

Rubbermaid Medical Marketing

# Case Study

## Norwalk Hospital Norwalk, CT



A one-two punch:  
Rubbermaid medication cart improves nursing  
workflow, enhances patient safety

Looking for strategies that would not only improve patient care but also save time and steps for nurses, Norwalk Hospital turned to Rubbermaid Medical Solutions medication carts.

### The Challenge

When it was decided to implement a bar code medication administration system in 2006, Norwalk Hospital's primary focus was to improve patient safety. At the same time, leadership recognized the organization had an ideal opportunity to re-evaluate its complete medication delivery process. Over the years, Norwalk Hospital adopted various medication delivery solutions, including multiple generations of mobile carts, to facilitate efficient workflow. Though each version had merit, previous innovations missed the mark in terms of uniting patient safety with optimized nurse workflow.

Nurses at Norwalk Hospital historically administered medications at the patient bedside and then returned to the nurse station for charting. Thirty years ago, Norwalk introduced mobile carts designed to be rolled into the patient room. Though the carts offered a convenient option for storing medication and housing computer terminals, the units proved unwieldy and difficult to push. As a result, nurses left the carts outside the patient room, which required that they constantly walk from the bedside to the hallway for computer access.

Norwalk Hospital leaders initiated a search for an updated solution that was better suited to both nurse and patient needs. With nurses as key-decision makers, Norwalk investigated multiple alternatives, assessing the effect each one had on medication administration workflow.

# The Solution

During the selection process, hospital leaders focused on finding a solution nurses would embrace. “We knew the project’s success depended on choosing a product the nurses liked,” said Karl Lewis, a Norwalk Hospital pharmacy informatics specialist. “From the start, we did a lot of talking to the staff and discussed which options supported the best workflow.”

Various mobile carts and medication delivery alternatives were placed in an empty patient room, giving nurses the opportunity to try each approach. Four distinct medication administration methods were evaluated:

- A computer on wheels with attached scanner, but no medication drawers. To obtain medications, nurses had to walk to a centralized dispensing unit on each floor.
- A conventional cart similar to Norwalk’s existing equipment models. This style provided multiple drawers and generous storage, but was heavy and difficult to maneuver.
- A lightweight Rubbermaid Medical Solutions cart with a smaller footprint, sleek profile and ergonomic design. Though it featured slightly less storage than a traditional cart, it offered ample room for an on-board computer and scanner. This particular unit was adjustable to accommodate the height and preferred work style (sitting or standing) of each nurse.
- An in-room medication storage cabinet for each individual patient’s medication. The built-in unit also held a computer for nurse documentation. This option required clinical staff to transport medications from the pharmacy to patient rooms daily.

About 70 percent of Norwalk’s medical-surgical nurses participated in the project over a four-week period. Nurses were asked to walk through the complete medication administration workflow with each alternative. Testing included pushing carts within the tight confines of a patient room to judge each of the units’ ergonomic design and ease of use. Nurses also evaluated integration of patient and medication bar code scanning, plus assessed medication dispensing and documentation. Finally, participants were asked to complete a survey analyzing each solution’s impact on the overall clinical workflow.

“We found that each alternative had its own pros and cons,” said Patient Care Service Manager Renee Peart, RN, adding that it was highly beneficial for the nurses to be given an opportunity to weigh in on the decision. They were more invested in the process, which in turn drove acceptance.

Norwalk’s leadership reviewed the nurse feedback and consulted with the information technology (IT) department. The in-room cabinet was popular because it eliminated the need for carts. However, per-room cost estimates totaled nearly \$6,000. Plus, the units would require an additional full-time employee to stock the medications each day. Another drawback: the wall-mounted unit could not be adjusted to accommodate the height of the various nurse users.

The computer on wheels option provided an easy means for scanning the patient wristband. The lack of medication drawers, though, meant nurses would be required to constantly walk back and forth to a central medication dispensing machine. This solution was deemed unacceptable because it inadequately addressed workflow improvements.

The traditional cart was appealing because it offered substantial storage for medications and supplies, plus would accommodate the computer. Leaders were concerned, however, that the cumbersome unit would be left in the hallway since it was difficult to push and tricky to maneuver around family and equipment to the patient bedside. This solution previously failed to solve workflow problems if the bar code scanning tools were not employed at the bedside. Unless nurses utilized the patient/drug confirmation technology as intended, medication administration safety would not be advanced.

The team ultimately selected the contemporary, smaller cart offered by Rubbermaid Medical Solutions. The streamlined design was easier to manipulate than the conventional carts. The drawer space provided sufficient storage for medications throughout a full eight-to-12 hour nursing shift. The compact cart size prevented storage of unnecessary items that could compromise patient safety, such as difficult-to-monitor multi-dose medications. The unit also offered a superior security system with drawers that automatically locked three seconds after the nurse stepped away.

“The Rubbermaid cart has helped create a safer, more positive care experience for everyone.”

Karl Lewis,  
Pharmacy Informatics Specialist



# The Benefits

The adoption of the Rubbermaid cart has positively impacted workflow and improved patient safety, as well as reduced physical strain while increasing nurse/patient interaction.

“We have achieved the improvements in workflow that we desired and anticipated,” said Beverly Lyon, Patient Care Service Director for Medical, Surgical and Rehabilitation Services. “For example, nurses are taking the carts to the patient bedside, which creates more face-to-face time with patients, and cuts down on nurses walking in and out of the room to access their computer or get medication. Obviously, patient safety is enhanced.”

Norwalk first piloted the carts on Peart’s floor. “Our nurses spent time figuring out how we could most effectively use the carts to streamline our workflow and improve patient safety,” she explains. “Once the carts were introduced across the hospital, my team helped coach the other nurses on how best to integrate the carts into their daily routines.”

The enthusiastic coaching from Peart and her team spurred acceptance. “Despite some initial nurse pushback here and there, overall the staff recognized the carts promote our overall patient care priorities,” said Peart. “The nurses also appreciate the many creative design features that make their jobs easier.”

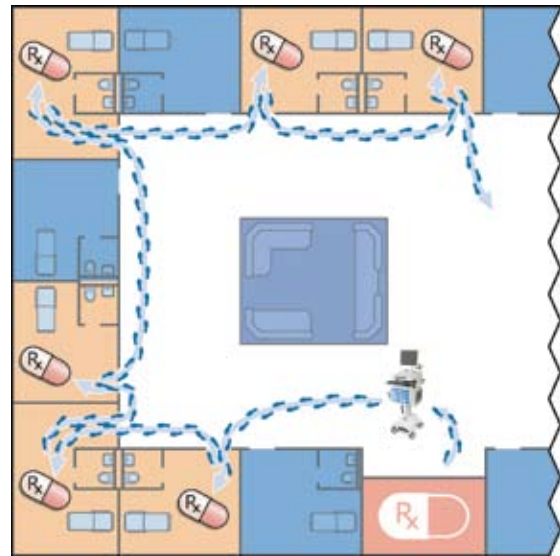
One popular component is the keyboard light. “The nurses really like the keyboard light because it makes performing their job easier at night,” said Peart. “We don’t have to turn on any harsh overhead lights, meaning we are disrupting the sleep of our patients and their families less often.”

The advanced security system has automated a manual process critical for patient safety. “Nurses must balance many responsibilities at once, including making sure medications are secure,” explains Lyon. “Nurses have transferred that burden to the carts themselves since the drawers have such excellent locking functions.”

The lighter and more ergonomically friendly cart has virtually eliminated back injury complaints. “We’ve seen a massive reduction in nurse back injuries,” says Peart. “In fact, since adopting the smaller carts, we haven’t had a single reported issue.”

The mobile cart adoption rate is very high. “We conducted a survey and determined that 98.5 percent of the nurses are using the cart appropriately,” said Peart. “This means they are taking the cart to the bedside, walking less and spending more time with patients.”

Leaders are most pleased with the positive impact on workflow and patient safety. “Nurses stay at the patient bedside longer because the cart is right there with everything needed for medication administration and computer access,” said Lewis. “The Rubbermaid cart has helped create a safer, more positive care experience for everyone.”



Typical workflow for a medication pass using the Rubbermaid Medication Cart.

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Beverly Lyon, Patient Case Service Director for Medical, Surgical and Rehabilitation Services



# Mobile Medication Carts



## POWERED CARTS

- Battery: 35 or 55 AMP SLA AGM
- Certified to UL 60601-1 standard for patient point of contact
- Digital battery charge level and charging status indicator on work surface
- 3 Available Power Outlets
- Input: 12V 60 hz
- Output: Pure Sine Wave 120V AC; 250 watts; 60 hz
- Charger 10 amps
- Automatic Transfer Switch enables full use of computer without affecting battery charge time
- Audible alarm
- Gentle shut-down at critically low power levels
- Internal storage for mini PC's, thin clients, and notebook computers; external CPU holder for ultra small form factor PC's

## Standard Across M39 Line

### GENERAL

- Base Size: 17" w x 19" d
- Height Adjustment: 15" electronic lift
- Work Surface Size: 19" w x 15½" d
- Secondary Work Surface Size: 12" x 12"
- LED Keyboard Light with auto shut-off
- Work Surface Document Protector: 16" w x 12" d
- Casters: 5" precision bearing casters/1 locking
- Smooth, cleanable surfaces
- 2.5 ft hospital grade spiral cord extends to 8 ft
- Internal CPU storage: 14½" w x 13½" d x 2¾" h
- Asset Tracking/Cart Label: Programmable LCD (10 digit)

### MEDICATION ADMINISTRATION

- Electronic Keyless Entry
- PIN Code System: 0-9 digit, 128 codes per cart, update and audit PIN codes remotely
- Drawer Lock Time-out (seconds): 1-255 (default = 120)
- Drawer Ajar Notification: Flashes on LCD
- Accommodates most bar code scanners
- Medication Cup Dispenser: holds 25 plastic or paper cups

### STORAGE

- Inner Drawer Dimensions (Maximum number per Cart)
  - Small 6" w x 10¾" d x 2¼" h (up to 8 per cart)
  - Medium 6" w x 10¾" d x 5" h (up to 4 per cart)
  - Large: 6" w x 10¾" d x 10½" h (up to 2 per cart)
- General Purpose Bins (2 standard per cart)
- Mini Accessory Bin
- Locking Side Bins (up to 2 bins per side)
- Storage for cables under work surface

### WARRANTY

- 3 Year Mechanical; 2 Year Electrical
- Extended Warranty Available (please inquire)

### OPTIONS

- 35 or 55 AMP battery
- Sharps Container Bracket
- External CPU Holder
- Locking Side Bin

### SUITED FOR

- Initiatives
  - Bedside documentation
  - eMAR / Bar Code Medication Administration
- Units/Functions
  - Med-Surg, Respiratory, ICU
  - Centralized Medication Delivery (cart-fill)
  - Decentralized Medication Delivery (cabinet-based)
  - Envelope (2 or 5 Drawer version) or Unit Dose Delivery
  - Recommended Maximum Patient:Nurse Ratio

Medication Cart 8:1

Mini Med Cart 24:1



## SERVICE GUARANTEE

We are committed to providing best in class service to maximize your uptime. Our service guarantee includes:

- Onsite Parts/Service next business day as needed
- Call back within 2 hours
- Help desk support
- Dedicated Technical Account Manager and Field Engineer



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