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TRUMAN MEDICAL CENTERS / CERNER CORPORATION



ZEBRA



How Care Team Communications are Transforming Patient Care

TRUMAN MEDICAL CENTERS OPTIMIZES CLINICIAN WORKFLOWS, PATIENT CARE AND STAFF SATISFACTION BY UPGRADING ITS CARE TEAM COMMUNICATIONS SYSTEM

Challenge

Truman Medical Centers (TMC) is an academic health system comprised of two inpatient facilities with 600 beds, 51 clinics and more than 4,000 employees – including a level one trauma center. With nurses carrying more than five communications devices to do their jobs, a new approach to care team communications was needed.

Solution

To streamline its care team communications and clinical workflows, Truman turned to Zebra's TC-51-HC mobile computer and Cerner's CareAware Connect™ solution.

Results

Nurses now carry just one Zebra mobile computer instead of using five different devices to communicate. Overall, Truman estimates the Zebra mobile computers and Cerner's CareAware Connect have improved communication workflows and reduced the time required to disinfect equipment. When comparing a nurse's footsteps over two 12-hour shifts, one nurse benefitted by cutting her walking steps nearly in half – from more than 15,000 steps to 7,800.

SUMMARY



Customer
Truman Medical Centers
Kansas City, Missouri



Zebra Partner
Cerner Corporation
Kansas City, Missouri

Industry

Healthcare Information
Technology

Challenge

Optimizing nursing workflow,
patient care and staff
satisfaction

Solution and Functionality

- Zebra TC51-HC mobile computer
- Cerner's CareAware Connect solution
- Applications: voice and text communications, camera capture, barcode medication administration, breast milk and transfusion tracking
- Zebra's QLn220 mobile printer, HC100 desktop printer and the ZT230 tabletop printer and media for printing high-quality barcoded patient wristbands and asset and specimen labels

Results

- Improved clinical workflows save nurses valuable time
- Cut number of steps nurses walk during their shifts
- Reduced time spent disinfecting equipment by tenfold

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Transforming Healthcare with Better Communications

The mission at TMC is to provide accessible, state-of-the-art quality healthcare to its community regardless of a patient's ability to pay. Truman's approximately 1,200 nursing staff serves nearly half a million patients each year, ranging from outpatient visits across their 51 clinics to trauma and acute admissions.

Traditionally, serving these patients required nurses to juggle five tools that they called their "nursing tool belt," which often included a phone, laptop, camera, pager and CareMobile® device that integrated with a patient's electronic health record (EHR). TMC wanted a solution that would allow its nurses to replace the nursing tool belt with just one device that supported all the workflows needed to deliver optimal patient care.

To accomplish this goal, TMC became a testing partner for Cerner's mobility solutions and a "living laboratory" exploring how to use technology to streamline workflows for nurses and improve care for patients. The first step was arming TMC nurses at its Lakewood and Hospital Hill facilities with Zebra's TC51-HC mobile computer and Cerner's CareAware Connect solution.

"Prior to adopting a single device, our nurses had to pick and choose from multiple devices – including pagers, laptops and mobile scanning devices," said Amy Peters, MBA, BSN, RN and chief nursing officer at TMC. "The TC51-HC and

CareAware Connect wrap all that functionality into a single device that nurses can use to provide immediate care to patients at the bedside."

Improving Workflows Leads to More Efficient and Effective Care

The TC51-HC and CareAware Connect allow caregivers to immediately connect with physicians, family members, other healthcare staff such as social workers and the patients themselves – no matter where they are located.

"Now we can page the physician and send the call straight to our personal number on the TC51-HC," said Bruna Miller, a registered nurse at TMC. "I no longer have to sit at the nurses' desk waiting for the phone to ring. I can carry the device with me and move on with my patient care. We also can text each other so we don't have to interrupt patient care."

Patient Safety Gets a Shot in the Arm

Nurses can also use the mobile computer to get data from a patient's electronic health records and other critical information instantaneously. And the built-in barcode scanning capabilities in the Zebra TC51-HC mobile computer support many patient-safety related applications as well. For instance, when nurses launch CareAware Connect on the device they can scan patient identification badges to double-check medication and track specimens or breast milk. The built-in scanners also allow nurses to check that a patient is receiving the right type of blood before a transfusion.



"CareAware Connect has transformed the life of a bedside nurse. This solution takes five chaotic devices and puts all communication into one all-purpose Zebra mobile computer."

Kassaundra McKnight-Young, RN, BSN, senior clinical informaticist, Truman Medical Centers

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“The technology helps reduce preventable medical errors by putting a safeguard in the hands of every nurse,” said Peters. “They can do a check and double check every single time they are initiating a blood transfusion, administering medications or giving breast milk to a newborn infant.”

Plus, if a patient asks about medication, nurses no longer have to go back to the nurses’ station to check. Instead, using their mobile computer, they can give a patient immediate feedback on whether medication is due.

Thanks to the improvements in workflow management, TMC nurses are now taking fewer steps overall. When comparing a nurse’s two 12-hour shifts using CareAware Connect and the TC51-HC and the previous CareMobile device, one nurse benefited by cutting her walking steps nearly in half — from more than 15,000 steps to around 7,800.

Picture a Whole New Way of Getting Input

Caregivers can also take high-quality pictures of wounds or other medical issues and text the images to a member of the care team using the TC51-HC and Cerner’s Camera Capture™ application. This saves nurses time and creates a perpetual, real-life record that is automatically saved in a patient’s chart. The Zebra device also has a flash LED that improves image quality.

“Camera Capture has really saved us time. Before we would have to try to hunt down a camera – if we could find one – and then try to upload the pictures in the patients’ charts,” said Melissa Wilson, registered nurse at TMC. “Now the camera is on the device. So, we can take the picture right there and it’s automatically loaded into the patient’s chart. It’s flawless and it’s automatic. I love that feature.”

A Look at the Results

According to Truman’s estimates, nurses are now saving valuable time thanks to better workflow and improved communications. Even the time nurses spend disinfecting equipment has been reduced. In fact, nurses can disinfect



the TC51-HC mobile computer in just one minute, instead of the 10 minutes they used to spend disinfecting an isolation cart, not to mention the individual devices. In fact, the Zebra TC51-HC’s are built using Ingress Protection (IP) sealing that allows fast and safe disinfecting because it keeps liquid disinfectants from reaching the electronics.

“With the TC51-HC’s, we don’t have to take in the big WOWs [workstation on wheels] to give medications,” Wilson said. “We can just take in the little handheld device, give a couple of medications and then we’re out the door. It’s extremely helpful with contact isolation patients because you don’t have to wipe down this big huge WOW.”

Better Mobile Devices Keep Nurses by the Bedside

The Zebra TC51-HC mobile computer also provides three times more battery life than the previous mobile devices TMC nurses carried, allowing seamless usage throughout the entire shift without requiring recharging.

“This application keeps you at the bedside,” said Kassandra McKnight-Young, RN, BSN and senior clinical informaticist at TMC. “As a patient, I want my nurse to be responsive. CareAware Connect keeps us connected.”

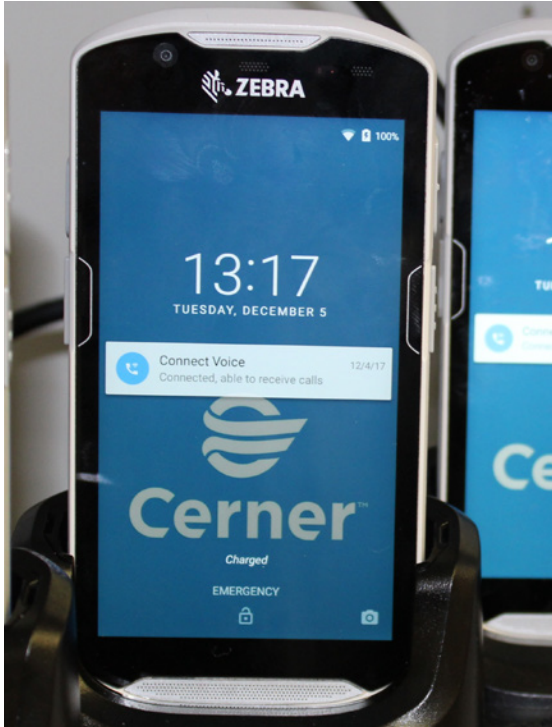
“I think the TC51-HC’s have made Truman Medical Centers a much more intelligent enterprise,” said Mitzi Cardenas, senior vice

“The TC51 gives the nursing team better visibility by making information and data that is relevant to the care of their patients immediately available – whether that is through barcode scanning, patient care orders and alerts or the ability to easily communicate with other members of the healthcare team.”

Amy Peters, MBA, BSN, RN, chief nursing officer, Truman Medical Centers

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results. Overall, caregivers who try the Zebra mobile computers equipped with CareAware Connect have responded enthusiastically.

“The TC51 is very user friendly,” Wilson said. “It’s set up in a way that anybody who has used a smartphone can easily use it. It doesn’t take a whole lot of training.”

“I have been amazed to see our most technologically challenged nurses embrace the TC51-HC,” said Brigid Toyne-Barfoot, RN, MSN and director of medical/surgical at TMC.

TMC is also already beginning to implement additional applications that include more specific alert functionality, vital sign monitoring and smart pump programming.

According to TMC’s nursing staff, the benefits delivered by the Zebra mobile computers have already far exceeded expectations.

“The TC51-HC along with CareAware Connect gives the nursing team better visibility by making information and data that is relevant to the care of their patients immediately available – whether that is through barcode scanning, patient-care orders and alerts or the ability to easily communicate with other members of the healthcare team,” Peters said. “It puts all the technology in their hands in a single device. It is important to our nurses because it allows them to spend time at the bedside with their patients.”

“CareAware Connect has transformed the life of a bedside nurse,” said McKnight-Young. “This solution takes five chaotic devices and puts all communication into one all-purpose Zebra mobile computer.”

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Mitzi Cardenas, senior vice president, chief strategy and chief information officer, Truman Medical Centers

president, chief strategy and chief information officer at TMC. “The data that comes from the TC51-HC – the recording of time of meds administered and the tracking of blood products and breast milk – not only helps the care providers be more efficient and safe in their practice but also updates their care team managers about what they’re doing so they can better support them.”

A Peek into the Future

In the future, TMC plans to extend Cerner’s CareAware Connect solution to all its healthcare providers, including its ambulatory and clinic staff. It is already asking some of its caregivers to use the solution for just one shift to see the

For more information please visit www.zebra.com/healthcare



NA and Corporate Headquarters
+1 800 423 0442
inquiry4@zebra.com

Asia-Pacific Headquarters
+65 6858 0722
contact.apac@zebra.com

EMEA Headquarters
zebra.com/locations
contact.emea@zebra.com

Latin America Headquarters
+1 847 955 2283
la.contactme@zebra.com