Facing Uncertainty — Dispatch from Beth Israel

Since the Wi-Fi was still working, residents downloaded a telephony app onto their phones and used it to send urgent text messages. At one point, the system brought several residents together for a code in a dark room. By the glow of headlamps and bobbing flashlights, a resident began resuscitation while others prepared to place a central catheter. While Samad tried to sustain morale, duty-hour limits were no longer top priority — though the influx of outpatient providers helped residents get some rest. Like the boundaries defining a resident, a medicine ward attending, a housekeeper, a surgeon, and a social worker, the lines defining work shifts had blurred.

Nagler recalls that when he first became Beth Israel’s president, he “got on the subway one morning and was thrust against the front of the subway car, pushed against the window by the crowd, and the view in front of me was pitch black except for the gleam of the tracks.” He remembers this image every time he faces the unexpected, hopeful he will find a path forward. When I visited the hospital 5 days after Sandy, the lights were back on, but in a sense Nagler still felt like he was on that subway, hurtling toward an uncertain destination. Many nearby hospitals remain closed, and high volumes continue. And even after this crisis ends, another unpredictable event is bound to occur, and whether it’s a hurricane, a terrorist attack, or an infectious disease outbreak, it will pose its own obstacles.

As Manhattan works to repair itself, local clinicians find that part of their job is to evolve under duress, trying to provide good care under dynamic circumstances. One NYU hospitalist, lacking patients in her own hospital, visits evacuated patients at their new facilities, bridging gaps in the medical record. She is navigating a foreign landscape, but most health care professionals will encounter such unfamiliar terrain sometime during their careers.

Nagler returns to his musing on meteorology. The weather and medicine are similar in many ways, he remarks, both full of complex variables that produce unpredictable outcomes. But the hospital managed to meet such outcomes with creative and rapid solutions. Nagler looks out the window onto 16th Street. The sun has emerged, briefly, over Manhattan, and somewhere nearby an ambulance siren wails.

Disclosure forms provided by the author are available with the full text of this article at NEJM.org.

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Lessons from Sandy — Preparing Health Systems for Future Disasters

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Within hours after Hurricane Sandy’s landfall, doctors and staff at one of New York City’s premier medical centers realized that something was going terribly wrong. Lights were flickering, critical devices essential to life support for more than 200 patients, many in intensive care units, were malfunctioning. A decision had to be made by hospital leaders, senior public health officials, and emergency responders: tough it out in a hospital without power or attempt a perilous
patient evacuation as an epic disaster unfolded.

With little time to lose, the “go” order was given, followed by frantic calls to high-ground hospitals identifying beds for receiving New York University–Langone Medical Center’s critically ill patients. St. Luke’s–Roosevelt, Mt. Sinai, New York Presbyterian at Columbia, and many other hospitals responded immediately, opening beds, readying emergency admission procedures, and briefing staff.

Two days later, the story was repeated. Bellevue Hospital, which had been operating without sufficient power and with failing generator fuel pumps, was also evacuated, sending more than 700 patients to other facilities around the city.

The NYU hospitals’ stories were extraordinary. Doctors, nurses, support staff, first responders, and National Guard troops rose to the occasion, with bucket brigades transporting fuel to generators on high floors and slowly, carefully maneuvering fragile patients down dark stairways into the storm, where ambulances were waiting to move patients to the receiving hospitals.¹ That all this took place without loss of life or immediately apparent medical consequences was remarkable.

But questions about why these extreme measures were necessary will have to be answered in the months ahead. Although the first question may be how to prevent power failure, the nuances of backup and redundant power generation are not generally within the expertise of health professionals. And in fact, the generators themselves were probably fine; the problem appears to have been that fuel pumps supplying the generators were in the basement, highly susceptible to breakdown from flooding.² Ways of ensuring resiliency of backup power equipment will certainly be investigated later. For now, it’s important to understand what medical and public health challenges are to be expected after megadisasters such as Hurricane Sandy.

The first order of business is always to identify and treat storm-related casualties requiring urgent attention.² Initial reports indicate that emergency care systems in New York and most of the affected region functioned well during and immediately after the storm. However, when major medical centers are incapacitated, the stress on remaining facilities may be extreme. Accommodations must be made for both a disaster-related surge in patients and the usual intake of patients with unrelated urgent medical and surgical needs.

Second, potentially serious public health complications may follow large-scale storms with extensive flooding. Though not inevitable, the possibility of the rapid emergence of such secondary public health threats demands sophisticated surveillance. Dangerous debris can clog streets and pose serious hazards to pedestrians. Breakdowns or overflows in sewer systems and water treatment plants can result in contaminated drinking water and waterways. Toxic wastes and miscellaneous carcinogens from Superfund sites can spread over wide areas, exposing storm survivors to latent dangers.

In fact, overflow from the toxin-filled Gowanus Canal in Brooklyn is already a concern that will require close monitoring.³ Prolonged lack of power and heat, a real problem in the first 2 weeks after Sandy, became dangerous for the elderly, homebound patients, and small children, especially those living in low-income housing projects. There are already signs of dangerous mold infestations in dwellings soaked by rain and floods. Also, more injuries are expected in the weeks after such disasters, as homeowners attempt to repair houses or property.

Third, essential supply chains must be restored. The most obvious and critical concern is ensuring that patients receiving life-critical medications or supplies have uninterrupted access.⁴ Visits to shelters in the region revealed that many people lacked backup medication supplies or prescriptions. Patients — and

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¹ Image credit: AP Photo/David Goldman

² Image credit: AP Photo/Mary Altaffer

³ Image credit: AP Photo/John Minchillo

⁴ Image credit: AP Photo/John Minchillo
suffered from severe stress. These problems can include depression, anxiety, post-traumatic stress disorder, and other mental health issues. The mental toll of these disasters can be profound, affecting not only the individuals directly affected but also their families and communities. For instance, the aftermath of Hurricane Katrina led to increased mental health issues, including a surge in suicide rates.

In the long-term, the mental health impact of disasters can be pervasive, affecting children, adults, and even entire populations. For example, the mental health effects of the COVID-19 pandemic have been widely documented, with many individuals experiencing increased stress, anxiety, and depression. These effects can persist long after the immediate crisis has passed, highlighting the need for ongoing mental health support and resources.

In conclusion, disasters of all kinds have a significant impact on mental health, with immediate and long-term consequences. It is crucial to address these issues through effective mental health support and resources to help individuals and communities recover from the trauma and stress of disaster.