Converting to a New Automation Platform

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Disclosure

• There are no conflicts of interest to disclose for the authors of the presentation.
Objectives

• Describe methods utilized by one organization to evaluate automation vendors.
• Outline aspects of deployment and utilization of anesthesia pharmacy automation.
• Review strategies and lessons learned from converting to a new automation vendor at an academic medical center.
Selecting a New Automation Vendor

http://alliancestrategy.com/vendor-or-partner/ accessed 2/23/17
Why Change Vendors?

• Health System growth outpaced existing automation capacities
  – Automation “up time” a growing issue

• Need for single vendor for all Health System locations

• Desire to identify opportunities for interoperability with our electronic health record (EHR)

• Culture change (Lean adoption)

• Contract timing

• Create a true partnership
Scope

• 12 pharmacy locations across KC metro
  – Acute care, ambulatory infusion centers, surgical center
• Volume impact: >6,000,000 doses annually
• Central automation, automated dispensing cabinets (ADCs), anesthesia automation
Where to Start

• Identifying what you need (want) and why
  – Know your problems (data), do homework on solutions
• Know what you can take on
• Engage key stakeholders
  – Nursing, executive leaders, anesthesia, pharmacy personnel, etc
• Have an organized, methodical, request for proposal (RFP)
  – Collect feedback early and often
• Is this a financial decision or user decision?
Our Competitive RFP Overview

1. Vendor invitations (3)
   • Outlined rules of the road, specific goals, schedules
2. Vendor fair
3. Health System interviews and data collection by vendors
   • Meetings with key stakeholders
4. Proposal report out
5. Site visits
6. Awarding of contract

Total time: 9 months
# RFP Schedule Example

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# Vendor Data Collection Schedule

**Day 1**

<table>
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<tr>
<th>Time</th>
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</table>
| 08:30 - 09:00 | **Week Overview**  
Chris Bell, Pharmacy Assistant Director |
| 09:00 – 10:30 | Enterprise Pharmacy Operations Team – General functionality overview  |
| 10:30 – 11:30 | Pharmacy Informatics – Epic interoperability and workflows         |
| 11:30 – 12:30 | Break                                                                 |
| 12:30 – 13:30 | Supply Chain - Inventory/supply chain management focus              |
| 13:30 – 15:00 | Inpatient Pharmacy Operations Team – Main campus structured block review |

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<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>15:00 – 16:30</td>
<td>Nursing Team – TBD</td>
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**Day 2**

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<th>Time</th>
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<tr>
<td>08:00 – 11:00</td>
<td>Main Campus Central Pharmacy Evaluation</td>
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<tr>
<td>11:00 – 12:00</td>
<td>Break</td>
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<tr>
<td>12:00 – 15:00</td>
<td>Main Campus Decentralized Dispensing Evaluation</td>
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<tr>
<td>15:00 – 17:00</td>
<td>Main Campus Perioperative Evaluation</td>
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**Day 3**

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<th>Time</th>
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<tr>
<td>08:00 – 10:30</td>
<td>Westwood Site Evaluation</td>
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<tr>
<td>10:30 – 11:00</td>
<td>Travel to Indian Creek Campus</td>
</tr>
<tr>
<td>11:00 – 13:00</td>
<td>Indian Creek Campus site evaluation</td>
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<tr>
<td>13:00 – 14:15</td>
<td>Break</td>
</tr>
<tr>
<td>14:15 – 15:30</td>
<td>UKCC OP Evaluation</td>
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<tr>
<td>15:45 – 16:15</td>
<td>Debrief</td>
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### Survey Example

**Pharmacy Automation Vendor Fair Survey**

Your feedback is greatly appreciated and will be used to assist the Department of Pharmacy in choosing an automation vendor.

1. **What is your role at The University of Kansas Hospital?**
   - Nurse
   - Respiratory Therapist
   - Mid-Level Practitioner (NP, PA-C)
   - Pharmacist
   - Physician
   - Administrator
   - Other: _______________________

2. **Are you a member of Nursing Practice Counsel?**
   - Yes
   - No
   - N/A

3. **Where is your primary practice site?**
   - Acute Care Unit
   - Intensive Care Unit
   - OR/Pre-Post
   - Pharmacy
   - Off-Site Location
   - Other: _______________________

4. **Which vendor do you feel has the best user interface?**
   - Is the software intuitive? Can you make the equipment do what you want?
     - Aesyt (Formerly McKesson)
     - Omnicell
     - Pyxis

5. **Which vendor do you feel has the best interoperability with Epic?**
   - I.e. works with eMAR, etc.
     - Aesyt (Formerly McKesson)
     - Omnicell
     - Pyxis

6. **Which vendor do you feel best supports efficiency of use?**
   - Aesyt (Formerly McKesson)
   - Omnicell
   - Pyxis

7. **What vendor do you feel best supports safe patient care?**
   - Aesyt (Formerly McKesson)
   - Omnicell
   - Pyxis

8. **Which vendor do you feel has the best hardware?**
   - I.e. cabinet ergonomics, construction, design, etc.
   - Aesyt (Formerly McKesson)
   - Omnicell
   - Pyxis

9. **Overall, which vendor do you feel is best for The University of Kansas Hospital?**
   - Aesyt (Formerly McKesson)
   - Omnicell
   - Pyxis

10. **Please provide any additional comments:**
    
    
    

3/22/2017
RFP Review and Feedback

- Vendor fair, RFP feedback was consistent: 2 vendors were strongly favored
  - Proceeded with a show site visit with each
- Final feedback results
  - Clear winner

Count of Overall, which vendor do you feel is best for The University of Kansas Hospital?

![Pie chart showing vendor preferences]

RN Site Visit Survey Feedback

- Decentralized RN Workflow
- Handling Patient-Specific Meds
- Epic Integration
- RN Mobility Support
- Bio-ID Preference
- Controlled Substances Management
- Cabinet Ergonomics
- Intuitiveness
- Overall Preference

3/22/2017
Lessons Learned

• Start contracting process earlier
  – Ended up holding up other pieces once partner selected
• Not all costs were collected early enough – slowed things down
• Do not be afraid to kick someone out
• Clear objectives for everyone at each stage
• Breaking up is hard to do
Anesthesia Automation
General Overview

- Majority of medications administered in the Operating Room (OR) are given by anesthesia

- “Outside locations” concept (GI, Cath, LDR, IR)

- UKHS Anesthesia recently transitioned from paper charting to electronic medical record (EMR) charting

- OR Pharmacy Satellite (M-F, 0600-1800)
Considerations: Anesthesia Automation

• Safety
  – Barcode scanning and labeling

• Anesthesia support for automation
  – Integration into existing workflows

• Lean Culture:
  – Organization of supplies
  – Turn-over time
Implementation & Education Scope

• 53 Anesthesia cabinets:
  – 31 Operating Suites (“Main OR”)
  – 7 Cath/EP lab suites
  – 6 Cardiovascular Operating Suites
  – 6 GI/ENDO suites
  – 2 LDR Operating Suites
  – 1 Burn Operating Suite

• 400+ Anesthesia providers and OR nurses to educate
• 20 Anesthesia technicians
• Pharmacists and pharmacy technicians
Operations Advisory Council (OAC)

- Decision-making body for implementation

- Frontline Anesthesia providers, Supply chain, Pharmacy IT, OR pharmacists, Anesthesia techs

- Start simple, gain momentum
  - Medications and supplies
  - Vendor-specific features
Shadow Boards

• Lean initiatives through perioperative services

• Described each item and par in compartment of previous supply cart

• Predictable inventory

• Training new pharmacy and anesthesia technicians
Culture of Lean in the OR

Shadow Boards

Labeling of Drawers
Lessons Learned - Implementation

Wave 1
- 5 Operating Rooms in Main
- Cycle Anesthesia providers through for training
- Establish pharmacy workflows

Wave 2
Remaining 26 Operating Rooms in Main

Wave 3
All other areas outside Main
Lessons Learned

• Scope of training: Including RNs as witnesses

• Construction walk-throughs

• Downtime procedures

• Controlled Substance reconciliation process
  – Only as good as the training you continue to provide
Central Automation and Automated Dispensing Cabinets
General Overview

- Transition from central dispensing model to decentralized

- Carousels and anesthesia automation implemented first at main campus followed by ADCs

- Pharmacy remodel was occurring simultaneously
Considerations: Carousels

• Safety
  – Barcode technology with stocking and picking medications

• High density storage
  – Efficient use of space in pharmacy

• Reordering process
  – Software directly exports order to distributor’s website
Implementation

• Three of four carousels installed initially

• Item storage and pars
  – Like near like
  – Multiple locations for same item

• Item setup for reordering process was completed post go-live
Operating in Two Automation Platforms

- Restocking the legacy cabinets using the new vendor’s carousels
- Medication lists in the EHR
  - Maintenance
  - Impact on dispense logic
- Maintaining legacy central automation equipment remained time consuming
Considerations: Cabinets

• Intuitive end user screens
  – Ease of use for frontline staff

• Interoperability with EHR
  – End user satisfaction, efficiency
  – Reporting abilities, diversion surveillance

• Storage capacity
  – New design allowed for increased storage
Implementation

- Implementation delayed
  - Disruption to training classes

- Identify a staging area and process for receiving cabinets

- Big bang vs. wave approach to implementation

- Understand new software features and incorporating into workflows
Database Integrity

• Entry of users into new database
  – Users’ forms

• Reordering process for carousels across multiple sites

• Item creation and standardization

• Barcode association with items
Lessons Learned

• New hardware and software can present challenges

• Operating in two automation platforms requires a thorough knowledge and understanding of each

• Flexibility is required when things don’t go as planned

• Database integrity is vital
Summary

• Engage key stakeholders and identify what will ultimately drive the decision