

SWISSLOG CASE STUDY

NEBRASKA MEDICAL CENTER

The PillPick system centralizes medication packaging, barcoding and storage for the Nebraska Medical Center pharmacy.



The Hospital

With a history dating back to 1869, The Nebraska Medical Center is known for excellence, innovation and quality patient care. As the teaching hospital for the University of Nebraska's health sciences programs, this 679 acute-care bed facility has an international reputation for providing solid organ and bone marrow transplantation services and is well known nationally and regionally for its oncology, neurology and cardiology programs.

The Nebraska Medical Center was created in 1997 by combining the operations of University Hospital, Bishop Clarkson Memorial Hospital, and their ambulatory care facilities. The Nebraska Medical Center is Nebraska's largest health care facility – with more than 4,900 employees and more than 1,000 physicians on staff. As the primary teaching hospital for the University of Nebraska Medical Center, The Nebraska Medical Center hosts more than 350 medical and surgical residents and assists in the training and education of more than 1,000 students.

The hospital has a very strong presence and reputation in the major service lines of oncology, solid organ transplantation, cardiology, neurology and trauma. The hospital also provides clinical services in general surgery, orthopedics, pediatrics, gastroenterology, rheumatology, diabetes, obstetrics/newborns, emergency medicine, OB/GYN oncology, otolaryngology, endocrine, burn, dermatology, HIV, oral surgery, primary care, pharmacy, pathology and infectious disease/bioterrorism.

swisslog



The Nebraska Medical Center is one of only 60 National Cancer Institute (NCI)-designated cancer centers in the United States. NCI-designated Cancer Centers are recognized for their scientific excellence and commitment to cancer treatment and research that focuses on the development of more effective approaches to cancer prevention, diagnosis and therapy.

The Nebraska Medical Center's main campus, located in midtown Omaha, is anchored by Clarkson Tower, University Tower, Lied Transplant Center and the Hixson-Lied Center. Adjacent to this campus is the University of Nebraska Medical Center—the hospital's academic partner.

The Challenge

The Nebraska Medical Center Pharmacy needed to prepare for barcode-assisted medication administration, remodel the physical inpatient space to accommodate USP 797 guidelines, and streamline the patient-specific medication cassette filling and checking processes—all of which was to be completed at the same time.



The Solution

The Pharmacy Department at The Nebraska Medical Center spent substantial time and effort researching all of the barcoding and packaging options available that would enhance patient safety, provide dependable operation and could package odd-shaped items such as vials, ampoules or liquid cups, as well as tablets and capsules. The solution also needed to enhance the efficiency of the hybrid model of medication distribution, and select floor stock items in unit-based medication cabinets and patient-specific medication cassettes at the bedside. Based on the ability to best meet these needs, Swisslog's PillPick system was the solution of choice.

The PillPick system packages bulk pharmaceuticals into unit doses then barcodes, stores and dispenses the unit doses on patient-specific PickRings. The PickRing, a patented flexible plastic ring, may include information about the patient, the patient medication, and when the medications are to be administered. PillPick also monitors and manages inventory by interfacing directly with the hospital information systems and other electronic systems including Pyxis. In March 2007, PillPick was installed in the pharmacy.



The entire inpatient pharmacy was relocated for a period of 9 months to accommodate the remodel of the space and the installation of Swisslog's Pillpick system. Prior to the implementation of the Pillpick system, four pharmacy technicians—totaling around 28–32 hours each day, were dedicated to filling the patient-specific medication cassettes. In addition to the technicians' time, pharmacists checking the cassettes amounted to 7–8 hours per day. After the implementation of the Pillpick system, the cassette filling time was cut in half and the checking process reduced to less than 3 hours total.

An added, yet welcome side effect from the Pillpick system project, was the ability to streamline and reduce satellite pharmacy stock and reduce missing doses from the patient-specific cassettes.



The Result

The installation of PillPick allowed for one centralized location for the packaging, barcoding and storage of the fastest moving medications for the pharmacy. PillPick has allowed for the packaging, barcoding and storage of 450 line items; which include oral solids, injectables and some oral disintegrates. With the convenience of the PickRing, which is composed of a patient-specific 24-hour medication supply, the pharmacy technicians now spend only a few hours each day filling their cassettes.

In the years since the installation, The Nebraska Medical Center has been able to increase productivity and spend more time doing value-added tasks. They have seen a greater than 50% decrease in checking time—which allows for a significant increase in time for pharmacist to work on clinical tasks, a 70% reduction in calls from nurses regarding missing doses, and most importantly, an increase in overall patient safety.

In 2007, Chris Shaffer, Pharmacy Director, appealed to the Nebraska State Board of Pharmacy for permission to stop checking each PickRing and unit dose as they are dispensed from the PillPick System. The Board granted them permission based on the numbers provided detailing the accuracy of the robot doses which were dispensed over the first 6 months use of the system. The pharmacy continues to check a small percentage of the PillPick system generated PickRings and unit doses for on-going quality assurance and validation of their PillPick system.