

**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



EMORY HEALTHCARE



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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*

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CHALLENGES WITH DATA

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

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**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?

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**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

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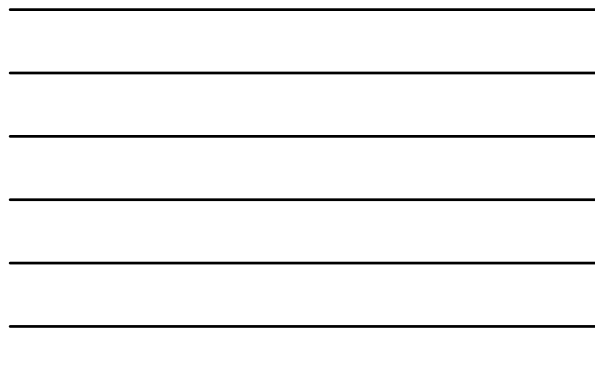
HOSPITAL NURSING QUALITY INDEX: 2015



Hospital Nursing Quality Index™

Second Quarter, Fiscal Year 2014 (December 14 - February 2015)

Measure/Indicator	Hospital A N = 100	Hospital B N = 120	Hospital C N = 150	Hospital D N = 180	Hospital E N = 200
Patient Satisfaction	92.5%	91.0%	93.0%	94.0%	95.0%
Nurse Staffing	100.0%	98.0%	99.0%	100.0%	99.5%
Nurse-to-Patient Ratio	1:3.5	1:4.0	1:3.8	1:3.2	1:3.0
Nurse Turnover	15.0%	18.0%	12.0%	10.0%	14.0%
Nurse Education	95.0%	96.0%	94.0%	97.0%	98.0%
Nurse Certification	98.0%	99.0%	97.0%	99.5%	99.0%
Nurse Experience	10.0%	12.0%	8.0%	11.0%	9.0%
Nurse Satisfaction	85.0%	88.0%	82.0%	90.0%	87.0%
Nurse Turnover	15.0%	18.0%	12.0%	10.0%	14.0%
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NURSING QUALITY UNIT REPORT: A UNIT PERSPECTIVE													
EMORY NURSING UNIT REPORT	FY13	FY14	FY15	Q4FY13	Q4FY14	Q4FY15	Q4FY16	Q4FY17	Q4FY18	Q4FY19	Q4FY20	Q4FY21	Q4FY22
	Target	Target	Target	Target	Target	Target	Target	Target	Target	Target	Target	Target	Target
Pt Sat: Overall Score	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: Nurse Knows You Informal	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: How Pain Was Controlled	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: Progression Responding to Call	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: Knowledge Personal Needs	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: Friendliness / Courtesy of Nurses	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: Normal Attitude toward Requests	50	50	50	50	50	50	50	50	50	50	50	50	50
UNPU	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
UNPU	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
HAPI Stage II & Above	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Falls per 1,000 Patient Days	2.74	2.72	2.71	2.74	2.68	2.69	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Patient at Injury per 1,000 Patient Days	0.33	0.30	0.29	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Physical Restraint Prevalence	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RN Certification	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
RN Education (BSN or Higher)	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%
CADIT per 1,000 Catheter Days	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLADIT per 1,000 Line Days	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bar Code Medication Administration	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
RN Engagement (Overall Score)	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
Score Total (Overall Score)	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
Score Total (Overall Score)	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0

Reports for Bedded and Non-bedded areas

NURSING QUALITY UNIT REPORT: A UNIT PERSPECTIVE													
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Pt Sat: How Pain Was Controlled	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: Progression Responding to Call	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: Attention Special/Personal Needs	50	50	50	50	50	50	50	50	50	50	50	50	50
Pt Sat: Friendliness / Courtesy of Nurses	50	50	50	50	50	50	50	50	50	50	50	50	50
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UNPU	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
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- 1. Metrics
- 2. FY
- 3. Unit Level Data
- 4. 8-Quarter Trend

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

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DATA AND OUR QUALITY / MAGNET JOURNEY

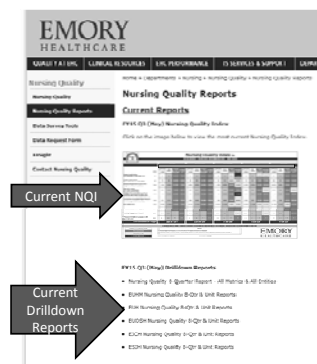
- How can we make data Accessible AND Actionable?
 - PUSH and PULL Outcome Data to Nurse Leaders and Clinical Nurses
 - Process Measures
 - Drilldown data availability

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MAKING DATA ACCESSIBLE

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



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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

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**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

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**PROCESS MEASURES:
USING DATA FOR IMPROVEMENT**

- Electronic tracking of data

Transparent (covered) dressing intact?

☐ Yes

☐ No

☐ N/A

Chrg patch applied properly (e.g. bio patch blue side up)?

☐ Yes

☐ No

☐ N/A

☐ START NPAL applied and dated

Was dressing changed within the last 7 days?

☐ Yes

☐ No

☐ Unknown

☐ N/A

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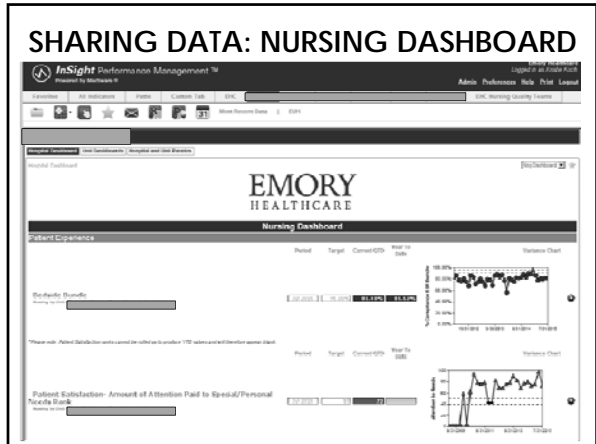


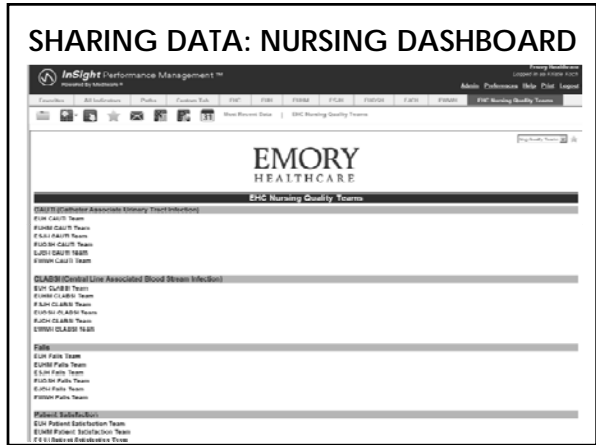
PROCESS MEASURES: DATA MINING

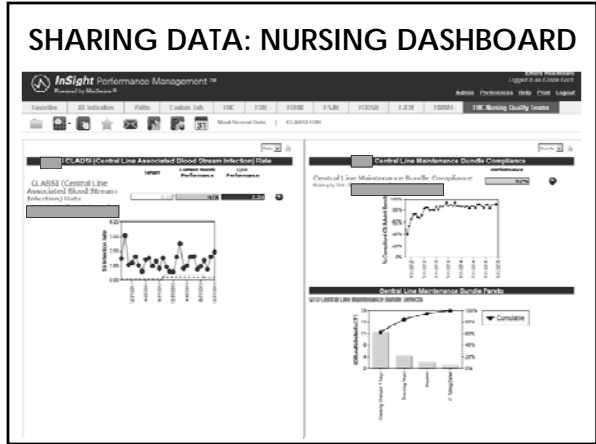
- Data warehouse reports for tracking patient level performance on process measures
- EMR reports for real-time Detection & Mitigation

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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

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EDUCATION

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

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EDUCATION

- Must TEACH about data to drive improvement
 - Report Usage

Report Reading Guide

How to Read & Display Reports

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NURSING QUALITY REPORT READING GUIDE

Reading Guide: A 3-page Reading Guide introduces the 8-Quarter Trend Report and includes:

- 1. The units/areas that the indicator is applicable to
- 2. The data source that Nursing Quality used to obtain the data,
- 3. The frequency that the indicator is updated,
- 4. The definition of the indicator, and finally
- 5. The benchmark source used to set quarterly targets.

Nursing Quality Index 8-Quarter Report					
Indicator	Units / Areas	Data Source	Frequency	Definition	Benchmark Source
Readmission, Timing and Registered Nurses: Bar Code Medication Administration (BCMA) Compliance	EP Unit	Office of Quality: aggregated data	Monthly	ADP: Composite for Readmission, Timing, EP: Reports only, all of former institutions, n = 4 of 1000	To Be Determined
CAUTI (Catheter Associated Urinary Tract Infection)	All	Data Warehouse	Monthly	Discontinued with Data, n = 4 of 1000	External Based Practice Guidelines
FLARE (Fluoridized Anticlotting Blood Stream Infection)	Bedded Units	Selection: Preparation & Control	Monthly	NQIC's Guidelines: # of Patients with CAUTI (n of Catheter Days x 1,000)	NQIC's 8-Quarter average for 1000
	Bedded Units	Selection: Preparation & Control	Monthly	NQIC's Guidelines: # of Patients with FLARE (n of Catheter Days x 1,000)	NQIC's 8-Quarter average for 1000

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HOW TO READ AND DISPLAY NURSING QUALITY REPORTS

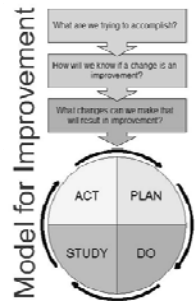
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THE MODEL FOR IMPROVEMENT



Source: Associates in Process Improvement

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- 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

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WHAT ARE WE TRYING TO ACCOMPLISH?

Model for Improvement

Source: Associates in Process Improvement
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Aim Statement

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

HOW WILL WE KNOW CHANGE IS IMPROVEMENT?

Model for Improvement

Source: Associates in Process Improvement
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Measures

- Outcome
- Process
- Balancing

WHAT CHANGES CAN WE MAKE?

Model for Improvement

Source: Associates in Process Improvement
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1) Evidence-Based Practice

- Guidelines
- Scientific Journals

2) Process Improvement

- Use Process Improvement tools and data

WHAT CHANGES CAN WE MAKE?

Model for Improvement



Process Improvement Tools

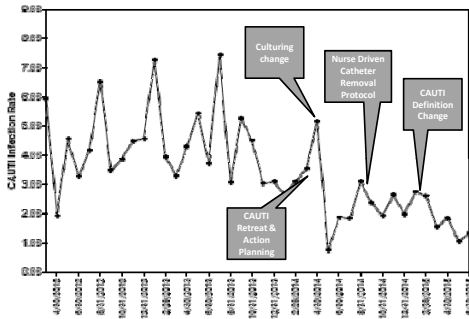
- Annotated Run Charts
- Tally Sheet
- Pareto Chart
- Cause & Effect Diagram
- Root Cause Analysis
- Statistical Process Control (SPC) charts
- Process Map / Flowchart
- A3

Source: Associates in Process Improvement

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ANNOTATED RUN CHART

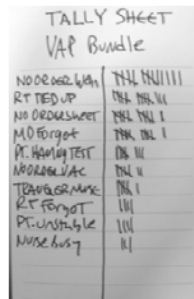


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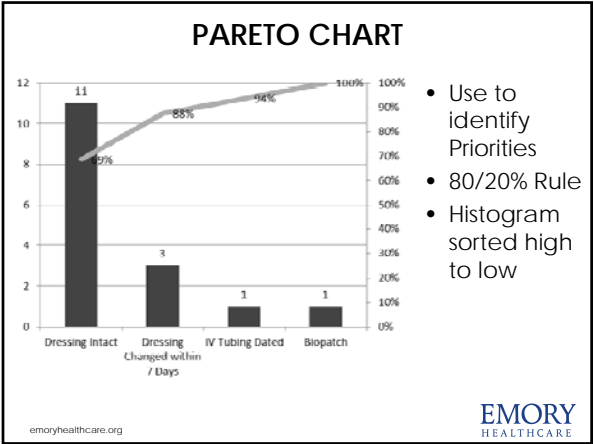
TALLY SHEET

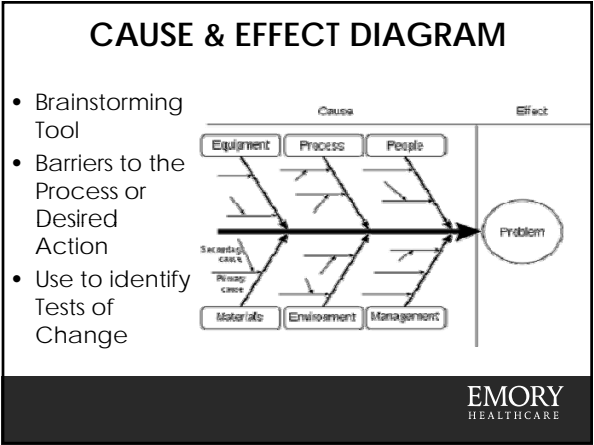
- Why did the process fail?
- Easy way for frontline staff to collect data to drive change
- Helps identify next Tests of Change



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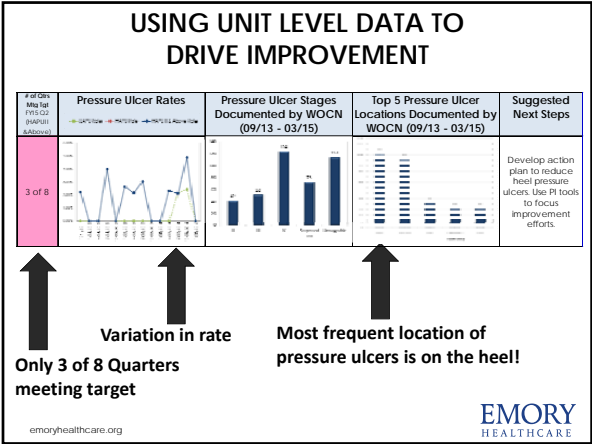


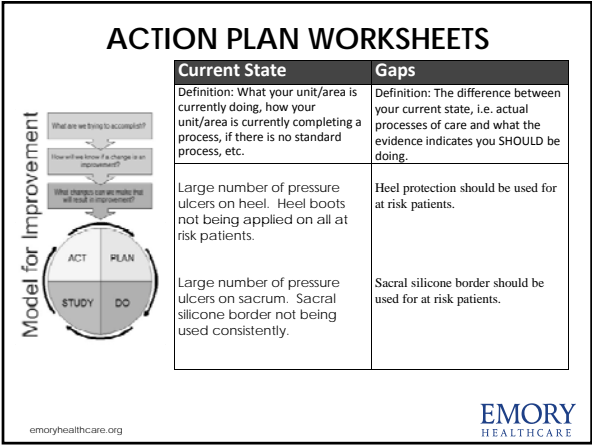
NURSING QUALITY RETREATS

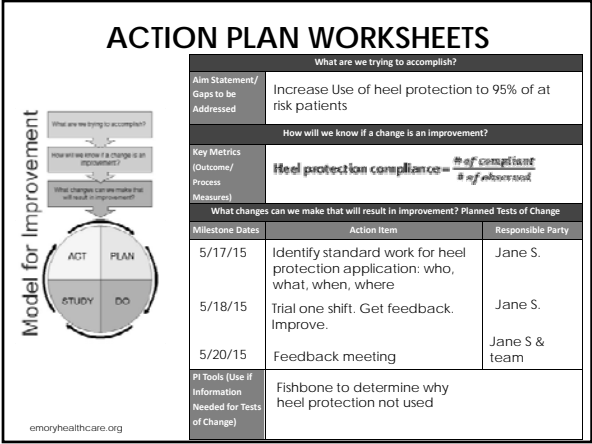
- Held annually for past 5 years
- Divided by initiative
- Unit level clinical nurses, entity team leads
- Review current data: Unit, Entity, and System Level
- Review Evidence Based Practices
- Use data to develop action plans for improvement

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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

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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

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**INNOVATIONS IN DATA ANALYTICS:
ENGAGING NURSES TO EMPOWER CHANGE**

Session Number: SC415302

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