BRIGHT IDEAS

Taking the Temperature of Clinical Technology Efficiency

Gavin Stern

In 2016, Huntington Hospital in Pasadena, CA, faced two key opportunities for improvement that were affecting operational efficiencies. The hospital used several different types of thermometers in different departments to take a patient’s temperature, ranging from single patient use to battery-operated devices. Some clinical departments used temporal artery thermometers that scan a patient’s forehead, while others continued to use oral thermometers. This created an opportunity to standardize to one device type that would work throughout the hospital.

With services centralized at the single 619-bed hospital, the 11 members of the Huntington’s Clinical Technology Department support more than 9,000 pieces of medical equipment, ranging from expensive magnetic resonance imaging machines to the small, portable pieces of equipment used at a patient’s bedside. In an era where hospitals, hospitals systems, and healthcare systems are increasingly agglomerating, Huntington’s situation brings its own set of benefits and challenges.

“As opposed to a multihospital system, projects can take less time once we decide that there is a need for a specific technology to be replaced. We have a multidisciplinary team of healthcare professionals here, and one hospital to consider when evaluating a new technology,” said Izabella Gieras, director of Huntington’s Clinical Technology Department.

When acquiring new devices and equipment, large hospital systems will often use their size to leverage purchasing power. Being a single hospital system, Huntington Hospital has to work diligently to sustain strong purchasing power with all new medical equipment purchases. Gieras said Huntington works through national professional societies as well as Los Angeles–area chapters to maintain partnerships, develop best practices, and share ideas. One major advantage to being small is that it makes collaboration between healthcare technology management (HTM) and clinical staff more straightforward.

“From a nursing perspective, we can make recommendations for different types of equipment that we need to do our jobs better. We work closely with our Clinical Technology Department as we evaluate the different vendors and decide which one we’re going to bring in and secure the budgeting to be able to do that,” said Jennifer McFarlane, a clinical nurse specialist at Huntington. “A recent project to replace our thermometers was one of those instances.”

Challenge

“Although all methods of measurement of temperature have pros and cons, our nursing practice council determined through research that temporal artery thermometers result in the least amount of variation between each individual user who might be taking a temperature,” McFarlane said. “Our operating

At a Glance

SUBJECT
Huntington Hospital

LOCATION
Pasadena, CA

SIZE
Standalone 619-bed hospital

STAFF
Eleven members of Clinical Technology Department, in collaboration with other hospital staff
room and stroke unit used them, and the council recommended converting to temporal artery thermometers house-wide.”

Staff identified another opportunity to increase efficiencies by improving the portable device’s availability for use in patient care. In addition to the potential cost if thermometers are lost, needing to track down misplaced items hindered or delayed preventive maintenance (PM) efforts and added to operational inefficiencies.

“Most of the time, the PM inspections only take us about two or three weeks. The thermometers were taking a lot longer because we’d have to look around for those that had been misplaced,” said Barry Rosenberg, a clinical technology technician II at Huntington.

“Normally, you’d expect to find them easily. But when they are not readily available, the PM can stretch for over a month. That’s way too long for a small item like that.”

Solution

Sometimes, fixing the small things can have a big impact on efficiency. At the end of 2016, the Clinical Technology Department at Huntington Hospital began an initiative to switch to temporal thermometers hospital-wide. The hospital also developed methods to make sure that those thermometers stayed where they were supposed to be.

To ensure accuracy when taking temperatures, Huntington invested in one type of reusable, battery-operated temporal thermometer. In patient rooms, a cable system attaches the thermometers and secures them to the wall. For thermometers intended for use in nursing stations, which cannot be tethered down, the Clinical Technology Department installed a base and a software lockout so that the thermometer could only be used 20 times before needing to be resynchronized at the base.

This ensured that the thermometers stayed where they needed to be—in one, easy-to-find location—and that they would not function if taken away from the hospital.

“As you can imagine, there are always ways and means to remove those thermometers. But without going above and beyond those creative means, this allows us to keep the thermometers secure. From a clinical standpoint, it’s great because the thermometer is always available for use,” Gieras said.

Results

In total, Huntington purchased 140 new thermometers. Because the disposable thermometers cost the hospital about two-thirds of the purchased amount each year, the initial investment paid for itself relatively quickly. The vendor installed the new thermometers over a two-day period.

“It was a smooth transition. Whenever you switch to a new piece of equipment, there’s some noise in the beginning from nursing staff because change is hard. But this was generally met with a lot of excitement and appreciation from the nursing staff,” McFarlane said.

The new equipment was positively received by clinical staff, who appreciated the increased accuracy of the temporal thermometers. In addition, HTM staff no longer needed to take extra time to hunt down the devices for PM inspections. Whereas the hospital had to repair or replace 25 thermometers before the initiative, only two thermometers were damaged or misplaced in 2017.

“The new thermometers are pretty amazing. We had fewer damaged thermometers because they’re attached now to the cable. They’re easier to locate when it’s due for PM. And we’ve had fewer issues with theft or misplacement.”

—Barry Rosenberg, clinical technology technician II at Huntington Hospital in Pasadena, CA

Looking Ahead

While the vast majority of Huntington Hospital’s departments have received the new thermometers, some were not part of the initial installation. The hospital has used a phased approach for the initiative, with clinical technology and facilities staff deploying the new thermometers and tethering system to additional departments. Like the equipment they’re attached to, the tethering cables must be maintained as they experience wear and tear over time.
“It’s always a good sign that other departments ask for the thermometers as we expand our medical equipment inventory to support clinical needs. There will always be other areas that will pop up following the initial installation,” Gieras said. “We have a process in place already, so it will be very easy to mimic that for any other areas that will be requiring these devices in the future.”

The success of the project led Huntington to look more closely at cable management—which devices might benefit from being tethered down—as well as the most efficient ways to design that kind of system. For example, when purchasing hand-held dopplers, which are used to detect heart rate, Huntington plans to incorporate a stand to secure these small devices from the onset. That reduces the likelihood that they’ll be left in the patient’s bed or misplaced due to their size and portable nature.

“With the new dopplers, just like the thermometers, we want to make it easier for nursing staff to find equipment when they need to use it. We also want to reduce the likelihood that a device is left in a bed and then thrown out with the bed linens by accident. Finally, we also want to make it easier for clinical technology to find them for PMs,” McFarlane said.

Additional initiatives are looking into improving the management of cables that are attached to the patient and patient monitors.

“Departments struggle finding all these little devices. We used to think that smaller, portable devices are better than the bigger, clunky devices. But because these little thermometers were not attached to anything, they could be anywhere.”

—Izabella Gieras, director of the Clinical Technology Department at Huntington Hospital

While the change may seem small, it can have far-reaching effects on the management and use of devices.

“When you think of a thermometer, it’s a relatively no-risk piece of equipment. But it’s amazing what can be accomplished by just going through this type of a project,” Gieras said. “Departments struggle finding all these little devices. We used to think that smaller, portable devices are better than the bigger, clunky devices. But because these little thermometers were not attached to anything, they could be anywhere. That brought on a lot of inefficiencies that this initiative was able to solve.”

Three key players in Huntington Hospital’s thermometer initiative were (left to right) Barry Rosenberg, clinical technology technician II; Izabella Gieras, director of the Clinical Technology Department; and Jonathan Lopez, clinical technology technician II.