Case Study »
Healthcare I.T. at the Point of Care
The Nebraska Medical Center Embraces Electronic Documentation

Flexible point-of-care solutions advance patient safety

CDW Healthcare and the right technology
After investing close to two years developing nursing documentation software, The Nebraska Medical Center stood poised to begin implementing this lynchpin of its patient safety focus. But first, it had to identify the right hardware solutions for its requirements — a task that proved more difficult than expected. As the implementation deadline loomed, the hospital trial-tested numerous options with the nursing staff with minimal success. Finally the hospital partnered with CDW Healthcare, who helped put together a winning solution of Panasonic Toughbook T7 notebooks, HP notebooks, HP desktops, InfoLogix carts and InfoLogix wall-mounted cabinets.
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The Challenge

The Nebraska Medical Center was nearing the final stages of a two-year project targeted at improving patient safety and quality of care through the introduction of electronic nursing documentation. With the software development pieces in place, all that remained was selecting and installing the hardware devices for the nursing staff. However, the hospital soon discovered that finding hardware that met the requirements of the nursing staff, fit the limited space available and integrated smoothly with the existing I.T. infrastructure was easier said than done.

The Solution

Needing assistance about the best way to move forward, The Nebraska Medical Center turned to CDW Healthcare for guidance. After working with CDW Healthcare to evaluate several different solutions, the hospital zeroed in on a combination of Panasonic Toughbook T7 and HP notebooks used with InfoLogix carts and ultra-slim HP desktops in wall-mounted cabinets as the most effective and versatile option for its environment. Once that decision was finalized, CDW Healthcare geared up to ensure that all the components could be configured, shipped and deployed within the tight four-month deadline.

The Results

The hospital went live with its new digital electronic documentation initiative right on schedule — and throughout the entire hospital, all at once. Despite having to move virtually overnight from all-manual to all-electronic documentation, the nursing staff adjusted quickly. Timeliness and accuracy of patient information has increased since electronic documentation can now be done right at the patient bedside or other points of care, eliminating the need to transfer or decipher handwritten notes. And quality patient care is better supported, now that multiple clinicians can access patient records from multiple sources. Based on this positive experience, The Nebraska Medical Center is moving forward with the next phase of its digital transformation — a multi-month rollout of barcode medication administration technology.

At a glance

The Nebraska Medical Center is the state’s largest healthcare facility with more than 5593 employees and 1000 physicians providing care in all major specialties and subspecialties. The 689-bed acute care facility on its main campus in midtown Omaha serves as the primary teaching hospital for the University of Nebraska Medical Center. The medical center has earned an international reputation for solid organ and bone marrow transplantation services in addition to being well known regionally and nationally for its oncology, neurology and cardiology programs. In 2005, the hospital opened its Biocontainment Unit, currently the only center accessible to civilians in the United States equipped to care for patients exposed to contagious dangerous diseases.
The Challenge

Hard choices for hardware solutions

The Nebraska Medical Center was ready and eager to forge ahead with implementing electronic documentation at patient bedsides throughout its facility. With the software ready, the last major hurdle involved selecting the hardware solutions. The hospital’s I.T. team worked with the nursing staff, the primary users of the devices, to define their requirements. “Their requirements included a device that could be easily cleaned between patients, had long battery life and was lightweight,” said Jennifer Bartholomew, Clinical Process Design Coordinator at the medical center. Size was also an important consideration, given the limited space in patient rooms and hospital hallways.

Abundant options, mounting frustration

They began experimenting, beginning with wall-mounted computers in patient rooms. “We found that our semi-private rooms do not provide enough space to have wall-mounted computers. By the time you got an IV pole and visitor in the room, you couldn’t get to the computers,” Bartholomew explained.

So they removed the wall-mounted devices and started looking into carts. “One of our requirements was for our staff to be able to use the computer at the bedside. This would allow collection of vital signs or other critical information, immediately followed by input into the computer, instead of writing it on a piece of paper,” Bartholomew said.

Meanwhile, the hospital was also struggling with choosing a computer. “We tried a tablet computer but found it was just very clunky for our staff and really did not work well with the technology system we have in place,” recalled Bartholomew. At this point, The Nebraska Medical Center began looking at the Panasonic T7 — and seeking expert guidance from its CDW Healthcare team.

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The Solution

Expert guidance propels project forward

“Getting the electronic documentation going was really critical to us,” Bartholomew said. “We saw it as a foundational project.” To help move past the hardware roadblock, the I.T. team turned to CDW Healthcare, which it had worked with on other projects. “They asked us, ‘What’s out there? Can you point us in the right direction?’” said CDW Healthcare account manager Holly Nadeau.

Along with field account executive Chad Talley and sales manager Jeffrey Gansmann, Nadeau focused on matching her team’s quick grasp of the hospital’s requirements with its deep knowledge of the hardware options available. “The Panasonic T7 met more of their requirements and offered more stability than the tablet computer,” Gansmann said. Marc Ferguson, Director of I.T. Operations at The Nebraska Medical Center, agreed. “It’s a lightweight device that’s semi-rugged and has one of the best battery lives of any device out there. And from an I.T. standpoint, it had a very solid history of repair,” he said. They also decided to invest in some larger HP notebooks with number pads for use in the critical care areas.

The Panasonic Toughbooks posed a special challenge for The Nebraska Medical Center’s I.T. department in terms of maximizing mobility. The hospital relies on GE Healthcare’s Centricity Enterprise solution to integrate core clinical applications with administrative and financial processes, but the I.T. team recognized the system did not function well in a wireless mobile environment. However, the hospital also utilized Citrix in its respiratory and laboratory settings. “Our in-house Citrix engineers were able to use that technology as a springboard to create a stable roaming platform for the T7s and ensure that Centricity Enterprise worked within our environment,” said Jeff Bergholz, The Nebraska Medical Center’s Manager of Technical Systems.

Compact solutions, big advantages

Once the medical center settled on the computers, the next decision involved selecting carts and wall-mounts. The I.T. and nursing informatics departments collaborated to hold back-to-back demo days inviting nurses to test different carts. The InfoLogix cart emerged a clear winner. It was small enough to fit comfortably next to the patient’s bed, yet large enough to hold either the T7 or the HP model, and it maneuvered easily. It also had a keyboard/mouse tray, an array of helpful compartments and a work surface. “The nurses pointed out right away that if the computer or the device takes up the entire cart, then they have no work surface for other things they need near them when documenting,” said Dawn Straub, Director of Nursing Practice and Professional Development at The Nebraska Medical Center. Last but not least, the InfoLogix carts met the hospital’s budgeted price point.

The hospital provided a T7 for each nurse on the medical/surgical floors and carts with HP notebooks for the critical care units. In addition, it wanted to put one computer in the hallway between every two patient rooms to remedy the current shortage of computers for physicians and other clinicians seeking to view patient data. However, in order to pass inspection from the fire marshal, the hospital had to maintain an eight-foot corridor in all hallways — meaning the cabinet could protrude no more than 3½ inches.

The InfoLogix wall-mounted cabinet was spacious enough to hold an ultra-slim HP desktop yet shallow enough for the narrow hallway space. It also had auto-closing doors, another fire department requirement. Plus, the cabinet was strong enough to withstand heavy use by multiple clinicians. “As you can imagine, in a teaching environment like ours, often you have several care providers leaning around a terminal, so they have to be very rugged,” explained Steve Eckerman, The Nebraska Medical Center’s Manager of PC Support.

“It was great to work with CDW Healthcare because of their flexibility and solution-oriented partnership. They were constantly in contact with my team and me to talk about what our issues were and to offer solutions. I was impressed — it felt like we were really working with a partner, not a vendor.”

— Marc Ferguson, Director of I.T. Operations, The Nebraska Medical Center
Comprehensive support, every step of the way
To save time, The Nebraska Medical Center chose to have CDW Healthcare configure the computers with custom imaging. CDW Healthcare also installed and activated Computrace in the hardware to promote theft recovery. And in light of the limited storage available at the hospital, the I.T. team took advantage of warehouse space in CDW Healthcare’s Western Distribution Center. CDW Healthcare staged deliveries approximately every two weeks, affording the medical center’s I.T. team adequate time to deploy and install the computers.

The entire organization went live at once with a “big bang.” To ensure smooth implementation, CDW Healthcare helped the hospital establish a command center composed of technology experts in wireless mobile devices and hard-wired workstations, as well as a workstation technician on every floor. The planning paid off even better than expected. “We were able to close down our command center a week early,” Bartholomew said.

“Whenever we called CDW Healthcare, the response times were excellent. For example, a couple of days into our electronic documentation project for nursing, we realized an urgent need for some sealed keyboards and mice for our intensive care areas. CDW Healthcare had a quote to us right away and we were able to make a critical decision in our implementation. To be able to do this in a short time frame was crucial,” Eckerman noted.

On time, on target
CDW Healthcare coordinated closely with the hospital’s I.T. team, acutely aware of the tight timeline. “I was super-impressed with CDW Healthcare’s flexibility. There were times when we had to go for budget approvals and had different items we had to do internally,” Ferguson said. “CDW Healthcare was always there saying, ‘Hey, we’ll work with you.’ They took out a lot of what I’ll call lead-time type concerns out of the equation that could have impacted the schedule.”

Ferguson was equally impressed with CDW Healthcare’s ability to act like a true partner. “They were constantly in contact with my team and me to talk about what our issues were and to offer solutions when we had issues with vendors. They were with us on the calls to work through timing and configurations and those types of concerns. CDW Healthcare was with us every step of the way,” he said.

CDW Healthcare’s Talley noted that when Panasonic experienced a backorder with the T7s, “we worked with them to make sure the hospital got the computers in time.” Eckerman agreed that partnering with CDW Healthcare strengthened their ability to work effectively with larger companies like HP and Panasonic. “We definitely tend to get better response times,” he said.

Point-of-Care Solutions
Compact InfoLogix medical carts enable convenient electronic documentation by nurses at patients’ bedsides, and InfoLogix wall-mounted cabinets put computer equipment within easy reach of physicians and other clinicians seeking access to the latest patient data.
The Results

Elevating the quality of patient care
Immediately upon implementation, the electronic documentation began having a positive impact on patient safety at The Nebraska Medical Center. Number one, the electronic documentation increased the accuracy of information by eliminating handwriting legibility issues. Number two, the mobile devices enabled nurses to input information on a timelier basis. And number three, multiple users were now able to access patient records from multiple sources. Previously, clinicians often competed for the same patient records or multiple people spent time searching for the same information, reducing productivity.

However, improving patient care purposely took precedence over increasing clinician productivity. Straub explained, “We focused our project around creating a safer environment for patients, rather than trying to say that this is actually going to make nurses’ jobs easier or faster. The documentation system we developed is more thorough, so it helps them think through all of the things that they should document. This could potentially make their documentation time longer because now they’re documenting more than maybe they would have if they were just writing on a piece of paper.”

Ferguson concurred, “Sometimes up front it takes longer to get the information in, but what you’re getting is quality, uniformity of information, better safety and better decision support coming out of the system. So bottom line is, it’s better overall and helps the outcomes for patients.”

Moving e-documentation front and center
Leaping cold-turkey from manual documentation to point-of-care electronic documentation — and other technology such as barcode medication administration — demands substantial behind-the-scenes planning. Here are six steps to follow for a smooth debut:

» Determine your physical requirements. How much space do you have available in patient rooms, hallways and critical care units? What are your infection control needs? A variety of mobile hardware devices, small form-factor desktops and cart sizes offer versatility in meeting your needs.

» Identify your user requirements. How much workspace is required on a cart? Will it be used for electronic documentation, medication administration or both? Ruggedness, length of battery life and weight all influence technology usage.

» Involve the primary users in the hardware selection process. Provide the opportunity to test a number of options firsthand. The more invested users are, the more willing they will be to champion the new solutions.

» Confirm system compatibility. Make sure that your hardware integrates seamlessly with your existing infrastructure and that you can maximize the mobility and reliability of wireless devices.

» Provide training and support. Before going live, thoroughly train your users on the applications and the hardware devices. During the initial rollout, make technical support conveniently and speedily accessible.

» Work with a trusted I.T. partner. A knowledgeable resource with healthcare technology expertise can play an invaluable role in helping you evaluate your options as well as designing and implementing a customized point-of-care solution.
CDW Healthcare — tailoring solutions to customer needs

As healthcare technology solutions continue to proliferate, it becomes increasingly critical to partner with an expert team. You need to be able to count on comprehensive knowledge of the best options for your specific requirements, as well as the proven commitment to do whatever it takes to ensure you get the products and services you need — when you need them. As a leading provider of technology solutions focused on serving the healthcare marketplace, CDW Healthcare is well prepared to serve as an experienced extension of your I.T. staff. Our dedicated healthcare team leverages the expertise of CDW technology specialists and engineers to deliver best-in-class solutions from data center infrastructure through point of patient care and to assist with the configuration, implementation and long-term management of those solutions.

Find out how CDW Healthcare can help you identify and implement cost-effective point-of-care solutions designed to help you improve quality of care and increase patient safety. Contact your CDW Healthcare account manager, call 800.500.4239, or visit CDW.com/communitPoc.