Increasing Medication Safety and Efficiency in Healthcare with RAIN

North Mississippi Medical Center Implements Intelliguard RFID Linked Visibility Inventory System for Medication Management in the Operating Room
Challenges with Traditional Medication Storage in the Operating Room

FOR ANESTHESIA CARE TEAM
- Disruptive to clinical workflow
- Delays due to stock outs or missing drugs
- Danger of expired or recalled inventory
- Diversion risks

FOR PHARMACY DEPARTMENT
- No visibility to OR medication inventory “black hole”
- No real-time usage data
- Danger of expired, recalled, missing drugs
- Incorrect charge capture / lost revenue
When You Start Hearing The Same Problems …

RAIN BENEFITS

- Drug-level tracking, monitoring and control
- Data collection without disruption to natural workflow
- Real-time remote visibility
- Manage thousands of items simultaneously
- Usage analytics for optimized inventory management
- Modular, scalable solutions support phased roll-out
The Solution Starts with One Small RAIN Tag...
Impinj Monza RAIN Chips uniquely identify each item.

Tracking Data Includes:
- Lot Number
- NDC
- Expiration Date
- Temperature

Enterprise Platform Supported by Full-Service Implementation and Clinical Consulting Experts
Distributor/Manufacturer

Vendor Managed Inventory

Client Facility

Inventory Management and Distribution

Department

Access, Utilization, Verification & Error Prevention

Professional

Consignment Enablement, PAR-Level Management, Auto Replenishment

End User (Patient/Project)

Modular, Scalable, Enterprise-Wide Visibility.
End To End Visibility In The Hospital Pharmacy Ecosystem

Medication Inventory

Remote Ambulatory Surgery

Automatic Re-order

Main Facility
Inventory management in the healthcare pharmacy, supporting a broad category of procedural and emergency medications and supplies – wherever and however they are distributed.
NO RAIN = NO TRUE AUTOMATION
LVIS Station in each operating room and true real-time visibility in pharmacy

LVIS Station Features:
- 3 RAIN-enabled drawers, individually secured for medications and narcotics
- Lower module (no RAIN) for general storage
- RAIN-enabled top surface for items in process
  - First intentional emitter (top surface) in the 915 MHz range in the OR

- RAIN tagged inventory in LVIS point of use station
- Inventory updates automatically
- Real-time pharmacy stock notifications
- 100% accurate replenishment
- Real-Time Visibility, Alerts and Accurate Usage Data
- Restock details to kit and tray management system
- Charge capture encounter record

Enterprise Platform Supported by Full-Service Implementation and Clinical Consulting Experts

The only solution that can provide accurate, real-time remote visibility, data and intelligence across a broad category of critical pharmaceutical inventory in healthcare offering:

- Visibility
- Traceability
- Safety
- Savings (Time and $)
- Data and Intelligence
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Education - University of Mississippi

- Doctorate of Pharmacy
- Master’s of Science in Theoretical Chemistry

Current Position - North Mississippi Medical Center

- Inpatient Pharmacy Operations Manager

Prior Experience - The Johns Hopkins Hospital

- Pharmacy Resident
North Mississippi Health Services

About Us

• NMMC flagship hospital in Tupelo, Miss
• Serves 24 counties in North Mississippi and Northwest Alabama
• High quality and cost-effective healthcare
• Acute diagnostic and therapeutic services

Awards

• NMHS: Recipient of prestigious Malcolm Baldrige National Quality Award in 2012
• NMMC flagship hospital: 2006 Baldrige Award recipient
The First Step with RAIN in the Pharmacy

Before Intelliguard RFID

- Manual Process for managing crash carts, kits and trays
  1. Increased time & decreased efficiency
  2. Medication safety & quality assurance tasks
  3. Manual medication tracking

Today with Intelliguard in Central Pharmacy

- What: Intelliguard Workstation designed to manage the medications in our moveable inventory devices (i.e., crash carts, kits and trays)
- Why: Quality assurance improvements
- When: September 2016

Initial Outcomes

- Increased medication safety
- Increased efficiency
- Better adherence to federal and state regulations

Where do we go from here? …
Meet LVIS!
Linked Visibility Inventory Station in the Operating Room
Go-Live 5/2017
A Day in the Operating Room...Staff Expenditures

CRNA (25 CRNAs)
1. AM: Arrive at the Satellite Pharmacy to pick up narcotic boxes
2. PM: Return narcotic boxes
   1. Review documentation for waste capture
   2. Ensure inventory counts
   3. Mid-day trips to the satellite pharmacy to obtain medications

Pharmacy (1 CPhT)
1. AM: Staging bags, trays and narcotic kits
2. AM/PM Restocking twice a day
3. Managing waste documentation
4. Lost charge capture for all medications
In the OR: The New Process – RAIN Transformed

**CRNA**
1. Starts day in the OR
2. Waste documentation at POC (GE)
3. Ends Day in the OR

**Pharmacy**
1. Improved efficiency
2. One restock per day per room
   1. Restocking at POC
   2. Optimized processes
3. Improved accuracy
   1. Automatic charge capture
   2. Medication tracking
**Initial Results**

**Pharmacy:**
If 3 hours for total work and 260 average work days per year,

Then... total pharmacy time spent = 780 hours

**Anesthesia:**
If 7 minutes per CRNA x 25 = 175 minutes,
and 2 X daily 350 minutes per day,
and 260 average work days per year,

Then... Total CRNA time spent in workflow = 1516 hours

**Facility:**
One more case per week = 52 more cases per year

* Savings in time estimated. True cost analysis total amount saved will be estimated at 6 months.
Next Steps

Looking at Intelliguard enterprise platform to allow us to manage more inventory using the modular solutions to expand in main facility and within other areas of the North Mississippi Health System.