



Moxi Case Study

UTMB Angleton Danbury

Located south of Houston, Texas, the University of Texas Medical Branch's (UTMB) Angleton Danbury campus is a crucial acute care hospital. As the first trauma-designated facility in Brazoria County, it serves over 60,000 individuals across the region. Established in 1969 and integrated into UTMB Health in August 2014, the campus offers diverse services, including round-the-clock emergency care, advanced diagnostic imaging, outpatient surgery, rehabilitation, physical therapy, wellness, and more.

To tackle operational challenges as well as nursing shortages, the hospital has embraced innovation in the form of robot assistants. Developed by the company Diligent Robotics, these Moxi robots support clinical staff with routine, non-patient-facing tasks. From delivering lab samples to retrieving supplies, these robots have already made a tangible impact. By streamlining workflows, they free up time for nurses to focus on patient care, leading to improved efficiency and enhanced bedside engagement.

The Challenge

Like healthcare organizations nationwide, the UTMB Health Angleton Danbury campus is facing a chronic staffing issue that will eventually have an adverse impact on the ability to provide quality patient care and because they are in a rural community, the problem is magnified. Moreover, the hospital lacks a pneumatic tube system for delivering lab specimens and supplies, meaning clinical staff—including nurses, patient care technicians, and phlebotomy technicians—traditionally transported these items manually within the campus. Hand-delivering items took the staff away from their patient-facing time, with nurses and techs constantly shuttling between their departments and the lab, many of which are located on different floors.

Recognizing the strain on nursing staff and the need to optimize their roles, hospital leadership initiated an innovative program in collaboration with Diligent Robotics. By bringing two Moxi robots into their daily operations, the hospital hoped to alleviate the physical burden of manual deliveries to and from the lab, thereby allowing clinical professionals to allocate more of their valuable time to patient-centered tasks.

The Impact

In the time since their introduction in March 2023, the Moxi robots have made more than 10,500 deliveries to and from the lab, with their highest workflow originating from the emergency department. The robots have also supported the campus' medical surgical department, their ICU, the Labor & Delivery unit, central supply, and food and nutrition services. Since arriving at the hospital, the Moxi robots have given countless hours back to the hospital's nurses and clinical staff, who can now spend more time utilizing their skills and caring for patients at the bedside. What's more, they have become an integral part of the team, influencing job satisfaction among the clinical staff, and many of the nurses have expressed more joy in their day-to-day since Moxi's arrival.

At my campus, our dedicated healthcare staff found themselves performing routine item movements over 300 times a day—shuttling medicine, lab samples, and supplies. These actions often led them away from patients, and hours were spent in transit. By delegating these tasks to Moxi, we reimaged efficiency while ensuring patient care remains our top priority.

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By The Numbers:

Moxi's Impact at UTMB Angleton Danbury Campus

Moxi has completed
over **27,500**
deliveries and
has returned more
than **5,400**
hours back to
staff. **9,900** of all
Moxi deliveries have
been sent to the
Lab.

Timeframe: Mar. 2023 – Sept. 2023

Additionally, the robots have helped improve the workflow between the emergency department and the lab. Prior to Moxi, nurses in the emergency department were responsible for manually scanning barcodes on the labels of specimens upon delivery to the lab. This process has since been streamlined, with nurses now scanning these barcodes in the emergency room before placing the specimens in the robot for delivery.

Now, when the robot arrives in the lab, the lab techs simply retrieve the already-scanned items and move them quickly to the processing stage. This new approach not only expedited the process, but it has contributed to an improvement in the overall timeline for specimen deliveries. While straightforward, this new workflow has implications beyond operational efficiency; it embodies a forward-looking shift in clinical practices that can ultimately improve the overall quality of patient care.

Moxi may not be directly engaged in patient care. However, the robot's presence resonates throughout the facility as a representation of innovation and progress. As the first hospital in the Houston area to embrace Moxi, this is also a testament to UTMB Health's commitment to propelling the Angleton area forward and investing in a shared vision for a thriving community.

The Future

Boosted by the immediate success of the two Moxi robots, the UTMB Health Angleton Danbury campus is looking to add additional robots to complete its fleet. As the hospital embraces its commitment to innovation and operational excellence, it hopes to expand Moxi's role to further support more departments and processes.

In addition, the hospital will be introducing Moxi to its pharmacy operations with enhanced security mechanisms around restricted deliveries. These enhanced security mechanisms will enable the hospital to determine who has access to unload specific deliveries. For instance, in the case of medications subject to strict oversight, the hospital can program the robot so that only licensed nurses with the necessary certifications can access and unload these items. While Moxi already requires badge entry for loading and locking items, this extra step is ideal for high-risk and high-value medications.

UTMB Health Angleton Danbury will continue to rely on Moxi as a valuable partner for optimizing clinical operations, improving patient care, reducing clinical workload, and ultimately improving the nursing role across the campus.

