

Using Key Performance Indicators to Achieve Supply Management Optimization

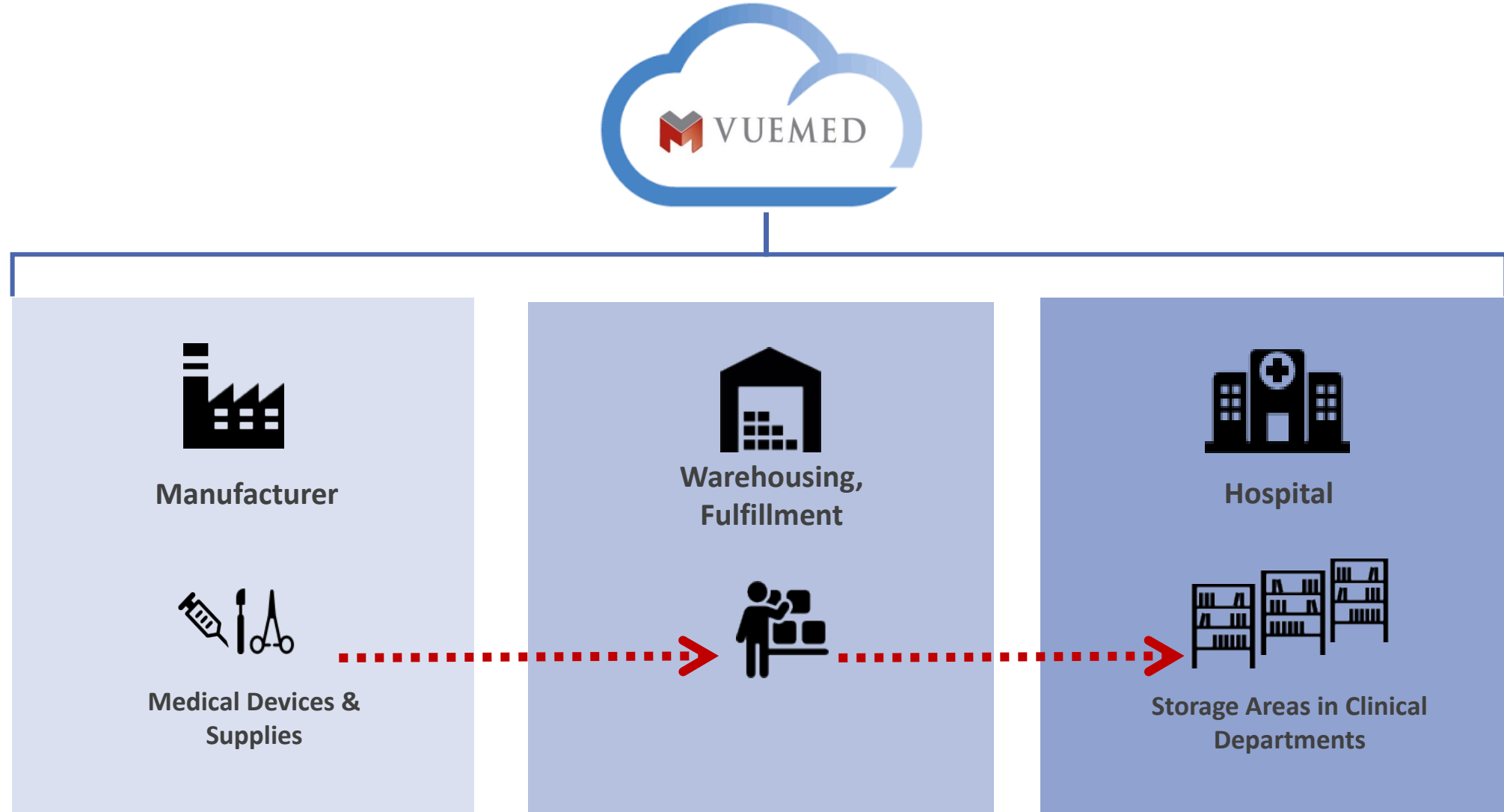
Case Study from Loma Linda University Medical Center



MDEXPO

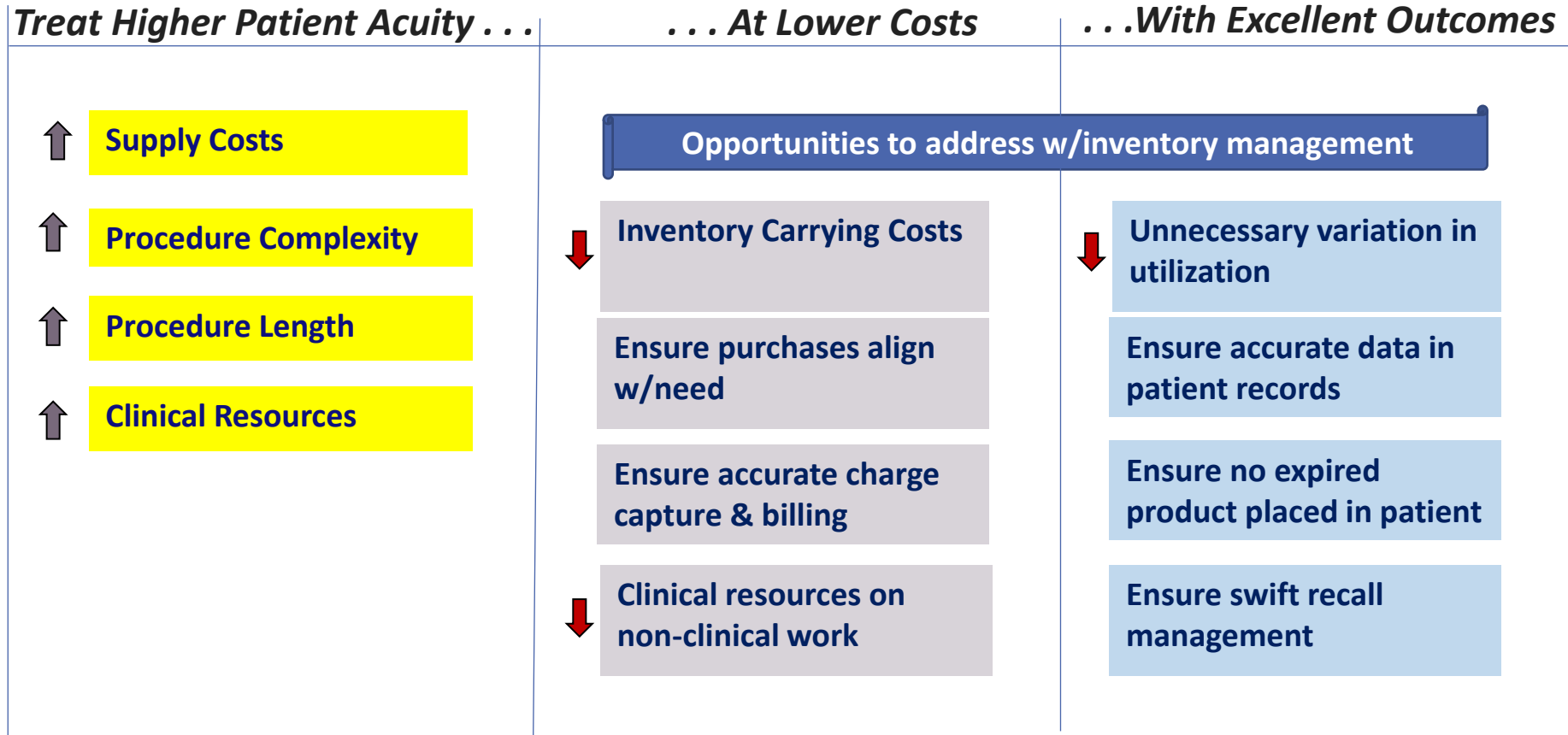
Tampa, FL • November 8-9, 2020

VUEMED is a SaaS and Cloud-based global healthcare IT company dedicated to transforming the healthcare supply chain through the most innovative RFID and barcode scanning technologies available today



- 507-bed Academic Medical Center, part of Loma Linda University Health - a Seventh Day Adventist 6-hospital system
- >1.5 million annual outpatients; the only Level I trauma center for a region that covers more than 25 percent of the state of California
- Named a Best Hospital for 2018-19 and "high performing" in seven areas by U.S. News & World Report
- The Medical Center and East Campus were also awarded an "A" for Patient Safety from the Leapfrog Group's Fall 2018 Safety Grade
- Leading regional Heart & Vascular center through the International Heart Institute (IHI)

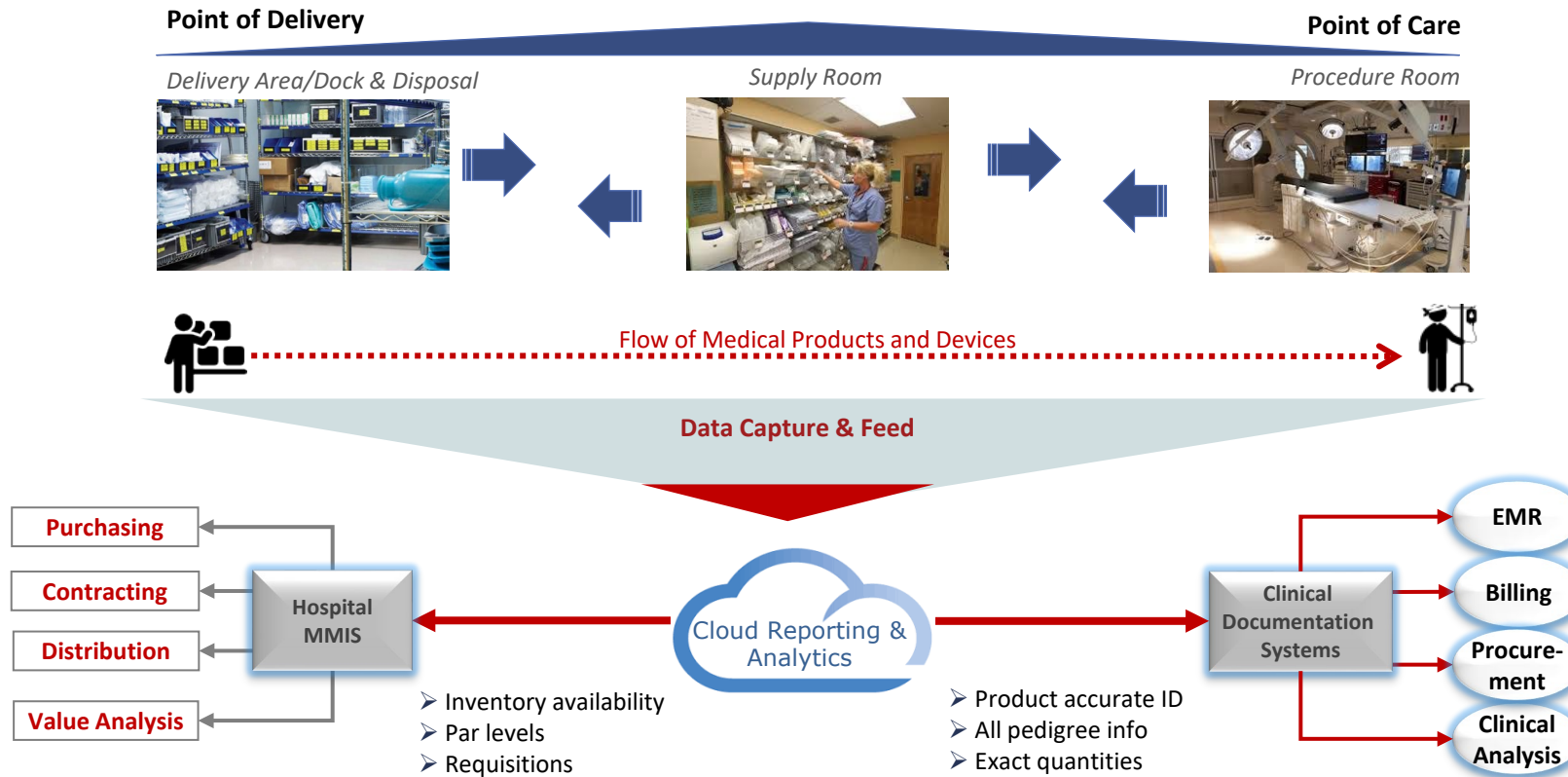




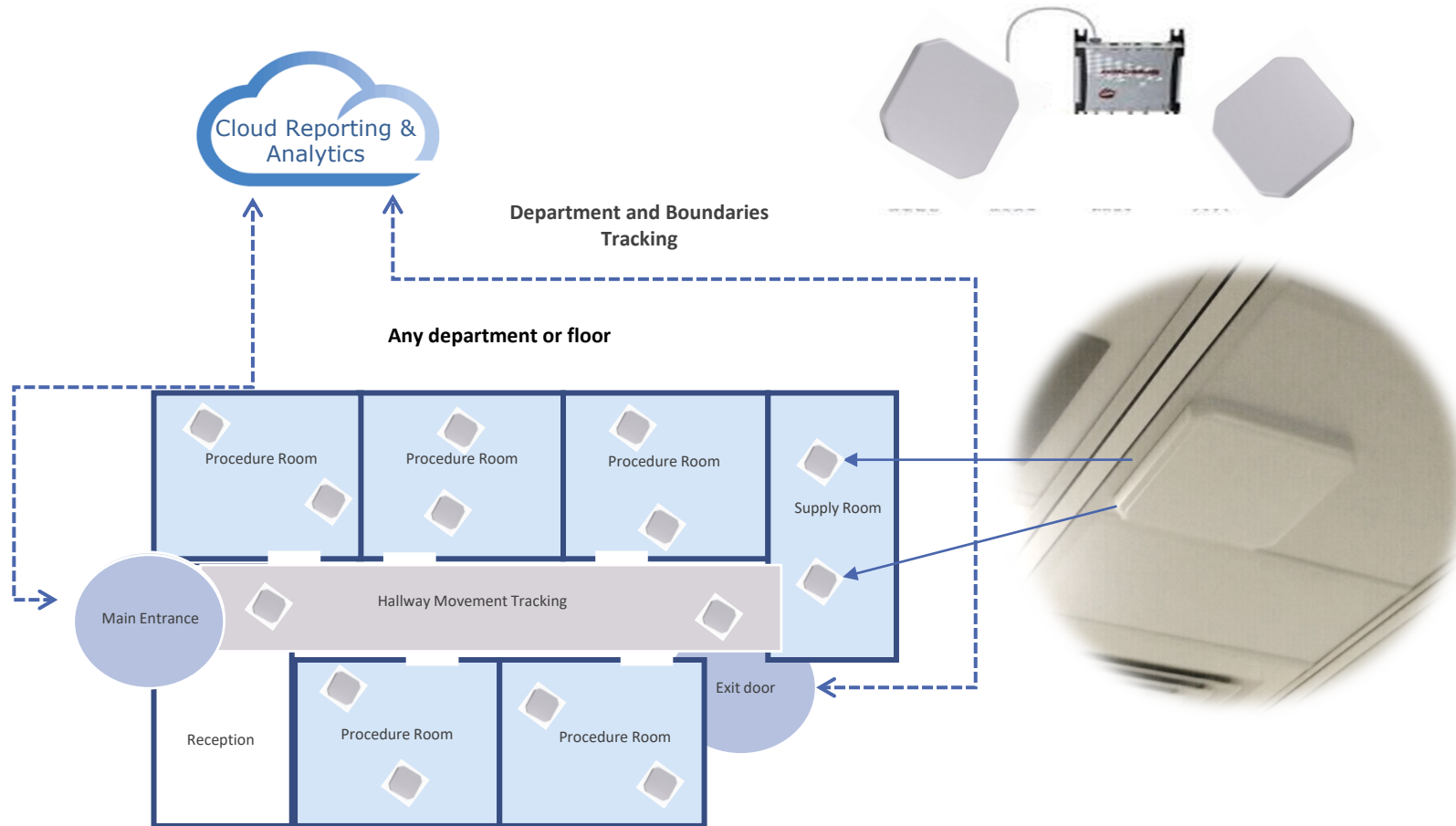
- <50% of cases with accurate supplies data captured
- >50% of items on-hand with no traceable purchase history
- Fragmented & siloed management of items between clinical, supply chain, finance, and IT
- Manual handling of all inventory-related tasks
- No visibility of on-hand data
- High rates of wasted and unused inventory

1. Gain full visibility and control over supply spend and utilization
2. Optimize inventory size and composition to meet clinical needs
3. Reduce unnecessary product variation
4. Ensure comprehensive and accurate charge capture

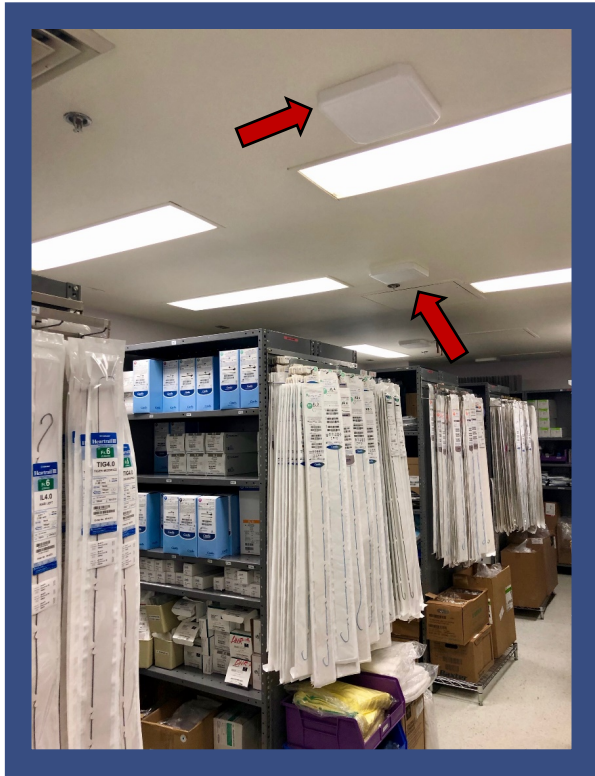
All data about products and their movements from delivery to point of care are recorded and fed into other hospital systems as well as the VUEMED Cloud for analyses and guidance



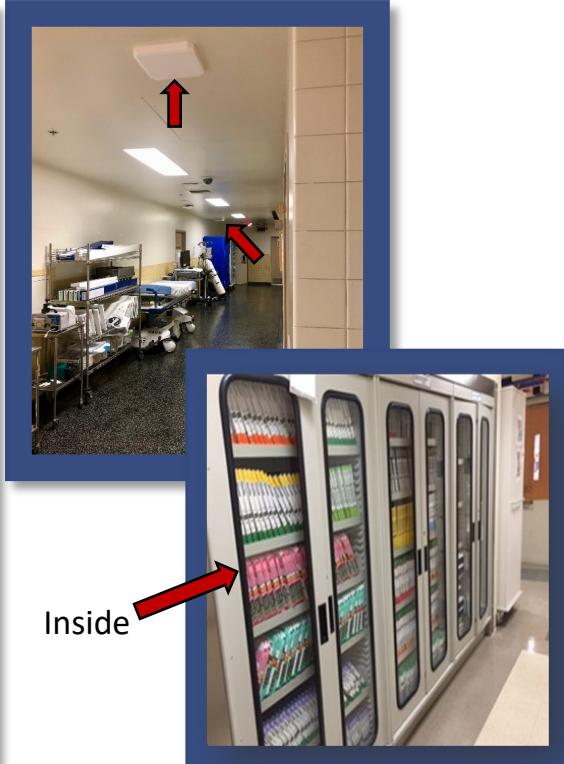
Tracks inventory in supply and procedure rooms, as well as movement throughout, and entry & exit from the department



Supply Rooms



Hallways / Cabinets



Procedure Rooms



➤ Process realignment & defining roles & responsibilities

- *Set up clearly defined daily/weekly/monthly protocols for all inventory-related activities:*
 - ✓ *Auditing & Reordering*
 - ✓ *Receiving & restocking*
 - ✓ *Expiration management*
 - ✓ *Item data management*

- *Set up close collaboration & coordination with multiple departments and constituents:*
 - ✓ *Supply Chain*
 - ✓ *IT*
 - ✓ *Finance*

➤ Resources reallocation

- ✓ *Standardized inventory management activities across 2 interventional departments and 4 locations*
- ✓ *Inventory management staff moved to supply chain and cross-trained between departments*

➤ Leadership oversight

- ✓ *Agreed on a set of monthly KPIs for performance monitoring*
- ✓ *Established accountability for following through on desired objectives*

- *Full visibility for each item from requisition to billing*
- *Automated procure-to-pay processes*
- *Measurably streamlined operations*
- *Aligned purchases with consumption needs*
- *Reduced recall management to minutes*

By the Numbers:

Inventory value	unchanged
Case volume	unchanged
Expiring inventory	< 1%
Excess inventory	↓ >60%
Cost per case	↑ 97%
Billing Accuracy	↑ > 90%

<u>Typical Sources of Savings:</u>	<u>Metrics</u>	<u>Frequency</u>
➤ Expiration control	<ul style="list-style-type: none"> • <i>Expiring as % of total on-hand inventory: SKUs, Units, Value</i> 	Monthly
➤ Inventory size reduction	<ul style="list-style-type: none"> • <i>Inventory on-hand in relation to case volume: SKUs, Units, Value</i> • <i>Unused or infrequently used in the last 12 months as % of total on-hand inventory: SKUs, Units, Value</i> 	Monthly Quarterly
➤ Reduction in product purchases	<ul style="list-style-type: none"> • <i>Purchased vs. consumed in relation to case volume: SKUs, Units, Value</i> • <i>On-hand value of items above suggested par levels (given consumption history)</i> 	Monthly Quarterly
➤ Clinical utilization management	<ul style="list-style-type: none"> • <i>Opened not used totals and average per case: SKUs, Units, Value</i> • <i>Cost per each type of case per physician</i> 	Monthly

Expiration Management

Owned Expiring 90 Days Total Value vs. Removed Expired Total Value (April 2018 - March 2019)



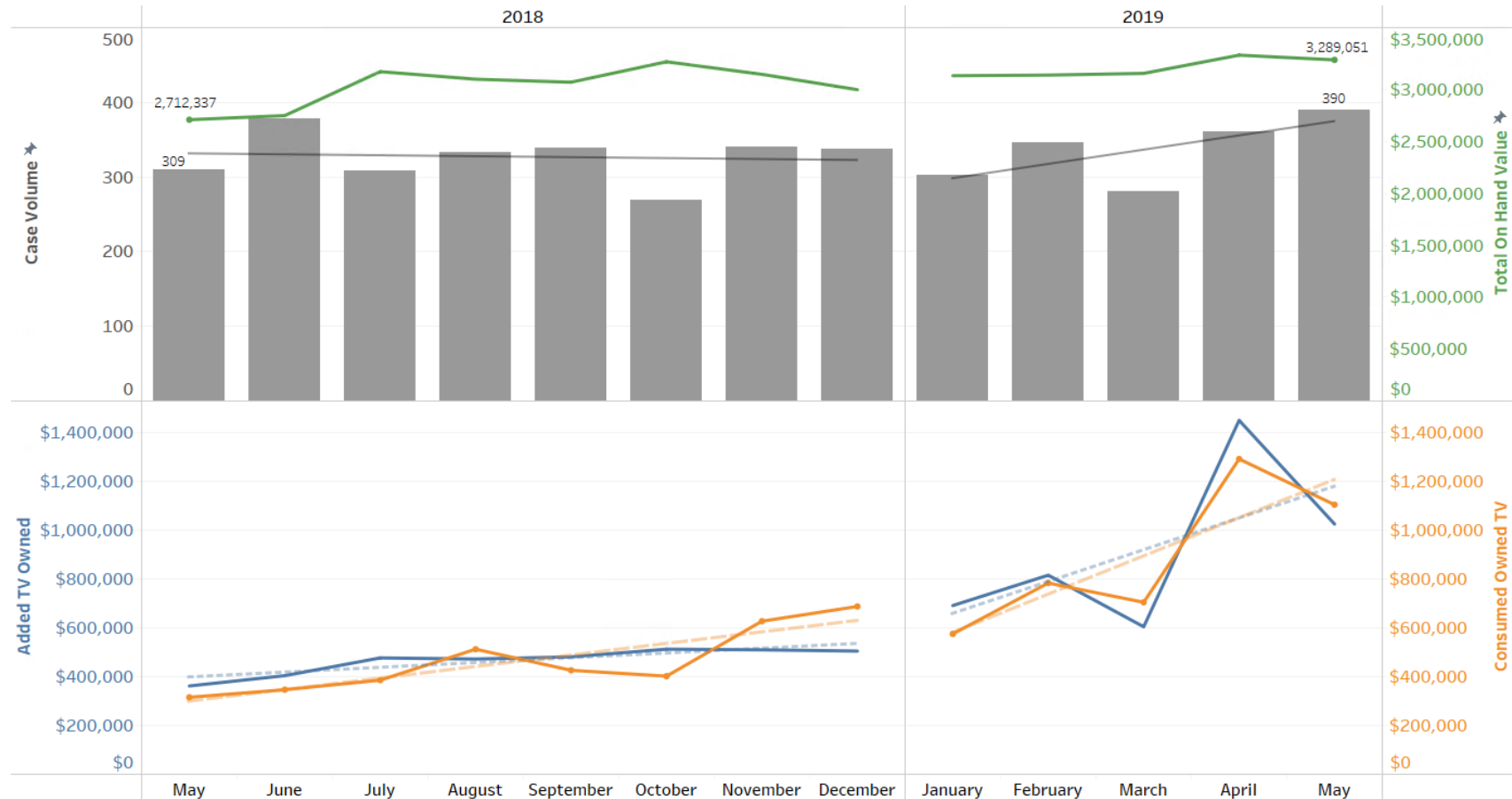
Unused Inventory Reduction

Owned Never Used SKUs, Units, and Values (Past 12 Months)



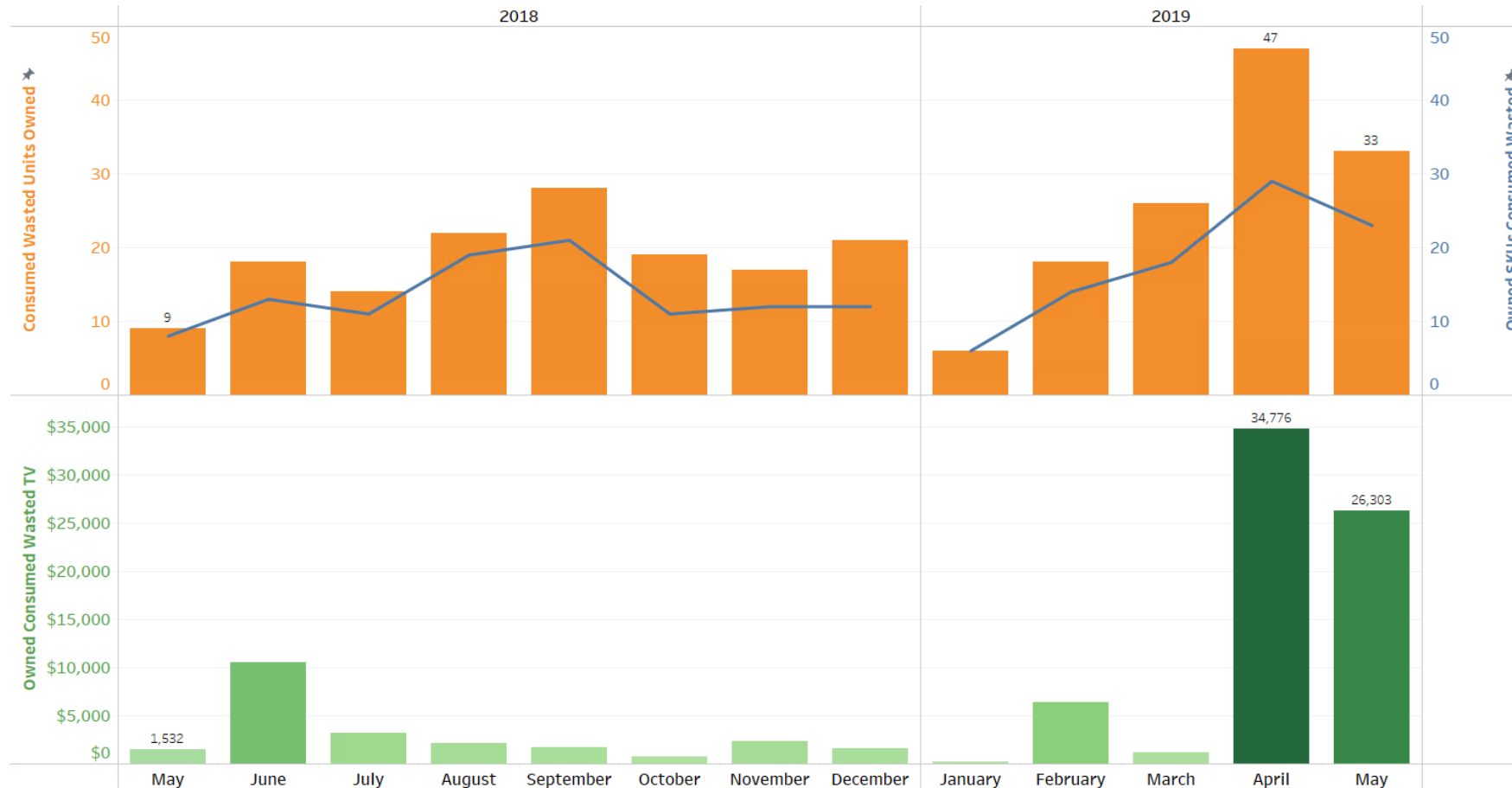
Alignment of Purchased and Consumed Inventory

Owned Total On-Hand vs. Added and Consumed Values
(Past 12 Months)



Monitoring Unnecessary Waste at Consumption (Items Opened Not Used)

Owned Consumed Wasted SKUs, Units, and Values (Past 12 Months)



- Engage all the key stakeholders early in the process to ensure alignment and resource availability
- Stagger implementation ideally not to coincide with other major projects
- Establish a baseline starting point to measure progress from there
- Ensure administrative and physician leadership commitment and support

- Build strong collaboration with and get support from Supply Chain
- Establish clear roles & responsibilities and accountabilities
- Set up clear oversight mechanisms and performance expectations with supporting data & KPIs

Future example scenarios:

1. Virtual Case Carts

- *Supply demand planning based on scheduled cases (90%+ of cases are scheduled)*
- *Use standardized “bill of materials” for each type of procedure*

2. Expiration Management

- *Proactive view and management of expiring inventory*
- *Typically inventory not used within 30 days of expiration, will expire unused*

3. Predictive Analytics

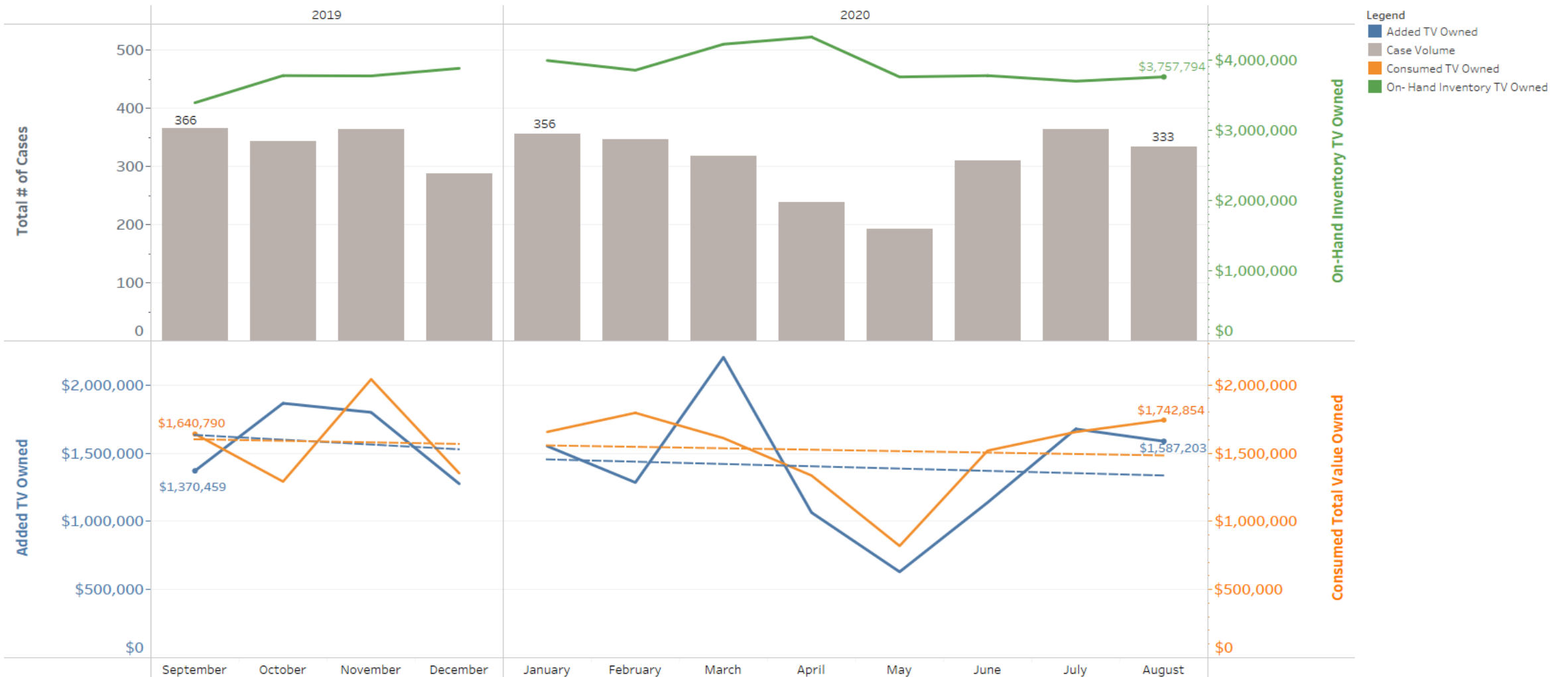
- *Anticipate/sense the demand using accurate consumption data*
- *Optimize inventory carrying costs*
- *Proactively offer viable alternatives in case of recalls or backorders*

4. Recall management (stock and patient notification)

- *Ability to instantly track the status of a recalled item and its location in the supply chain*
- *Enable customers to quickly find & remove recalled items & notify patients if needed*

On-Hand inventory values have remained steady in the past 12 months, while consumption values have outpaced purchased values in the last several months

Owned Total On-Hand vs. Added and Consumed Values (Past 12 Months)



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