



**Children's Health Fund**



Columbia University  
**MAILMAN SCHOOL  
OF PUBLIC HEALTH**

National Center for Disaster Preparedness

# **Legacy of Katrina: The Impact of a Flawed Recovery on Vulnerable Children of the Gulf Coast**

## **A Five-Year Status Report**

**Significant Emotional Distress, Behavioral Problems and  
Instability Persist Among Children Affected by the 2005 Disaster**



Children's Health Fund and The National Center for Disaster Preparedness,  
Columbia University Mailman School of Public Health

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## Contacts

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**Irwin Redlener, MD**

President, Children's Health Fund

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Professor of Clinical Population and Family Health  
Columbia University Mailman School of Public Health

&

Director, National Center for Disaster Preparedness  
Columbia University Mailman School of Public Health

&

Commissioner, National Commission on Children and Disasters

[ir2110@columbia.edu](mailto:ir2110@columbia.edu)

Office: (212) 535-9707

**Caroline DeRosa**

Senior Director of Policy and Advocacy, Children's Health Fund

[cderosa@chfund.org](mailto:cderosa@chfund.org)

Office: (212) 535-9400 x291

**Kelly Parisi**

VP of Communications, Children's Health Fund

[kparisi@chfund.org](mailto:kparisi@chfund.org)

Office: (212) 535-9400 x277

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## **EXECUTIVE SUMMARY**

It is estimated that in the aftermath of Hurricane Katrina, which made landfall on August 29<sup>th</sup>, 2005 and was followed a month later by Hurricane Rita, approximately 1.5 million people, including some 163,000 children were displaced in Louisiana and Mississippi alone.

Since children and families who had the means fled the city, those who were left were often the poorest and most vulnerable. These populations became the most dependent on the government's efforts to help in the recovery process, and were the most affected when those efforts were less than sufficient. Those who previously had been marginalized and underserved were now faced with an unfathomably steep slope to climb in gaining access to resources. In the months after the storms, obstacles to health care became entrenched through the combination of facility closures and shortages of health care providers. In addition, federal disaster case management initiatives, which were meant to help victims access recovery resources, were slow to start and lacked both the comprehensiveness and continuity that were needed. To make matters worse, many of these case management programs were terminated prior to resolving challenges facing families and without making appropriate arrangements for satisfactory follow-up.

Five years following the disasters of 2005, there have been significant signs of economic, infrastructural, and educational recovery in the Gulf. However, there are still serious shortfalls in certain areas of human recovery, particularly regarding mental health and housing stability. Compounding the remaining needs from the hurricanes, the region is now facing a man-made disaster—the aftermath of the BP oil spill. Identifying, assessing and providing professional assistance to children still in need remains an unmet challenge with highly worrisome consequences for the future. But most importantly, the affected families need urgent assistance to, five years after Katrina, return to a state of "normalcy".

Immediately after Katrina, Children's Health Fund (CHF) responded to the vital health needs of the Gulf Coast by establishing Operation Assist in collaboration with the National Center for Disaster Preparedness (NCDP) at the Mailman School of Public Health at Columbia University. As part of this project, CHF dispatched mobile medical units to provide disaster relief health services, which eventually led to the creation of three permanent CHF pediatric programs in the Gulf region. This collaboration also included a longitudinal cohort study, the Gulf Coast Child and Family Health Study (G-CAFH), which was designed to track the progress of a representative population of severely-impacted Gulf families over the ensuing years. The findings from the most recent G-CAFH surveys are included in this paper as well as on the ground anecdotal information from CHF Gulf Coast pediatric programs, which are consistent with the G-CAFH study results.

## KEY FINDINGS

- **60% of children displaced by Katrina to congregate settings, such as trailer parks or hotels, either have serious emotional disorders, behavioral issues, and/or are experiencing significant housing instability.** We believe that this represents at least **20,000** children who are affected.
- Children displaced by Katrina were **4.5 times more likely to have symptoms consistent with serious emotional disturbance (SED)** than did comparable children surveyed in a 2004 national study.
- Among those parents who thought their children needed professional help for these problems, slightly **more than half did not receive it.**
- After four and a half years, **nearly half the households who had been displaced for at least one year after the hurricane were still living in unstable conditions**—either in transient housing or in other circumstances that couldn't guarantee them a place to live for more than a year.
- **34% of middle or high school-age children were one or more years older than appropriate for their grade in school.** This is compared to 19% of all children in the south.
- **Over one-third of parents living within ten miles of the coast line reported that their children had experienced either physical symptoms or mental health distress as a consequence of the recent oil spill.**

## KEY RECOMMENDATIONS

1. **Increased and enhanced mental health services must be made immediately available** to children still in need in the Gulf region. Government will need to act boldly to secure the workforce necessary to treat this critical need.
2. **Rapid return to stable, secure and safe housing, must be given the highest priority** in order to minimize the negative consequences to vulnerable children of prolonged uncertainty and housing instability.
3. **Appropriate support for parents or other caregivers must be available immediately** and throughout the recovery process in order that they may focus on family resiliency. Resilient parents are the key to protecting children during times of instability and trauma.
4. **Three basic lessons from Katrina regarding disaster case management** should be implemented as part of future federal disaster response and recovery plans:
  - Infrastructure and procedures must be in place to **properly collect information about victims of a disaster** and to ensure that they are tracked and monitored.
  - **Case management services must be provided** to victims of disaster in a comprehensive and continuous manner until recovery is complete.
  - **Critical resources and services must be made available** for victims of a disaster until all health and mental health needs have been appropriately addressed.

## BACKGROUND

When Hurricane Katrina made landfall on August 29, 2005, the levees that protected the city of New Orleans were breached and 80% of the city was flooded, destroying housing, schools, businesses and health care agencies. The damage was compounded a month later when Hurricane Rita made landfall. These storms affected a significant portion of the Gulf Coast where it was estimated that approximately 1.5 million people, including **some 163,000 children in Mississippi and Louisiana alone, were initially displaced by the storms.** These children were often evacuated to other states and frequently experienced multiple moves from one transitional housing situation to another.

By 2007, two years after Katrina, about 55% of school-age children had returned to their home state but were not necessarily in stable housing. It has been consistently difficult to estimate and track the number of families and children who were placed in various types of shelters, including small travel trailers, by the Federal Emergency Management Agency (FEMA). **In December 2007 one estimate stated that as many as 64,900 children were still displaced and were at risk for poor health, mental health, and academic outcomes** because of these experiences.<sup>1</sup> It has been argued that the nature of shelters, their isolation from schools and other typical aspects of community, and the slow pace of recovery contributed to the mental health and academic problems of these Katrina evacuees.<sup>2</sup>

The extensive infrastructural damage to New Orleans and other affected areas included the destruction of health services. In the aftermath of the storms, three-quarters of New Orleans' safety net clinics were closed, and as a result, the primary care system for families living below the poverty line disappeared. For children, especially in New Orleans, the slow recovery of their everyday surroundings (delays restoring housing, schools, healthcare facilities, and rebuilding affected neighborhoods) exacerbated the impact of the disaster and undermined family and community supports that promote resilience and recovery.<sup>3</sup>

Since children and families who had the means fled the city, those who were left were often the poorest and most vulnerable. These populations became the most dependent on the government's efforts to help in the recovery process, and were the most affected when those efforts were less than sufficient. Those who previously had been marginalized and underserved were now faced with an unfathomably steep slope to climb in gaining access to resources. In the months after the storms, obstacles to care became entrenched through the combination of facility closures and shortages of health care providers. The result was that many who were most in need of health and mental health services after the storms did not have access to care.

## CURRENT STATUS

Five years later, there have been significant signs of recovery in the Gulf region, for example, in economic restoration, critical infrastructure rebuilding and home repairs. Just one year after Katrina, employment levels rebounded close to the pre-storm levels in Mississippi and exceeded

pre-storm levels in Louisiana.<sup>4</sup> And the average wages in greater New Orleans have grown by nearly 14% in the last five years, catching up to the national average for the first time since the mid-1980s, and though the poverty rate in the city remains high, at 23%, it is the lowest rate since at least 1979. In addition, the worst of our nation's economic recession was buffered in the coastal region by rigorous post-Katrina recovery initiatives, resulting in unemployment levels that were lower than the national rates.<sup>5</sup> Of the 1.1 million evacuees across the Gulf (including Louisiana, Florida, Alabama, and Mississippi), the 84% that returned have shown higher labor force participation rates than those that did not.<sup>6</sup>

Local governments have made significant investments and gains in addressing housing damage for homeowners as part of the recovery: however, for renters, finding stable, affordable housing continues to be an issue. In New Orleans, rental costs are up 41% compared to pre-Katrina levels and the poor are disproportionately hurt by these increased rental costs. In Metro New Orleans, nearly half of full-time workers earn less than \$35,000 a year, and 86% of households at that income level are financially burdened by the cost of housing. The Louisiana Recovery Authority (LRA) reports that the state has spent \$13.4 billion of U.S. Housing and Urban Development (HUD) Community Development Block Grant funding on infrastructure, including housing and economic development. Through the "Road Home," the largest of these Block Grant programs, more than 120,000 Louisiana homeowners have received aid payments to help rebuild their homes. And although over 6,000 rental units were created through this program, only about two-thirds were reserved as affordable housing, not nearly the adequate amount to meet the need.<sup>7</sup> So even as more apartments become available, many are not affordable by the city's residents.<sup>8</sup>

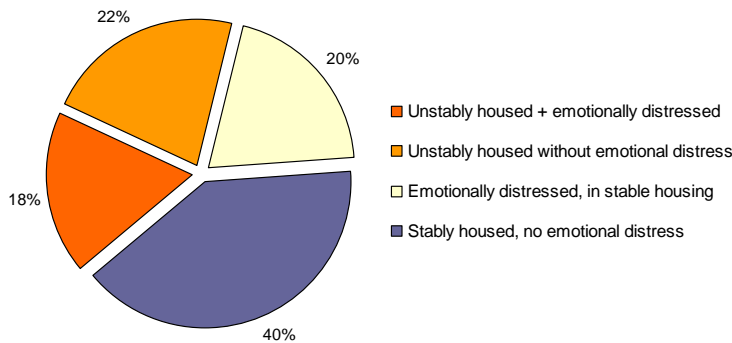
In the areas of Mississippi affected by the storms, the supply of affordable housing has also fallen below projections of what is needed. By June 2009, the state had spent far more housing dollars for assistance to home owners than for income-targeted housing programs including public housing.<sup>9</sup> In their January 2010 report on the use of disaster recovery assistance funds in Louisiana and Mississippi, the Government Accountability Office (GAO) found that assistance was provided for 62% of damaged homes compared to 18% of damaged rental units.<sup>10</sup>

Data regarding student achievement for storm affected regions in the Gulf show a striking improvement. This is especially evident in New Orleans, where academic outcomes are better than ever and standardized test scores ("LEAP") are higher. The student population is still only 55% of what it was before Katrina, but the public education system has been restructured to include charter schools and the Recovery School District—fifty-one of the 88 schools, serving 61% of students are now charter schools.<sup>11</sup> There continues to be an achievement gap between New Orleans students and those in Louisiana as a whole, but this gap is narrowing. For example, before Katrina the average fourth grade language arts test scores in New Orleans were 25 percentage points below the state level; in 2009 it was only 13 points lower.<sup>12</sup> That said, the G-CAFH study results report that 34% of middle or high school-age children that were one or more years older than appropriate for their grade in school. This is compared to 19% of all children in the South.

Yet despite all the successful rebuilding, there remain serious shortfalls in certain areas of human recovery, particularly in terms of mental health. **A startling 60% of children displaced by Katrina either have serious emotional disorders, behavioral issues, and/or are experiencing significant housing instability.** We believe that this represents at least **20,000 children** who are so affected—and perhaps considerably more. It should be noted that some of these children may have experienced these conditions even if Katrina had never occurred, but in many cases, their situations were aggravated and/or prolonged by the trauma of disaster and a very difficult recovery period.

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Proportions of Children Still Affected by Katrina (N=427)



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Compounding the remaining need from Katrina, the region is now facing a man-made disaster in the aftermath of the BP oil spill. According to a survey of coastal residents conducted by NCDP in collaboration with CHF working with Marist Institute for Public Opinion, over one-third of parents living within ten miles of the coast line reported that their children had experienced either physical symptoms or mental health distress as a consequence of the spill.<sup>13</sup>

**Identifying, assessing and providing professional assistance to these 20,000 or more children remains an unmet challenge with highly worrisome consequences for the future.** But most importantly, the affected families need urgent assistance to, five years after Katrina, return to a state of "normalcy".

## New Orleans

The New Orleans Children's Health Project (NOCHP), a partnership with **Tulane University School of Medicine**, began as a disaster relief program in 2005 and has subsequently become part of the city's health care safety net, including mental health services. The NOCHP has totaled 42,607 primary care and mental health visits and community outreach encounters since Katrina. Children with SED receiving treatment from NOCHP had experienced significant traumatic exposures during and after the hurricane, including long stays in mass shelters without adequate food and water, walking through waist-deep water and seeing dead bodies, and protracted separations from family. Reports of behavioral history consistent with SED were common, sometimes including extreme behavior such as animal cruelty and fire-setting. While housing and neighborhood conditions improved over time, the problems of children with psychiatric disorders remained steady in New Orleans. Some children with extreme behavior, such as suicidal or homicidal ideation, had returned to New Orleans after years in shelters in other states.

## G-CAFH STUDY: THE LONG TERM EFFECTS OF KATRINA ON KIDS

In 2005, immediately after Katrina, CHF responded to the urgent health and public health needs of the Gulf Coast by establishing Operation Assist in collaboration with NCDP. As part of this project, CHF sent mobile medical units from its national network of pediatric programs to provide disaster relief health services in the region. Over time this led to the creation of three permanent CHF Child Health Projects in New Orleans, Baton Rouge, and the Mississippi Gulf Coast. This collaboration also included a longitudinal cohort study, the Gulf Coast Child and Family Health Study (G-CAFH), which was designed to track the progress of a representative population of displaced, homeless, or otherwise greatly-impacted Louisiana and Mississippi families over the ensuing years.

The G-CAFH study is an ongoing research effort conducted by NCDP in partnership with CHF and researchers at the Louisiana State University School of Public Health. Using lists provided by FEMA, the researchers randomly sampled households at trailer parks, hotels, and within census block areas particularly hard hit by the hurricane (this last strategy was adopted only in Mississippi). Interviewers conducted face-to-face interviews with adult respondents in the 1,079 randomly-sampled households. New interviews with the population have been conducted annually since the baseline interviews (initially at 6-12 months after the hurricane, then beginning at 23, 36, and 54 months post-disaster), with the most recent set between November 2009 and March 2010.

Over the first five years of the G-CAFH study, the research team has seen improvements in children's access to medical care, the quality of that care, and other aspects of their lives and well-being. Still, mental health has proven to be an enduring and persistent problem. The study has therefore also focused on the importance of support systems in people's lives, in particular their informal social support networks and characteristics of the communities in which they are living.

### **Baton Rouge**

The Baton Rouge Children's Health Project (BRCHP) was the major health care provider to children in "Renaissance Village," the largest of the FEMA "trailer parks" and one of the sites included in the G-CAFH study cohort. The BRCHP, a partnership with **Louisiana State University Health Science Center Pediatrics Department**, has totaled 34,179 primary care and mental health visits and community outreach encounters since Katrina. A review of BRCHP medical charts in mid-2008 captures some of the health problems of the children who remained in the FEMA trailers. Although by this time it was a small number, we found that more than one-third, 35%, had been referred for mental health and case management services. As of June 2010, the BRCHP was serving very few New Orleans evacuees; however, serious mental health problems continued to be identified among children in the East Baton Rouge community.



The NCDP research team has measured children’s mental health status in a variety of ways—by asking parents and caregivers whether their children have experienced emotional or behavioral difficulties that have developed since the hurricane; by asking the adults whether their children had received a clinical diagnosis of mood, anxiety, or behavioral disorder since the hurricane; and by administering a set of questions to parents that screens for “Serious Emotional Disturbance” (SED). The term “SED” is used in federal statutes to describe children and youth with a diagnosable psychiatric disorder that “severely disrupts” social, academic, and emotional functioning. For this, the researchers used the Strengths and Difficulties Questionnaire, a validated behavioral screening questionnaire that assesses emotional symptoms and problems of conduct, hyperactivity/inattention, peer relationship and prosocial behavior.<sup>14</sup>

Recent G-CAFH findings (*N*=427) about the stressors facing children include:

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60%	of children displaced to congregate settings such as FEMA trailer parks or hotels by Katrina either have serious emotional disorders, behavioral issues, and/or are experiencing significant housing instability. We believe that this represents at least 20,000 children who are so affected.
52%	of parents who thought their children needed professional help for these problems, but did not receive it. The major reasons cited for not receiving mental health care were: not knowing where to go, insurance that wouldn’t cover the service, no available providers, no available transportation, and no child care for other children in the household.
50%	of households who had been displaced for at least one year after the hurricane and were still living in unstable conditions after four and a half years —either in transient housing or in other circumstances that couldn’t guarantee them a place to live for more than a year.
45%	of parents that said their children were experiencing emotional or psychological problems that they did not have prior to Katrina. In addition, according to parents and caregivers, since Katrina, over one-third of children in the study have been clinically diagnosed at least once with a mood, anxiety or behavioral disorder.
40%	of parents that thought that their children were sometimes or always unsafe in their community, which is over twice the rates reported by parents in Louisiana and Mississippi prior to the hurricane, and nearly 30% reported that their children were sometimes or always unsafe in their schools, also twice as high as pre-storm averages in those states.
36%	of children that met criteria for SED <sup>15</sup> . By comparison, national rates for school-age children and youth are 5% to 9%. <sup>16</sup> Controlling for children’s age, race, health insurance, household income, and region of the country, <b>children in the cohort were 4.5 times more likely to have symptoms consistent with SED</b> than did comparable children surveyed in a 2004 national health study. <sup>17</sup>
34%	of middle or high school-age G-CAFH children that were one or more years older than appropriate for their grade in school. This is compared to 19% of all children in the South.
7%	of children that were still homeless and living in a trailer or in a hotel.

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## ON-THE-GROUND EXPERIENCE CONSISTENT WITH THE G-CAFH STUDY

Medical charts for children served by CHF’s New Orleans, Baton Rouge, and Mississippi Gulf Coast Projects were reviewed and found evidence that many patients in the CHF Gulf Coast pediatric population have been affected by the storm as described in the G-CAFH study. The long-term effects from Hurricane Katrina have taken a significant mental health toll on children and their families. See side bars for details.

It must be noted that baseline mental health data are not available. In turn, inferring a causal relationship between psychiatric disorders and traumatic exposures related to Hurricane Katrina is problematic. However, children in families with incomes at or below the poverty level, children with mental health disorders, children who’ve been exposed to domestic and community violence, are at higher risk for post-disaster stress reactions.<sup>18</sup> The eligibility standard for disaster mental health (“crisis counseling”) services is that the mental health condition be “caused or aggravated” by the disaster and its aftermath.<sup>19</sup> There is no question that the children in the three CHF Gulf coast pediatric programs meet that criterion.

### Mississippi Gulf Coast

At the Mississippi Gulf Coast Children’s Health Project (MGCCHP), many of the children were from counties that were hard hit by Hurricane Katrina. The MGCCHP, a partnership with **Coastal Family Health Center**, has totaled 57,472 primary care and mental health visits and community outreach encounters since the hurricane. Children with SED had been at high risk before Hurricane Katrina, and their disaster experience, which often included loss of home and extensive loss of property followed by long periods of homelessness and transient shelter placements, exacerbated previously-existing emotional problems and family dysfunction. Many of the seriously emotionally-disturbed children did not complete treatment because of psychosocial issues (family dysfunction, unstable housing situation, etc.). FEMA-provided shelters such as trailers were considered by some families to be so unacceptable that they chose to return to homes that were severely damaged.

## STATUS OF FEDERAL CASE MANAGEMENT PROGRAMS

When Katrina hit the Gulf in 2005, disaster case management services were not part of the federal disaster response policy, as determined by the Stafford Disaster Relief and Emergency Assistance Act. Comprehensive disaster case management involves helping victims to identify their service needs and then access services and programs to fulfill those needs. A quality program can help mitigate the long-term effects of a disaster by helping children and their families find stable housing, schooling, and regular health and mental health services.

In 2006, Congress attempted to address the lack of federal case management provisions with the Post-Katrina Emergency Management Reform Act which made disaster case management a formal responsibility of the federal government. Following Hurricanes Katrina, Rita, Gustav and Ike, several federally-initiated disaster case management programs were implemented in the Gulf

region, including *Katrina Aid Today*, *Disaster Housing Assistance Program*, *HHS Disaster Case Management Pilot Project*, and the *FEMA Disaster Case Management Pilot Program*. A summary of these case management programs from the RAND Technical Report commissioned by the Louisiana Recovery Authority appears on the following page.<sup>20</sup>

The set-up and implementation of these different programs had widely varying degrees of success. An assessment of the Disaster Case Management Pilot Program in Louisiana conducted by RAND found that **more than half of the cases remained open when the program was discontinued and that the needs of a majority of clients with closed cases had not been not fully met.**<sup>21</sup> As mentioned previously, children and families that were most in need of the government's help on the road to recovery were often most vulnerable prior to the storms.

The premature termination of case management services is particularly relevant when looking at the pattern of persistent instability that is evident in the results of the G-CAFH study. Four years after the storms, 60% of respondents characterized their situations as worse than before Katrina, and nearly half the families remained in unstable housing conditions. As recently as the period between November 2009 and March 2010, 7% of children originally displaced by the storm were still living in a trailer or hotel. But most significant was that approximately 45% of surveyed parents said that their children continued to experience emotional or psychological problems that they did not have before Katrina, and barely half received help for these problems.

It is clear that more comprehensive and continuous case management services could have helped clients find stable housing, mental health services, and the resources that would have enabled them to utilize these services, such as transportation and child care. If this had been achieved, the number of children still suffering because of Hurricanes Katrina and Rita would be significantly less. The stories of success—for example, children whose families relocated to areas with good schools and achieved stability in those locations<sup>22</sup>—demonstrate the kind of stability that a comprehensive case management program should facilitate and the shortcomings of the programs that were implemented for Katrina and Rita victims.

## Disaster Case Management Programs Following Hurricanes Katrina, Rita, Gustav, and Ike, 2005-2010

Program Name	Dates Effective	Funding Agency and Amount	Administering Agency	Recipient of Funding	States Active In	Eligible Population	Population Reached
Katrina Aid Today	December 2005 - March 2008	\$68 million (international donations)	FEMA	United Methodist Committee on Relief, 9-agency consortium	34 states	Individuals affected by Hurricane Katrina	72,000 households
Louisiana Family Recovery Corps	January 2006 - June 2007	\$32.7 million (TANF/HHS) and \$18.5 million (SSBG)	HHS	Louisiana Family Recovery Corps	Louisiana	Low-income households with children (TANF funding) or without (SSBG)	9,500 households
Disaster Housing Assistance	September 2007 - August 2009	\$585 million (FEMA)	U.S. Department of Housing and Urban Development	Mississippi and Louisiana state governments	Mississippi and Louisiana	Victims of Hurricanes Katrina and Rita	37,000 households
Cora Brown Bridge	April 2008 - May 2008	\$126,000 (FEMA)	State governments	State governments	Louisiana and Mississippi	Individuals with open KAT cases	3,061 households
DCMP, Texas	August 2008 - September 2010	\$58.2 million (FEMA)	Texas Health and Human Services Commission	Texas state government	Texas	Individuals affected by Hurricane Ike	16,589 households
DCMP, Mississippi	August 2008 - August 2010	\$31.8 million (FEMA)	Mississippi Commission for Volunteer Services	Mississippi state government	Mississippi	Households affected by Hurricanes Katrina and Rita still living in temporary housing units	3,595 households
ACF DCMP program	April 2008 - March 2010	\$22 million (FEMA)	HHS	Catholic Charities USA	Louisiana	Households affected by Hurricanes Gustav and Ike in Louisiana	7,550 households
DCMP, Louisiana	September 2009 - March 2010	\$9.4 million (FEMA)	LRA	Louisiana state government	Louisiana	Households affected by Hurricanes Katrina and Rita still living in FEMA temporary housing units.	1,804 households

SOURCES: Berman and Abe (2007); Catholic Charities USA (undated); GAO (2009); personal communication from FEMA to the lead author (May 3, 2010); the authors' secondary analysis of the Coordinated Assistance Network (CAN) case management data from the Louisiana DCMP; U.S. Department of Housing and Urban Development (2009); Zimmerman (2009)

## PUBLIC POLICY RECOMMENDATIONS

CHF and NCDP have long urged both federal and state lawmakers to address the critical recovery needs of children in a comprehensive and immediate way. The following are key policy recommendations that build on previous proposals put forth by CHF and NCDP. It is imperative that policymakers act now to prevent further long-term damage to the children affected by Katrina, and that they apply what has been learned to improve disaster response efforts going forward. In addition, it should be noted that the below recommendations are consistent with those made by the National Commission on Children and Disasters (NCCD).<sup>23</sup>

1. **Increased and enhanced mental health services must be made available to children still in need in the Gulf region.** Our findings clearly indicate an urgent need to identify the children in the Gulf who continue to suffer mental health problems. These children must be provided appropriate treatment and follow-up services, and the federal government must accept unambiguous responsibility for helping those in the Gulf achieve a full recovery from Katrina and subsequent hurricanes. The federal government also must ensure that the recovery resources provided to Louisiana and Mississippi are sufficient to guarantee the capacity to provide needed mental health services. It should be acknowledged that this goal will not be easily achieved, as there already was a lack of available mental health providers, especially for impoverished children and families, in the Gulf region prior to the storms and Katrina only exacerbated this problem. Although the Patient Protection and Affordable Care Act, the recently passed health reform legislation, includes incentives to attract health providers to shortage areas, the benefits from this law will not be seen immediately; therefore the federal and state governments will need to act swiftly and boldly to secure the workforce necessary to respond to this critical need.
2. Action must be taken by the federal and state governments to **ensure that a rapid return to stable, secure and safe housing, is given the highest priority** in order to minimize the negative consequences to vulnerable children of prolonged uncertainty and housing instability.
3. Action must be taken by the federal and state governments to **ensure appropriate support for parents or other caregivers are available immediately** and until optimal recovery is achieved so that they may focus on a return to normalcy for their kids. Resilient parents are the key to protecting children during times of instability and trauma.
4. Going forward, there are three basic lessons learned about disaster case management from Katrina that should be implemented as part of future federal disaster response and recovery efforts:
  - **Infrastructure and procedures must be in place to properly collect information about children and families affected by disaster and to ensure that they are tracked**

- and monitored.** Information about victims of disaster must be collected to ensure that they can be appropriately served by public agencies and service organizations participating in recovery efforts. Federal and state agencies involved in the recovery efforts need to document, coordinate, and track information regarding where the families are going and what is happening to them.
- **Case management services must be provided to victims of disaster in a comprehensive and consistent manner until recovery is complete.** In October of 2009, CHF hosted *Disaster Case Management in Louisiana: A Roundtable on Recovery from Hurricanes Katrina, Rita, Gustav and Ike*. This roundtable event brought together key disaster case management stakeholders, including representatives from federal agencies, providers and advocates for disaster case management services, and interested parties from academia, the private sector, and foundations. Following this event, a report was issued that summarized the challenges faced by federal case management programs after Katrina and included specific policy recommendations, supported by CHF, NCDP, and other organizations, for improving federal disaster case management programs. As the federal government moves forward with its efforts to improve disaster case management programs, these detailed recommendations should be implemented.<sup>24</sup> In addition, the NCCD has issued a comprehensive report on children and disasters which covers a variety of areas, including disaster case management.<sup>25</sup> Finally, the federal Substance Abuse and Mental Health Resources Administration (SAMHSA) has issued specific guidance for mental health preparedness planning to supplement the general disaster preparedness guidance previously issued by FEMA.<sup>26</sup> The information and recommendations in these documents should be taken into account by policymakers as federal disaster case management policies and programs are amended.
  - **Critical resources and services must be made available for victims of a disaster until all health and mental health needs have been appropriately addressed.** Effective case management for all families is the key to moving forward, but even the most effective case management programs cannot be successful without the guarantee of appropriate resources. Part of the federal response and recovery efforts should be to help ensure that they are available without interruption or delay.

## CONCLUSION

The impact of Hurricane Katrina on the Gulf Coast region was illustrative of the crippling effect of vulnerability. To a very large extent the directly-affected population was at the highest risk for problems relating to disaster trauma. The children and youth considered most vulnerable for serious post-disaster stress reactions are poor, minority, living in unsafe neighborhoods, attending underachieving schools, and in families that are having difficulty coping with financial issues and other types of stress.

Elevated rates of mental health and case management needs, diagnosed psychiatric disorders, and symptoms consistent with serious emotional disturbance reflect a confluence of factors peculiar to Hurricane Katrina, and specifically demonstrate that the disaster's most direct impact was experienced primarily by medically underserved and extremely impoverished communities. Because of their conditions prior to the storm, these populations were highly dependent on the government's response and recovery initiatives, which were insufficient from the start.

Our experience post-Hurricane Katrina has made it apparent that following a natural disaster, in addition to short-term needs there may be long-term needs, including the need for mental health and case management services, especially for poor and vulnerable populations. Therefore, it is imperative that federal disaster response includes the ability to collect information about disaster victims and the ability to track and monitor their recovery. It also must include comprehensive and continuous case management services, and the appropriate resources that will allow case management to be effective. Lessons learned from Katrina provide an enormous opportunity for the federal government to improve its disaster response and recovery, specifically as it relates to human recovery, in order to prevent the re-occurrence of the problems we are seeing today.

- <sup>1</sup> David Abramson, Irwin Redlener, Tasha Stehling-Ariza, Elizabeth Fuller. National Center for Disaster Preparedness, Columbia University Mailman School of Public Health. The Legacy of Katrina's Children: Estimating the Numbers of Hurricane-Related At-Risk Children in the Gulf Coast States of Louisiana and Mississippi. NCDP Research Brief 2007\_12. December 2007. Online at: [http://www.ncdp.mailman.columbia.edu/files/legacy\\_katrina\\_children.pdf](http://www.ncdp.mailman.columbia.edu/files/legacy_katrina_children.pdf)
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