Hurricanes Katrina and Rita swept through the U.S. Gulf Coast with the mechanical efficiency of an invading army whose goal is to not simply conquer, but to systematically devastate whatever and whoever has the audacity to stand before it. True, many lives were lost during and after the storms, property damage is almost incalculable, and the toll on the environment and economy is unprecedented. But while trees toppled, buildings were swept away, and lines of communication were broken, there was a collective spirit that bent but wouldn’t break. The hemodialysis community has emerged from this back-to-back assault by Mother Nature closer, stronger, validated in its level of preparedness, and still eager to learn new lessons that will help save lives in the future.

Months after hurricanes Katrina and Rita shattered the Gulf coast region, stories of both hardship and valor continue to surface. Like the one about Bill, who woke up floating in an unknown sea somewhere in Mississippi, narrowly missing collisions with a refrigerator and piles of debris. “He was literally washed out of his second story apartment building by the tidal surge,” says co-worker Rick Phillips, regional technical manager for Fresenius Medical Care in Jackson, MS. “He told us about wrapping himself in bubble wrap and grabbing anything he could find to keep afloat. He ended up with all kinds of scratches on his body, but came to work the next day. He’d lost his home and his vehicle, yet he came right back to work.”

Preparedness, Commitment, and a Ticking Clock

Disasters disrupt everyone’s life, but for dialysis patients, time is an added—and unrelenting—foe. Bill and all the hundreds of other employees and everyday heroes in the dialysis community responded because lives depended on them. But what could they do without water, fuel, electricity—or in some cases even a building?

“In New Orleans alone, 57 clinics were closed. At least eight were totally washed out,” says the Centers for Medicare and Medicaid Services’ Glenda Payne, RN, certified nephrology nurse, and End Stage Renal Disease (ESRD) clinical lead for Regions 4 & 6, which include the affected areas. “We know of some facilities where machines and all records were washed out of the building. They’re gone.”

Lynda McDaniel is a freelance writer based in Seattle, WA.
Fortunately, national and regional hemodialysis authorities, multi-facility corporations, and individual hemodialysis units all had emergency preparedness plans in place, many developed from lessons learned during massive hurricanes such as Ivan and Andrew. Some facilities, for example, had stationary generators, and every clinic had its own water treatment facilities. In addition, strike teams from providers such as Renal Care Group arrived early to board up windows with plywood and preemptively add preservative and disinfectant to the water systems to ward off contaminants during down times.

“Our teams also went in and pulled all equipment into a central area and covered all electronics with plastic,” adds Mark Rolston, corporate director of technical operations for Renal Care Group based in Nashville, TN. “Because area managers sometimes ride out the storm—it’s their choice—we boarded up their homes and got them generators, too.”

Even with a plan, though, how can anyone be prepared for the unthinkable? In most cases, managers and workers had to make decisions on the fly. Allen Gersh, medical director, and Tammy Gargis, administrator, for the Hattiesburg (MS) Clinic Dialysis Units, followed ever-changing weather forecasts and decided on Friday, three days before Katrina did strike, to double up dialysis patients who would normally run the next week. That meant opening on Sunday and working extra shifts. “It was a very smart move,” says Paul Wise, electronic engineer for this 12-unit dialysis (chronic and acute) division of the Hattiesburg Clinic. “It bought us time to make things happen and organize a network of people. If we’d waited until the storm hit, it would have been an even greater crisis.”

According to Rick Phillips, Fresenius implemented its Disaster Response Preparedness plans, and that led to local staff being empowered to make urgent decisions to support patient care. They also scheduled early dialysis before the storm, wherever possible. Twenty Fresenius facilities affected by the storm already had generators, but they had to privately source diesel fuel to run the generators and gasoline so employees could get to and from work. Similarly, they had to depend on company arrangements to source fresh water for 15 clinics, ongoing for weeks in some cases. In Gulfport, MS., Phillips and Elliot Sierra (another regional technical manager) played a critical role in establishing a village of RVs to house facility staff and families that no longer had homes, so they could sustain care for their patients. Fellow Fresenius employees drove in these vehicles, stocked to the hilt, from as far away as Tampa and Chicago. It was all about preserving care and restoring it as fast as possible, said Phillips, who is proud that his group could provide care for more than 1,000 dialysis patients in need from other facilities.

Of course, long-term water and electric outages meant many patients had to be evacuated. “We moved a lot of dialysis patients over seven days,” recalls Ken Rusnak, executive director of Angel Flight America, Inc., an organization that arranges free air transportation for needy patients and healthcare organizations. “They were taken out of shelters and tagged according to need. For example, if you were a dialysis patient who had been through dialysis recently, you were tagged a green patient. If you hadn’t received dialysis recently, you were a yellow patient.” Angel Flight flew 2,140 missions and transported more than 5,000 people, many of whom were dialysis patients, during the ordeal.

Creative Engineering

But not all communities could secure the resources necessary for evacuation. In Hattiesburg, for example, the region’s major hospital, Forest General Hospital, had completely shut down and all airlifts were focused on hospital patients. To make matters more critical, the Hattiesburg dialysis community not only had to find a way to serve its own patients but also the swell of patients

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who flocked there from areas more heavily damaged. Wise knew he needed to get his clinics up and running, but he couldn’t even get out of his driveway. “Once the winds died and the rain relented, my two boys and I began cutting our way out,” he says. “It took three hours. My 12-year-old was directing traffic on the Interstate while we cut a clear path for traffic, if you can believe it.”

The next five days were a blur. Little sleep or food and blazing temperatures. At times, even employees needed IV fluids because of the stifling heat, especially with all their protective gear. Gasoline was scarce and often employees had to sleep in the clinics. When they did get home, more chaos and destruction awaited them. There was so much to do that Phillips remembers having a “desperate feeling I wasn’t doing enough, that I needed to do more. My heart went out to all those people who lost homes and even some family members.”

Everyone was surrounded by deplorable conditions, yet Wise heard no one complain. “You’d think people at the point of exhaustion would get irritable, but everyone just asked, ‘How can I help?’” he adds.

Together they worked with FEMA, MEMA (Mississippi Emergency Management Agency), the National Guard, U.S. Navy Seabees, volunteer fire departments, anyone who could help. They begged and borrowed generators, sharing with competitors when they couldn’t use one for a lack of fuel in their area. They hauled food all the way from Tennessee or Jackson, MS, which sustained less damage; they called in favors from friends who owned gas stations and used their age and stature to persuade a teenage fuel-truck driver to call his boss and get permission to sell them diesel. Lives were on the line.

Gradually they got some dialysis units back online, operating 24/7 and squeezing in as many as four shifts a day. Meanwhile, outside the clinics, crews built temporary camps. Phillips and other technical staff oversaw the building and stocking of three 10’x 20’ temporary buildings on adjacent property. “We called it Mats FMC Village in honor of our CEO, Mats Wahstrom,” Phillips adds. “He was instrumental in providing every resource he could to give patients and staff what they needed.” Every time Phillips made the trip from Jackson south to the Gulf coast, he brought food along with diapers, bug spray, lawnmowers, refrigerators, freezers, furniture and donated clothing. He also arranged for two washers and dryers and bought two grills. To coordinate support for the Fresenius facilities, Bill Numbers, vice president of operations, conducted daily calls to handle emergency needs for each area that was affected by the storm. But it wasn’t always easy. A tanker truck that David Updyke, vice president of technical services, had arranged to deliver gas to the affected areas was almost hijacked on route to Jackson, MS.

Meanwhile in Louisiana, Rolston was facing a similar crisis. Renal Care Group maintains five different teams for disasters, and he traveled south with one crew of bio-med technicians, plumbers, electricians, and maintenance and construction workers. A Baptist church allowed them to build shelters for the staff, dorms with showers, and provided parking space for RVs to house nurses and technicians. “I sent a team down to Baton Rouge, which was the only center we had operating in Louisiana,” he adds. “We built a mobile nine-station dialysis center in three days in the parking lot of an existing unit. We even have a boat—an inflatable Zodiac. We christened it the Gary B. for Gary Burkardt, the CEO of our company.”

Generators supply precious current to run the equipment, but they come with their own set of problems. Because the electrical signal from a generator is not always smooth, it can wreak havoc with the circuits. “The signals are noisy and that makes the microprocessors set off false alarms,” Wise explains. “Even so, each alarm needed to be checked out.”

Wise also put his creative engineering to work on supplying water to the dialysis units. First, he secured a commitment for a 5,000-gallon tanker truck from the Emergency Operational Center (EOC) office—a central command center for government and military operations set up during Katrina.

“But we’d already heard a lot of promises, and it didn’t always happen,” he says. “At approximately 1 a.m. on the promised day of delivery, when I still didn’t have that tanker truck, I called the EOC again. I asked the officer if I was really going to get it because a lot was riding on that reservoir of water, and he said ‘I have issued the order, and my men will execute the order.’ Whoa! I
thought, I finally got someone who can make it happen. As it turned out, our water treatment system purred like a kitten as fire truck after fire truck brought fresh water from surrounding communities to replenish the supply. When I designed the system, I never expected it to have to operate under these circumstances and this load. After all, your water purification system is not something you ever want to have to test during a crisis. Yet, it just rolled right along, providing the superior quality water one would expect under normal conditions. This was wonderful news because it allowed us to focus our attention on so many other issues at hand.”

Lessons Learned
Disasters invariably change even the best-laid plans. Ongoing meetings and conferences are now addressing what to do differently in the future. For example, Angel Flights experienced a devastating loss of time and money when “someone in authority” turned away 31 airplanes from the Baton Rouge airport that were designated to airlift dialysis patients. “We had to send them home because the planes were clogging up the airport,” Rusnak says. “We wasted $31,000 in gasoline. No one ever gave us an explanation why we were turned back when the need was there.”

Because of that situation, Angel Flights has produced a white paper that outlines how they will respond to future disasters. “We will also organize three go-teams across the country that will be fully provisioned with communication equipment and supplies so they can remain in a disaster area for at least five days,” Rusnak continues. “And we’ve made a deal with the Corporate Angel Network so that we can command not only light aircraft but also larger corporate aircraft in major disasters. That will give us access to more than 5,800 aircraft.”

Rolston wants to see a change in how airports deal with overbooking during crises. “I had nurses and technicians coming in to perform lifesaving treatment who were knocked off planes for reporters for television networks,” he explains. “In the future, they should ask the persons they’re kicking off what they are going to do at the disaster site.”
Other plans include self-contained mobile dialysis trailers, more stationary generators, permanent connections for emergency generators in exterior walls to make temporary hook-ups more efficient, and improved water systems. “Water is the most precious commodity,” Rolston adds. “Not only for the equipment, but we also need to provide showers, for example. These are not creature comforts for people who are working 20 hours a day. We are looking at installing cisterns at some of our larger facilities. And we need to put in Siamese connections like those at fire departments so we can immediately hook up to the building. It took a lot of jury-rigging to get some of these connections going. Luckily we have masters of improvisation.”

Communications are also a critical component in disaster recovery. Landlines are often down and even cell and satellite communications don’t work. Phillips, who is an amateur radio operator, called on his local club for help when high-tech communications failed. “The Jackson Amateur Radio Club was able to get assistance from MEMA more quickly because they were pitching in and able to get through when most other means of communications were down,” he adds.

Glenda Payne is also involved in revisions of the preparedness manual for facilities and patients. She reports that plans for an emergency preparedness summit were launched last November at the American Society of Nephrology meeting. On January 19, 2006, in Washington, DC, a coalition-building meeting brought together important stakeholders to develop a strategic plan for emergency response to situations such as earthquakes, hurricanes, or terrorist attacks.

Redefining Normal

Thousands of patients were displaced and missing, but through exhaustive work by providers, Centers for Medicare and Medicaid Services (CMS), and the Networks, more than 97% of those patients have been identified. “They’re not lost,” says Payne. “It was very time consuming for everyone, but again, partnerships were working together on this. Providers gave CMS data on a twice-weekly basis as they identified patients. CMS then shared it with the Networks, who were able to update the database of patients. This was very different from anything we’ve ever done, but it was effective, and we could assure everyone that we did know where the patients were.”

Clinics are gradually coming back online, though some may never reopen according to Payne. Many buildings were destroyed and parts of New Orleans no longer exist. She worries about patients returning to an area that can no longer serve them. “The Networks are sending faxes to all facilities urging them to encourage patients who evacuated to stay where they are unless they make arrangements to ensure they can get dialysis,” she explains. “They cannot simply show up thinking they can get dialyzed.”

Enduring Spirit

Hundreds of people and organizations volunteered time and money toward the long recovery process. Besides sending their disaster crews, providers donated clothes, food, and money. In addition to mammoth efforts by the American Red Cross, World Emergency Relief, FEMA, and MEMA, among others, the American Nephrology Nurses Association, Renal Administrators Association, and other related organizations put together and posted an online staffing bureau for people willing to volunteer. Fresenius Medical Care sent out a general call for volunteers by e-mail, with more than 1,000 responses from employees all over the country. Several Renal Care Group employees even brought their personal generators to the dialysis units to run the medication refrigerators.

In the middle of all this destruction, imagine a hot Southern night in Hattiesburg, strings of lights twinking against a dark sky and the sound of laughter and music. After so many grueling days, staff and patients gather with family members to grill meats, thawing in freezers made useless without power, and to enjoy the simple luxury of fellowship. In the midst of all the chaos, they have found a way to enjoy life again. “We tried to create a festive atmosphere,” Phillips recalls. “It was a big family atmosphere. Everybody needed that break and the feeling of security.”

It’s hard to think that anything good could come from this experience, but Phillips pauses and adds, “We had to step back and reflect about the meaning of our lives, our families, and jobs. We asked ourselves what do all those minor irritations of life matter? We know what’s important now, and we have gained closer relationships.”
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