.3 are all about recognizing children's vulnerability and then acting to reduce that vulnerability.

Even with the progress that has been made in this space, we take the stance that there are opportunities for further improvement and leadership from the federal government. Specifically, we see a need for more formal structures of opportunity that engage children and youth in designing their own paths to risk reduction. We also call for more programs and initiatives that move beyond emergency preparedness and response to more meaningfully encompass hazards mitigation and long-term recovery. Finally, as federal agencies continue to invest in the development of programs for children and youth and of documents for adults who care for these populations, it is crucial that this guidance recognize the diversity of this population.

Ensuring that educational curriculum, child-centered programs, and vulnerability reduction initiatives generated by the federal government focus on the entire disaster lifecycle—from preparedness, to emergency response, to recovery, to mitigation—and on empowering the diverse generation of children and youth who are coming of age in an ever more turbulent world will serve everyone for the better. Moreover, widening the opportunities for children to take part in activities across the disaster lifecycle represents one powerful means of addressing the dynamic nature of their vulnerability.

Notes

1. Ryan is a pseudonym. The lead author for this chapter served as one of his mentors and that is how we learned of his journey and engagement with the Youth Preparedness Council.
2. Ryan's assumption regarding the lethality of winter storms among those in his age group was correct. Excessive cold associated with severe winter

weather kills more 15- to 24-year-old people in the United States than any other natural hazard (see Zahran et al. 2008).

3. Although there are local and state government initiatives on children and disasters, as well as many programs available through private, non-profit, and academic sectors, this chapter analyzes federal initiatives. Our rationale for this focus is twofold. First, this edited volume is organized around top-down initiatives in crisis management, and therefore, we sought to review children and disaster programs released from the highest level of government. Second, given time and space constraints, we were not able to complete a comprehensive review for all states and localities across the United States or for all sectors. Various federal agencies do, however, offer comprehensive lists of resources on children, youth, and disasters such as those available from the US Department of Health and Human Services (https://www.acf.hhs.gov/ohsepr/children-and-families), the Centers for Disease Control and Prevention (https://www.cdc.gov/childrenindisasters/index.html), and the Federal Emergency Management Agency (https://www.fema.gov/children-and-disasters).

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