INNOVATIONS IN DATA ANALYTICS: ENGAGING NURSES TO EMPOWER CHANGE
Session Number: SC415302

2015 ANCC National Magnet Conference®
October 9, 2015
12:30pm - 1:30pm

Kristie Koch, BS, LBB, SSBB
Emory Healthcare
Atlanta, GA

INTRODUCTION TO EMORY HEALTHCARE

• Clinical Arm of Robert W. Woodruff Health Sciences Center of Emory University
• Healthcare System in Metropolitan Atlanta
  – Emory University Hospital*
  – Emory University Hospital Midtown
  – Emory University Orthopaedic and Spine Hospital
  – Emory Johns Creek Hospital
  – Emory Saint Joseph’s Hospital*
  – Emory Clinic
• 1,830 Licensed Beds & Over 9,000 Employees
  * Magnet Designated Hospitals
CHALLENGES WITH DATA

• Data in multiple different source systems
• Lack of standard definitions
• How to interpret data
• Knowledge gap
• Complexity of Data
• Timeliness

DATA AND OUR QUALITY / MAGNET JOURNEY

• How can we track our performance on quality metrics?
• How can we make data accessible AND actionable for nurses?
• How can we empower clinical nurses to USE the data to drive improvements in patient care and outcomes?

DATA AND OUR QUALITY / MAGNET JOURNEY

• How can we track our performance on Quality metrics?
  – Reports and Dashboards with trended data over time
  – Target setting and comparison to benchmarks
  – Dashboards with Magnet indicators
### Hospital Nursing Quality Index: A System & Entity Perspective

1. Metrics
2. Entity
3. 8-quarter trend
4. Most recent quarter performance
5. Overall Entity Performance
6. Run Chart showing trend

### Nursing Quality Index 8-Quarter REPORT™: Drill Down Entity Performance

<table>
<thead>
<tr>
<th>Unit Names Listed Here</th>
</tr>
</thead>
</table>

### Nursing Quality Index 8-Quarter REPORT™: Drill Down Entity Performance

<table>
<thead>
<tr>
<th>Unit Names Listed Here</th>
</tr>
</thead>
</table>
**NURSING QUALITY UNIT REPORT: A UNIT PERSPECTIVE**

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Month 1</th>
<th>Month 2</th>
<th>Month 3</th>
<th>Month 4</th>
<th>Month 5</th>
<th>Month 6</th>
<th>Month 7</th>
<th>Month 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedded Areas</td>
<td>90</td>
<td>92</td>
<td>91</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td>96</td>
<td>97</td>
</tr>
<tr>
<td>Non-Bedded Areas</td>
<td>80</td>
<td>82</td>
<td>81</td>
<td>83</td>
<td>84</td>
<td>85</td>
<td>86</td>
<td>87</td>
</tr>
</tbody>
</table>

**TARGET SETTING**

- Set Targets once for each Fiscal Year
- NDNQI metrics:
  - NDNQI National Summary Statistics Report by Magnet Status
  - Magnet Facility 50th Percentile by Unit Type
  - Average of reported data for previous 8 quarters
- Patient Satisfaction:
  - 50th Percentile of peer group by Unit Type
- Intentionally set targets using more challenging peer groups
DATA AND OUR QUALITY / MAGNET JOURNEY

• How can we make data Accessible AND Actionable?
  – PUSH and PULL Outcome Data to Nurse Leaders and Clinical Nurses
  – Process Measures
  – Drilldown data availability

MAKING DATA ACCESSIBLE

• Must share data to drive change.
• Share reports via:
  • Intranet: PULL
  • Email: PUSH
  • Posting: PRESENCE

TYPES OF MEASURES

• Outcome: What happened to the patient, what is the result, “True North”
  ➢ CLABSI rate
• Process: How well we perform our work
  ➢ Central Line Maintenance Bundle
  ➢ Hand Hygiene
• Balancing: Improvement should not harmfully impact other metrics,
  ➢ Nursing Care Hours
PROCESS MEASURES: USING DATA FOR IMPROVEMENT

• Providing Outcome Measures Not Enough to Reach Quality Goals
• Nurses used Evidence to create Bundles
• Need Process Measures to guide Nurses’ Improvement efforts
  – CLABSI = Central Line Maintenance Bundle
  – CAUTI = Catheter Maintenance Bundle
  – Patient Satisfaction = Bedside Shift Report Bundle
  – Falls = Time of Day & Reasons for Falls

PROCESS MEASURES: DATA MINING

• Electronic tracking of data
  – EMR reports for real-time Detection & Mitigation
  – Data warehouse reports for tracking patient level performance on process measures
QUALITY / MAGNET JOURNEY

- How can we empower clinical nurses to USE the data to drive improvements?
  - TEACH Nurses to interpret and Use data
  - Data for Process Improvement
  - Provide data that is relevant to clinical practice

EDUCATION

- Report Usage
- Classes for metrics & interpreting data
- Process Improvement training
- Annual Nursing Quality Retreats
- Process Improvement Coaching sessions

EDUCATION

- Must TEACH about data to drive improvement
- Report Usage
NURSING QUALITY REPORT READING GUIDE

HOW TO READ AND DISPLAY NURSING QUALITY REPORTS

THE MODEL FOR IMPROVEMENT

• What are we trying to accomplish?

  AIM STATEMENT

• How will we know if a change is an improvement?

  MEASURE

• How can we identify changes that will result in an improvement?

  PROCESS IMPROVEMENT TOOLS

• Tests of change

  PDSA
WHAT ARE WE TRYING TO ACCOMPLISH?

Aim Statement
- What?
- How Much?
- On Whom?
- By When?

HOW WILL WE KNOW CHANGE IS IMPROVEMENT?

Measures
- Outcome
- Process
- Balancing

WHAT CHANGES CAN WE MAKE?

1) Evidence-Based Practice
   - Guidelines
   - Scientific Journals

2) Process Improvement
   - Use Process Improvement tools and data
WHAT CHANGES CAN WE MAKE?

Process Improvement Tools
- Annotated Run Charts
- Tally Sheet
- Pareto Chart
- Cause & Effect Diagram
- Root Cause Analysis
- Statistical Process Control (SPC) charts
- Process Map / Flowchart
- A3

TALLY SHEET
- Why did the process fail?
- Easy way for frontline staff to collect data to drive change
- Helps identify next Tests of Change
**PARETO CHART**

- Use to identify Priorities
- 80/20% Rule
- Histogram sorted high to low

**CAUSE & EFFECT DIAGRAM**

- Brainstorming Tool
- Barriers to the Process or Desired Action
- Use to identify Tests of Change

**NURSING QUALITY RETREATS**

- Held annually for past 5 years
- Divided by initiative
- Unit level clinical nurses, entity team leads
- Review current data: Unit, Entity, and System Level
- Review Evidence Based Practices
- Use data to develop action plans for improvement
**Using Unit Level Data to Drive Improvement**

- **Pressure Ulcer Rates**
  - FY15 Q2 (HAPUII & Above)

- **Pressure Ulcer Stages**
  - Documented by WOCN (09/13 - 03/15)

- **Top 5 Pressure Ulcer Locations**
  - Documented by WOCN (09/13 - 03/15)

**Action Plan Worksheets**

**Current State**
- Definition: What your unit/area is currently doing, how your unit/area is currently completing a process, if there is no standard process, etc.

- Large number of pressure ulcers on heel. Heel boots not being applied on all at risk patients.

- Large number of pressure ulcers on sacrum. Sacral silicone border not being used consistently.

**Gaps**
- Definition: The difference between your current state, i.e. actual processes of care and what the evidence indicates you SHOULD be doing.

- Heel protection should be used for at risk patients.

- Sacral silicone border should be used for at risk patients.

**Aim Statement/Gaps to be Addressed**
- Increase use of heel protection to 95% of at risk patients

**How will we know if change is an improvement?**
- Key Metrics (Outcome/Process Measures)
  - Heel protection compliance

**What changes can we make that will result in improvement?**
- Planned Tests of Change

<table>
<thead>
<tr>
<th>Milestone Dates</th>
<th>Action Item</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/17/15</td>
<td>Identify standard work for heel protection application: who, what, when, where</td>
<td>Jane S.</td>
</tr>
<tr>
<td>9/18/15</td>
<td>Trial one shift. Get feedback. Improve.</td>
<td>Jane S.</td>
</tr>
<tr>
<td>9/20/15</td>
<td>Feedback meeting</td>
<td>Jane S &amp; team</td>
</tr>
<tr>
<td></td>
<td>Fabbone to determine why heel protection not used</td>
<td></td>
</tr>
</tbody>
</table>
PROCESS IMPROVEMENT COACHING

• One-on-One monthly meetings with hospital quality team leads
• Team Leads are Clinical Nurse Specialists, Unit Directors and/or Clinical Nurses
• Review data, identify trends, track progress
• Teach leads to interpret data
• Leads teach unit level clinical nurse champions
• Allows team leads and unit based clinical nurses to drive improvement

RESULTS

• Emory University Hospital Received 1st Magnet Designation 2014
  – Received Exemplar for how well Nurses at all levels of the hospital could speak to their data
• Emory Saint Joseph’s Hospital Received 5th Magnet Designation 2014
• Several Emory Healthcare Hospitals now outperform 50th Percentile of NDNQI Magnet Hospitals on Multiple Nursing Sensitive Clinical Indicators
• Quality Teams and Improvement work Led by Nurses
• Next Up: Ambulatory Setting

INNOVATIONS IN DATA ANALYTICS: ENGAGING NURSES TO EMPOWER CHANGE

Kristie Koch, BS, LBB, SSBB
Email: Kristie.Koch@emoryhealthcare.org
Phone: 404.686.2808