GoodRx Health

How Healthcare Facilities Can Help Conserve Water


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Published on August 12, 2022

Key takeaways:

- The lack of access to clean, safe water is a core global health issue that is worsening due to increased demand and climate change.
- As healthcare providers, we can help by conserving water in practice settings and encouraging the organizations to implement steps that save water — and money.
- There are many steps that healthcare organizations can take to conserve water at their facilities, including in kitchens, bathrooms and shower areas, laboratories, and outdoors.

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Water is a precious resource that is often taken for granted.

Most people in the U.S. are able to turn on a sink and get all of the hot or cold water they want at a very low cost. Globally, however, there are more than 770 million people who lack access to safe drinking water. And there are many others who spend so much time collecting water that they're prevented from raising their standard of living. For children, who are often responsible for this task, that means not being able to attend school or pursue higher education.

Growing water scarcity makes this issue even more pressing. But healthcare facilities, as large water users, are in a position to contribute to positive change.

Access to water and health

Access to clean water is a central issue for global health, but it's also a pressing issue in the U.S. The Flint water crisis, for example, is a stark reminder of how the lack of access to clean, safe water can quickly affect people's health.

While contamination is often within our collective control, addressing water scarcity may prove to be more challenging. Climate change has led to an exacerbation of drought conditions in many areas of the world, worsening already dwindling water supplies. In 2018, Cape Town, South Africa, came very close to being one of the first major metropolitan areas to run out of water. While it didn't materialize, there were serious discussions of a "Day Zero," when the municipal water supply would be turned off and residents would have to use communal taps.

Some U.S. states are also feeling these effects. According to the U.S. drought monitor, large portions of the country, including much of the West Coast, Southwest, and Texas, are currently under extreme drought conditions. And one recent study found that the period from 2000 to 2018 was the second-driest 19-year span in southwestern North America in 1200 years. The study's authors concluded that climate change accounted for about half of this outcome, pushing the region from a moderate drought to one of the worst droughts the area has ever seen.

The United Nations estimates that there will be a 40% shortfall in the world's freshwater resources by 2030. In order to compensate for that shortfall, it will be critical to improve water usage and efficiency to prevent an exacerbation of water shortages.

Healthcare facilities in developing countries already face enormous challenges providing safe care because they are unable to have reliable access to water for daily operations.

Healthcare and water use

The term "public supply" refers to water that is used by public and private entities that distribute it to at least 25 people (or 15 service connections). In 2015, the most recent year data is available on, public supply — a category that includes healthcare facilities — accounted for about 14% of freshwater use in the U.S.

Among buildings in the U.S., hospitals and healthcare facilities have some of the highest water use intensity, a measure of how much water is used per square foot of space. A 2012 study found that hospitals used a median of 315 gallons per bed per day. To put this number in perspective, Americans use an average of 82 gallons per day at home.

Interestingly, though, the same data shows a large variation in water use intensity among different hospitals, with the lowest users consuming less than 10 gallons per square foot and the highest users consuming more than 150 gallons per square foot. While this disparity may be related to the type of healthcare service provided, it does indicate there are opportunities, especially for the highest consumers, to significantly reduce water use.

The largest sources of water consumption in hospitals are cooling equipment, plumbing fixtures, landscaping, and medical process rinses.

Reducing water use in the healthcare setting

Global Green and Healthy Hospitals, a healthcare network committed to reducing its environmental footprint, offers these suggestions for reducing water use in healthcare settings:

- Installing efficient plumbing and fixtures, checking regularly for leaks, and retrofitting refrigeration systems
- Using digital radiological imaging, to avoid using water to process film
- Landscaping the hospital campus with drought-resistant plants
- Looking into harvesting rainwater or recycling water
- Working within the community to improve water use, like through a community outreach program

The U.S. Environmental Protection Agency also has a best management practices guide to help commercial facilities, like healthcare facilities, start conserving water. The agency breaks down focus areas into the following categories:

- **Water use monitoring and evaluation:** metering and submetering, monitoring for leaks, and facility and personnel education
- **Sanitary fixtures and equipment:** toilets, sinks, laundry equipment, and faucets
- **Commercial kitchen equipment:** steam cookers, dishwashers, ovens, and ice machines
- **Outdoor water use:** landscaping and irrigation
- **Mechanical systems:** cooling towers, chilled water systems, and boiler and steam systems
- **Laboratory and medical equipment:** water purifiers, vacuum pumps, steam sterilizers, and X-ray equipment
- **Onsite alternative water sources:** rainwater collection, foundation drain water, and treated gray water

A success story

By taking the right steps, it is possible to conserve water while increasing a facility's bottom line. Providence St. Peter Hospital, located in Olympia, Washington, was able to reduce its water use by 58% over a 14-year period. In the process, the facility saved around $2.5 million. These efforts to conserve water also allowed the hospital's healthcare group, Providence Health, to claim about $1 million in rebates from utility companies in the state.

Project ideas came from various sources, both within and outside of Providence St. Peter, including internal staff, third-party vendors, and even other hospitals. It also attracted suppliers who wanted to do business with Providence St. Peter and had ideas about how to conserve water.

The facility prioritized projects with a quicker return on investment (ROI). Projects that yieldied a 5-year return or less took the top spots, but most projects with a 12-year or less ROI were considered.

To get there, Providence St. Peter looked throughout their health system at opportunities to conserve water. First, leaks were repaired throughout the facility, and then small modifications or adjustments in operations were made to several pieces of equipment.

The facility also turned off a cooling line, which immediately saved 3.8 million gallons of water per year. To put that into perspective, that would be enough to supply an average American family of 4, with each member using 82 gallons per day, with enough water for about 30 years.

Providence St. Peter didn't stop there. The hospital found opportunities to conserve water in patient care areas, adjusting the flow rates for sinks, switching to drought-resistant plants for landscaping, and reinvesting savings into more green projects.

Over the 14-year period, the hospital reduced consumption from 62.6 million gallons to 29.9 million gallons per year. That yearly difference represents enough water to fill almost 50 Olympic-sized swimming pools.

The bottom line

Water is a precious resource that all of us, including healthcare providers, have a responsibility to conserve. Globally, water use is increasing. Meanwhile, water scarcity is already a reality for a large portion of the world's population. Healthcare facilities can be a part of the solution by implementing water-conserving practices that can also help save money.

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