Our Barcode Medication Administration (BCMA) Journey
Jackson Health System
JACKSON HEALTH SYSTEM

• A non-profit academic medical center offering world-class care to any persons who walks through its doors.

• An integrated healthcare delivery system, JHS consists of its centerpiece, Jackson Memorial Hospital, Jackson North Medical Center, Jackson South Community Hospital, Women’s & Holtz Children’s Hospital, Jackson Rehabilitation Hospital, and Jackson Behavioral Health Hospital. Multiple primary care and specialty care centers, two long term care nursing facilities, six Corrections Health Services clinics, a network of mental health facilities.

• Two primary affiliations with leading academic institutions in South Florida, the University of Miami Miller School of Medicine and the Florida International University Herbert Wertheim College of Medicine. JHS also maintains many other academic affiliations
Celebrating Our Wins

Recertification Completed 5/26/2015

Meaningful Use Stage 2 Attestation in Progress
The Jackson Vision

- Modernize current system
- Increase patient safety
- Increase use of Electronic Health Record (EHR)
- Share access to providers, healthcare team and patients
Optimize and Upgrade EHR

Cerner installed at Jackson Health system in 2007
- Need for modernization of current systems (21 applications)
- Workflows addressed (96)
- Regulatory requirements
  - Meaningful use
  - CPOE
  - Patient Portal
  - Transfer of care
- Need to increase patient safety
  - BCMA (stage 2 meaningful use)
  - Electronic Medication Reconciliation
Electronic Medication Administration

Stage 2 Eligible Hospital and Critical Access Hospital Meaningful Use Core Measures

(eMAR)
Objective
Automatically track medications from order to administration using assistive technologies in conjunction with an electronic medication administration record (eMAR).
Implementation Methodology

Two options for Bar Code Medication Administration Implementing

1. Big Bang
2. Phased Rollout
We Chose...

-Go BIG or Go HOME!
Develop a Strategy
System Wide Preparation

- Train entire nursing staff of over 4000 employees
- Deploy 700 workstation on wheels (WOW’s)
- Convert from Paper orders to CPOE
- Work flow
In Preparation to Health System wide BCMA - CPOE

• In CPOE
  – Review of all Order Sentences to make sure barcoding will not break
    • 2 FTE for review
    • 3 FTE for modifications
    • 4300+ individual Order Sentences reviewed
      – 1100+ Order Sentences needed more in-depth review and modification
    • 300+ PowerPlans with 6300+ Order Sentences reviewed
      – 2100+ Order Sentences needed more in-depth review and modification
In Preparation to Health System wide BCMA - Pharmacy

– Creation of process/workflow to scan all items that come in the Pharmacy (i.e. daily order from Cardinal)
  • Set to start the day of scanning event, ongoing after that
  • Stacking of National Drug Code (NDC) performed daily
In Preparation to Health System wide BCMA - Pharmacy

- Review of the Formulary for duplicate active National Drug Code (NDC)
- Workflow for Unique Identifiers
In Preparation to Health System wide BCMA - Pharmacy

- All items already in the Pharmacy and in Nursing Units scanned before go-live
- Creation of process to scan all items that come in the Pharmacy
In Preparation to Health System wide BCMA

• Creation of process “what to do when scanning doesn’t work”
  – Troubleshooting workflow from end users to “fixers”
In Preparation to Health System wide BCMA

• Creation of process “what to do when scanning doesn’t work”
  – Trained all end users on how to start the process using Med Request in eMAR
During and after go-live

- Go-live 6-15-14
- Scanning compliance Jackson Health System improving day by day
During and after go-live

- Meds Not Identified
  - 2% of all errors for scanning
  - Hard stop for end users
  - Use Meds not Identified report in a weekly basis to identify education needs, Formulary modifications needs, process needs, and system needs
    - Top 25 from all facilities
    - 30% Pharmacy issues
    - 70% Education, user and system issue
Tactics & Initiatives

Reduce Actual Medication Errors & Transcription

- BCMA
- Staff Education
- Increase Near-Miss Reporting
# Improved Near Miss Reporting

## Med Errors Events

<table>
<thead>
<tr>
<th></th>
<th>Goals</th>
<th># of Events</th>
<th>Patient Days</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JHS Goal</td>
<td>Nat'l Avg</td>
<td>Jul-15</td>
<td></td>
</tr>
<tr>
<td>Medication Errors (Actual)</td>
<td>0.00</td>
<td>3.00</td>
<td>36</td>
<td>17387</td>
</tr>
<tr>
<td>Medication Errors (Near Miss)</td>
<td>0.00</td>
<td>3.00</td>
<td>8</td>
<td>17387</td>
</tr>
</tbody>
</table>

## Pharmacist Interventions (Near Misses)

<table>
<thead>
<tr>
<th>Interventions (Near Misses)</th>
<th><em>New Metric</em></th>
<th>1203</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med order optimized</td>
<td></td>
<td>731</td>
</tr>
<tr>
<td>Duplicate/unnecessary therapy</td>
<td></td>
<td>251</td>
</tr>
<tr>
<td>Renal adjustment</td>
<td></td>
<td>164</td>
</tr>
<tr>
<td>Allergy-drug interaction</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Drug-drug interaction</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Contraindication</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Pregnant/Lactation/Food/Lab-drug interaction</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
Note: The total number of medication events reported each month is shown in red and the number of transcription-related medication events is shown in blue. The graph here shows that while staff continue to identify and report medication errors, implementing CPOE has reduced transcription errors to zero for the past 3 months.
Bar Code Medication Administration

2016 Benchmark: Meaningful Use/HIMSS 7
95%

Holtz Positive Patient Identified

Holtz Medication Successfully Scanned

Meaningful Use/HIMSS 7
95%

1-Jan 1-Feb 1-Mar 1-Apr 1-May 1-Jun 1-Jul
Improved BCMA (bar coded meds administration)

Value:
- Right Patient
- Right Drug
- Right Dose
- Right Route
- Right Time
- Right Documentation

JHS Meds = 88%
- National Average = 70%
- Year over year Improvement = 24%
- Targeted 95% for HIMSS Stage 7 & TJC

JHS ID = 91%
- Year over year Improvement = 13%

Miracles made daily.
Adoption and Optimization

- Daily BCMA report was created and distributed to Nursing and Pharmacy Leadership.
- Interdisciplinary Team developed included IT, Nursing, Pharmacy, Informatics to round to review staff workflow, identify areas of opportunity and address technology issues.

- **Videos**
  - BCMA scanning process
  - Scanning of IV fluids
- Reports to review Medication not given and provider notification
**Action: Re-Education of Nurses**

- Raised awareness of ‘Drift’ away from policies and procedures established for safety
- No distractions
- Use of WOW at bedside
- Two patient identifiers
- Scanning Techniques
**Education**

- **MIRACLE Quick Tip**
- **Barcoded Wristband Scanning**
  - There are 2 barcodes on a patient’s wristband – a **Linear barcode**, which is used with older application, and a **2D barcode**, used to identify patients within Miracle.
  - When a User enters the Medication Administration Wizard, he or she is asked to positively identify the patient by scanning the patient’s wristband.
  - The User **MUST scan the 2D barcode** on the patient’s wristband to correctly identify the patient.
  - We are recommending that the User turn the barcode scanner 90° so that **ONLY the 2D barcode** is scanned – Avoiding the Linear barcode completely.
  - Without turning the scanner as shown, the LINEAR barcode may be scanned in Error!
Strategies used During and After Go-Live

• Troubleshooting of issues as they come
• Use lessons learned to modify processes, reports and system
• Involve all shareholders when making any changes to product in system, and to ordering or dispensing of such product, to proactively diffuse any future scanning issues
• Listen to END USERS – help to UNDERSTAND process flow, use of technology and WHY BCMA is necessary for PATIENT SAFETY
MARS & VENUS

Wah wa-wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah wah ...

Psst ... so are you getting any of this?

EHR Clinical Design Decisions
Challenges

**IT Department**
- Expertise: IT
- Communicate in IT Lingo
- Primary focus IT
- Perception IT-centric
- IT Workflows
- Pulled in Many Directions
- Expected to Support Entire Team

**Nursing, Pharmacy & Ancillary Departments**
- Expertise: Clinical
- Communication is Clinical
- Perceptions are Clinical
- Novice to Expert paradigm related to IT
- Clinical Workflows
- Pulled in many Directions
- Expected to Support Entire Team
JHS Clinical Governance

Executive Steering Committee (ESC)

Program Steering Committee (PSC)

Clinical Governance Steering Council (CGSC)

Clinical Performance Optimization Committee (CPOC)

Clinical Champions Committee (CCC)

Clinical Advisory Council (CAC)

Lab Advisory Work Group
Radiology Advisory Work Group
Nursing Advisory Work Group
Medication (Provider and Nursing) Work Group
Therapies Advisory Work Group
TJC, MU, & other regulatory bodies
Clinical Data Governance
Education Council
Change Management/Communications

CFO, Chair Mark Knight
C-Suite participants. Provide IT & Operational strategy and alignment, capital budgeting, major project oversight. Confirm clinical, revenue cycle, business, and security direction. Policy and content approval; champions adoption.

CNO Co-Chairs, Indra Battle-Triana, Dr. Alina Brebene
CMOs, CEOs, CIO, CNOs, Sr VP Quality, Dir. Clinical Informatics, etc., participants. Provide leadership, strategy, and direction of the IP/OP EHR, and other clinical systems, inclusive of clinical content and workflow direction.

Interim CMIO, Chair
Alina Brebene, MD
Physicians, Nurses participants. Assist design, build, and test physician EHR components, inclusive of power plans content build. Provide feedback on quality of current products and recommendations for improvement.

CIO Chair, Mike Garcia
Compliance and HIM Mgmt. CNO, VP SS, Audit, IT Security Mgr, Physician participants. Guide the information security strategy, sets policy, manages risk.

Sr. Leadership, Chair, Julie Mann
CMOs, COOs, CNOs, Sr VP Quality, Dir. Clinical Informatics, Corp Dir Pt Safety/Risk Mgmtnt, Compliance, Director, EVP

CMA, VP Business Process. Provide leadership, strategy, and direction of the IP/OP EHR, and other clinical systems, inclusive of clinical content and workflow direction.

Clinical/Quality Chair, Laura Daly
Clinical End Users, Super Users, SMEs, & Design Team Leads. Assist design, build and test operational EHR components, inclusive of clinical pathway content build. Provide feedback on quality of current products and recommendations for improvement.
Change Agents

- Accountable for facilitating change within JHS
- Surface issues/concerns; work with program to resolve
- Develop deep understanding of transformation
- Provide support and encouragement to employees
- Provide feedback
Clinical Informatics Coordinator (CIC) Strategy

- Liaison between IT and Clinical / Business areas (end users)
- Serve as full time primary coordinator to their domain area of expertise and support areas during all EHR phases: Implementation, Stabilization, Adoption, and Optimization
- Collaborate with stakeholders to develop and review clinical workflow to support best practice
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Super User
What is a Super User?

- **Super Users** display real-time best practice use of MIRACLE to peers day-to-day
- **Super Users** provide front line, at the elbow support to end users, consistently share key messages to staff, and provide a valuable feedback loop to leadership
- **Super Users** function as peer coaches and will be the cheerleaders for change
- **Super Users** foster a team learning environment
- **Super Users** are supported by the Clinical Informatics Coordinator
- **Super Users** possess specific qualities and are able and willing to commit to the tasks required
Super User Qualities & Skills

- Super Users have qualities and skills that span four major areas:
  - Communication
  - Analysis
  - Skills in teaching and practice
  - Ability to motivate the learner
Additional Support

Ongoing SME Support

- Understanding of clinical workflows
- Understanding of IT builds/functionality
- Understanding of unique user positions/access
- Provide expertise and critical design components
- Ensures designs meet safety/regulatory/compliance components
- Identify improvement opportunities & avoid knee-jerk reactions

Effective Communication & Planning - Ask the RIGHT Questions

- What is the ASK
- What is the expected OUTCOME
- What areas will be EFFECTED
- What is the impact for – REGULATORY
- What is the impact for COMPLIANCE
- What is the impact for POLICY
- What is the impact for EDUCATION
How We Strategically Change

- Secure Executive Leadership commitment to change
- Create an Organizational Transformation/Communications Working Group as part of Governance
- Activate a Change Agent Structure made up of SME, Physician Champions, Super Users, CICs, Clinical Owners, etc.
BCMA VIDEO

https://youtu.be/7uYA4F6aqhE