RTLS Increases Benefits at Wake Forest Baptist Medical Center

April 20, 2016

Scott Hondros, SCPM
Associate Director
Conflict of Interest

Scott Hondros, SCPM

Has no real or apparent conflicts of interest to report.
Agenda

• The Importance of Strategic Alignment
• SPOT - Wake Forest Baptist Medical Center
• Benefits Delivered Through Enterprise Visibility
• Importance of Innovation in Delivering Value
• Reduce Risk by Using a Proven Methodology
• Trusted Partners Make All the Difference
Wake Forest Baptist Medical Center

- Academic Medical Center
- Winston-Salem, NC
- Licensed beds: ~ 1,000
- Visits/year: 1M+
- Employees: 13,600+
- Operating Budget: $2B+
Learning Objectives

1. Demonstrate successful enterprise visibility program which uses real-time locating technologies to improve hospital processes and increase ROI

2. Define issues and solutions to improve patient/workflow and throughput

3. Identify solutions to hospital’s resource management

4. Describe importance of RTLS in among patients-staff-equipment associations

5. Address any concerns regarding the RTLS installation, implementation and integration process
Department of Enterprise Visibility

**Purpose**
- Created to provide laser focus, provide expertise
- Provides capacity to execute and maintain system
- Staffed to maximize value
- Charged to innovate and create

**Structure**
- 6.5 full time employees – includes all skills needed
- Report to VP w/visibility to executive team
- Manages 16 SPOT Working Groups
About the Initiative

The Vision

SPOT” is WFBH’s initiative for the use of *real-time technologies* coupled with *process improvements* to optimize resources, streamline workflows, and assist in creating the “*Ultimate Patient Experience*”
# WFBMC – By the Numbers

<table>
<thead>
<tr>
<th></th>
<th>Initial (Pre IL)</th>
<th>Today</th>
<th>Future (est.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage Area</td>
<td>2M Sq ft</td>
<td>3.75M Sq ft</td>
<td>4M Sq ft</td>
</tr>
<tr>
<td># of Buildings</td>
<td>7</td>
<td>40</td>
<td>60+</td>
</tr>
<tr>
<td>CenTrak Stars</td>
<td>260</td>
<td>768</td>
<td>800</td>
</tr>
<tr>
<td>CenTrak Monitors / Virtual Walls</td>
<td>2,175</td>
<td>5,280</td>
<td>5750</td>
</tr>
<tr>
<td>Asset Tags</td>
<td>5,300</td>
<td>14,227</td>
<td>15,000</td>
</tr>
<tr>
<td>Temperature Tags</td>
<td>0</td>
<td>792</td>
<td>1,300</td>
</tr>
<tr>
<td>Staff Badges</td>
<td>0</td>
<td>4,597</td>
<td>8,000</td>
</tr>
<tr>
<td>Patient Tags/Passes</td>
<td>0</td>
<td>200</td>
<td>2,000</td>
</tr>
<tr>
<td>Integrations</td>
<td>0</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Custom Applications</td>
<td>0</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Servers (Prod/Test)</td>
<td>3</td>
<td>11/5</td>
<td>23/8</td>
</tr>
<tr>
<td>LCD Monitors</td>
<td>0</td>
<td>56</td>
<td>400</td>
</tr>
<tr>
<td>Events Per Day</td>
<td>?</td>
<td>~100,000,000</td>
<td>~1,000,000,000+</td>
</tr>
</tbody>
</table>

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Infinite Leap serves as the program manager and is responsible for all services related to the initiative.
# Holistic Team Approach

## Program Management & Oversight
- Vision/future state
- Budget/cash flow planning/management
- Resource planning/mgmt.
- Projects/sub-projects definition/prioritization
- Project reporting
- System architecture design
- Training
- Governance
- Vendor management
- Order shipping/receiving/warranties
- Change management/lean

## RTLS Software
- Requirements
- Installation
- Configuration
- Map development
- Integrations
- Customizations
- System upgrades/maint

## RTLS Hardware
- Requirements
- Installation of all infrastructure
- Deployment of tags
- Inventory management
- Battery replacements
- System health monitoring

## Major EV Integrations
- EMR
- ERP/Financials
- Dashboards
- Alerts/Messaging
- Smart beds
- Nurse call
- Asset management
- Physical facility/security

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**Steering Committee and Working Groups**

**Program Management & Oversight**

**RTLS Software**

**RTLS Hardware**

**Major EV Integrations**

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Aligning to Enterprise Strategies

- Quality and Safety
- Access and Throughput
- Population Health
- Labor Optimization & Productivity
- Patient Engagement & Experience
- Supply Chain & Resource Optimization

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Completed Projects
Active Projects

Remote Patient Monitoring
Chronic Condition Monitoring
Readmission Prevention
Alerts/Care Management Support

NPS (Net Promoter Score)
MRI Patient Check-In
Plastics and Reconstructive Surgery Check-In
Radiology - Check-in
Radiology - Estimated Wait Time
OR Family View Boards
Lexington Medical Center Queue
Real Time Patient Feedback

Hand Hygiene Pilot
Stryker Smart Bed Integration (Fall Prevention)
Infection Control and Containment
Staff Duress/Panic

Quality and Safety
Access and Throughput
Labor Optimization & Productivity
Supply Chain & Resource Optimization
Patient Engagement & Experience
Population Health

Lexington Medical Center Queue
Radiology - Patient Flow
Lab Collections - Patient Flow
ED - Patient Flow
Cancer Center - Patient Flow
Medical Plaza-Miller Patient Flow
OR Patient Flow
Radiology - Estimated Wait Time
Patient Flow Optimization

SPOT / Epic WakeOne ADT
Transport Team Management
Automated Sign-In/Out/Chart Nav
QuickSpot / Finder Application

Ambient Temperature Monitoring
Environment Monitoring Expansion
Laundry / Linen
Bin Inventory Tracking
Asset Optimization Asset Management
Temperature Monitoring
Theft/Loss Avoidance
### STEPS: Savings - Over $10M in Value Derived to Date

<table>
<thead>
<tr>
<th>Temperature Management</th>
<th>Asset Management</th>
<th>Receive Value Without Buying</th>
</tr>
</thead>
</table>
| • Avoid spoilage & lost research  
  • ~$970K/year  
  • Saved 6,000 flu doses valued at $90K | • $2M/year less in equipment purchases  
  • Reduced blood spoilage by $18K/year | • Dedicated staff duress system $1.3M  
  • Dedicated wireless nurse call $882K |

<table>
<thead>
<tr>
<th>Cost Avoidance on Purchases</th>
<th>Staff Productivity</th>
</tr>
</thead>
</table>
| • Stryker bed proximity devices $350K  
  • Wait area/queue management solution $1M+ | • Search time for equipment by staff ~$1.7M/year  
  • Automated temp recording ~$300K/year |
Nearly 100 Use Cases

- Patient/Staff Locating
- Patient Wait Management
- Embedded Apps
- Infection Control & Containment
- Nurse Call Alert Closure
- EMR (Epic) Integrations
- Room Management
- Patient Staff Interaction
- Fall Management
- Patient/Equipment Association
- Family Messaging
- Wayfinding
- Milestones of Care/LOS
- Wireless Nurse Call
- Patient “Smart Rooms”
- Patient Flow Management Center
- Staff Notifications
- Patient Meds/Belongings

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Projects by Benefit Category

**Quality, Safety, Patient Experience**
- NPS (Net Promoter Score)
- MRI Patient Check-In
- Plastics and Reconstructive Surgery Check-In
- Radiology - Check-in
- Radiology - Estimated Wait Time
- OR Family View Boards
- Lexington Medical Center Queue
- Real Time Patient Feedback
- Hand Hygiene Pilot
- Stryker Smart Bed Integration (Fall Prevention)
- Infection Control and Containment
- Staff Duress/Panic
- Remote Patient Monitoring
- Chronic Condition Monitoring
- Readmission Prevention
- Alerts/Care Management Support
- Laundry / Linen

**Increased Productivity**
- Lexington Medical Center Queue
- Radiology - Patient Flow
- Lab Collections - Patient Flow
- ED - Patient Flow
- Cancer Center - Patient Flow
- Medical Plaza-Miller Patient Flow
- OR Patient Flow
- Radiology - Estimated Wait Time
- Patient Flow Optimization
- SPOT / Epic WakeOne ADT
- Transport Team Management
- Automated Sign-In/Out/Chart Nav
- QuickSpot / Finder Application

**Cost Avoidance**
- O2 Tank Tracking
- Ambient Temperature Monitoring
- Environment Monitoring Expansion
- Laundry / Linen
- Bin Inventory Tracking
- Asset Optimization
- Asset Management
- Temperature Monitoring
- Theft/Loss Avoidance
- Stryker Smart Bed Integration (Fall Prevention)

**Increased Revenue**
- Patient Flow Optimization
- Remote Patient Monitoring

**Cost Reduction**
- Environment Monitoring Expansion
- Bin Inventory Tracking
- Asset Optimization
- Asset Management
- Temperature Monitoring
- Theft/Loss Avoidance

**Completed Projects**
**Active Projects**
Enterprise Visibility Infrastructure

Key Integrations
- EMR (Epic)
- Patient Flow (Intelligent InSites™)
- IT Act Dir Sys Mon EDW
- CMMS
- Other ERP Hand Hygiene etc.

Applications and Innovations
- Check-InRT
- QueueRT
- NotifierRT
- Way Finding
- FeedbackRT
- FinderRT
- Dashboards
- Innovation

Real-Time Infrastructure Components
- RTLS INFRASTRUCTURE
- Sensory Network Tags/Badges Environment Mgmt Software
- Remote Displays (LCDs)
- BlueTooth Low Energy (BLE)
- LF ID Badges
- Nurse Call/Smart Beds
- Passive RFID
- Remote Patient Monitoring
- Communication Devices
- Authentication
- Building Systems

Key Integrations

Real-Time Infrastructure Components
Wake Forest Baptist Health Technologies & Integrations
Innovation
Innovations

Wait Area & Queue Mgmt

Real-Time Feedback

Embedded Epic App

Self-Serve Wait Areas

Family Notifications
# Automated RTLS Queuing

## Radiology - CT

<table>
<thead>
<tr>
<th>#</th>
<th>TAG#</th>
<th>EST. CALL BACK</th>
<th>#</th>
<th>TAG#</th>
<th>EST. CALL BACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M Han</td>
<td>0-4 min</td>
<td>6</td>
<td>M Joh</td>
<td>5-9 min</td>
</tr>
<tr>
<td>2</td>
<td>Y Kin</td>
<td>1-5 min</td>
<td>7</td>
<td>H Kla</td>
<td>6-10 min</td>
</tr>
<tr>
<td>3</td>
<td>M Rhe</td>
<td>2-6 min</td>
<td>8</td>
<td>S Cho</td>
<td>7-11 min</td>
</tr>
<tr>
<td>4</td>
<td>E Lop</td>
<td>3-7 min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>J Lop</td>
<td>4-8 min</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Automated RTLS Queuing

### Waiting for Registration

<table>
<thead>
<tr>
<th>Queue</th>
<th>Patient</th>
<th>Wait Time</th>
<th>Status and Est Remaining</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiology</td>
<td>Robert Smith - Tag #3432</td>
<td>25:03</td>
<td>Called to Reg Desk 1</td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td>Will Smith - Tag #3475</td>
<td>25:03</td>
<td>Called to Reg Desk 2</td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td>Yam Kindswater - Tag #3346</td>
<td>8:03</td>
<td>Waiting (2-6 m)</td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td>Robert Paulson - Tag #5736</td>
<td>5:03</td>
<td>Waiting (3-7 m)</td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td>Mary Smith - Tag #9356</td>
<td>5:01</td>
<td>Waiting (4-8 m)</td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td>John Locke - Tag #3874</td>
<td>3:03</td>
<td>Waiting (5-9 m)</td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td>Malcolm McDowell - Tag #3462</td>
<td>2:03</td>
<td>Waiting (6-10 m)</td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td>Cy Twombly - Tag #7496</td>
<td>1:53</td>
<td>Waiting (7-11 m)</td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td>Elias Lopez - Tag #3746</td>
<td>1:03</td>
<td>Waiting (8-12 m)</td>
<td></td>
</tr>
</tbody>
</table>

### Waiting for Care

<table>
<thead>
<tr>
<th>Queue</th>
<th>Patient</th>
<th>Wait Time</th>
<th>Status and Est Remaining</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rad-CT</td>
<td>Richard Jewel - Tag #7496</td>
<td>23:00</td>
<td>Waiting (2-6 m)</td>
<td></td>
</tr>
<tr>
<td>Rad-X-Ray</td>
<td>Guillermo Puertas - Tag #5482</td>
<td>23:00</td>
<td>Waiting (3-7 m)</td>
<td></td>
</tr>
<tr>
<td>Rad-X-Ray</td>
<td>Esteban Trabajos - Tag #2482</td>
<td>23:00</td>
<td>Waiting (4-8 m)</td>
<td></td>
</tr>
</tbody>
</table>
Auto Check-In

Welcome to Plastic and Reconstructive Surgery
Bienvenido a Plastic and Reconstructive Surgery

1. Take the Lowest Number
   Tome el Número más Bajo

2. Be Seated
   Tome asiento

3. Have Picture ID Ready
   Tenga ID con Photo Disponible

4. Listen for Your Number
   Escuche a que la Llaman su Número
Net Promoter Score App
# EHR Embedded Search – Finder<sub>RT</sub>

![EHR Embedded Search - Finder<sub>RT</sub>](image)

## Equipment and Staff

<table>
<thead>
<tr>
<th>Tag #</th>
<th>Category</th>
<th>Type</th>
<th>Name</th>
<th>Status</th>
<th>Location</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>220991</td>
<td></td>
<td>Motion Tablet</td>
<td>Motion Tablet-777-TAB-000297</td>
<td>In use</td>
<td>CMP1_2.Infusion Bays 1-6</td>
<td>32 m</td>
</tr>
<tr>
<td>225621</td>
<td></td>
<td>MD</td>
<td>Anne Seidensticker</td>
<td>Not reporting</td>
<td>CMP1_2.IM- Nurse Station (east)</td>
<td>32 m</td>
</tr>
<tr>
<td>115492</td>
<td></td>
<td>PSR</td>
<td>Anna Mary Thomson</td>
<td>Clean</td>
<td>CMP1_2.IM- Nurse Station (west)</td>
<td>32 m</td>
</tr>
<tr>
<td>225447</td>
<td></td>
<td>Monitor, Vital Signs</td>
<td>Monitor, Vital Signs-C048484</td>
<td>In use</td>
<td>CMP1_2.Infusion Bays 7-12</td>
<td>1d 6h 32m</td>
</tr>
<tr>
<td>023145</td>
<td></td>
<td>PSR</td>
<td>Tina Stevens</td>
<td>Not reporting</td>
<td>CMP1_2.IM- Nurse Station (east)</td>
<td>1d 6h 32m</td>
</tr>
<tr>
<td>578129</td>
<td></td>
<td>Module, Infusion Pump</td>
<td>Module, Infusion Pump-C038935</td>
<td>Clean</td>
<td>CMP1_2.Infusion Bays 1-6</td>
<td>1d 6h 32m</td>
</tr>
<tr>
<td>125833</td>
<td></td>
<td>Motion Tablet</td>
<td>Motion Tablet-777-TAB-098890</td>
<td>In use</td>
<td>CMP1_2.Infusion Bays 1-6</td>
<td>1d 6h 32m</td>
</tr>
</tbody>
</table>
Infection Control Reporting

1) Select a Report Type: Infection Control

Time Zone for Report Display: America/Chicago

NOTE: The specified date range must be less than or equal to 1 month.

Enter Duration to Establish Proximity:

5 seconds

Include Tags/Not Reporting:

Include Only Default: [ ]

Compare Against:

- Equipment
- Patient
- Staff

WARNING: Before you run this report, verify the report criteria you selected is correct. To reduce report generation time, select more specific criteria.

Infection Control Report for Jill Nichols for time period 8/10/2015 - 8/11/2015

Exposure Summary
The Patient was exposed to the following for at least 5 seconds:
2 Patient 11 Equipment 4 Staff 7 Locations

Jill Nichols
Time In: 8/10/2015 8:15 AM
Time Out: 8/10/2015 11:41 AM
Facility: Harbor Falls Medical Center

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Location</th>
<th>Contact Start Time</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alison Reed</td>
<td>Unit Secretary</td>
<td>Reception</td>
<td>8/10/2015 8:15 AM</td>
<td>00:00:03:33</td>
</tr>
<tr>
<td>Hank McMichael</td>
<td>Security</td>
<td>Reception</td>
<td>8/10/2015 8:15 AM</td>
<td>00:00:03:33</td>
</tr>
<tr>
<td>Jake Nowitski</td>
<td>Nurse Practitioner</td>
<td>Triage 2</td>
<td>8/10/2015 9:08 AM</td>
<td>00:00:18:20</td>
</tr>
<tr>
<td>Otoscope-Ophthalmoscope 2</td>
<td>Otoscope-Ophthalmoscope</td>
<td>Triage 2</td>
<td>8/10/2015 9:08 AM</td>
<td>00:00:18:20</td>
</tr>
<tr>
<td>Pulse Oximeter 17</td>
<td>Pulse Oximeter</td>
<td>Triage 2</td>
<td>8/10/2015 9:08 AM</td>
<td>00:00:18:20</td>
</tr>
<tr>
<td>Refrigerator 19</td>
<td>Refrigerator</td>
<td>Triage 2</td>
<td>8/10/2015 9:08 AM</td>
<td>00:00:18:20</td>
</tr>
<tr>
<td>Scale 2</td>
<td>Scale</td>
<td>Triage 2</td>
<td>8/10/2015 9:08 AM</td>
<td>00:00:18:20</td>
</tr>
<tr>
<td>Thermometer 2</td>
<td>Thermometer</td>
<td>Triage 2</td>
<td>8/10/2015 9:08 AM</td>
<td>00:00:18:20</td>
</tr>
<tr>
<td>Stretcher 19</td>
<td>Stretcher</td>
<td>Exam Room 43</td>
<td>8/10/2015 11:13 AM</td>
<td>00:00:10:25</td>
</tr>
<tr>
<td>Beth Wallman</td>
<td>Certified Nurse Assistant</td>
<td>Corridor 22</td>
<td>8/10/2015 11:23 AM</td>
<td>00:00:00:10</td>
</tr>
<tr>
<td>Beth Wallman</td>
<td>Certified Nurse Assistant</td>
<td>Vestibule</td>
<td>8/10/2015 11:23 AM</td>
<td>00:00:00:10</td>
</tr>
<tr>
<td>Beth Wallman</td>
<td>Certified Nurse Assistant</td>
<td>Corridor 20</td>
<td>8/10/2015 11:23 AM</td>
<td>00:00:00:10</td>
</tr>
<tr>
<td>Pulse Oximeter 12</td>
<td>Pulse Oximeter</td>
<td>Corridor 20</td>
<td>8/10/2015 11:23 AM</td>
<td>00:00:00:10</td>
</tr>
<tr>
<td>Pulse Oximeter 13</td>
<td>Pulse Oximeter</td>
<td>Corridor 20</td>
<td>8/10/2015 11:23 AM</td>
<td>00:00:00:10</td>
</tr>
<tr>
<td>Pulse Oximeter 14</td>
<td>Pulse Oximeter</td>
<td>Corridor 20</td>
<td>8/10/2015 11:23 AM</td>
<td>00:00:00:10</td>
</tr>
<tr>
<td>Pulse Oximeter 15</td>
<td>Pulse Oximeter</td>
<td>Corridor 20</td>
<td>8/10/2015 11:23 AM</td>
<td>00:00:00:10</td>
</tr>
</tbody>
</table>
Enterprise Visibility
Mobile Applications
Temperature Monitoring

<table>
<thead>
<tr>
<th>Tag</th>
<th>Name</th>
<th>Location</th>
<th>Current Value</th>
<th>Time Reported</th>
<th>Status</th>
<th>Last Compliance Logged</th>
<th>Corrective Action</th>
<th>Corrective Action Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>463</td>
<td>Vaccine Ref 1</td>
<td>Med Post 2</td>
<td>36.00°F (3.3°C)</td>
<td>4/25/2023 2:01 PM</td>
<td>Green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>464</td>
<td>Vaccine Ref 2</td>
<td>Med Post 3</td>
<td>40.00°F (4.4°C)</td>
<td>4/25/2023 2:01 PM</td>
<td>Green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>465</td>
<td>Vaccine Ref 3</td>
<td>Med Post 4</td>
<td>45.00°F (7.2°C)</td>
<td>4/25/2023 2:01 PM</td>
<td>Green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>466</td>
<td>Vaccine Ref 4</td>
<td>Med Post 5</td>
<td>42.00°F (5.6°C)</td>
<td>4/25/2023 2:01 PM</td>
<td>Green</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Automated Family Notifications

<table>
<thead>
<tr>
<th>Patient</th>
<th>Time Entered</th>
<th>Notification Type</th>
<th>Family Members</th>
<th>Comment</th>
<th>Notification Status</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrett Brian</td>
<td>13:00</td>
<td>TAG</td>
<td>Barrett Charlene</td>
<td>Running home, will be back(...)</td>
<td>Arrived</td>
<td></td>
</tr>
<tr>
<td>Bates Evan</td>
<td>13:05</td>
<td>SMS</td>
<td>Bates Norma</td>
<td></td>
<td>Called to OR(0:33)</td>
<td></td>
</tr>
<tr>
<td>Bell Charlene</td>
<td>13:30</td>
<td>SMS(2)</td>
<td>Bell Brian, Bell Mara</td>
<td></td>
<td>Called to OR(0:20)</td>
<td></td>
</tr>
<tr>
<td>Berry Wyatt</td>
<td>13:45</td>
<td>SMS</td>
<td>Berry Johny</td>
<td>Goint to cafeteria.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burke Marc</td>
<td>14:05</td>
<td>TAG</td>
<td>Burke Monica</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butler Julio</td>
<td>14:20</td>
<td>SMS</td>
<td>Butler Caroline</td>
<td>Sitting in their car, will be(...)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpenter Zoe</td>
<td>14:35</td>
<td>TAG-SMS(2)</td>
<td>Carpenter Mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Donald</td>
<td>15:03</td>
<td>SMS(3)</td>
<td>Cook John, Cook Alejandra</td>
<td>Will be coming and going.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Monica</td>
<td>15:15</td>
<td>TAG</td>
<td>Cook Zachary, Cook Paul(...)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cox Crystal</td>
<td>15:55</td>
<td>TAG-SMS(4)</td>
<td>Cox Ally, Cox May, Cox An(...)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cunningham Caroline</td>
<td>16:15</td>
<td>TAG</td>
<td>Cunningham Paul</td>
<td>Went to eat.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dunn Zachary</td>
<td>16:30</td>
<td>TAG</td>
<td>Dunn Lee, Dunn Mary Dunn(...)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EHR Integrations
Current – Registrations (Prelude)

Registration Desk → During Visit → Patient Departs

Patient Receives Tag
Tag associated
In WakeOne and
creates association
in InSites and Queue

Patient Location Changes
SPOT pushes
location updates
to WakeOne,
InSites, and Queue

Patient Puts Tag in
Drop Box
Tag disassociated
by SPOT and
sent to WakeOne,
InSites, and Queue

• Core integration necessary for nearly all patient flow apps
• Used to associate and disassociate SPOT patient badge to the patient, and pushes location into WakeOne (Epic)
• Certain locations must be synced between the systems
Integrations in Progress

• OR (OpTime)
  – Push in phase of care milestones into WakeOne
  – Provide phase of care updates to family waiting room and to others via SPOT Notification app

• ED (ASAP)

• Auto-Authentication
  – Auto-login, auto-logout, auto-navigate to patient chart

• Remote Patient Monitoring/Telehealth
  – Integrate via Apple HealthKit, other platforms
The Methodology Used by Wake Forest Baptist Medical Center
### Assessment and Planning Process

**8-12 Weeks**

<table>
<thead>
<tr>
<th>Initial Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stakeholder Interviews with Executives and Department Leaders</td>
</tr>
<tr>
<td>• Potential Impact Analysis</td>
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<tr>
<td>• Situational Analysis Report</td>
</tr>
<tr>
<td>• Results Presentation</td>
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<table>
<thead>
<tr>
<th>Develop Plan</th>
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<tbody>
<tr>
<td>• Vision Development (Define Future State)</td>
</tr>
<tr>
<td>• Development of Use Cases</td>
</tr>
<tr>
<td>• Establish Priorities</td>
</tr>
<tr>
<td>• Create Project Roadmap and Timeline</td>
</tr>
<tr>
<td>• Comprehensive 5 Year Financial Pro Forma–Costs, Benefits, ROI</td>
</tr>
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<td>• Technical Requirements</td>
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<tr>
<td>• Executive Presentation</td>
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<td>• Internal Staff/Resource Requirement Estimates</td>
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</table>

<table>
<thead>
<tr>
<th>Present to Exec Cmte for Budget Approval</th>
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</thead>
<tbody>
<tr>
<td>• Full or Partial Program Management/Oversight</td>
</tr>
<tr>
<td>• Project Management</td>
</tr>
<tr>
<td>• System Implementation</td>
</tr>
<tr>
<td>• Internal Coordination</td>
</tr>
<tr>
<td>• Governance Management</td>
</tr>
<tr>
<td>• Communications &amp; Reporting</td>
</tr>
<tr>
<td>• Training &amp; Support</td>
</tr>
<tr>
<td>• Hire and Manage Internal Resources</td>
</tr>
<tr>
<td>• Vendor Management</td>
</tr>
<tr>
<td>• Budget/Financial Mgmt</td>
</tr>
<tr>
<td>• Custom Dev/Integrations</td>
</tr>
<tr>
<td>• Process Change Mgmt</td>
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</table>

**Launch Initiative**

- Vision Development (Define Future State)
- Development of Use Cases
- Establish Priorities
- Create Project Roadmap and Timeline
- Comprehensive 5 Year Financial Pro Forma–Costs, Benefits, ROI
- Technical Requirements
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**Assessment and Planning Process**

- Vision Development (Define Future State)
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- Comprehensive 5 Year Financial Pro Forma–Costs, Benefits, ROI
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Questions

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