# HOW TO TAKE CHARGE OF HOSPITAL WORKFLOW, SUPPLY MANAGEMENT, & PATIENT SAFETY.



Doing More With Less Using Automated Data Capture

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Keeping People Safer...Creating Smarter Hospitals

At no time in our history is healthcare and hospital efficiency so crucial. Attempting to accomplish essential patient care tasks while under the burden of staff shortages puts patient safety at risk. You can't reduce the workload of OR teams. nurses, and support personnel - They continue to be responsible for administrative tasks. How can the time taken for these tasks be reduced without encountering errors in compromising patient data and inventory? How can staff workflow be optimized for more efficiency?

## In other words, can you actually get more done with less time available?

The research is in.
Automated healthcare
data capture technology is

the secret to saving money, staff retention, hospital team morale, and ultimately, patient safety. The location and safety of every medical and surgical device, every blood and tissue sample, every medication, and every medical and staff personnel member is critical to efficient and comprehensive patient care. Automation is the answer.

#### The Problem

Frustrations, fears, and burnouts plague OR nurses as they are distracted from patient care to attend to administrative, non-clinical duties, from needless paperwork to wasting time walking long distances between tasks. Attempting to perform this multitasking balancing act, alongside ever-increasing

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OR caseloads, results in preventable errors.

45.93% OF SENTINEL EVENTS REPORTED TO THE JOINT COMISSION OVER PAST 16 YEARS WERE FATAL.

IN A RECENT STUDY: 23% OF NURSES REPORT: NOT ENOUGH TIME FOR PATIENTS

26% OF NURSES REPORT: TOO MUCH PAPERWORK WAS THE MOST STRESSFUL PART OF THEIR JOB

31.5% OF NURSES: LEFT THEIR PROFESSION DUE TO RURNOUT





Paul Zieske, President, Cofounder, and Chief Product Officer of Navv Systems, Inc. described a ripple effect of frustrations when the exact whereabouts of essential hospital equipment, assets, and personnel are unknown. Recent staffing shortages cause management to jerryrig ways to do more with less.

### Ripple Effect #1: Headaches for the Nursing Staff

When the nursing team cannot find the necessary equipment and tools to execute their jobs properly—they cannot locate stretchers, IV pumps, and patient monitors—Delays may put critical care at risk. The result is mounting aggravation for hospital personnel and patients, alike.

OVER 1/3 OF NURSES
SPEND AT LEAST ONE HOUR,
PER SHIFT, LOOKING FOR
MISSING MEDICAL EQUIPMENT.
-NAVV-SYSTEMS.COM

### Ripple Effect #2: Workflow Frustrations Often Lead to Equipment Hoarding

To avoid wasting time looking for misplaced equipment, nursing staff may resort to stashing items in locked offices or filing cabinets to have ready access when the need arises to use these assets for patient care.

The Ripple Effects of Equipment Hoarding:

- 1. Up to 25% of equipment is misplaced and is unavailable or under-utilized for others
- 2. When items cannot be found, they are purchased again, leading to needless overstocking
- 3. Cost efficiencies mount when rented items are not returned on time

### Ripple Effect #3: Equipment Falls Under the Radar for Inspection or Replacement

When equipment and assets, such as wheelchairs, are hoarded, they are MIA— These articles are missing in action and are no longer regularly inspected for

safety, potentially not meeting Joint Commission regulations. Even when replaced, the new items may get hoarded again, creating a vicious cycle of runaway equipment expenditures.

A 2019 survey of hospital professionals revealed that only 50% of providers were scanning UDI barcodes into their EHR systems due to missing or multiple barcodes (52%), unscannable barcodes (48%), and information not integrating into the hospital's ERP system. Hospitals are required to log in all UDI medical devices, implants, and tissues-Failure to do so constitutes noncompliance.

How can OR personnel vouch for a patient's safety when they don't have the proper tools to avoid using recalled and expired items? How can they be certain that a tool is safe and has not expired or been recalled? How can they scan items that cannot be read by barcode technology alone?

### Ripple Effect #4: Medical Equipment Disappears

Equipment may have left the premises for good never to be seen again— Portable workstations, patient monitors, and miscellaneous items placed in pockets are likely candidates when OR and nursing personnel are too busy attending to patients

# DOING MORE WITH LESS USING AUTOMATED DATA CAPTURE

to return items to their rightful places.

### Ripple Effect #5: More Time Looking For Lost Assets = Less Time Devoted To Bedside Care

The ability to quickly locate hospital equipment is directly proportional to the ability to effectively manage patient safety and care. The issues that begin with mishandling equipment transform into an issue of patient neglect, loss of hospital reputation, and substantial monetary loss.

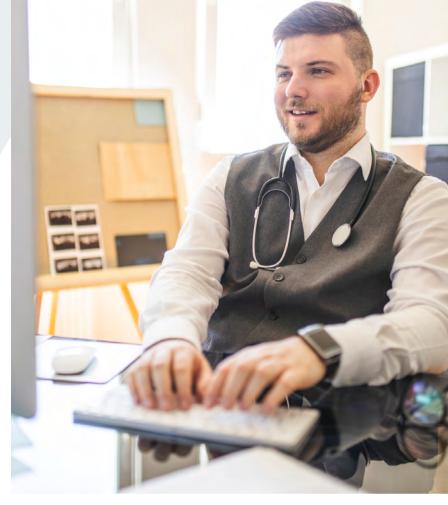


# IN ADDITION TO ZIESKE'S ORIGINAL RIPPLE EFFECTS, OUR RESEARCH UNCOVERED THREE MORE:

Ripple Effect #6: Surgical Staff Resorts to Using Items Not Found on the Hospital's Master Item List

The slippery slope is when medical trunk stock supplies arrive in the procedure room without having a prior data trail. Nurses could get the non-listed items manually entered into the EHR and the patient's chart, which sounds simple enough, until they are encountered with entering large numbers of screws, for instance, or they are pulled away to more urgent tasks. Additionally, many supplies used in orthopedic procedures, for instance, cannot be scanned by barcodes alone.

NON-CAPTURED ITEMS CAUSE A
VERY REAL RISK TO PATIENT
SAFETY ALONG WITH NONCOMPLIANCE VIOLATIONS FOR THE
CLINICIANS AT THE HOSPITAL.



Ripple Effect #7: Prescription Drugs are Diverted for Personal Use or Personal Gain

Overwhelming on-the-job frustrations and easy access to controlled medications contribute to the mounting incidences of drugs diversion in U.S. hospitals.

### Ripple Effect #8: Hospital Efficiency Suffers

The inability to locate personnel also feeds into aggravations and productivity. When dispatchers and managers cannot pinpoint the exact locations of nursing staff, patient transport, and housekeeping security, dispatchers send them to locations where other staff could have arrived more quickly. This equates to lots of time wasted walking and less time spent on tasks. Safety and accountability are also at risk, as there is no knowledge of where to dispatch assistance in the event of an emergency. According to one study, the average total time to locate personnel is 15 minutes, much too long when a patient needs attention STAT.

The following case studies demonstrate the overwhelming success of implementing automated data capture solutions within hospital settings.

### BOOSTING HOSPITAL EFFICIENCY USING NAVVTRACK LOCATION SERVICES

Patient transport services were unreliable at Lahey Hospital and Medical Center in Burlington, Massachusetts. They missed the mark in meeting the needs of patients and staff. Dispatchers used unreliable and inefficient paging systems that required multiple interactions with house phones, pagers, and printed paper requests. They were never certain exactly where their team members were. They needed a better way to find teams and assign tasks according to where they were located. With COVID staff shortages and turnover, hospital management was on a tight budget to improve workflows while improving staff accountability and safety.

The hospital turned to the NavvTrack® indoor positioning system using their existing WiFi along with hospital-issued smartphones. Each team member's phone location is viewed on a detailed digital 3D map, and as they move, their locations are updated in real time. Instead of assigning tasks according to the next person on the list to contact, tasks are now assigned according to the staff's proximity and to the best person to handle the job. Now, individuals waste less time walking and accomplish more during a given shift.

Besides reduced travel time and downtime, staff safety and accountability increased, because dispatchers and managers could now verify locations of essential personnel, transport, and housekeeping staff if they are in unsafe locations. *The hospital saw a 17% reduction in patient transport time—Using 10% fewer staff.* They also decreased the time taken to process patient transport requests by 13%. From the time the NavvTrack Care Traffic Control was live, the hospital saw changes in a matter of weeks.

# AUTOMATED DATA CAPTURE CASE STUDIES

### MANAGING INVENTORY WITH A SYSTEM THAT ADAPTS TO CURRENT WORKFLOW

The Hillel Yaffe Medical Center struggled with situations of missing items, neglect in usage reporting, and vast discrepancies in stock management. Items were not documented regularly in the OR. Without knowing the true costs of the hospital's procedures, management could not budget for surgeries, stock for supplies, and know what was used. The OR was in a "black hole"—They would be stocked with supplies and management was clueless about what was used and what was not.

Enter the adoption of Snap&Go. Now Frora Ben Michael-Winkar, Deputy Chief Operating Officer at Hillel Yaffe Medical Center, reports 96.97% reporting. The OR nurses simply "photograph" each item, and the computer does the rest, reporting information correctly for precise inventory management.

Snap&Go is not dependent on the hospital's ERP system, so if a SKU doesn't match with the master list, the item is saved into another folder. No item is ever deleted—Snap&Go connects the implant manufacturer's catalog number with the hospital's internal SKU. Discrepancies are eliminated. Items running low in stock are ordered. Everything is saved—For correct billing and for the sake of patient safety.

The system is so user-friendly that Ben Michael-Winkar installed the Snap&Go devices in all ten of their operating rooms. Simply by snapping a photo of an item's package, Snap&Go's Automatic Identification and Data Capture (AIDC) tech meets the FDA's UDI rules: Alerts of recalled and expired items appear on the screen to prevent fatal errors.

### CREATING ACCURATE, REAL TIME INVENTORY REPORTS USING SMART CABINETS

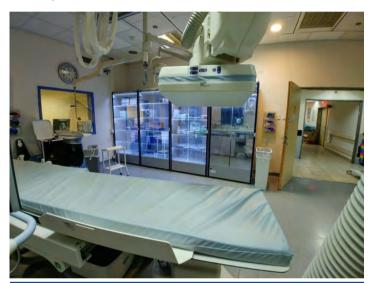
Israel's Herzeliya Medical Center, which performs over 18,000 of the most complex medical operations yearly, ran into snags with medical suppliers—Neither the hospital nor the supplier could be sure exactly how much stock was utilized because nurses counted everything by hand. Paperwork mistakes, shelving issues, expired equipment and other human mistakes were par for the course. Disputes with medical suppliers threatened to lose a long-standing professional relationship.

Doron Karmi, the Chief Technology of Operations Officer at the hospital, turned to IDENTI's Smart Cabinet to resolve the expensive disputes with suppliers and utilize an accurate inventory management system that produced real-time reports. Three Smart Cabinets were installed in the hospital's Cath-lab, and all inventory difficulties were eliminated during the first month of usage.

Instead of wasting time counting, Nurses placed inventory inside the cabinets, which kept record of who opened the cabinet to remove items and when they were taken out. This info was available to both the hospital staff and medical suppliers. removing the guesswork of which products were ready to expire and which products needed reordering, resulting in accurate invoicing from suppliers. Inventory waste, manual supply counting, inventory stockouts, and hospital/supplier disputes came to an end. With such successful results. Karmi is looking to place more Smart Cabinets into the hospital's eye clinics and operating rooms.

# AUTOMATED DATA CAPTURE CASE STUDIES

Israel's Assuta Medical Centers cath labs, the largest private medical services centers in that country, perform over 5,000 treatment procedures and cath diagnoses yearly. Smart Cabinet's advanced cloudbased software provided an accurate view of inventory levels, item usage, and expiration/safety status for valuable medical devices. Smart Cabinets saved time, improved equipment availability, and ultimately enabled staff to focus on their patients.



EMPLOYING AUTOMATED ACCOUNTING FOR SECURITY & USAGE OF CONTROLLED SUBSTANCES

Three major Israeli hospitals needed to meet new mandatory safety procedures to ensure secure usage of narcotic drugs, to store them under maximum protection, and to record and cross-reference each controlled drug with their referenced procedure. Physicians were saddled with filling out forms relating to unused meds post surgery. Pharmacy staff lost track of usage data, were bungled managing the dispensing process to each physician, couldn't keep track of expiration

dates, and did not know the exact inventory quantities. All of this led to pharmacy staff avoidance of deficiencies in inventory discrepancies. The hospitals needed a solution that gave them absolute supervision over the entire drug issuance process, including monitoring staff member access. They also needed a procedure that eliminated time-wasting paperwork and yet would still be compliant with narcotics control regulations.

They found their solution with the Narcotics Cabinet, and have since installed it in ten hospital sites throughout Israel. With the Narcotics Cabinet, the cabinet automates the medication-taking process where the physician simply enters the patient's name and procedure number, and the system sends all the pertinent info to the patient's file. The pharmacy receives the data and can retrieve a history of data quickly and easily. In this way, returned drugs and drug destruction are monitored. When inventory quantities drop and expiration dates are approaching, the system notifies pharmacies in real time.

# AUTOMATED DATA CAPTURE CASE STUDIES

The Narcotics Cabinet system also prevents the unauthorized use of controlled substances. Access is only allowed through a secure and personal identification process: You choose between face recognition, personal tag, user information entry, or biometric access control. Double-locked storage compartments add an extra level of security.

The ease of use, customizing and updating the Narcotics Cabinet system reduces the time pharmacists, nurses, doctors, and anesthesiologists devote to paperwork and inventory tasks while greatly increases attention to patient care. The Narcotics Cabinet system meets the most strict and advanced safety standards in the world—It is employed throughout hospitals internationally.



Putting the magic of Bluetooth technology to work in hospital and healthcare settings yields a myriad of amazing results. Fit these proven technologies to your specific needs and experience startling improvements in efficiency almost overnight:

# NAVVTRACK® CARE TRAFFIC CONTROL: REAL TIME VISUALIZATION OF YOUR WORKFORCE

Imagine a simple tracking system where you can easily oversee the movement of hospital teams and know who is closest to help. NavvTrack Care Traffic Control enables your hospital dispatchers to pinpoint the exact locations of team members by viewing a precise floor plan of your facility. Your existing wireless network is all that is needed-No additional antennae or infrastructure is necessary. Apple's Indoor Mapping Data Format (IMDF) picks up the positions of workers carrying iPhones with the downloaded NavvTrack app. Their movements display in real-time from a central traffic control center. Workers and dispatchers can easily stay in touch through text messaging, and when they need extra help, with just a push of a button, they know that assistance is on the way.

"NEARLY HALF OF HOSPITAL NURSES (48%)
REPORTED A SMALL OR SIGNIFICANT INCREASE
IN WORKPLACE VIOLENCE, UP FROM 30.6% IN
SEPTEMBER 2021 AND 21.9%" IN MARCH 2021
NATIONAL NURSES UNITED SURVEY.

This unique indoor positioning system helps hospitals do more with a limited budget by improving efficiency, as well as patient and staff satisfaction.



### REAL TIME VISUALIZATION OF HOSPITAL EQUIPMENT

Find what you need fast without wasting clinical staff time and delaying patient care. Add NavvTrack Bluetooth low-energy (BLE) Beacon Tags to essential items. Add Crowdsourced RTLS™ (Real Time Locating System) and the NavvTrack app to hospital-issued shared phones, and then hone in on the locations of valuable items including infusion pumps, medical devices, wheelchairs, stretchers, and more. No extra equipment is needed to see the movements of tagged items on a digital map on a mobile device or computer. Visualize locations in real-time to ensure timely inspection to satisfy standards issued by the Joint Commission, and say goodbye to hoarding and equipment mysteriously leaving your premises.

#### **IDENTI MEDICAL SNAP & GO**

Visual recognition technology for charge capture in operating and procedural rooms that identifies medical implants and consumables, documents their use and cost, tracks product integrity, and synchronizes information in ERP & EHR systems.

"Snap" an item and record it into your hospital's system.



Transform your hospital's item master into a uniform database for all items utilized in the OR. After capturing a quick snapshot of items used in the surgical procedure, the snapshot is processed by OCR (optical character recognition) into machine-readable data. In just a few seconds, the item is identified in IDENTI Medical's Global database and then added to the hospital's Item Master, or automatically sent to the IDENTI Medical Data Sensing Support Team until missing info can be completed.

- 100% documentation compliance
- Available 24/7, running on local servers



### **IDENTI MEDICAL CLOUD-WEB SERVER**

The end-to-end software solution for managing your Snap & Go<sup>™</sup> and Smart Cabinet inventory. Rely on it to seamlessly update hospital and supplier reports, along with patient records, instantly. Receive alerts to restock inventory. Connect using an existing mobile network and a secure cloud server. No additional infrastructure is needed, and the system is easy to install.

- Eliminate last-minute shipments & stock-outs
- 24/7 customer support
- Full integration with existing ERP databases
- Collects info from hybrid networks (hospital, cell data, WiFi) without the need to install an operating system.



#### **TOTALSENSE SMART CABINET**

The only complete digital management solution that tracks all types of items, including implants, regardless of their size/shape or position/angle on the shelf.

Simply mark the item with an RFID tag, scan the item to upload it into the system, and then place it into the Smart Cabinet. When a nurse removes the item, an automatic report is triggered and sent to the supplier. The supplier is also automatically notified when inventory runs low. A returned item also triggers a report. When that item is used, it is scanned into the Smart reporting station. Any tagged item-from medical devices to implants, like orthopedic screws, to surgical equipment—is tracked to streamline hospital workloads.

This complete solution locks the door on high-valued items and allows for content management remotely, wireless connectivity to a central data warehouse, cloud connectivity to all necessary parties, and item-level management and traceability.





- 98% Charge capture
- 100% ROI by optimizing inventory
- 48% Fewer hours spent on administrative tasks for staff
- 20% Reduction of high value medical device inventory
- Elimination of stockouts & expired items



### The RFID Smart Cabinet removes human and administrative errors!

Accurate consignment is assured, expired and outof-stock items are eliminated, all without the need for manual intervention. Simplify item inventory tasks with easy-to-understand reports that automatically report real-time movement of tagged equipment, tools, and pharmaceuticals. Manage access to inventory, manage critical supply, and automate billing and reordering tasks. Get a handle on which item is taken, who removed that item, and for which procedure.

Cath labs, vascular, neurosurgery, ophthalmology, EP lab, orthopedic, plastic surgery, gastro, and angio—Over 530 healthcare units rely on Smart Cabinets to accurately manage consignment stock and valuable medical devices in real-time. Chose the perfect style to store and track your high-value inventory, equipped with shelves, drawers, or long items.

### SMART CABINET FOR NARCOTICS AND CONTROLLED SUBSTANCES

Discover the only automated solution for narcotics consumption tracking that adheres to drug administration protocol by enabling secured reconciliation of these controlled substances. Includes a secured drug cabinet, inventory management software integrated with AI, and complete interface with patient files.

Hospital management chooses how personnel may access the cabinet—with facial recognition, biometric, or password ID.

- Medications are dispensed for each patient according to the patient barcode
- Physicians report actual patient usage within the hospital's clinical data system
- Leftovers are returned to the cabinet return compartments and eliminated doses are reported to the system
- Pharmacists are alerted when inventory is running low and store medications in the secured medicine cabinet storage compartments





### **RESTOCK TAG**

The patented digital inventory management system designed with medical materials managers in mind. The tag's functionality relies on a two-bin lean Kanban nomenclature and a combination of RFID tech and cloud-based software.

These go-anywhere tags fit any storage throughout the hospital: an OR supply room, nursing supply storage room, pharmacy, and wherever critical stock is held. The ReStock tags are easily adjustable, adapting to all supply change updates with a simple click of a button to show order status in real time on a digital display. Regular restocking reports and automated restocking requests are sent instantly, as they occur, to hospital ERP systems.

- 40% one-time reduction in supply room inventory
- Eliminate manual counting and stock-outs







# ADDITIONAL AUTOMATED SOLUTIONS

### ADDITIONAL AUTOMATED DATA CAPTURE AND FDA UDI SOLUTIONS

Healthcare data collection and analysis is made so much easier with automated healthcare data capture technology.

The applications for automated data capture in your hospital are endless. We'll list just a few here, in addition to those cited in this paper's previous case studies:

- Track misplaced medical devices and equipment, blood samples and pallets of medications, pharmaceuticals moving through the manufacturing chain, and supply inventories in real-time
- Track surgical tools in the OR and ensure proper sterilization prior to use
- Confirm FDA UDI information on medical devices is compliant prior to submitting for registration using BarcodeOS scanners and software
- Tracking of staff and patients in real time as they move throughout the hospital in order to reduce wait times, avoid traffic jams, locate patients, and verify patient information











- Improve the speed and accuracy of current procedures, providing an audit trail for any instances involving patients and staff
- Ensure error-free inventory audits with quick, precise location of devices, tools, equipment, and containers by viewing them on a real-time map of your healthcare facility using RFID location tracking.
- Receive real-time alerts when items are moved, unauthorized personnel access restricted areas, and temperature thresholds are exceeded for drugs in storage
- Authenticate lifesaving medications to avoid counterfeits
- Ensure that hygiene standards and regulations, such as frequent washing of hands or sanitizing, are followed precisely



An entire suite of healthcare-focused automated data capture solutions awaits you. Customize according to your needs today without any hidden expenses of building infrastructures or purchasing extra hardware. Browse our catalog of solutions. Then reach out to us and incorporate the most current innovations to improve your hospital's workflow, retain staff, and improve your bottom line.

# Rely on ID Integration for the latest groundbreaking solutions for reliable, efficient, and cost-saving performance.

For over 20 years, our development team strives to discover and offer a wide range of data integration technologies to simplify data collection and analysis while eliminating errors. Seek out our wide-ranging expertise for custom RFID systems for healthcare, hospital, and pharmaceutical business sectors.







### **SOURCE LINKS:**

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