



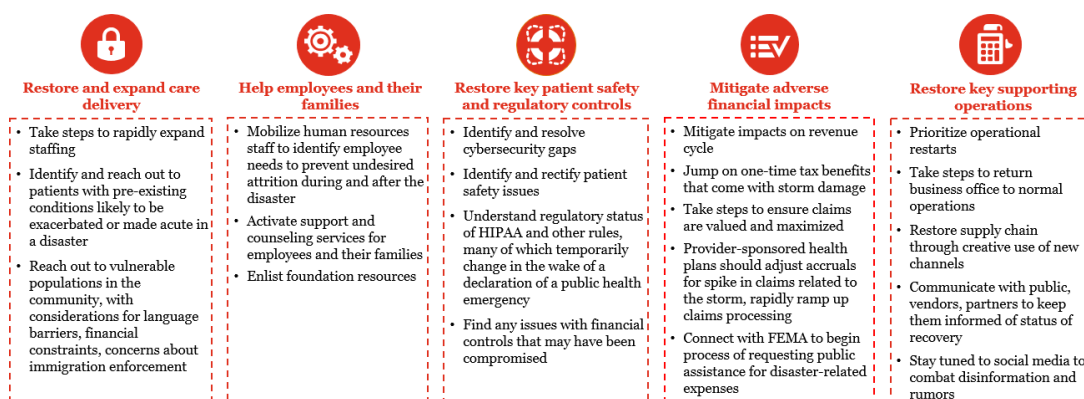
## Hospitals and health systems feel hurricanes' effects long after floodwaters recede

Months and even years after the winds subside and the floodwaters recede, hospitals and health systems in regions battered by a hurricane will still be grappling with the financial, physical and reputational wreckage such storms cause. Hospitals face closure, chaotic revenue cycle operations, disrupted supply chains, possible credit downgrades, destroyed and damaged physical assets, and displaced workforces and patients. Partner institutions, such as long-term care facilities and retail pharmacies, may temporarily or permanently operate at diminished capacities.

Effective disaster recovery starts well before a hurricane begins cycling over Atlantic waters. To recover from such an event as quickly as possible, hospitals and health systems can take tactical actions to handle the complex challenges left in the wake of a hurricane or other natural disaster (see Figure 1).

**Figure 1. In the wake of a storm, hospitals and health systems will have to take many actions to help themselves and their communities recover**

Some of the actions include:



Source: PwC Health Research Institute

**Financial damage:** Natural disasters often disrupt financial operations, particularly cash flow, by delaying revenue cycle activities and reducing patient volume. Local staff may be unable or unwilling to come to work, which leads to fragmented operational capacity. Patients seeking care may not have proof of insurance, identification or a usable address. Their insurance may not be in-network, and they may not have money for cost sharing, such as deductibles and copayments. As a result, they may seek care as a self-pay patient, delay treatments or drift to other institutions for care.

While the Health and Human Services secretary often approves short-term [1135 waivers](#) allowing for expanded Medicaid eligibility and other measures in the wake of a national emergency, delays in government reimbursement for services performed during and after an event are common. To prepare for these issues:

### At a glance

While North Atlantic hurricanes do not appear to be making landfall more often than before, they have been increasing in strength and duration since the 1980s.

Hospitals and health systems should plan for the financial, physical, reputational and other damage caused by natural disasters to ensure timely recovery.

Healthcare providers should beef up their enterprise resilience to increase their ability to deal with complex challenges that come with major natural disasters.

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- Hospitals should aim for ample days of cash on hand to stay financially stable during a lull in collections after a disaster.
- Hospitals should secure backup billing and collections services in a hurricane-proof region or in a virtual environment to ensure a timely return to revenue cycle activities. The CHRISTUS Health Southwest Louisiana system in Houston avoided significant disruption of its back-office functions after Hurricane Harvey because it had moved many of those functions to Irving, Texas, during a consolidation, according to [Healthcare Financial Management Association](#).
- Conduct scenario planning for loss of market share in the wake of serious damage. When Mercy Hospital Joplin of Joplin, Mo., was seriously damaged by an F5 tornado in 2011, the hospital [suffered a 20 percent drop in market share](#), which made rebuilding more complicated.
- Consider the impact of a credit rating downgrade. In the wake of 2012's Hurricane Sandy, Moody's put NYU Langone Medical Center's A3 credit rating [under review](#), which had the potential to affect more than \$750 million in rated debt. Moody's cited damage to the health system's buildings; continued power outages; concerns about delayed recovery funds from insurers, the Federal Emergency Management Agency (FEMA) and philanthropists; and the potential for decreased inpatient services demand due to storm-related shifts in market share. Moody's later [decided](#) to leave the rating alone, affirming that patient volume had recovered.

**Physical damage:** Hurricanes can damage and [destroy](#) hospital and health systems' buildings and other assets, such as ambulances and helicopters. Damaged buildings may become [targets for thieves](#). Hospital operations, such as surgeries and billing, may be disrupted indefinitely. Partner operations, such as ambulance services and pharmacies, also may be disrupted. Claims made to insurers and FEMA [tend to move slowly](#) after disasters for which billions of dollars in claims are filed (see Figure 2).

**Figure 2. Hospitals and health systems in Florida, Louisiana and Texas have experienced some of the most damaging hurricanes in US history**

Hurricane	Year	States most affected	Damages
Irma	2017	Florida	N/A
Harvey	2017	Texas, Louisiana	Early estimates \$100+ billion
Katrina	2005	Louisiana, Florida	\$108 billion
Sandy	2012	New Jersey, New York	\$74.1 billion
Ike	2008	Texas, Louisiana	\$29.5 billion
Andrew	1992	Florida, Louisiana	\$26.5 billion

Source: [National Oceanic and Atmospheric Administration](#), [TheStreet](#)

To prepare for these issues:

- Consider taking extra measures to protect the physical plant and keep care going. Many Houston hospitals [took costly preventive measures that paid off](#) during Hurricane Harvey. After flooding from Tropical Storm Allison destroyed \$2 billion in research in 2001, Texas Medical Center (TMC) in Houston spent \$50 million on a system of floodgates to protect the center. A few days after Hurricane Harvey hit, TMC President Bill McKeon told PBS NewsHour, “They did the job. And it’s really a marvelous feat of engineering. ... There are cars in the street. Our helicopters are landing here nonstop from surrounding areas.”
- Reconsider the health system’s insurance policy, including coverage, period of indemnity, limitations and deductible. Find out what FEMA may or may not cover and what those claims’ limitations might be.
- Study the complex FEMA claims process, and in the case of a disaster, connect with the agency quickly. Also find out which types of claims, under which conditions, are eligible for FEMA funding.
- Be prepared to reconsider capital plans, because a disaster could cause a permanent population shift. Some hospitals could find themselves with many new patients, or many fewer. Scenario plan to understand how a serious event could shift patients toward or away from the hospital and health system, and how such a shift could change capacity and workforce needs and partnerships with institutions such as long-term care facilities.

**Reputational damage:** Rumors fly at the speed of a tweet in a hurricane’s chaos. During Hurricane Harvey, hospital staff repeatedly had to refute social media rumors of closures, damage and inaccessibility. Hospitals that do suffer damage must handle patient concerns about their institutional viability and continuity of care. Lawsuits multiply in the face of storms—[more than 200 were filed](#) against providers after 2005’s Hurricane Katrina—and those can damage reputations too.

To prepare for these issues:

- Form a plan to combat bad information on social media and other communication platforms during and after a disaster. Patients and employees may be scared off by such information.
- Create a public relations plan to handle the disaster’s aftermath. Patients are a critical audience, as are employees, affiliated physician practices, insurers, vendors, credit rating agencies, for-profit institutions, investors and creditors. Consider the lines of communication and decision-making for coordinated and timely messaging.
- Plan for altered standards of care with liability in mind. Hospitals should decide how they will free up capacity, plan for delivering care in unconventional locations, recycle supplies to extend limited quantities, and ration resources to care for those most likely to survive. In addition, the scope of practice standards for physicians, nurses and paraprofessionals may need to be changed so they can offer care outside their clinical specialty areas. Include legal counsel in planning exercises to ensure liability is considered.

**Other:** Many other issues play out in the wake of a major storm. Hospitals may find it hard to fully staff their institutions as employees move away or are otherwise occupied with recovery. Critical partners, such as long-term care facilities, may have diminished capacity, or close altogether. After Hurricane Sandy, 61 nursing homes and adult-care facilities were flooded or experienced power outages, leaving New York City with [8 percent fewer nursing home and adult-care beds](#) a week after the storm. Three weeks later, the city was still struggling with 5 percent fewer beds.

To prepare for these challenges:

- Prepare for staffing issues. To extend the healthcare workforce, organizations may have to consider lengthening shifts, increasing staffing ratios, expanding professionals' scope of practice, organizing staff into specialized disaster teams, and offering incentives to motivate staff to come to work. In some cases, they must address staffers' concerns about the safety of themselves and their family members. Organizations should consider supplementing staff from other community sources such as Emergency Medical Services and federal hospitals. Volunteers should be recruited in advance and registered in a coordinated manner.

Note that organizations handling disaster recovery often need additional, specialized types of personnel and services, including claims valuation, tax credit advisory and actuarial services.

- State governments and medical boards may relax licensure requirements and other rules. For Hurricane Harvey, Texas Gov. Greg Abbott [temporarily suspended](#) relevant statutes and rules to allow out-of-state providers to practice in the state, as long as they are licensed in good standing in another state and employed or credentialed by a hospital. The Texas Medical Board also is [expediting](#) 30-day visiting physician temporary permits and emergency visiting practitioner temporary permits to out-of-state clinicians such as physician assistants, perfusionists and surgical assistants. These measures are temporary, and hospitals and health systems should have longer-term disaster staffing plans in place.
- Hospitals and health systems should consider geographically expanding their networks of partners such as long-term care facilities in case of diminished capacity after a storm. They should scenario plan for different levels of diminished capacity and ensure plans are in place.
- Identify alternate care sites. Since many hospitals function at or near full capacity under ordinary circumstances, they may not have enough resources to meet patient demands in a major disaster. Alternate care sites should be considered to alleviate the patient demand at hospitals and increase a community's healthcare surge capacity. Potential sites may include shuttered hospitals, mobile medical facilities, ambulatory care centers, dormitories and large public buildings.

## Overall implications

**Develop [enterprise resilience](#) to help ride out a storm.** Providers should assess gaps and weaknesses, their capacities to lead and inspire, work together and innovate, create and protect value, and make changes. They should determine the current level of resilience and start planning for what comes next. While no health organization can predict when the next storm may hit, organizations can examine likely scenarios and determine how those might affect their business.

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Having strategies ready can increase speed and agility, and can help companies avoid making premature decisions that could do harm in the long term. They also can make “no regrets” moves—positions that will allow for growth and prove immune to a disaster’s effects.

Healthcare providers operating in flood-prone areas may find that their good planning will be rewarded repeatedly. Some choices likely will prove more disaster-resilient than others; remote and cloud-based shared services likely will be among the more resilient. Team-based and virtual care also may be more resilient, allowing for care to continue amid the chaos of a hurricane or other destructive event. And hospital and health systems that focus on population health, forging strong bonds with community partners and other supports, may find the entire region is lifted a little bit amid the polluted floodwaters and wind-swept destruction.