More Resilient Supply Chains Needed to Aid Recovery From Hurricanes and Other Disasters

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Drawing on lessons from the 2017 hurricanes Harvey, Irma, and Maria, a new report recommends measures to strengthen the resilience of supply chains (ie, the systems that provide areas with critical goods and services, such as food and water, medical supplies, and gasoline) to foster more effective recovery in areas affected by hurricanes and other disasters. The National Academies of Sciences, Engineering, and Medicine prepared the report at the request of the Federal Emergency Management Agency (FEMA).

The report urges FEMA and other organizations to focus their efforts more on restoring regular supply chains as soon as possible in the aftermath of a disaster and less on using parallel emergency relief supply chains for an extended period. The committee that wrote the report held meetings in 4 locations affected by the 2017 hurricanes—Houston, Texas; Miami, Florida; San Juan, Puerto Rico; and St Thomas, US Virgin Islands—during which they heard from federal, state, and local public officials and others involved in maintaining the functionality of supply chains before, during, and after the storms.

"In 2017, Hurricanes Harvey, Irma, and Maria revealed some significant vulnerabilities in national and regional supply chains," said James Featherstone, MA, executive director of the Los Angeles Homeland Security Advisory Council and chair of the committee that wrote the report. "Lessons learned from these hurricanes can inform future strategies to improve supply chain management."

The report says that, despite the diversity of contexts and experiences of the affected areas, there were some commonalities in how supply chains were affected. For example, limited prestorm assessment of critical and vulnerable components of supply chains, along with information disruptions caused by loss of power and communications as a result of the storm, constrained emergency managers’ understanding of supply chain bottlenecks in the wake of the storm in most places. A common source of bottlenecks was unsolicited donated supplies sent to affected areas, which directed vital resources away from more strategically targeted provisions of critical supplies and services.

After Hurricane Maria slammed Puerto Rico, supply chain issues related to pharmaceutical and medical goods and services in the days and weeks that followed affected not only the island’s residents but also health care in the United States and beyond. At the local level, challenges included confusion about who was responsible for providing assistance, such as restoring power and helping with generator fuel, to private hospitals, dialysis centers, and other medical facilities. Effects rippled far beyond the island because of Puerto Rico’s role as a manufacturing hub for pharmaceuticals and other medical goods (including sterile saline solutions, such as intravenous fluids) for most of the United States. Loss of power to these facilities “caused supply chain effects that cascaded to the mainland United States and around the world,” the report noted.

The report described other critical strategies for fostering supply chain resilience. These included strengthening emergency managers’ understanding of local supply chain dynamics, improving information sharing and coordination among public and private stakeholders, and providing training to emergency managers on supply chain dynamics and best practices.

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