



Truman Medical Centers/ University Health charts big improvements in clinician communication and satisfaction with single mobility investment

Giving nurses, doctors and other staff one key clinical mobile device has improved care team satisfaction by 35% – and that’s just one of the many benefits realized so far.

Challenge

Quality healthcare organizations are always looking for new ways to improve patient care, and Truman Medical Centers/University Health (TMC/UH) knows firsthand that technology is critical to providing superior outcomes for patients. Truman first deployed a clinical mobile technology solution in 2017, replacing what was known as the “nursing toolbelt” – devices that ranged from phones and pagers to scanners, laptops and cameras – with one rugged mobile device, purpose-built for healthcare.

Solution

Serving more than 100,000 patients each year, Truman uses Zebra’s TC51-HC mobile computers and the Cerner CareAware Connect™ solution to optimize critical operational areas such as care team communications, patient response times, vitals charting, medication checks, specimen and breast milk management and patient monitoring. Working with Zebra and Cerner, Truman continues to identify new uses for mobile technology to further improve its operations, and Truman is measuring the impact of these applications on clinician satisfaction and patient care.

Result

Thanks to the widespread adoption of rugged mobile devices and applications, TMC/UH has realized significant improvements. Satisfaction with the communication modalities amongst residents and nurses has improved by 35%, and the perceived communications response time is now 50% faster. The number of pages to physicians has dropped by 50%. The hospital has also decreased the number of patient-related falls and medical errors due to improved surveillance and enhanced patient identification and collection processes.



SUMMARY



Customer

Truman Medical Centers/
University Health
Kansas City, Missouri



Zebra Partner

CareAware Connect™

Industry

Healthcare

Challenge

- Consolidate the functionality of five devices into a single device
- Improve care team satisfaction
- Enhance care team communications
- Streamline clinician workflows
- Increase safety and efficiency

Solution

- Zebra TC51-HC mobile computer
- Cerner CareAware Connect Solution
- Cerner Patient Observer

Results

- Improved communications satisfaction among the care team by 35%
- Decreased care team response times by 50%
- Reduced pages to physicians by 50%
- Lowered the number of patient falls

A Transformation in Operations

There are a lot of choices in healthcare. If you are a patient in one of the nearly 550 beds located in the inpatient facilities at Truman Medical Centers/University Health, you're going to get fast responses from caregivers. You're going to contact your nurse directly instead of paging the nurses' station, which means your medical questions will get addressed a lot faster.

You're also going to see your caregiver verify your identification and medical orders by scanning your wrist before you take medications, provide a specimen or have your vitals checked. And you're going to have a lot happier care team serving your healthcare needs – one that has more time to spend listening and responding to you.

Why? It's all thanks to the Zebra TC51-HC mobile computers that TMC/UH nurses started using in 2017. Provisioned with Cerner CareAware Connect and care team applications, these healthcare-grade mobile devices have helped transform the way TMC/UH provides care – resulting in faster response times, improved communications, better patient care and a happier care team.

Mobile Technology Represents a “Significant Step Forward”

Prior to implementing the Zebra handheld mobile computers in 2017, TMC/UH nurses carried as many as five devices and often wrestled with equipment carts that were difficult to track down, hard to navigate and even harder to clean.

“We had old, outdated technology that really didn't function the way the nursing staff needed it to,” explained Amy Peters, MBA, BSN, RN and chief nursing officer at Truman Medical Centers/University Health. “The conversion to the Zebra TC51 and CareAware Connect was a significant step forward for our nursing staff and our patients.”

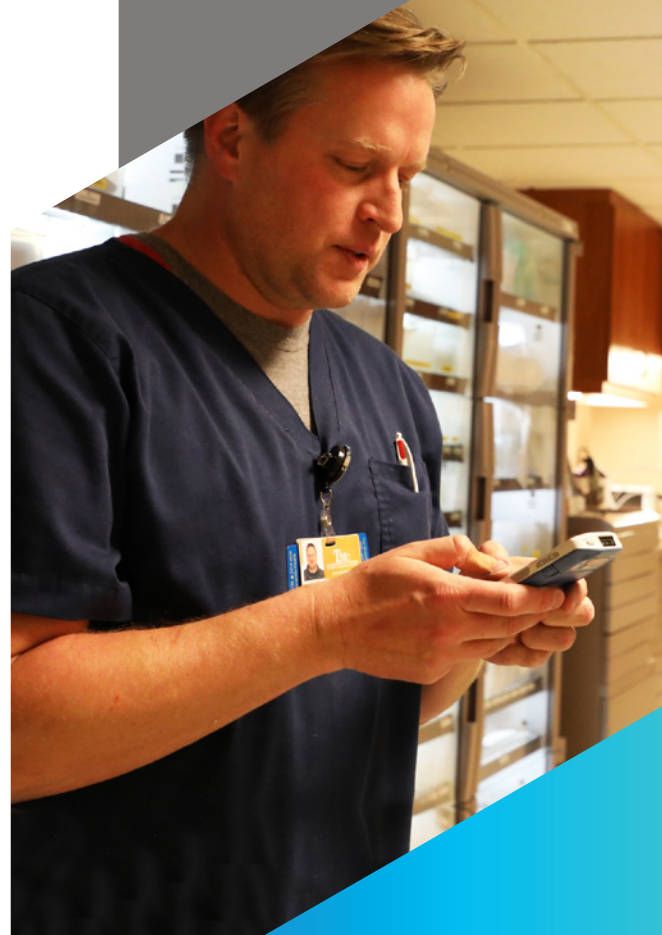
Since the implementation of the technology, TMC/UH has continued to work closely with Cerner to roll out new applications. The device has the flexibility to grow with Truman as a platform in support of their expansion. As a result, mobile technology continues to help TMC/UH transform its operations and gain brand new efficiencies.

A Vital Improvement to Patient Care

“One of the new applications they've added to the TC51 mobile device that I've really enjoyed is the fact that we are able to chart vitals in real time,” said Angel Jones, a registered clinical nurse at Truman. “That has improved our floats so much by not having to bring around a paper and write down vitals and then go back to the desk to chart them. It saves a lot of time.”

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Smart use of a nurse's time means a happy nurse. For vitals, nurses use the devices to capture and chart critical data in real time. While lstill in the room, nurses use the TC51-HC to input a patient's vitals directly into the electronic health record (EHR), complete with timestamp information.

Added Functionality with Specimen Collection, More Convenient Medication Scans

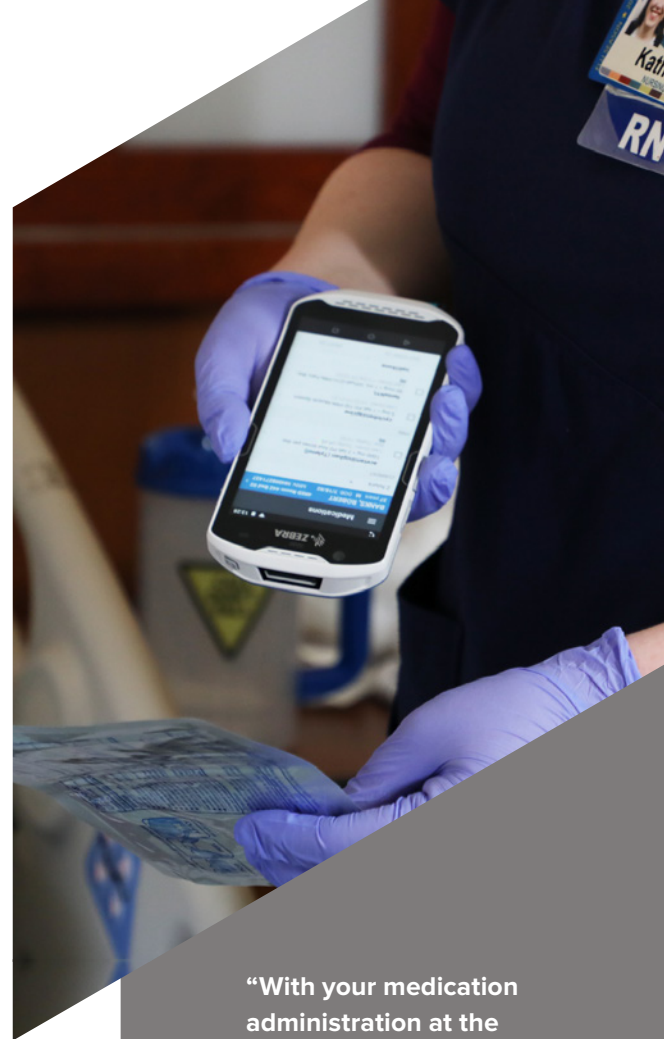
The TC51-HCs also allow nurses to collect patient specimens at the bedside with CareAware nurse collect, making the collection process both more efficient and safer. Patient safety is enhanced because you can scan the patient wristband with the TC51-HC, identify the appropriate collection order, and request labels for the specimen vials from a mobile printer that is right at the patient bedside.

The devices also reduce medication errors by allowing nurses to scan a patient's identification wristband before administering medicine. In fact, TMC/UH nurses now use the mobile devices to complete nearly 50% of all medication scans at the bedside, meaning they can reduce their reliance on workstation-on-wheels (WOW) mobile carts, which are cumbersome and difficult to disinfect.

During scanning, the mobile device not only verifies that the patient is receiving the correct medication and dosage but notifies nurses when new medication orders are issued or when the patient's condition – such as a low heart rate – requires a doctor's attention.

“With your medication administration at the bedside, it goes into the chart immediately and you know if there are any changes with the medications,” remarked Kassandra McKnight-Young, RN, BSN and senior clinical informaticist at Truman. “So if the physician made a change to the order, as I am scanning, it would allow me to note that the order changed and we need to hold the medication, or we need to verify before we keep going. All of these things impact patient safety.”

“Nurses are now thinking of different functionality that historically they have done on a desktop computer or on a mobile cart,” added Peters. “They are now asking us, ‘Hey, how can we get that same functionality on our mobile phones?’”



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The Proof is in the Data

Research by Dr. Robin Imperial, an internal medicine hospitalist at Truman and a clinical assistant professor of medicine at the University of Missouri-Kansas City, shows exactly how much the mobile functionality has improved communications between TMC/UH doctors and nurses, clinician satisfaction and hospital operations.¹

“We found improved satisfaction of scores across the board. We found better workflows. We found that response times were improved and, in particular, many stories on how the technology has improved patient care,” said Dr. Imperial.

“Our care team satisfaction has improved by 35% since converting to the CareAware Connect application on the Zebra devices,” said Peters.

The study also found that the mobile technology improved care team response times and reduced the number of pages to physicians, both by 50%.

First-Class Patient Care

The care team is thrilled by the improved communications. The TC51-HC provides a “direct line of communication with physicians, allowing them to respond in a timely manner,” said Jones. “Just having that conversation with them builds trust, and it builds a relationship. We work more efficiently with one another because I am able to talk to them in real time.”

The TC51-HC also lets care staff see nurse/patient assignments, which allows for more precise and direct communications. Team members can even send messages using a room number, which are then automatically directed to the nurse or physician assigned to that room during a particular shift.

“It’s very convenient that we can see on the TC51 who has which patients,” said Kathryn Mosby, a registered nurse and clinical team manager at Truman. “We can look at the list of nurses that are logged in and it tells us which patients they have. So it’s easier for the providers to figure out which nurse is taking care of which patient.”



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Kathryn Mosby, Registered Nurse and Clinical Team Manager, Truman Medical Centers/University Health

¹ Improving interdisciplinary communication on general medicine wards through the use of a two-way HIPAA-compliant text messaging app. Authors: Imperial R, Nazer M, Elkafrawy A, Bahaj W, Abdelkarim I, Schueler M, Zamir H, Banderas J, Wooldridge D.

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A More Efficient Way to Monitor Patients

Cerner Patient Observer™ is a solution that enables 24/7 monitoring of multiple patients from a central monitoring station. Two-way communication helps enable the monitoring technician to engage patients in a two-way conversation.

Integration with CareAware Connect allows the monitoring staff member to notify the nurse assigned to the patient, or another member of the care team with single click, if they are needed.

“We’ve reduced our falls overall at Truman just by adding this alert functionality,” reported McKnight-Young. “And it’s put nurses and support staff back on the floor.”

Other applications include Camera Capture™, which nurses use to take an image of a wound or an EKG, for example, and send it to a physician for evaluation via secure text message or email.

More Opportunities to Expand and Improve

Truman Medical Centers/University Health continues to strive for excellence, and that focus leads to an expansion of applications and continuous improvement in patient care. As TMC/UH looks ahead, it plans to add a new CareAware Smart Pump Programming™ application to assist nurses in monitoring and managing patient care. CareAware Smart Pump Programming connects infusion pumps to the EHR. The order details are delivered by the EHR to the pump for the nurse to review and begin. The barcode scanner on the mobile computer identifies the patient, the medication and the infusion pump.

TMC/UH is also planning to implement even more precise alert functionality that would send patient requests such as water refills directly to a medical assistant while directing medication-related issues to a nurse. In addition, TMC/UH is exploring Cerner Smart Room™ technology, which would deliver essential information or patient requests to care staff as they enter a patient’s room.

“As we have grown and further adapted our mobile devices and CareAware Connect, we have added additional functionality that the nurses have actually thought of and asked for in an attempt to make what they do easier and more efficient,” said Peters.

Ultimately, the hospital is to planning roll out the CareAware Connect application to specialty staff, such as social workers and physical therapists.

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“Through our study, word-of-mouth spread around the hospital, and it was really hard to contain the use of CareAware Connect. From social work to pharmacy to other specialties and sub-specialties, everybody was chomping at the bit to get on the app,” said Dr. Imperial. “I think that shows the ease of communication with it and how widespread it would be accepted in the hospital.”

More Time with Patients

The communications capabilities of the TC51-HC enable TMC/UH to enhance the patient experience in multiple ways. “One significant improvement we made,” noted Peters, “was having physicians call nurses in advance of rounds, so the nurses were able to be available and participate in physician rounds for every patient on the unit.”

“The mobile devices have improved our patient satisfaction by allowing the patients to communicate directly with their nurses,” stated Peters. “Patients no longer have to push their call light and wait – sometimes extended periods of time – for somebody at the nurses’ station to respond to that call light, find their nurse and make sure the nurse gets the message to respond to the patient room.”

The bottom line is that more efficient communications give nurses more time to focus on the patient – and this translates into better patient care.

“As a floor nurse, if I look back on my career, five years ago, I could’ve never imagined doing my job with one single device,” concluded McKnight-Young. “Thanks to the Zebra TC51, I can get to know my patients better – both personally and clinically. This device allows me to be at the bedside with my patient, and that right there provides better safety and better care for the patient. It’s a gamechanger.”



About Truman Medical Centers/ University Health:

TMC/UH is an academic health system comprised of two inpatient facilities with 51 clinics and more than 4,000 employees – including a level one trauma center.

LINKS:

- Read the Stories from the Edge blog: TMC/ UH Lightens the Nursing Toolbelt.
- Watch the video: How New Applications are Transforming Operations at TMC/UH.

For more information about Zebra’s healthcare solutions, visit www.zebra.com/healthcare



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