



Royal Medical Services - King Hamad University Hospital Medication Management

MedLink Medication Management Workstations ensure patients in Bahrain receive the correct medication every time while streamlining workflows.



RMS-KHUH is committed to improving access to health services and delivering quality, compassionate care.

The Challenge

Award winning Royal Medical Services - King Hamad University (RMS-KHUH) in Bahrain needed a foolproof, computerized system that would track medication dispensing to patients. Their goals were to enhance the quality of patient care, streamline work processes, and provide complete inventory tracking to avoid stockouts.

About Royal Medical Services - King Hamad University Hospital

Built on 64,000 square meters and consisting of three main buildings, RMS-KHUH accommodates 500 beds and is fully equipped with the latest medical equipment and facilities. As an all-specialty hospital, services include Gastroenterology, Gynecology, IVF, Pediatrics, Emergency medicine, Plastic surgery, Ophthalmology, ENT, Dentistry, Neuro, Endocrinology, Hyperbaric and Oncology.

As a university hospital, RMS-KHUH has set the standard for quality care with a dedicated Research and Training Department that ensures its staff stays at the forefront of medical innovation. The hospital's commitment to excellence has been recognized with numerous national and regional awards, including:

- Joint Commission International Accreditation (JCI)
- National Health Regulatory Authority Accreditation (NHRA)
- College of American Pathologists Accredited (CAP)
- Centre of Excellence Bariatric Surgery – European Accreditation Council
- Multiple other awards for research and service quality like the Computer News Middle East (CNME) Healthcare Deployment of the Year Award 2012 (for RTLS) and the American Heart Association Silver recognition award 2015

The Challenge of Medication Distribution

As one of the largest facilities in the Kingdom of Bahrain, the patient count has continued to grow. The impressive treatment facilities also attract patients from neighboring countries. Anticipating continued growth, the hospital identified a need to standardize its medication distribution. RMS-KHUH wanted a closed-loop medication management system that:

- Increased medication administration efficiency
- Minimized the potential for distribution errors
- Tracked every interaction, from medication preparation to administration to individual patients
- Integrated completely with HOPE, their home-grown hospital information system

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The MedLink™ is specifically designed to reduce human error, keep patients safe, and create a closed-loop medication system using lockable drawers and patient wristband scanning

Evaluating Solutions

When RMS-KHUH began evaluating medication carts and closed-loop management solutions, they worked with Yousuf Mahmood Husain Co W.L.L (YMH), the largest healthcare distributor in Bahrain. The essential requirements they considered included:

- A closed-loop medication system to control and track all phases of patient medication delivery
- Complete integration with the existing hospital IT system
- Secure medication storage
- Sufficient storage of medication to avoid shortfalls
- Easy interface and the ability to integrate seamlessly with hospital workflow
- The cart's adaptability and ease of use in varied settings
- The cart's size and ability to fit within wards without infrastructure changes
- The number of patients a cart could serve
- The number of wards needing carts
- The Value of Investment (VOI) and Return on Investment (ROI)

To begin the evaluation, YMH provided a demo cart to test integration with RMS-KHUH's hospital information system. After the evaluation process was complete, they chose the MedLink Medication Management Workstation from Capsa Healthcare based on MedLink's:

- Ability to assign drawers to a specific patient
- Adaptable modular design
- Ease of integration into HOPE

- Ease of integration into RMS-KHUH's barcoded medication administration (BCMA) system

MedLink also ensures safe, accurate medication administration. It's designed to create a closed-loop medication system using lockable drawers and patient wristband scanning.

Implementation and Deployment

Once testing was completed and the MedLink carts from Capsa Healthcare were chosen, RMS-KHUH deployed forty standard capacity carts, two to each ward, for their initial implementation.

After the wards began using MedLink, some with higher patient counts found that they needed more drawers to accommodate all their patients' medications. MedLink's modular design allowed for an easy upgrade to a high-capacity configuration that integrated the necessary additional drawers. RMS-KHUH now utilizes 50 high-capacity carts in their wards.

How RMS-KHUH uses the MedLink Medication Workstation

With MedLink carts, the RMS-KHUH medication administration workflow has been streamlined into four distinct steps:

1. Staff members load individual drawers with medication at the pharmacy, ADC, or nursing station.
2. When loading, staff members electronically label and assign drawers to individual patients and verify that the drawer contains the correct medication and dosage for the patient.

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3. When a nurse scans a patient's wristband, the correct drawer unlocks automatically, ensuring that each patient receives the correct medication.

4. The system automatically records the administered medication in the patient's electronic medical records (EMR).

Unit Dose Technology Implementation with MedLink

RMS-KHUH was the first in Bahrain to adopt unit dose technology from Sinteco, Italy. Unit dose technology allows the pharmacy to prepare personalized unit doses for each medication provided to each patient in patient-specific clips. The MedLink cart drawers store the daily doses, ensuring efficient and safe access to medication.

Nurses can scan a patient's wristband to access the drawer throughout the day. The nurses then directly administered the personalized medication dose. Once administered, the MedLink system automatically uploads and tracks the medication in the patient's EMR.

RMS-KHUH was able to use MedLink's customizable drawers and software system to easily integrate unit dose technology and further ensure safe, reliable medication administration.

The Benefits

Following the initial implementation of MedLink carts, RMS-KHUH immediately identified numerous benefits for both patients and staff members. Since then, an additional ten MedLink carts have been ordered to continue bringing efficiency to the hospital.

Some of the primary benefits recorded since implementing the MedLink closed-loop medication system solution include the following:

Streamlined Workflow

"Faster response time for medication administration. The cart made nurses' daily routine much easier and smoother."

MedLink's integration with the EMR has streamlined the documentation process, allowing nurses to administer medications more efficiently. The user-friendly interface has saved time, giving nurses more opportunities to provide quality patient care.

Organized Medication Storage

"Medication storage space optimization solution."

MedLink allows nurses to optimize medication storage using its configurable drawer design. Transparent movable drawer dividers allow caregivers to customize the drawer's internal layout and view medications in the rear drawer sections. If workflow requirements differ between wards, or change in the future, they can easily reconfigure drawers to meet evolving needs.

Patient Safety

"Medication and patient safety are achieved better when using the cart compared to the old workflow."

By linking medication to scannable patient wristbands, MedLink significantly reduces the risk of error during administration. Nurses simply need to scan a patient's wristband to unlock the patient's customized drawer, access the correct medication and dosage, and automatically enter the appropriate EMR.

Complete Tracking and Accountability

"Always ensures the right patient is taking the right medication, and no incidents are reported regarding this."

Using MedLink records every event — log-ins, scans, overrides, and drawer access — providing a new level of accountability and visibility in the medication workflow.

Additional YMH Benefits

YMH has already placed an additional 25 MedLink carts in Royal Medical Services - Mohammed Khalifa Cardiac Center in Bahrain and has brought eleven high capacity carts into the largest private American mission hospital, the first private market entry. The successful MedLink implementation at RMS-KHUH has improved medication administration at the hospital and provided opportunities to standardize workflows and improve patient care at medical facilities throughout Bahrain.