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Life-Changing Experiences of a Private Practicing Pediatrician: Perspectives From a Private Pediatric Practice

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Perspectives From a Private Pediatric Practice

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ON AUGUST 29TH, 2005, Hurricane Katrina struck the Gulf Coast region of the United States with an unmerciful force of destruction that resulted in the worst natural disaster ever to occur in the United States. Thousands of people were left homeless, stranded, unemployed, grieving, traumatized, and in emotional shock. Every individual living on the Mississippi Gulf Coast was affected in one way or another by this disaster. Every single person. As a pediatrician in a solo practice in Biloxi, Mississippi, I was thrust into the center of this disaster. Hopefully, my experiences will help others to better prepare for the next disaster.

AUGUST 26: 3 DAYS BEFORE LANDFALL

My nurse, Teresa Oliver, LPN, and I went into hurricane-preparations mode. We carefully packed our vaccines into 2 different containers labeled "private" and "Vaccines for Children" in the event that I would have to transport them to another location. The vaccines are one of the first items to be addressed because of the large amount of money that can be lost to the Vaccines for Children program as well as the physician. In 1998, when Hurricane George struck the coast, I lost my vaccines because of power outage. Since learning that valuable lesson, vaccine preservation is a top priority for me.

I double-checked my generator and backup refrigerator. I gathered up medicines that would be in high demand: antibiotic samples, asthma medicines, spacers, nebulizers, and infant formulas.

AUGUST 27: 2 DAYS BEFORE LANDFALL

When the mandatory evacuation was issued, the telephone calls began, not only from parents of my patients but also from parents whom I had never seen. The requests for asthma and seizure medications were appreciated, but the parents were reminded that without electricity, the children would have to use their me-

tered-dose inhalers and not their nebulization units. The not-so-well-appreciated requests were for antibiotics because the child had a runny nose, cough, just developed a fever, did not eat their last meal, or just looked at their parent wrong. As parental anxiety increases, the desire for antibiotics increases exponentially. An enormous amount of time was spent convincing parents that a hurricane is not an indication for antibiotics.

After I boarded up the windows and doors of the clinic, I transported medical supplies and infant formula to my home. The vaccines would be moved 24 hours before landfall.

Being born and raised on the coast, my wife and I thought we were prepared for the hurricane. She rechecked the "hurricane boxes," which she resupplies every June with food, water, and supplies to last a couple of weeks (including old-fashioned landline telephones). We topped off our automobiles' fuel tanks along with the generator and several extra gasoline containers.

During rounds, I counseled, educated, and discharged all possible patients and newborns from the hospital. All were discharged except for a newborn on intravenous antibiotics. Parents were given written pertinent information for care including requests for follow-up bilirubin levels to give to out-of-town physicians.

I started receiving telephone calls from people wanting my opinion about the governor's order to evacuate. Two days before the storm, the mother of a patient of

Key Words: Hurricane Katrina, private practice, pediatricians

Abbreviation: FEMA, Federal Emergency Management Agency

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another pediatrician wanted advice about where to go. Her newborn was post-esophageal atresia repair and on continuous oxygen, a feeding pump, hourly suctioning, and nebulization treatments every 2 hours. The mother had a portable nebulizer, suction unit, and oxygen. I advised immediate evacuation with family members to Houston, Texas, before the highways became gridlocked. It amazed me that people would think that their pediatrician would override what the weather forecasters, emergency management, and the governor were telling them to do. After 20 to 30 more telephone calls, I shortened my telephone time by politely interrupting and advising evacuation.

Then there were the requests from parents wanting their child to be admitted to the hospital. The parents were anxious; they did not want to go to a public shelter but wanted their child to be admitted to the hospital (one because of a "severe" diaper rash and another because she felt more secure there, although the hospital is 2 blocks from the coast).

AUGUST 28: 1 DAY BEFORE LANDFALL

I transported the vaccines to the hospital for the safest storage I could find. Katrina was not a routine hurricane, and Biloxi was on the strong side of the eye. I felt that we were going to be without power for at least a week.

The telephone calls and pages came to abrupt, ironic silence. But as the storm was strengthening, a patient with sickle cell anemia presented to the emergency department with fever and pain crisis. I instructed the emergency room physician to start intravenous fluids and antibiotics, get laboratory work, and transfer her to University of South Alabama Children's Hospital, which is ~50 minutes east. Although I emphasized immediate transport, I was notified later that the ambulance service could not transport the child. This resulted in 2 patients being in the hospital requiring intravenous antibiotics. Fortunately, Dr Dan Arnold, a pediatrician, would be in-house because his wife, 38 weeks pregnant, was expecting to deliver.

AUGUST 29: LANDFALL

I had told my 3 children that because the barometric pressure was the lowest since Hurricane Camille, I thought Katrina would change their lives forever. The day of the storm, I knew our lives would be changed forever.

The wind blew continuously for approximately 8 hours. The sustained winds were well above 100 miles per hour. The sound of the wind was like a railroad train running around the house endlessly. The sound of oak-tree limbs crashing into my roof reminded me of the cruise missiles we witnessed during Desert Storm on television. Rain water entered our living quarters. All of this was minimal to what came next.

The water from the Bay of Biloxi engulfed my neigh-

borhood, at first slow and steady, and then it rapidly rose approximately a foot every 10 to 15 minutes. As I watched my neighborhood go under water, I could now fully appreciate the words "surreal," "the power of nature," and "helplessness." There was nothing I could do to save my neighbors' homes and belongings. As I observed the crest, all I could see was overcome by water. My property, on a hill, had now become a small island. The Bay of Biloxi had now become my front yard with whitecaps and swells. I watched my neighbors' automobiles float around like toys in a child's bathtub and sink below the dark water. I observed a 6- to 8-foot alligator trying to find refuge on my island.

It was now obvious that my fellow citizens who did not evacuate from the eastern third of the city were either fighting for their lives or had already drowned. I prayed to God for their souls and safety, as well as for my brother and his son, who were in their house 2 streets away. He was standing on his second-story floor with water at his feet when the cellular telephone service failed. My sister had already reported that the roof blew off of her house. The water continued to rise to the point that I could see only dark swirling water and whitecaps breaking on my neighbors' shingled roofs.

As soon as the wind died down, I checked on my family. Our street was blocked with massive amounts of debris, and my brother's street was blocked with water. We hollered out and, to my joy, heard their voices. We proceeded back to the house to get a skiff and found one buried in the mud. On the way, my sister and her 4 grown children met us, and soon my brother and nephew walked up. The water had receded, but the mud hadn't. We hugged and kissed to celebrate surviving the worst hurricane to ever hit Biloxi. Dry, clean clothes were appreciated by all.

With darkness approaching, we set up sleeping arrangements, water supply, toilet access, and garbage disposal. The population at my home increased from 5 to 13 people, but the useable house had decreased to 2 rooms: a kitchen and a living room. We made the best of the situation in such cramped quarters and were thankful we were all there.

AUGUST 30: 1 DAY AFTER LANDFALL

Before sunrise, we drank coffee and made breakfast on an outside grill. With daylight, we began clearing debris from the driveway to gain a pathway for an automobile. It took 6 hours.

In awe of the total destruction around me, I set off to the hospital. Once there, I found my patient with sickle cell disease and the infant in the nursery doing well. The hospital generators provided lights but no air conditioning. With an ambient temperature of 95 to 96 degrees, we decided any infants delivered would not need radiant warmers.

The Federal Emergency Management Agency (FEMA)

Disaster Medical Assistance Team (DMAT) was busy setting up triage tents out in the parking lot (see "The National Disaster Medical System Response: A Pediatric Perspective," pp S405–S411). I advised the Biloxi Regional Medical Center emergency room physicians to transfer any children who needed admission. The 3 pediatricians who could make it to the hospital decided to check on all pediatric patients regardless of whose service they were on. With Dr Arnold staying in-house, a lot of worry was alleviated.

I decided to split the limited supplies of formula into 2 parts: 1 for the nursery and 1 for the anticipated needs of outpatients and the community. Because safe drinking water to mix with the formula would be a long time coming, it was truly an optimum time to discharge all infants on breast milk. Even after lengthy discussions of the benefits of breastfeeding, especially now, mothers of the first 3 newborns chose to use formula. Even in a natural disaster with no running water, some moms still will not be motivated to breastfeed. So, we discharged these infants with formula and disposable nipples.

Jeff Thompson, RN, who was in charge of the nursery, checked the supply daily. He had to approve dispensing all formula for inpatients as well as outpatients. In this time of disaster with no idea of the outside response, cut off from the outside world with no communication, rationing of supplies can be critical. It is bad enough when adults are crying out for water, but when infants are in need of formula, the situation is emotionally explosive.

AUGUST 31: 2 DAYS AFTER LANDFALL

The temperature in the hospital was approaching 100 degrees, and outside it was in the high 90s. The smell in the hospital reached a point where I would vomit in the restroom before rounding. One day, all 4 infants in the nursery had temperatures of 99°F axillary and were never placed under a warmer.

I was amazed, but shouldn't have been, when the patient with the tracheostomy requiring oxygen presented to the hospital, never having gone to Houston. This time, however, mother and infant were evacuated. They were transported to a medical center upstate.

There were very few pediatric patients presenting to the hospital right after the storm, possibly because of the lack of transportation. However, there was no shortage of patients I saw as I was going to the hospital. They would stop me on the street, at intersections, parking lots, and even my driveway.

The first patients that I saw all had fever and otitis media or perforated ear drums with purulent discharge. I personally developed a throbbing, painful right ear approximately 6 hours before the peak of the storm. I think that with the drop in barometric pressure, fluid accumulates in the middle ear in those who previously had mild nasal congestion. I observed a definite associ-

ation with Hurricane Katrina and the incidence of otitis media.

The Federal Emergency Management Agency arrived and set up their pharmacy in the same place that the hospital had arranged, which was the radiograph department. We used what samples we could, and then we wrote prescriptions based on the formulary. From a pediatric standpoint we had what we needed, but we ran out of some antibiotics sooner than expected. When pharmacies eventually opened, patients who could pay or present their Medicaid, Children's Health Insurance Program, or private insurance card could get medications; some of those without insurance cards or resources, unfortunately, were turned away. I eventually found the samples needed and no one went without their needed medicines.

SEPTEMBER 1 THROUGH 5: 1 WEEK AFTER LANDFALL

Our supply of tetanus vaccine, although ample, was taxed. I spent an enormous amount of time telling people to put shoes on their children, but realized this was fruitless because the children did not have shoes to wear; the shoes were lost in the storm. So, the warning changed from "please wear shoes" to "please be careful when walking." I actually treated one 11-year-old boy with 3 puncture wounds in his right foot. His grandmother told me that he had stepped on a nail and, en route to get his tetanus vaccine, stepped on 2 other nails.

The fact that no one had antipyretics terrified the parents. I treated a 2-year-old female who had an upper respiratory infection, otitis media, and fever. After her dad waited in line for hours to get in to a store, he found that they were out of antipyretics. I told him his child's diagnosis, gave him samples of antibiotics, bottled water, and instructions for how to reconstitute the antibiotic. Although I was explaining to him how to mix the medicine, he focused on the bottle of Motrin in my hand and kept asking me if I was going to give it to him. After he verbalized the instructions, I gave him the antipyretic. The man put his child down, wrapped his arms around me, hugged me tight, and started crying, thanking me for the samples. This scenario happened to me several times over the following days.

As a pediatrician examining children in the middle of a disaster, there was one blatantly obvious observation that just slapped me in the face after the storm. The fact that the children would not struggle, cry, smile, or laugh during an examination just tore at my heartstrings. I do not know the actual reasons for this, but I suspect that the children's observation of their parents' crying and lack of smiling and laughter resulting from stress was the cause. I think all pediatricians have weeks in which they wish they did not have to listen to crying, but when you have not one child crying or struggling, you realize that a disaster allows no one to escape unaffected.

At an apartment complex with people holding signs

asking for water, I asked if there were infants needing formula. I found that the best answers came from young females between the ages of 9 and 12. They knew names, ages, mothers, and apartment numbers, and they could relate. They were living, talking directories and provided entry to apartments with infants inside them. All too often we would find adults sitting in chairs, just holding their infants. They were psychologically traumatized and still in shock. I found a mother feeding her 6-week-old infant bottled water because that was all that she had. I went back to the truck, got some Gatorade, and poured it into the bottle. It is not the best electrolyte mixture for newborns, but it is better than pure water. I found several dozen infants less than 6 months of age drinking only water, but none of them experienced a seizure secondary to hyponatremia.

Organizing and distributing infant formula rose to the top of my priorities. I went to the hospital, got what ready-to-feed formula I could take, arranged for more to be coming, and then started distribution. My daily routine was relegated to making rounds in the nursery, then the pediatric floor, the emergency department, the tents outside, and finally with the help of my sons and nephews, loading and delivering the formula to those in need.

When I could get to the tents to see children, I would pull them from the long registration lines. I could get a chief complaint, history, any allergies, current medications, and pertinent information from the parents in minutes and then examine and treat them. I could see 4 children for every 1 they checked in. I got in trouble several times with nurses, but after a couple of days, they stopped saying anything to me. In times of a disaster, rules get bent, some policies take a back seat, and good old common sense must prevail.

I treated more children in apartments, parking lots, and the roadside than I would ever treat in the tents. Parents would stop me at intersections, on the road, and outside shelters and distribution centers all day long. While delivering formula I seldom left apartment parking lots without treating 6 or 7 children. Because 2 of the 3 major bridges were impassable, the patients on the north side of the bay were at a disadvantage coming into the city, so I started telling patients to meet me in the parking lot of Lowe's Home Center, located on the north side of the Bay of Biloxi. Some days I would see up to a dozen kids in the parking lot. After seeing patients we would start delivering formula first to those in need and then assessing the need for the next day.

SEPTEMBER 5 (LABOR DAY) THROUGH 12: 2 WEEKS AFTER LANDFALL

There was no more otitis media. The diagnoses changed to cellulitis and gastroenteritis. The media reported 1 of 2 adult patients with vibrio cellulitis dying. Then, one of the shelters had an endemic of Norwalk viral gastroen-

teritis, which was reported as dysentery. These news reports escalated anxiety and, consequently, the number of patients.

Asthma exacerbations increased to the point at which all spacers had been dispensed. I had to improvise with the use of toilet-paper rolls as spacers.

Slowly, the situation began improving. Private individuals, church groups, the Red Cross, and aid and supplies started reaching the people. But, there were less people because a mass exodus began. At one apartment complex with a large Hispanic population, I watched 20 to 30 adults, children, and infants load up into a large truck. My young female apartment directories became my interpreters, relating that someone in San Antonio, Texas, had provided transportation and promises of shelter and jobs. My usual reminders to wear seatbelts and stay in car seats were futile. In a disaster, the best I could come up with was to ride facing backward while holding children carefully.

The number of people leaving the coast was unbelievable. One of every 3 to 4 children I treated told me they were leaving. When the kids returned to school 5 weeks after the storm, there were only 3100 students, down from 6900 enrolled. As many as 50% to 60% of preschool children also left the community. This mass exodus brought me mixed emotions of joyfulness and sadness. I was joyful for them to leave this area of total destruction but saddened that our greatest resource, the future of generations to be in our community, were driven away by the winds of Katrina. Months later, requests for immunization medical charts keep coming.

SEPTEMBER 12 THROUGH 29: 3 WEEKS AFTER LANDFALL

I opened my clinic and was able to see patients in 2 examination rooms. We brought the safely stored vaccines back from the hospital. I began receiving multitudes of requests to diagnose and treat over the telephone because the parents could not pay. It was amazing to me that people who had lost everything still had their pride and were embarrassed that they were not able to pay.

My brother Charles Gruich, MD (a family practitioner), and I had already decided that for the month of September we would not charge anyone if they could not pay. So, he placed a sign in the front of the building: "No Charge/No Co-Pay." This reduced the number of telephone calls dramatically, and patients readily came to the clinic to be seen on a walk-in basis.

Finally, the emotional states of the children changed toward more normal. It was back to crying and smiling. The first time a child struggled and cried during an examination, I broke out in laughter of joy.

MENTAL HEALTH OBSERVATIONS

From what I have encountered with my patients, once the initial shock of the event is over (approximately 2

weeks), the mental and emotional state of the child is a reflection of their parents. I am not a child psychologist or child psychiatrist, and behavioral pediatrics is probably a weak area of mine, but what I have found is whatever way the parents or grandparents handle their emotional and mental state is mimicked by the young child.

I have seen parents who have lost everything including their job, home, car, and all their possessions, and they do not have the resources readily available to restore them. Some of my patients lost grandmothers and mothers, sat stranded on rooftops and trees, waded in chin-deep water, or were placed in Igloo coolers or garbage cans to be floated to higher ground. These kids are playing and joking around with me like nothing ever happened. The younger ones will ask me if my house got broken like their house. The older ones want to know how many people are staying in my house, and did I have to get in the attic, hang on a tree, or go swimming as they did. They even relay the events that occurred to them during the storm while continuing to joke and play around. A lot of these kids are residing in FEMA trailers, accepting it as an exciting adventure. Their parents have lost everything material but have not lost their common sense, humor, love, or sense of their role as a parent (Fig 1).

I do know one little girl approximately 4 years of age who lost her aunt and was one of the kids placed in an Igloo cooler and floated to higher ground. She would not let another aunt bathe her in a tub of water. Her aunt slowly kept working with her. Three months after the storm, she would finally get into a bathtub and be bathed.

On the other hand, 3 weeks after the storm, I got a



FIGURE 1

From left to right are Calvin Pritchett, 7 years old (son), Shaela Reid, 11 years old (daughter), Monica Starks, 4 years old (niece; the child referred to in the article about taking a bath), and Dwunshae Reid, 13 years old (daughter). These children were stranded by flood waters in the top of a tree for 6 hours during the storm with 3 cousins. They witnessed the death of their aunt while climbing to safety. This picture was taken 3 weeks after landfall; it shows considerable resiliency.

few telephone calls from people inquiring about psychologists because their children were crying or having nightmares, and the parents were experiencing the same thing. These telephone calls were from some of my middle-class parents who had lost basically nothing. They lost few material goods and no loved ones and never had to venture out into the storm.

Some children who evacuated and returned now do not want to go back to the place to which they were evacuated, because they fear another hurricane will strike. It just confirms that we are truly concrete thinkers until about the age of 7.

COMMENTS

The genuine appreciation displayed by adults for the formula they received and the treatment given to their children cannot be described in words. As pediatricians we have all experienced those moments of appreciation by a parent or grandparent for the treatment delivered to their young loved one. It is in these moments that you remember why you went to medical school. In a disaster, you are just providing the basic necessities of life: food, water, shelter, clothing, and medical treatment. In almost every encounter, you are thanked several times over. You can see the appreciation in their faces before any verbalization or action on their part. Some of them are so overjoyed for what you gave them that they can't speak. They just cry and hug you, and as they are walking away you hear a soft "thank you." All you can do is give thanks to God for allowing you to be a physician.

Providing pediatric care in a time of disaster reminded me of my days as a resident. There were times when we would curse the days and long for the time when we would get out into private practice. But, as most of us realize, once we are in private practice, the days of practicing pure pediatrics as a resident are tainted by obligations. As bad as everything was during Hurricane Katrina, the tremendous heat, the awful smells, the scene of total destruction and death, the unmerciful biting flies, the sleepless nights, and the 20-hour days that occurred after the storm were the best 4 weeks of practicing medicine in my entire career. To be able to provide quality pediatric care and not worry about the paperwork, billing, coding, defensive medicine, and documentation was a most enjoyable and rewarding experience. Although I had to meet the challenge of limited resources, I don't believe the quality of care I provided was lowered a single bit during this disaster.

In life, we all experience something that comes along and completely knocks us down, whether it is some terrible diagnosis, tragic loss of a loved one, devastating financial loss, or physical injury. After digesting the initial shock, we realize that life goes on. We cannot depend on others, quit, wait on government intervention, or expect that we are entitled to something. We have to get back into the game of life, doing something positive

each day. That is what pediatricians must do when we experience a disaster. We must continue to provide the highest quality of care we can to our patients. We must take an active role in times of disaster; we must go to the patients and not assume they will come to our clinic or hospital. Pediatricians, for the most part, know where the underprivileged kids reside. It is our responsibility to seek them out and do what we can to provide pediatric care and the basic necessities of life.

ACKNOWLEDGMENTS

I cannot write an article about the Hurricane Katrina disaster without giving a huge thank you on behalf of the children of the Mississippi Gulf Coast. To all who contributed their time, themselves, supplies, and money, from the bottom of my heart, I thank you. Your assistance and support in our greatest time of need was an affirmation of the good will of mankind. We truly live in the greatest country in the world.

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