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The Impact of Natural Disasters on Children in the United States

Samantha M. Przybylski
Grand Valley State University

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Combating The Impacts of Natural Disasters on Children in the United States Through a Stronger Partnership Between Schools and the Federal Emergency Management Agency

The goal of this paper is to consider the unique experiences of children in natural disaster preparedness, response and recovery. This paper seeks to stress the importance of taking special interest in children's needs during times of crisis. Through a case study of Hurricane Katrina, an exploration of the disservice children receive is noted. Following is a discussion of possible solution-oriented approaches tested through prototyping. In closing, a model to expand FEMA's reservist structure to better support schools is laid out.

Research

Imagine if a disaster struck in this moment. What would your next move be? What if your cell phone was dead and you had no charger? What if you were too young to drive? What if you were too young to reach any door handles? What if you were too young to know your address, phone number, and parent's names? What is the next move for children caught in the chaos of natural disasters?

“Children represent nearly 25 percent of our population. Consider that on any given weekday, 67 million children are in schools and child care, a time when children are most vulnerable because they are away from their families. Yet, only a handful of states require basic

school evacuation and family reunification plans. In addition, just 25 percent of emergency medical services (EMS) agencies and 6 percent of hospital emergency departments have the supplies and equipment to treat children. The Strategic National Stockpile, intended to provide the public with medicine and medical supplies in the event of a public health emergency, is woefully under-stocked with medical countermeasures for children.” (National Commission on Children and Disasters, 2010) This quote speaks to the state of children when it comes to communities’ lack of disaster preparedness specifically for our youngest and most vulnerable population.

Major themes in research break down concerns for children exposed to natural disasters in three stages; before, during and after. Before a disaster strikes, many communities remain ill-prepared for the magnitude of the disaster. This lack of disaster preparedness creates an uncertainty in the minds of many, especially children. As mentioned in the quote above, only a handful of states require basic evacuation and reunification plans. If these plans are not in place, there is no way children can know emergency routines, routes and protocols. This leaves children in a vulnerable state of literally not knowing what to do if a disaster strikes. Specifically, in high poverty areas, there are a lack of resources for children to practice and understand what to do in crisis situations like natural disasters.

When a disaster strikes, children should know what to do, how to find a safe place and how to connect with their parents. But the reality is, most children lack these preparedness skills and are left in risky situations when a natural disaster does occur. In many instances, children are

separated from their parents. This is of most concern to young children. Smaller and younger children are more likely to get trapped, injured or lost during evacuations. Of even more concern is when children do not know their basic information like their last name, their parent's phone number or even their parents' first names. What about children who cannot speak? Who cannot point out their parents? Reunification efforts prove all the more difficult for younger children, infants and those with special needs.

Post-disaster, lives are forever changed. Feeling the impact in unique and amplified ways are children. Their lives have been shaken, and routines changed; often starting new schools in new communities and making new friends. Many children struggle with PTSD, anxiety and depression following the trauma of being displaced by a natural disaster (Rosenfeld, Caye, Ayalon & Lahad, 2005). Starting a new life is not easy, especially when it is not by choice. The current system is failing children impacted by disasters; they have unique needs that are not being prepared for, addressed or followed up on.

Children are not just small adults. Their bodies and minds are still developing, thus more vulnerable to long term effects from natural disasters. These lasting effects are dynamic and all encompassing; ranging from psychological and physical trauma to emotional and social concerns. Children suffer in direct and indirect ways, facing physical danger as well as emotional and psychological trauma (Bullock, Haddow, & Coppola, 2011). Aside from being more susceptible to physical harm, children experience more long term effects than many assume. Children feed off of family members before, during and after a disaster strikes. A lack of

preparedness can prove deadly, a family's inability to stay together and survive in the midst of a disaster, as well as their ability to recover and return to normalcy shapes how a child responds, feels and recovers. It is not uncommon for children to place the burden upon themselves during times of crisis, natural disasters are no different (Bullock, Haddow, & Coppola, 2011). It is shown that children who can return to "normal life", better cope with the tragedy of natural disasters. Children thrive on routine. When their routine is altered in an extreme way, it makes a profound effect on children who rely on structure for security.

After receiving my Associate's Degree in Child Development from Grand Rapids Community College, I was on a search for an opportunity to further develop as a person before I continued college. I sought an experience that would combine my passions for community service and disaster management with youth and family outreach. The answer I discovered – FEMACorps. FEMACorps is a national service program which recruits young adults to volunteer for a year, supporting FEMA across the country in disaster relief initiatives. A few months into my commitment I realized I had not quite found what I was looking for - there was no niche for me to do the kind of work I had hoped for. I could combine community service with children, or disaster preparedness with community service – but opportunities to reach out to youth and families specifically when it came to disaster preparedness were few and far between. Although I was able to visit elementary schools and talk about the importance of health and disaster preparedness, this technique was already being done and still the devastation with each

disaster continued. I wanted to do more, hence the beginning of my research on the supports for children during times of natural disasters.

I could not believe how the needs of children were not being adequately met during times of natural disaster, they were essentially ignored. Taking a look at one of the worst natural disasters in U.S. history Hurricane Katrina. The storm took place in August of 2005; causing 1,118 deaths, 135 people missing, presumed dead at this point, 21 billion dollars in residential property damage and 124,000 thousand jobs lost (Pfefferbaum, Houston, Wyche, Van Horn, Reyes, Jeon-Slaughter & North, 2008). Devastating New Orleans and many surrounding cities, Hurricane Katrina is considered a failure on the part of FEMA.

There are several factors to consider in analysis of children living in vulnerable areas pre-Katrina, specifically noteworthy is the number of affected families living in poverty. Families disproportionately impacted by Hurricane Katrina lived in poverty zones like the 9th ward. “Nearly 30 percent of its [New Orleans’] people lived in poverty. Katrina exacerbated these conditions, and left many of New Orleans’s poorest citizens even more vulnerable than they had been before the storm.” (Pfefferbaum, Houston, Wyche, Van Horn, Reyes, Jeon-Slaughter & North, 2008) A shortcoming of research on families displaced by disasters is that these families are not being tracked. If they have already been living in poverty, it is expected that they will remain in poverty. The under-tracking of families living in poverty and displaced by natural disasters is unfortunate and plays a crucial role in tracking the support children displaced by disasters actually have access to and receive. Vulnerable populations face

limited access to essential social services, delayed care and aid, as well as other barriers to recovery.

In the midst of Hurricane Katrina over 5,000 children were reported missing (Pfefferbaum, Houston, Wyche, Van Horn, Reyes, Jeon-Slaughter & North, 2008). This separation of families can be attributed to several factors; a lack of emergency plans for families and schools, a lack of resources to rescue families together, as well as misinformation or lack of identification information. Almost one-third of the children reported missing were too young to talk, say their names, identify their parents, or give any useful information to rescuers! It took over 6 months to reunite all the children with their families, with the last child being reunited with her family in March of 2006 (Bullock, Haddow, & Coppola, 2011, 187). One would assume reuniting children with their parents would be the primary goal, but that is only beginning of the children's journey through disaster recovery. Even disaster shelters such as the Superdome were underprepared for kids, there were few and inadequate supplies for children and families.

Post-Katrina, displacement rates are astounding, with families moving on average 3 times before finding permanent housing (Pfefferbaum, Houston, Wyche, Van Horn, Reyes, Jeon-Slaughter & North, 2008). Individuals evacuated to 48 states, separating families from support systems, friends, schools and churches. Uprooting their whole lives, many New Orleans residents still struggle to return to normalcy, especially children. "On average, displaced students in Louisiana public schools in the year following Hurricane Katrina performed worse in all subjects and grades compared to other students, and experienced a variety of problems related to

attendance, mental health, behavior, and academic performance.” (National Commission on Children and Disasters, 2010) “Seven months after Hurricane Katrina, only 20 out of 130 schools in the New Orleans Public School system had reopened, with most buildings requiring decontamination due to environmental hazards following the hurricane.” (National Commission on Children and Disasters, 2010) These devastating findings tell the reality of children trying to return to school in damaged New Orleans.

With the horrors of each natural disaster hitting the United States, why are the statistics the same, why aren't things changing? In response to the tragedy of Hurricane Katrina, it may be argued that FEMA had to take action due to the media coverage. The pictures of children crying, videos of children stripped from their parents in rescue efforts, the missing children reports piling up after the storm, taking months to reunite children with their families, this warranted a federal response. In 2008, under the presidency of George W. Bush, the National Commission on Children and Disasters was formed (National Commission on Children and Disasters Meeting). Working together, Mark Shriver, CEO of *Save The Children* alongside Craig Fugate, the newly appointed Director of The Federal Emergency Management Agency spearheaded the committee.

The National Commission on Children and Disasters put out the Report to the President and Congress in October of 2010. This 200 page report outlines the support and services available for youth and children during disasters, as well as the services lacking for this population. The report also dives into specific case studies noting best practices as well as system failures. Ultimately this report includes a list of 81 recommendations including the addition of

long-term physical and mental health, educational, housing and human services recovery needs of children in the National Disaster Recovery Framework (National Commission on Children and Disasters, 2010).

The report by the National Commission on Children and Disasters told the federal government that they are failing children during disasters. Why is it that 79% of the recommendations by the committee remain unfulfilled, with 25% having been made no progress on in 2015? This could be explained by the fact that the National Commission on Children and Disasters was terminated in April of 2011! How can this be when there is so much more to be done to meet the needs of children during disasters?

The needs of children are all different, there is no one size fits all. But there is a niche to be filled, there is room for improvement and that is where my thesis questions comes into play. How can the federal government, specifically FEMA better partner with schools to support children impacted by natural disasters in the United States? The federal government can better work with schools and families to increase effectiveness of disaster relief and preparedness programs. I envision an approach where FEMA and the schools work together towards a better support system for students affected by natural disasters. From the research I have discovered, paired with my own perspective and experience, I am searching for a dynamic and holistic solution. I am investigating an approach which strengthens the relationship between the federal government and schools systems specifically during times of natural disasters.

Prototyping

Take Jade Williams, a 14 year old who lives near the 9th ward of New Orleans, Louisiana. There she lives with her parents and younger brother in a home their family has owned for generations. Fortunately, the damages Jade's home experienced during Hurricane Katrina only forced her family to temporarily relocate. Her parents were able to fix the damages to their home and the family returned a month after being displaced. Jade attends the local public school with many other students living in a similar situation. Although Jade only missed one month of school, she still struggles academically and her constant worry that her family's life may be disrupted by another disaster, keeps her emotionally stressed. Jade is familiar with her school's emergency plans as well as her own family plan for emergencies.

This is a common narrative for many students living in New Orleans and other vulnerable communities throughout the United States. The lack of a comprehensive, holistic system of support for these students creates a situation where they continue to fall behind, and never fully recover. It is not Jade's fault that she lives in an area prone to flooding, that her family was displaced by a natural disaster or that she is continuing to struggle in her daily life. Through my initial prototyping, I aimed to find an approach which would be a preventative measure to protect children in vulnerable areas.

One prototype I am exploring is the increase in public knowledge of flood zones and floodplains as well as implementing policies that will deter development in flood zones. From my experience, many Americans do not know what flood zones are or that they may be living,

working or learning in one. Per my thesis research presentation, I asked my peers to use the resources available to them (i.e. cell phones, computers, etc.) to locate if they were living, working or attending class in a flood zone. Nobody could locate an accurate, understandable floodplain map in a reasonable amount of time. Flood maps are accessible via FEMA's website and local emergency management agencies, but they are not easily read, understood or acquired.

Another aspect to consider is that flood zones, being prone to flooding, are typically cheap to develop on, hence families living in poverty are more likely to live in these zones. I was interested in exploring a policy that would limit or deter development of spaces children occupy for more than 25% of their days, (i.e. schools, homes, daycares, etc.) in flood zones. This is not rocket science. Proactively, many communities use flood zones as green space, parking lots or other minimal use zones that pose no risk to life if flooded. By implementing policies which prohibit and limit putting our most vulnerable population in harm's way, lives can be saved. The problem is where to start? Is it feasible to appeal to developers that are only thinking about money, not long term effects on families? How hard is it to encourage architects to design more upward, instead of spreading out into flood zones? Where are families that are already living in floodplains supposed to live or move to?

In my exploration of floodplain policies, I found a lot of confusing and difficult to navigate information on FEMA's website and other floodplain information sources. In an initial search for floodplain maps in Michigan, the most up to date map is from November of 1982 (www.fema.gov), still proving difficult to decipher and understand. These maps show the 100

year floodplains, which are not mandated to be updated yearly. I attempted to contact the state floodplain manager for the state of Michigan, Les Thomas with the Michigan Department of Environmental Quality housed in Lansing, Michigan, to no avail. I then reached out to a FEMA 406 Mitigation Reservist Buchanan in Denver, Colorado. She indicated that most floodplain managers across the country have multiple roles with the state. Finding that many are overwhelmed with floodplain concerns, they convene annually to discuss new policies, strategies and concerns regarding floodplain mapping at their annual conference. The Association of State Floodplain Managers is holding their 2016 annual conference next June here in Grand Rapids, Michigan! Had I dedicated more time and resources focusing my thesis solely on this approach, I would have created a presentation to facilitate at this conference calling for the need to create more accessible floodplain maps, plans and initiatives to protect families living in floodplains using a preventative approach.

After setting my initial prototype aside, I wondered if a more grassroots approach might be better. I sought a solution that would provide a real source source of stability for students post-disaster through already established school networks. A major problem in New Orleans post-Katrina was the ability to get the school system back up and running. Even seven months after Hurricane Katrina hit New Orleans, less than 20% (20 out of 130) of the New Orleans Public Schools had reopened (National Commission on Children and Disasters). Problems like a lack of teachers, no supplies, damaged and contaminated buildings and emotionally distressed students contributed to a slow, inefficient and ultimately failure to rebuild the school system. But how can these schools be better supported to adequately serve this vulnerable population?

This quote from the Chairperson of the Commission on Children and Disasters, Mark Shriver, evoked an idea. “On any given day there are 67 million children in school or in childcare facilities, separated from their adults. This means that during a disaster the most vulnerable Americans in the most vulnerable settings are made even more vulnerable **due to government inaction.**” Naturally, a solution is to put government into action! In my experience with FEMACorps, I wanted to put government into action to better serve kids impacted by disaster. But why doesn’t FEMA do that directly? Why can’t FEMA add real supports directly to the schools through manpower?

There is an untapped reserve of individuals wanting to work and impact communities. From retired teachers to college graduates, there are many Americans looking for meaningful work. Creating a network of education professionals (i.e. teachers (active or retired), social workers, therapists, etc.) to serve as FEMA Reservists is a practical way to put government into action and involve these folks in the workforce. FEMA reservists serve the nation by aiding during disaster and emergency situations. They are trained citizens, with all different levels of education and expertise. Becoming a FEMA reservist takes an application, background check as well as a commitment to service and dedication to directly aiding survivors (www.fema.gov). Using the reservist system FEMA already has in place, specific education-focused reservists would be called upon to relocate to disaster areas to support the school systems. The unique aspect about expanding the system to encompass education professionals is that they would be placed directly into school buildings, working outside of the normal Joint-Field Office (JFO).

To get feedback on this proposal I reached out to FEMACorps alumni. These individuals served a year working for FEMA across the country in various communities and multiple natural disasters. Amanda (MSW, New Jersey) said, “Okay also if the school is rebuilding their school, would your service team or another be able to build a quick disaster center to have children and teachers meet? Great idea though, I’d be super interested in it myself.” Melissa (BSW, Washington) said, “I really think this is a great idea because I think a lot of the time we focus on the physical impact from disasters rather than on the emotional side from a FEMA perspective.” Allie (Marketing, North Carolina) mentioned, “My main concern would be the pay because it would be hard to attract people with educational backgrounds and have them volunteer for long periods of time...But if they are individuals that are reservists and get deployed to disasters like other FEMA employees, then I definitely think it would work.” This feedback helped shape some technicalities of the proposal. For example, this expansion would add more federally employed reservists, not volunteers. Reservists come from a variety of backgrounds such as Engineering, Education, Business and Social Work. These reservists would work directly in the schools, not solely at JFOs, FEMA offices, for the most hands-on support. Also, by being federal employees, these folks would follow all federal rules and regulations set forth by FEMA in regards to safety and security for staff and clients.

The current FEMA reservist system allows individuals to join a core of disaster professionals, deployed yearly to cities across the U. S. Once accepted as a FEMA reservist, the person is assigned and trained in a specific FQS (FEMA Qualification System). Adding

education specific reservists to be deployed to disaster prone areas, before and after disasters is a feasible solution to strengthen the support system for youth and families impacted by disasters. Creating an FQS which would allow reservists to meet the needs of schools and students is not farfetched. The FEMA Community Education and Outreach (CEO) branch already has their hand in supporting vulnerable communities, but more direct expansion could prove to be more impactful.

Conclusions

Considering the unique needs of children during disasters needs to be at the forefront of emergency management reform. The lack of policies specific to students during disasters have lasting, negative effects on communities that need to be adequately addressed. Single handedly, the education system, families or the federal government cannot solve this problem. But through a cooperative system which seeks to support students before, during and after disasters in a holistic way, steps towards a better support system can be made.

The federal government can better work with schools and families to increase effectiveness of disaster relief and preparedness programs. The most feasible solution I propose is an expansion of a well-tuned system that is already in place. By adding to the Community Education and Outreach Branch of FEMA, a better support system for students affected by natural disasters can be created. The increased FEMA support directly to schools can only prove to benefit vulnerable communities.

“All Americans, especially children, who make up nearly 25% of our population, deserve no less than a disaster recovery system that is rapid and responsive to their needs”

Mark Shriver, Commission on Children and Disasters, 2010

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