Lessons Learned

Running Head: MENTAL HEALTH CONSIDERATIONS


Chapter 13

The Aftermath of Hurricane Katrina:

Mental Health Considerations and Lessons Learned

Joy D. Osofsky, Howard J. Osofsky, Mindy Kronenberg, and Tonya Cross

Louisiana State University Health Sciences Center
Hurricane Katrina struck the United States Gulf Coast on August 29, 2005 with wind and water surges that resulted in much destruction. Metropolitan New Orleans was then dealt a devastating blow with the breach of the levees and subsequent flooding, placing vast areas of the city underwater. Despite the lessons learned from experiences during and after the 9/11 terrorist attacks, the Oklahoma City bombing, and recent destructive hurricanes in Florida, the response to Hurricane Katrina was grossly inadequate. Neither the City of New Orleans, the State of Louisiana, nor the federal government was prepared to respond to the disaster and the extent of the damage caused by the hurricane and the flooding. The inadequate response continued in the immediate aftermath, and the nation watched as the crisis deepened. Unlike most disasters with a circumscribed period of crisis, followed by gradual recovery, progress and recovery remain slow. Factors contributing to problems with the recovery relate to the extent of devastation, displacement of families and other supports, job loss, lack of clarity about rebuilding, and questions about federal commitment to supporting adequate levee and coastal protection.

Reflecting both limited economic resources and the typical response to hurricanes in the Gulf South, many people chose not to evacuate and were then trapped in their homes. Others sought refuge in the Superdome, previously a secure and safe shelter. However, due to the strong winds caused by Katrina, power was lost at the Dome, the roof was ripped off in pieces, and rather than being a safe refuge, it became a chaotic, traumatizing shelter. Chaos further reigned at the Convention Center, where people also sought safety or were sent to be transported out of the city. Patients, doctors, nurses and other staff and family members were stranded at hospitals without power and without adequate food and supplies. First responders including police officers, fire fighters, and emergency medical technicians, often not knowing the whereabouts of
their own family members, were faced with conflicting loyalties of attachment -- the need to care for their own families and their commitment to the responsibilities of their positions and their colleagues. Despite flooded headquarters, police districts, firehouses, and disabled or destroyed equipment, they struggled valiantly against insurmountable odds to evacuate other citizens of New Orleans and the metropolitan area and to protect the city. Police officers described the agony of being unable to rescue everyone pleading for help. Police described to us their giving up their own last bottle of water to help a dehydrated infant or child and then being engulfed by mobs of people certain that they must have more water. Firefighters who depend on water to battle fires now found the water to be their enemy.

Family members were separated from one another with inadequate space for them and their children in a rescuing helicopter; parents hesitantly but desperately handed over their children hoping, at least, for their safety. Families were stranded for days in the heat on the Causeway, a highway just outside the city limits, and at the airport. Some were literally herded into rescue planes, at times not knowing where they were being transported. The immediate and continuing response to the disaster can rightfully be characterized as chaotic.

The two senior authors were in New York when Hurricane Katrina struck. At first it had appeared that Katrina might go east of New Orleans and then, when it struck, that damage might be limited -- that the city had been able to weather the strong winds and rain of the storm. When the levees were breached and the flooding began, we (JDO and HJO) took the first available plane two days later to Baton Rouge (obviously the New Orleans International Airport was closed). The State Police somehow secured a room for us and accompanied us to the Command Center. In an atmosphere filled with concern and uncertainty, we then worked with city, state, and national leaders, Federal Emergency Management Association (FEMA) and Substance
Abuse and Mental Health Services Administration (SAMHSA) colleagues, and volunteers from around the country, making ourselves available to provide help and advice. We went to evacuation sites and shelters to help support and provide services for citizens seeking refuge. We then tried to reach members of our trauma team, asking them to return as rapidly as possible to provide needed psychological first aid and crisis services.

Background

Since the initial days after Hurricane Katrina, we (JDO and HJO) and the Department of Psychiatry, at Louisiana State University Health Sciences Center (LSUHSC) have taken on multiple roles for the State Office of Mental Health and Metropolitan New Orleans. Given the background and longstanding experience of the authors and the Department of Psychiatry faculty related to trauma, disaster and terrorism, including working with first responders and children and families, Louisiana State Department of Health and Hospitals, Office of Mental Health (OMH) requested that HJO serve as Clinical Director of the overall Behavioral Health Crisis Response and for Louisiana Spirit, the State Crisis Counseling Program; OMH requested that JDO serve as Clinical Director for Child and Adolescent services for Louisiana Spirit. During the days immediately following Hurricane Katrina, Mayor Nagin requested that the LSUHSC team provide direct services for New Orleans first responders and their families who had lost so much; heavily devastated St. Bernard Parish followed with a similar request. LSUHSC faculty have provided psychological first aid (Brymer et al., 2006), crisis intervention, and resilience building on the streets, at temporary headquarters, districts, fire stations and on cruise ships housing first responders and their families. Services for children and adolescents have been provided in schools, pre-schools, and child care centers (including Head Start and Early Head Start) serving displaced children, children in devastated areas, and those returning to Metropolitan New
Lessons Learned

Orleans. Faculty continued to provide services to these groups, identifying needs, providing resilience-building, psycho-educational services. We vividly remember our initial return to our beloved city after Mayor Nagin’s request, each of us in separate state police cars, surrounded by armed police for our protection and taken by a circuitous route to enter the still flooded city. We were overwhelmed with the devastation, as well as the suffering and the bravery and commitment of those with whom we worked. With so much devastation and destruction, we were not only overwhelmed with sadness, but also with a sense that a part of our identity had been destroyed. We knew that our city would never be the same and that we must help in the response, the recovery, and the rebuilding.

A few of our first remembrances include trudging through water to City Hall, walking up to the 9th floor (no elevator or central air conditioning) to meet with ranking New Orleans Police Officers in a temporary office. They interrupted their meeting and wanted to talk to us about two respected officers who had just committed suicide. We remember entering the Sheraton Hotel on Canal Street where some police were quartered before the cruise ships arrived, having to be cleared by Blackwater security guards whom we were told would shoot anyone who was not properly accompanied. We recall meeting a ranking police officer (diabetic and without insulin) who refused to leave his position because of his sense of duty and responsibility, and then had to be taken for an emergency evaluation almost in diabetic shock to the one operating hospital in the city. In the aftermath of Hurricane Rita, which hit during the third week in September, we were asked by a ranking police officer to come into the totally evacuated city. As we sat with him in front of Harrah’s Casino feeling like we were in a “deserted wild west city,” another officer on medical leave asked for our help. He had been awaiting a transplant before the storm but insisted on reporting for duty. With the stress of the disaster, he had resumed smoking and, as
Lessons Learned

a result, could not resume being on the transplant list. He was very worried and wondered if we could help him stop smoking. In the staging area for emergency response in the evaluated city, a woman fell to her knees crying “Thank God” when she saw us. She pleaded with us to help her as her quadriplegic son’s motorized chair and equipment were in their flooded house in an area where passes were not allowed. Without the chair, he was confined to bed and would deteriorate both physically and emotionally. Fortunately, the police officers we were with volunteered to retrieve what she needed. We also remember a first responder, himself on a roof, threatening to jump. He had just learned that his wife, who had evacuated with their child, would not return. Their marriage was over. He tearfully described loving her and their child, and felt without them, his life was not worth living. We were able to help him through the crisis. Finally, we remember a single first responder parent whose daughter was displaced to another community. She worried that even when she received her paycheck, she did not know how to send money to her daughter. She was torn between her responsibility for her child and loyalty to her colleagues.

The Psychological Effects of Hurricane Katrina on Children and Adolescents

It is important to recognize that most children and adolescents cope successfully and demonstrate adaptive coping skills following traumatic exposure. Masten (2001) describes the ordinary magic of resilience and Benight and Bandura (2004) refer to such responses as defining self-efficacy. At the same time, data from a number of studies demonstrate higher incidences of emotional, behavioral, developmental, and academic difficulties following traumatic exposure (Cicchetti & Toth, 1997; Eckenrode, Laird, & Doris, 1993; Goenjian et al., 2005; Mollica et al., 2004; Osofsky, 1997, 2004; Pfefferbaum, Nixon, & Krug, 1999).

Following natural disasters, children and adolescents experience stress reactions, risk for psychological disorders, and behavioral difficulties. The reason for these problems is that the
typical supports available to children are not available post disaster. Following Hurricane Katrina, most children were displaced from their homes and many were separated from their families; even if they were with their families, they frequently were living in very crowded conditions. Almost all children were in new unfamiliar schools, were not with and could not communicate with their friends, and did not have their usual routines and supports that are so important for psychological health. When elevated mental health symptoms meet criteria for disorder, the most frequent disorders are Posttraumatic Stress Disorder (PTSD) and Mood Disorders (Briere & Elliot, 2000; De Bellis & Van Dillen, 2005). Children demonstrate symptoms similar to those of adults as well as developmentally specific symptoms such as regression, separation anxiety, clinginess, increased aggression, and withdrawal.

Surveys of 8,226 children and adolescents carried out six months after 9-11 focused national attention on the impact of trauma exposure on children, with the data showing considerably elevated rates of PTSD, major depression, separation anxiety, phobia, conduct disorder and alcohol use (Hoven, Duarte, & Mandell, 2003). The New York survey further indicated that nearly 2/3 of the children had experienced prior exposure to trauma before 9/11 (Schaffer et al., 1996). Such prior exposure could re-awaken previous traumas and contribute to current symptoms. Other literature supports the finding that children who have experienced previous loss or trauma are at higher risk for mental health problems than those without previous traumatic experiences (Bowlby, 1973; Laor et al., 1997; Osofsky, 2004; Pynoos, Steinberg, & Piacentini, 1999; Goenjian et al., 2005; Vernberg, La Greca, Silverman, & Prinstein, 1996).

With a disaster of the proportions of Hurricane Katrina with so much loss, separation, slowness of recovery, continuing displacement, and lack of support, outcomes for children are influenced significantly by family stability and support factors. In reaction to a different disaster,
but focusing on family issues, Laor, Wolmer, and Cohen (2001) assessed the long-term consequences of the SCUD missile attack in Israel on children as a function of family issues, including maternal psychological functioning and family cohesion, and found the parents less emotionally available to the children due to their own traumatization. Other studies (e.g., Beardslee et al., 1988; Shalev et al., 1998; Silverstein, Augustyn, Cabral, & Zuckerman, 2006) have also shown that if parents or caregivers are not doing well due to the circumstances of their own lives, depression, other mental disorder, or prior exposure to violence, their children and adolescents may experience increased distress and symptoms. These parents, like those described by Laor and colleagues (2001), may be less emotionally available to their children. Five years after the Gulf War, Laor et al. (2001) studied 81 children, ages 8-10 years, whose homes were damaged in the missile attack, examining stress, internalizing (withdrawal, depressive reactions), externalizing (aggressive, acting out behaviors), and posttraumatic symptoms (including avoidance of thinking about the trauma, re-experiencing the event through language or play, numbing of affect, and hypervigilance). Greater symptom severity was associated with being displaced, living in a family with inadequate cohesion, and having a mother with poor psychological functioning. Younger children evidenced more symptoms than older children.

In attempting to understand the effects of the hurricane and flooding on children and adolescents, it is helpful to consider the previous studies, though limited, in this area. Sutker and colleagues (2002) and Smith and Freedy (2000) found that previous exposure to trauma predicts an increase in symptoms following a hurricane. Living in a shelter and under stress for an extended time period further predicts increased emotional problems (Gittelman, 2003). Following hurricanes and flooding, higher incidences of Posttraumatic Stress Disorder (PTSD), Major Depressive Disorder, and symptoms consistent with both disorders are seen.
Lessons Learned 9

(Assanangkornchai, Tangboonngam, & Edwards, 2004; Briere & Elliot, 2000; Fullerton & Ursano, 2005; LaGreca, Silverman, Vernberg, & Prinstein, 1996; North, Kawasaki, Spitznagel, & Hong, 2004; Norris, Murphy, Baker, & Perilla, 2004; Shelby & Tredinnick, 1995; Vernberg et al., 1996). This literature is helpful not only because it may enhance understanding of factors that may contribute to more symptomatic and problematic reactions, but also those factors that may lead to resilience (Luthar, 2003). For example, if children and families must live in shelters, they could be designed so that volunteers could provide activities for the children as well as child care on site so that children can play and experience more “normal” behaviors and support and respite can be provided for parents who are also traumatized. For displaced families living in transitional living communities, community centers, recreational areas, and supports for children and families would make a significant difference in adjustment. Finding permanent housing for displaced families faster with a plan for rebuilding and with much less bureaucratic red tape impeding rebuilding is crucial for reestablishing stability in their lives.

The Role of First Responders in a Disaster

Hurricane Katrina highlighted the crucial role of first responders in times of disaster, as well as the enormous stress that they and their families face. First responders are required to meet the challenges of the community -- maintaining safety, rescuing and saving lives, and helping to evacuate those with special needs. Frequently neither they nor their organizational structures have made adequate family plans for evacuation, shelter, temporary financial resources, medical care, communication, and other necessary support. Following Hurricane Katrina, first responders struggled to perform their duties to serve and protect, with disruptions of facilities and infrastructure, difficulties in communication, lack of availability of equipment, problems with evacuation, increased work-related medical risks, a populace under stress, and the
Lessons Learned 10

need to make painful triage decisions. Compounding the stress of their work responsibilities
during and after the hurricane, first responders were separated from their families and often, due
to difficulties with communication, did not know about their well being and safety.

Given the severity of the crisis, during the initial weeks following Katrina, LSUHSC
Psychiatry faculty focused on meeting the immediate needs, giving psychological first aid
(Brymer et al., 2006) and crisis response for first responders and their families. Eighty percent of
first responders suffered severe damage to or lost their homes. Those who did not lose their
homes often suffered the guilt of the survivor when so many of their colleagues had lost so
much. Family members were living in other communities, at times sharing crowded facilities,
separated from relatives and friends. When first responders had a limited period of time off, they
had to commute long distances to be with their families, trying to meet the needs of spouses,
partners and children, while exhausted and pressured themselves. With their many work
responsible to protect and serve, keep citizens safe, and continually respond to emergency
situations, the personal problems in their lives caused by the hurricane made their lives that much
more stressful. First responders need additional training on responding to community distress
and community psychosocial needs during times for crisis, as well as preparing their own
families to ensure safety and improved communication. At local, state, and federal levels, a
heightened state of preparedness for disasters is needed. At the local level, it means equipment to
respond despite the elements which, in the case of Hurricane Katrina and the breach of the
levees, was flooding. At the state level, it also means having an organized response to help a city
coordinating activities with needed federal help. At the federal level, it means being responsive
immediately with sensitivity to the area being served despite the role that politics may play.
Lessons Learned

Human lives need to be saved and cities helped despite geography, racial and ethnic composition, and political influences.

Children of First Responders on the Cruise Ships

Approximately two weeks after the storm, two cruise ships, the Ecstasy and Sensation, arrived at Julia Street Harbor in New Orleans as temporary housing for first responders and family members who were able to return to New Orleans, and in neighboring St. Bernard Parish for first responders, 95% of whom lost their homes. We (HJO and JDO) lived with the first responders on one of the cruise ships housed in New Orleans. A senior social worker on our LSUHSC faculty, who sustained much damage to her home, also lived on one of the cruise ships in order to coordinate behavioral health activities. The LSUHSC Department of Psychiatry and Pediatrics Trauma Team is a group of mental health professionals, psychiatrists, psychologists, and social workers, who have been trained not only in traditional mental health skills, but have specific knowledge and training in working with traumatized children and families. An emphasis of the child psychiatry, clinical psychology, and social work programs has been on working with children and families exposed to violence in their communities and their homes. In addition, for over a decade, the faculty has worked in collaboration with the New Orleans Police Department to identify and help children exposed to violence. Therefore, our faculty was uniquely equipped to provide supportive services for first responders and to help develop services for their returning children. We recognized that, in order to support resilience, that is, the ability to recover in the face of adversity and adjust to misfortune or change, it was crucial to establish some sense of normalcy and routine in the now “abnormal” world. Forty-five children and adolescents returned when the cruise ships docked in New Orleans. Our team worked diligently with the New Orleans Police Department (NOPD), New Orleans Fire Department, New Orleans Health Department,
FEMA, and the Coast Guard to encourage children to return and to allow them to live on the cruise ships with their families. We also worked with the Department of Education and District Superintendents in neighboring parishes so that the children would be able to go to school. We firmly believed that first responders and their families would be stronger and more resilient if, despite the ongoing stresses, they were able to be together. By February 2006, as many as 780 children were living on these ships at any time.

Faculty and trainees working in sandals, tee shirts, shorts and jeans, joined by SAMHSA volunteers provided services on the decks, in the cafeteria, and recreation areas. Our “temporary offices” were established on the cruise ships, wherever space was available to provide support, help families with day-to-day problems, help them regain stability and security, foster resiliency, and build a sense of community. For example, many families felt isolated from their extended families and friends since they were displaced to other states. Therefore, our team went beyond usual mental health services and worked with the cruise ship staff to set up movie nights, Saturday activities for children, as well as other usual activities such as religious services on the boats. Further, we provided childcare, respite for parents, arranged for school enrollment for children together with Department of Education and NOPD, and provided after school and weekend services and activities.

Children were pleased to be reunited with their parents. However, initially many appeared dazed and unsettled. Young children were clingy and did not want to be out of their parents’ sight. Children of every age missed friends and relatives. Cell phones and the internet, when they became available, helped considerably. Children worried about pets, especially if they did not know their whereabouts. Older adolescents missed normal peer activities. They worried about graduation and getting into college, as well as whether student loans would be available if
they had missed the deadlines to apply. Some wondered if jobs would be available, if they could move in with friends, and whether they should or could leave their families as they had planned to attend college. Children, even older youth, despite seeing pictures of the devastated areas, were convinced that their homes were ok and just needed to be swept up and organized again.

Charles Currie, Director of SAMHSA, came to New Orleans two weeks after the cruise ships were docked to review the status of the crisis response and to help determine what additional services were needed. We were able to share with him the results of the screening needs assessment that we carried out with 71 of the initially returning children. The screening instrument developed by the National Child Traumatic Stress Network Hurricane Assessment and Referral Tool (National Child Traumatic Stress Network-NCTSN, 2005), and modified by local stakeholders for cultural sensitivity including changing the wording of questions to make them more familiar and “user friendly” for youth in 4th-12th grades to complete themselves. The assessment measure helped us learn more about the children’s functioning and needs. We were already establishing programs such as the child care center and after school and weekend activities in collaboration with SAMHSA volunteers to benefit the children and families. These programs helped provide not only support and respite for parents, but also made their abnormal lives on the cruise ships in a city operating chaotically with a shattered infrastructure have elements of normality and a sense of community despite the stress.

A few stories from the cruise ships:

The older brother of a five-year-old girl, her “protector”, told us how well she was doing, but with eyes down, she sadly described missing friends and a sense that students at her new school did not like her.
A five-year-old boy rode out the storm at the Superdome with his grandparents who now worried about his withdrawn behavior. While at the Superdome, he turned six and did not understand why his father, a first responder, did not bring a birthday cake as expected (his family was initially concerned about whether his father was alive; he was alive but trapped and could not communicate with his family). The boy gradually described how scary it was to be at the Superdome and even on the cruise ship.

A female first responder tearfully cried “please make it go away, I just want to be able to do my washing and ironing and make a home for my daughter.” Her home was destroyed and her possessions lost. We discussed both the difficult realities and her continuing importance as a parent and a role model. She then reflectively quoted Martin Luther King and her ability to rely on his words in helping to re-establish her own strength.

A mother with two young children, one of whom was severely developmentally disabled, being wheeled by his “big” brother, initially did not make eye contact with our social worker or talk with other parents. She began to brighten after our social worker arranged for special services for her child, having believed that this could not again be a reality. As she began to take better care of herself, she offered to teach the social worker about hair grooming.

Working with Children and Adolescents in Schools

Based on a longstanding collaborative relationship, during the weeks immediately following Hurricane Katrina, the late Cecil Picard, Superintendent of the Louisiana State Board of Education, requested that we (HJO and JDO) help in meeting the needs of students, parents, and school personnel in devastated parishes as well as work with the Department of Education in developing a mental health component for School Emergency Response to Violence (Project
SERV). JDO also played a key role in establishing the interface and collaboration between Project SERV and Louisiana Spirit.

In early October 2005, we established what has evolved into an extremely meaningful relationship with the newly established post-Katrina St. Bernard Unified School District. St. Bernard Parish was the most heavily impacted parish and was almost completely destroyed by the flooding. All of the schools were flooded and most were totally destroyed. A toxic oil spill led to further questions as to whether the parish could be resettled. Doris Votier, the courageous Superintendent of the St. Bernard School System, (honored with the John F. Kennedy 2007 Profile in Courage Award) believed that the school system should serve as the center of the rebuilding and recovery of the community, and that there must be a functioning school system if people were to return to the parish. We volunteered to work together with Superintendent Votier and Associate Superintendent Beverley Lawrason as they were starting their school in St. Bernard Parish in temporary modular trailers and classrooms. We all agreed that more mental health support would be very important since so many children and families had experienced much trauma. When they re-opened, pre-Hurricane Katrina principals returned as teachers with necessary reductions in salary. Administrators, teachers and students alike lived in tents or trailers in St. Bernard parish or with relatives, at times, commuting four hours daily to be able to return to their school. Initially, the Unified School system expected about 150 students to return; instead 350 returned. By January 2006, 1600 had returned. Superintendent Votier was determined to have a functioning school building by January 2006. While FEMA respected her determination, their guidelines and regulations would have delayed necessary structural changes until May or June of 2006. Superintendent Votier persisted and obtained contracts to follow her timetable. Chalmette High School, one of three high schools prior to the storm, was reopened as
a unified school on schedule in January 2006 with not only high school students but elementary
and preschool students as well. The school was very crowded and modular classrooms and
trailers were still needed, but the spirit and commitment were palpable.

From the beginning, Superintendent Votier, Associate Superintendent Lawrason and the
teachers worried about their students and families, how much they had lost, and how they were
currently living. Administrators, teachers, and other school employees worried that at the end of
the day, students would leave school buses and go into darkened areas, as power and light had
not yet returned to the parish. Utilizing temporary structures, they provided hot lunches to
returning students knowing that this might be their only hot meal. One child said when served a
hot spaghetti and meatball lunch, “We have real food!” The Superintendent’s office asked that
we collaborate with them to screen all students returning to the school to identify service needs
as well as provide services to students with difficulties. We obviously could not refuse; both the
need and the motivation were so high. What has evolved is a lifelong friendship and
collaboration. Early in our work in St. Bernard schools, a fine and overworked member of our
faculty asked, “How can I volunteer the extra time needed in St. Bernard Parish?” The next day
he described a student who needed to be evaluated. Although the student had clear mental health
symptoms, his main concern was, “How do I help rebuild my parish?” The faculty member, like
others on our team, never again questioned the extra work. We cannot emphasize too much the
dedication and inspiring work of the administration and teachers within this school district; they
consistently demonstrated devotion to students with commitment to education and supportive
services. On the one-year anniversary of Hurricane Katrina, the students from St. Bernard put on
an assembly for their parents and their community. In a DVD they developed, they explicitly
thanked our team from LSUHSC; we thanked them.
The LSUHSC Department of Psychiatry’s dedicated Trauma Team simultaneously reached out to Orleans and Plaquemines Parishes. The then President of the Orleans Parish School Board, Reverend Torin Sanders, asked for help in October 2005. Because of the already failing schools, after Hurricane Katrina, the State Legislature placed most of the schools in the New Orleans Parish School system into a new Recovery School District under the Louisiana State Board of Education. The remaining New Orleans School System (NOPS) lost key administrative and school facilities, but was going to reopen five schools initially, followed by others. President Sanders’ successor and current President of the School Board, Phyllis Landrieu, has been untiring in opening quality schools, working with the Charter and Recovery Schools and developing the Greater Achievement Program, a new quality facility to provide education and wrap-around services for children ages 0-5 and their families. In Fall 2006, we collaborated with NOPS to screen all returning students and develop supportive services in the schools.

Many other schools throughout the region have turned to LSUHSC for support and services. For example, in January 2006, the Sisters of the Holy Family opened the MAX school, which brought together three high achieving Catholic Schools in New Orleans in order to be able to provide ongoing education to their students. Two of the three schools operating prior to Hurricane Katrina were unusable so they combined the schools for the first year. Over the years, this Catholic order of predominantly African American clergy has provided fine education for African American students, many of whom have become leaders in the community. Although facilities were limited, dedication to education remained paramount. The order has now reopened the three schools, one in a borrowed school building.

Many families who evacuated from New Orleans because of the hurricane had no home or job to which they could return. However, these families did return to New Orleans, and they
cited allowing their child to return to their pre-Katrina school as a primary reason for returning to the city. Though the area was devastated, schools served as a safe haven in the mist of the crisis. The children were able to reconnect with their friends and have a sense of normalcy when they were in school. Many families reported that their children were happier when the returned to New Orleans and their schools because the children no longer felt like outsiders. They shared stories of strength on the one hand and also feeling rejected in many of the schools they attended in other communities. They poignantly shared being teased for being “trailer trash,” and missing the culture including the food in New Orleans. While they were appreciative for those schools that took them in, many did not feel accepted in other communities.

Unfortunately, some adolescents have been living on their own with very little supervision due to family circumstances, crowding in trailers, and few options for still displaced families. Counselors and teachers describe worrisome behaviors in elementary as well as older students, including an inability to pay attention in class, disruptive behaviors, changes in their behaviors and friendships, and risk taking. They mention adolescents being unable to talk with their parents because of the parents’ traumatization and stress interfering with their being emotionally available to listen to their children and adolescents. Schools recognized that they needed additional support for their students, teachers and families in order to address the stresses created by the traumatic experiences as well as the ongoing recovery process. For the older children, they have little to do after school and substance use and risky sexual behaviors are common. For younger children, disruptive and aggressive behaviors, withdrawal, inability to concentrate, and depression are seen. Training school personnel, local providers, and others to recognize “red flag” behaviors indicative of trauma can be extremely helpful.
Understanding the Experiences and Needs of Children and Adolescents

The National Child Traumatic Stress Network Hurricane Assessment and Referral Tool for Children and Adolescents (2005), modified collaboratively with re-opening schools for both cultural sensitivity and accessibility for students, was used to learn more about experiences and reactions of the returning children and adolescents to the New Orleans Metropolitan area. The data gathered represented a cross section of all children affected, primarily those returning to the most heavily impacted areas, and were used to help respond to needs and aid in the development of services to support the children and adolescents both in promoting resilience and providing psychotherapeutic interventions when needed.

In the first year, 2005-2006, the screen was completed by 2,585 children and adolescents, in 4th-12th grades in Orleans and St. Bernard parishes, all of whom had been displaced, and St. John Parish, a heavily receiving parish for displaced children. The sample was 44% Caucasian, 46% African American, and 4% Hispanic, with the remainder of other ethnic and racial groups (6%). The mean age of the students was 14.6 (SD = 2.45) and the sample was approximately evenly divided between males and females. At the time of the survey, 93% reported living with one or both of their parents, with 55% with both parents, and 38% with either mother or father. They reported that they attended as many as 9 schools (M = 2.13; SD = 0.93). Some of the experiences children had during the hurricane are shown in Table 1.

Many children reported trauma symptoms consistent with posttraumatic stress disorder (PTSD) and depression, with 77% of students endorsing at least one symptom. Among the frequently reported symptoms of PTSD and depression, 45% reported worry, 35% endorsed that they tried to avoid thinking about the hurricane, and 30% indicated that they were upset when thinking about their hurricane-related experience. Substantial proportions of children also
reported difficulty concentrating (28%), said that “nothing is fun anymore” (26%), and noted somatic complaints such as increased headaches or stomachaches (24%). Over a third of the children reported depression, loneliness (many missed friends), sadness, and anger. Forty-nine percent of the children and adolescents met the norm-based cut-off for referral for mental health services.

As mentioned earlier, there is considerable support in the trauma literature indicating that children who have experienced previous trauma or loss are at higher risk for mental health problems. Thirty-eight percent of the children surveyed reported experiencing previous trauma or loss; symptoms of PTSD and depression were even more prevalent in these children. A chi-square was conducted to assess if symptoms measured by the NCTSN cut-off scores for referral was greater for students who reported previous loss or trauma and showed that a greater proportion of students reporting previous loss or trauma met the NCTSN cut-off for referral for mental health services ($X^2(1) = 5.26, p = .022$).

All of the children who met the cut-off for mental health referral were seen in consultations with LSUHSC clinicians. Children were also evaluated if they exhibited significant behavior or emotional problems at school or at home and were referred by school personnel or parents. Approximately 3% of children were identified for and, with parental consent, received mental health services. Most of the children who were referred had experienced multiple traumas, including interpersonal and hurricane-related events. Individual psychotherapy was provided by social workers, psychologists, and psychiatrists who utilized a variety of evidence-based techniques depending on the child’s age and symptomatology. Many of the children and families were in long-term treatment for a year or more. Following therapy, children demonstrated reduced symptoms of depression and anxiety and are able to function well in
school and at home. In addition, each school received an individualized report about the findings from the school about the experiences and symptomatology of their student body so that the school could offer appropriate mental health services.

Psychological First Aid was widely utilized for individual and classroom interventions focusing on supporting teachers, helping the children and family stabilize and connect with social support systems, and providing education for teachers and parents on trauma and its effects. Evidence-based individual and group trauma-informed interventions and services were brought to school settings including Trauma Focused Cognitive Behavioral Therapy (TF-CBT) (Cohen, Deblinger, Mannarino, & Steer, 2004) and Cognitive Behavioral Intervention for Trauma in Schools (CBITS) (Jaycox, 2004; Stein et al., 2003). During groups, students in 7th through 12th grades shared stories about their experiences and helped each other problem solve how to cope with fears. Resilience building group programs were also initiated in classrooms, after school, and summer programs, including Healing after Trauma Skills (Hats) (Gurwitch & Messenbaugh, 2001). Through learning collaboratives with NCTSN colleagues, we have been providing training to providers in the community on individual, group, and family oriented evidence-based and promising trauma focused services.

The NCTSN Hurricane Assessment and Referral Tool was also obtained during 2005-2006 on 760 younger children in Head Start, Pre-Kindergarten, and grades 1-3. Because these children were too young to fill out the screener themselves, it was modified for parental report. Parents reported that their young children attended as many as 5 schools or centers because of the displacement \( M = 1.87; \ SD = 0.94 \) \( \) Range: 1-9\). When children returned, they had to live in trailers, in tents, or in crowded quarters with relatives or friends. Parental unemployment was and remains very high (76%) in many communities. Related to additional risk, 17% of the
parents reported that their children had experienced previous loss or trauma such as loss of a relative or exposure to community or domestic violence. Some of the experiences children in Head Start, Pre-Kindergarten, and grades 1-3 had during the hurricane are shown in Table 2.

It is recognized that parents tend to under report symptoms of their children’s exposure to trauma (Martinez & Richters, 1993). For the younger children, preschool-3rd grade, 32% of the parent reports indicated that the children met cut-off on the norm-based NCTSN screener qualifying for mental health services. The most common behaviors reported, quite understandably, were clinginess and separation anxiety. Fifty-two percent of children exhibited posttraumatic stress disorder or depressive symptoms. Over 38% of the parents responded that they would like their child to speak to a counselor. Those parents understood that even young children are affected by trauma; the high percentage of parents requesting help may also relate to their own desire to talk to a counselor about their feelings of post-hurricane depression and anxiety. The LSUHSC trauma team, in collaboration with schools, provided trauma focused treatment services in schools and after school resilience building activities. For younger children and parents, supportive services were provided as well as trauma-informed and evidence-based Child Parent Psychotherapy (Lieberman & Van Horn, 2005; Cicchetti & Toth, 1997).

While these data provide a picture of the mental health status of returning children to the Greater New Orleans area, they do not tell us how displaced children who did not return are doing in their new environments. Some continue living in difficult crowded situations and in transitional living communities. Family and economic problems continue and many of the children and adolescents feel unwelcome in new schools. They miss their familiar environment in New Orleans and may be doing worse. Others, especially if their families have relocated successfully with homes, employment, and schools may be adapting well and doing better than
children who have returned. It is likely that children whose families would like to return but cannot for economic reasons and lack of housing may be having more problems. While some of the children screened continue to live in trailers, relatively little data are available about how they are faring. Anecdotal reports indicate increased violence in at least some of these communities, as well as rivalries among those children and adolescents displaced from New Orleans and those living in the receiving areas and a general lack of acceptance.

**Discussion and Lessons Learned**

Perhaps the most important lesson learned from our experiences during and in the aftermath of Hurricane Katrina is that our country has no clearly articulated disaster plan for children, adolescents, and families and that such a plan needs to be developed (Osofsky, Osofsky, & Harris, 2007). To date, the disaster response in our country has not built adequately on experiences from previous disasters, such as the Oklahoma City bombing and the 9/11 terrorist attacks. Further, for children and adolescents, the response has not been based on sound developmental principles. In establishing a national plan that meets the needs of children, adolescents, and families, it is also crucial that efforts be made to understand cultural and economic issues and special needs within communities in order that that national plan can appropriately be implemented at the local level. In preparation for response to disaster, it is important to have a well-trained cadre of providers with knowledge of developmental considerations in trauma, a practice directorate including screening and counseling approaches, psychological first aid, and trauma focused, evidence-based therapeutic practices. This knowledge is crucial during the crisis and recovery to build resilience and provide necessary services for children and adolescents. If communities do not have such expertise and resources, there should be agencies available to immediately provide these resources following a disaster.
Lessons Learned 24

Based on the experience with Hurricane Katrina, there needs to be a plan in place to ensure that children are evacuated safely with their parents or caregivers. During the evacuation of metropolitan New Orleans following Hurricane Katrina, there were multiple stories of children and parents being separated. With limited resources, well-meaning parents and rescue workers had to make difficult choices about whom to evacuate; thus, at times, parents and children were separated on different buses or helicopters when leaving the city. The attachment literature (e.g., Bowlby, 1973) is grounded on the potential deleterious effects of separation of children and parents; yet, without a plan in another major disaster, these types of separations will occur again. Disaster plans need to recognize the attachment needs of children, especially in times of crisis, and prioritize the need for parents to stay with their children at all times to provide a sense of security and reduce long-term mental health sequelae.

Special needs populations, such as children with developmental or medical disabilities, children in foster care, and children who themselves or whose parents have mental health difficulties must be addressed. There should be a plan in place to provide medical records to families of special needs children and that the continuing support and immediate services that are required be planned for in advance and put in place.

Safety, stability, support and the re-establishment of routines for children need to be addressed as soon as possible after the disaster. In many communities, such as we saw clearly in devastated St. Bernard Parish, the efficient rebuilding and re-opening of schools is essential to the recovery of the community. Childcare facilities are also essential to the recovery. Both contribute to the re-establishment of routines, stability, and provide family and community support. Without functioning schools and childcare facilities, families could not have returned to St. Bernard Parish, even when family and work responsibilities required that they do so. Creative
“out-of-the-box” plans are needed for recovery as disasters can result in an “abnormal” environment for some time. As we have seen, creative thinking can expand the mission of schools to serve children’s social, emotional and mental health needs following a disaster.

Most children and adolescents will be resilient in response to disasters. However, we need to support resilience by trying to create a “normal” environment as rapidly as possible. Recognizing students’ strengths and providing psychological first aid, resilience building and leadership enhancing services will support positive contributions, decrease risk taking behaviors, and have beneficial impact on others. Resilience building and leadership enhancing activities allow children to take control and effectively change their environment. Following a disaster, both children and adults may feel helpless; however, when individuals are successful in achieving goals, their self-efficacy increases. Children ought to be encouraged to express their needs, and, when possible, encouraged to work together to achieve their goals. One such example occurred when children who were distressed about combining schools as well as the loss of trees, grass, and flowers planted a beautiful flower garden with colors representing each of their former schools; they described hopefulness and their ability to make a difference as they memorialized their schools and planted for the future. We need to recognize the importance of family, friends, pets, and normal age-appropriate activities, such as play and after school activities. A serious problem observed post-Katrina was that many of the typical supporters of children and adolescents, including parents, relatives, teachers, and friends were also displaced and traumatized so it was more difficult for them to be emotionally available. As noted, adolescents sometimes reported that they could not talk to their parents because their parents were so burdened and preoccupied with loss, rebuilding, and trying to support their families.
It is essential to recognize the importance of family and family-oriented services. As with other disasters, Hurricane Katrina has amply demonstrated the stresses on families -- displacement, losses, economic difficulties, overcrowding -- and the resultant decline in emotional availability as well as increased arguments, use and abuse of alcohol and drugs, marital conflict, and even divorce. As noted, when parents of younger children requested services for their children, they often were also indicating their own need for support. When parents are not emotionally available to children, additional child and family mental health services are of utmost importance. Mental health services and supports for parents and caregivers must not be ignored. When the parents and caregivers are cared for, they are able to reaffirm their roles as protectors and nurturers of their children. Children with caregivers who are emotionally healthy are most likely to be resilient in the face of disaster.

Mental health professionals who respond to disasters need a firm understanding of attachment theory and the effects of trauma on a young child’s sense of safety. We found it best to offer services immediately, gearing the services to the needs that are most important during the crisis and recovery. We also found that collaborative community-based services, including services offered in schools, were far superior to traditional clinic or office based therapeutic services. Children and families were appreciative of and more comfortable in participating in resilience building and therapeutic services integrated in schools and other community settings.

We have learned how important it is to bring awareness building, education and training to the community with developmentally informed, trauma focused interventions in the aftermath of a disaster. Many well-meaning providers and volunteers are not sufficiently trained to respond sensitively and appropriately to those suffering from trauma and loss. First responders should have training on meeting community psychosocial needs and know about available resources to
support the community as well as meeting the needs of their own families. School teachers, nurses and counselors, early childhood providers, medical and mental health professionals, and parents, should be offered educational workshops about psychological effects of trauma, “red flags,” and the impact of development on the manifestation of symptoms. They also need to be helped with stresses they may be experiencing in their lives including vicarious traumatization.

We have conducted basic and advanced trauma education for parents, school personnel, child care professionals, primary care professionals and pediatricians at conferences and via telecommunication. We have provided education for mental health professionals at conferences and in learning collaboratives. Based on our experience, each group welcomes the opportunity to gain additional training and consultation to build capacity and sustainability of quality services.

It is crucial to focus not only on the disaster, but also on the recovery. In the aftermath of Hurricane Katrina due to the extent of the devastation and difficulties in the response on local, state, and federal levels, the New Orleans Metropolitan area, including three heavily devastated parishes, suffered major disruptions in infrastructure and systems of care. To rebuild takes leadership, energy, and motivation in addition to financial support.

Finally, the issue of vicarious traumatization and burnout among first responders, teachers, parents, community leaders, and other services providers must be taken into account with a disaster of the proportions of Katrina in that the losses of so many in the population were great and progress has been so very slow. We must provide support for those who are rebuilding, teaching and supporting children and adolescents, and caring for others. Self-care is a crucial aspect of recovery and one that has been a difficult lesson to learn for many within the affected areas. Self-care is necessary not only for children, adolescents, and families, but also for the leaders in order to support their strength and resilience.
References


Lessons Learned


Author Notes

We want to thank the Trauma Team Faculty in the Department of Psychiatry for their dedication and courageous work in the aftermath of Hurricane Katrina. This project was partially funded by SAMHSA Grant # 5U79SM6203 to the Louisiana Rural Trauma Services Center, Baptist Community Ministries, and Louisiana Spirit through our work with the Louisiana Crisis Counseling Program. Correspondence concerning this chapter should be addressed to Joy D. Osofsky, Ph.D., Departments of Pediatrics and Psychiatry, LSU Health Sciences Center, 719 Camp Street, New Orleans, LA 70130; josofs@lsuhsc.edu
Table 1

4th-12th Grade Students’ Experiences Related to Hurricane

<table>
<thead>
<tr>
<th>Experiences</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student was injured in the storm</td>
<td>5</td>
</tr>
<tr>
<td>Student had family members injured</td>
<td>21</td>
</tr>
<tr>
<td>Student had family members killed</td>
<td>13</td>
</tr>
<tr>
<td>Student saw neighborhood destroyed/damaged</td>
<td>94</td>
</tr>
<tr>
<td>Student was separated from caregiver</td>
<td>34</td>
</tr>
<tr>
<td>Student toys and clothes destroyed/damaged</td>
<td>68</td>
</tr>
<tr>
<td>Student separated from pet</td>
<td>34</td>
</tr>
<tr>
<td>At least one parent unemployed due to hurricane</td>
<td>43</td>
</tr>
</tbody>
</table>
Table 2

*Head Start, Pre-Kindergarten, & Grades 1-3 Students’ Experiences Related to the Hurricane*

<table>
<thead>
<tr>
<th>Experiences</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child witnessed injured family member</td>
<td>5</td>
</tr>
<tr>
<td>Child was in a new school or center</td>
<td>82</td>
</tr>
<tr>
<td>Child witnessed destruction to community</td>
<td>38</td>
</tr>
<tr>
<td>Child witnessed destruction to home</td>
<td>77</td>
</tr>
<tr>
<td>Child was separated from caregiver</td>
<td>16</td>
</tr>
<tr>
<td>Child is living somewhere different than pre-storm</td>
<td>77</td>
</tr>
<tr>
<td>Child lived in at least 1 crowded shelter</td>
<td>18</td>
</tr>
<tr>
<td>Child living in shelter 6 months after hurricane</td>
<td>6</td>
</tr>
<tr>
<td>At least one parent unemployed due to hurricane</td>
<td>76</td>
</tr>
</tbody>
</table>