

Hospitals scramble for IV fluids as Hurricane Helene triggers latest drug shortage

Hospital leaders raced to shore up [stocks of IV fluids](#) after Hurricane Helene severely damaged a plant in North Carolina that produces much of the country's supply, laying bare the precarious system for manufacturing and distributing critical medicines.

[Flooding from the storm](#) damaged the plant in the [Blue Ridge Mountains](#) town of Marion that produces 60 percent of the country's IV supply, forcing its parent company, Baxter International Inc., to shut it.

For now, local hospitals say they have not had to curtail procedures, but are taking small steps to manage their current supply, such as giving some patients other fluids when possible. However, it's unclear when the North Carolina plant would reopen, or other suppliers would fill the void, making it uncertain whether hospitals will be able to stretch their stockpiles long enough.

While hospitals have contended with previous drug shortages, this disruption is particularly challenging, doctors said.

“What’s really tricky about this shortage, and has got me worried, is how ubiquitous these products are,” said Dr. Kimi Kobayashi, chief quality officer of UMass Memorial Medical Center in Worcester, the academic hospital for the largest health care system in central Massachusetts. “We use IV fluids everywhere. It’s in our ICU, in our surgical units, in pediatrics, and in every patient care floor.”

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Helene was a 1-in-1,000 year event in some places in the Southeast. What weather conditions set the stage?

Intravenous fluids are life-saving, sterile solutions widely used in hospitals to hydrate patients through a line into their veins. They’re given to many hospital patients, including those who are dehydrated or can’t eat or drink. The IV bags contain salt water or medicines to treat infections, kidney failure, and a host of other conditions.

Kobayashi said Baxter told his hospital the plant closure could extend for many weeks. In a letter Tuesday to hospitals nationwide, Baxter said it could provide several IV products only at 40 percent of normal levels, prompting hospital administrators at many health systems to immediately enact measures to conserve IVs, while they race to find other distributors.

The disruption to the IV fluid supply comes on the heels of many previous shortages, including Adderall for people with ADHD, [children's Tylenol](#), and [lifesaving cancer treatments](#). This isn't the first time Baxter's IV fluid production was disrupted: In 2017 another Category 4 hurricane, Maria, knocked out a Baxter facility in Puerto Rico, creating a months-long shortage of the solutions.

Experts said US manufacturing can be vulnerable to disruptions when there are just a few main suppliers because other companies conclude it's not worth competing against lower-cost producers.

"The lowest-cost producer will tend to get the most market share and then it's less economic for others to compete with them," said Willy Shih, Robert and Jane Cizik Baker Foundation professor at Harvard Business School. "If Baxter International achieves a market share because they have been efficient producing IVs at relatively few plants, that's how this type of thing happens."

Shih said it takes time to fix a lot of the problems plaguing the nation's supply chain, and the production system is so tightly managed there is little allowance for reserves or backup.

"Historically, people haven't been willing to pay for resiliency [in the supply chain] and it's not clear they will pay for it today either," he said. "A lot of people have already forgotten the lessons from the pandemic," when hospitals were caught off guard with not nearly enough personal protective gear for workers.

Shih said it is possible to have more manufacturing plants for some medicines or other products that have a short shelf life, but those facilities need to be closer to their customers or have an economical and quick system of shipping.

In the meantime, hospital leaders say they are taking aggressive conservation measures for IVs and are studying ways to further reduce their use without affecting daily operations. No hospitals have yet reported curtailing operations, such as elective surgeries.

Mass. General Brigham is giving patients Gatorade or water instead of fluids intravenously when a patient can safely drink, said Dr. Paul Biddinger, MGB's chief preparedness and continuity officer. He also said workers now will not routinely prepare a back-up IV bag when a patient is moved to another unit, which typically forces them to discard open but unused bags.

Mass General has also reached out to other IV fluid suppliers, but in the past has found it difficult to switch manufacturers amid a crisis.

“What happens historically is that the other manufacturers tend to limit their distribution of their products to their existing customers to make sure they can support their customers,” said Biddinger

He said alternative manufacturing facilities for Baxter are in Spain and in Mexico but was unsure of the status of supplies from those plants.

“We do look constantly at where we can diversify our supply chain. Sometimes that's economically not feasible. But we do try and develop redundancy whenever we can,” Biddinger said. “We develop stockpiles as much as we can within the context of, again, what we can sustain economically.”

Because IV fluids are given to patients through their veins, the fluids have to be sterile so they don't cause problems. That means they have a short expiration date to guard against growth of bacteria or any other infectious substances, also a challenge for stockpiling. The products also are bulky, requiring a lot of storage space, and because of their weight and bulk, there is a limit on the volume that can be transported by air.

Kobayashi, from UMass, said that even though hospitals have developed plans from dealing with so many shortages in recent years, each one is unique: whether the drug can be given orally or by IV, or there is an alternative product readily available.

“While we are used to it,” he said, “you can't just copy-paste the plan.”

In New Hampshire, the state hospital association said the shortage is “significantly impacting” hospitals there.

“A shortage forces hospitals to scrutinize their supplies, seek alternative products, and modify treatment protocols, which can interrupt care, increase costs, and strain health care workers,” Kathy Bizarro-Thunberg, the association's executive vice president/federal relations said in a statement.

“New Hampshire’s hospitals are actively monitoring their inventories, informing clinicians on conservation considerations and collaborating with each other to share best practices,” she said.

In Rhode Island, Lifespan, which runs several hospitals and health centers, said in a statement that it, too, is closely monitoring the supply chain and has a team working to secure more IVs.

“While we continue to deliver high-quality care,” Jessica A. Wharton, Lifespan spokesperson, said in a statement, “we are taking measures to conserve our existing supply, and are hopeful that the FDA will step in to address the shortages through temporary imports and increased production by alternate manufacturers.