Leveraging Technology for Nursing Handoffs

Presentation

Summer Institute in Nursing Informatics

July 24, 2009

By
Stephanie Kitt, RN MSN, Director Quality & Clinical Informatics
Katie Dejuras, RN MS, Informatics Nurse

This project was approved by the Institutional Review Board of Northwestern University.

The authors declare that they have no vested interest in any product or company referenced in this presentation.

Agenda

- Introduction to Northwestern Memorial Hospital
- Background
- Electronic SBAR Design and Implementation
- Pre and Post Implementation Findings
- Lessons learned

Northwestern Memorial Hospital

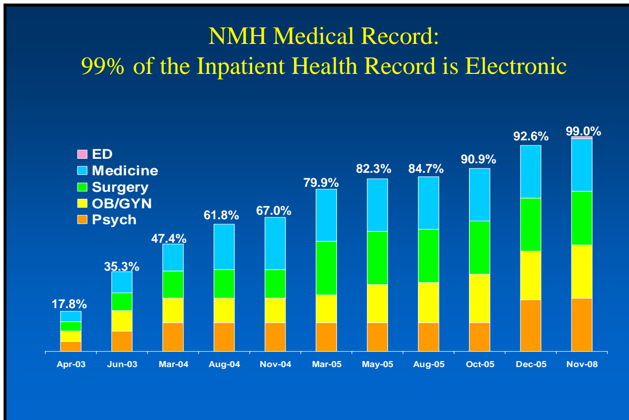
Northwestern Memorial Hospital

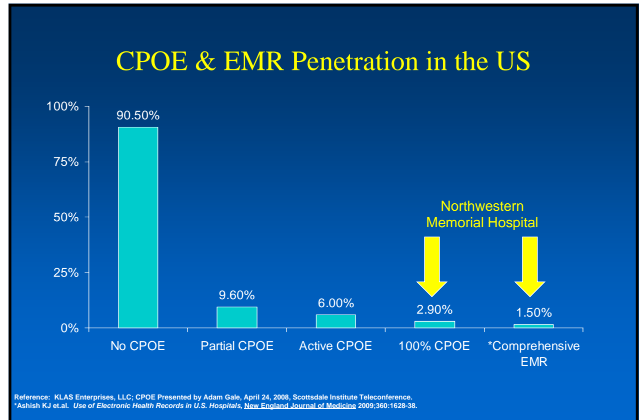
- Mission: "Academic Medical Center Where the Patient Comes First"
- Strategic Goals: Best Patient Experience, Best People, Exceptional Financial Performance
- Primary Teaching Affiliate of Northwestern University's Feinberg School of Medicine (>500 Residents / 125 Fellows)
- RNs 2223

State of the Art Facilities

- **$580 Million** Redevelopment Project
- **3 Million square feet** covering one city block
- High Tech – **"Most Wired"**
- **Level I** trauma networks and **Level III** neonatal intensive care unit
  - 9000+ deliveries

Total Beds:	897
Total Admissions:	43,312
Total Outpatient Visits:	438,979
Total Outpatient Clinics:	13
ED Visits:	73,881
Average Daily Census:	596





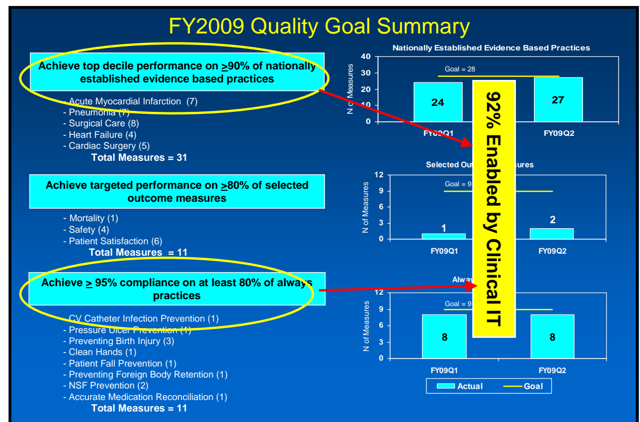
Promises of Healthcare IT

Key Drivers for Quality Care

1 Coordinated, Patient Centered Care

2 Improved Quality and Safety

3 Efficient Cost Effective Care



Background

Maximizing the Quality, Safety, and Efficiency of Handoffs

- Handoffs present a known threat to patient safety
- Transfer of accurate information is fundamental to provision of safe and effective care
- Higher levels of nursing time per patient-day are associated with better patient outcomes*

*Needleman, J, Buerhaus P, Mattke S, et al. (2002). Nurse-staffing levels and the quality of care in hospitals. *New England Journal of Medicine*, *346*, 1715-1722.

Elements of an Effective Handoff

- Face-to-face verbal report with written / paper summary
- Availability of current, up-to-date information
- Information given in predictable order
- Limited interruptions
- Unambiguous transfer of responsibility

Patterson ES, Roth EM. Woods DD, Chow R, Gomes JO. (2004). Handoff strategies in settings with high consequences for failure. *Int. Jour. Qual. Health Care*, *16*, 125-132.

Identified Handoff Failures

- Content omissions / missing information
- Lack of current information
- Failure-prone processes
  - Double handoffs
  - Not face-to-face
  - Illegible notes

Arora V, Johnson J, Lovinger D, et al. (2005). Communication failures in patient sign-out and suggestions for improvement. *Quality & Safety in Health Care*, *14*, 401-407.

Nursing Efficiency

- Little attention to date on nursing change-of-shift report practices, but . . .
- Time and motion study: nursing documentation accounted for <u>27 per cent</u> of total shift time*
- Maryland Nursing Workforce Commission survey: nurses estimate that they spend <u>25 to 50 percent</u> of time on documentation**
- 63 percent reported that they often or very often were kept from spending as much time with patients as needed**

*Hendrich A, Chow M, Skierczynski B, Lu Z. (2008). A 36-hospital time and motion study: How do medical-surgical nurses spend their time? *The Permanente Journal*, *12*(3), 25-34.

**Maryland Nursing Workforce Commission. (2007). Challenges and Opportunities in Documentation of the Nursing Care of Patients.

Key Factors for Consideration

- Failures in communication between healthcare personnel have been clearly implicated as a threat to patient safety
- Reporting tools are fundamental to an effective framework for clinician communication
- Tools must reflect key patient information, be legible, relevant, accurate, and up to date

Leveraging existing electronic clinical information can streamline and simplify workflow processes and generate intended results.

Baseline Nursing Handoff Practices at NMH

- Nursing shift report involved transcription of information from the electronic medical record to paper
- Unit-created paper forms in SBAR format in place, but use varied
- Broad identification of a need for an electronic standardized report form

What is the most challenging thing about current report practices?

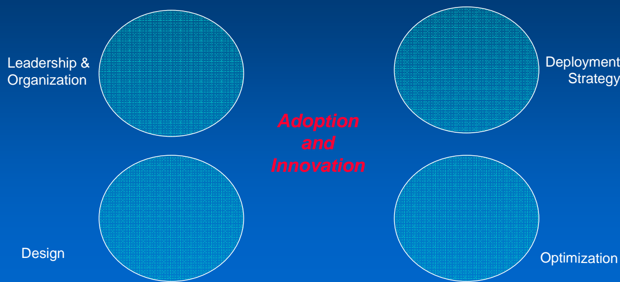
- Completing report
  - Being concise
  - Lack of time to prepare report and give handoff
  - Including relevant information only
- Receiving report
  - Inaccurate and missing information
  - Reading handwriting
- SBAR form
  - Not being able to use PowerChart to download information
- Lack of consistency
  - Discrepancies between report sheet and orders

Do you have suggestions for improving the report process?

- Computerize the form
  - Have a computer-generated sheet on PowerChart that populates with necessary information that does not need to be written out each day (e.g., patient demographics, history, allergies), with space to type in additional information and that can be updated throughout shift for next shift
- Completing the SBAR form and handoff
  - Be specific and concise during handoff
  - Standardize reporting process and form across the hospital

Electronic SBAR Design and Implementation

Multiple Levers Create a Powerful Platform for EHR Adoption



Our thanks and appreciation to leadership & staff who made this possible

- Michelle Janney, Sr. Vice President & CNE
- Carol Payson, Director Surgical Nursing
- Pat Murphy, Director Oncology
- Electronic SBAR Task Force
- Nursing Technology & Informatics Committee members
- Nursing Staff GI, Surgical Oncology, Psychiatry & OB Units
- Donna Matras RN, Clinical Coordinator
- Princess Ivy RN, Staff Educator
- Karen Cabansag RN, Clinical Manager
- Jennifer Stirrat RN, Clinical Manager
- Bin Shen, Data Analytics Architect
- Nancy Kreider, Application Analyst

Paper Nursing Report Tool: SBAR Format

S

B

A

R

Nursing SBAR - Situation

Northwestern Memorial Hospital — Nursing SBAR — Printed: 06/11/09 13:28 — By Dejuras, Katie

Situation

ZZZPRODFEMALE, TES
MRN : 9900000178
Service : OBSTETRICS
Attending Physician : LIEBOVITZ, DA
DOB : 01/01/68
Age : 41 Years
Intern :
Med Student:
Sex : Female
Admit Date : 04/01/2009
Room : P / 19 / 1900
LOS : 71 days
Weight : 136 lbs 04/02/2009 12:48
Advance Directives : Power of Attorney / Others / Would like

Allergies :	amoxicillin-clavulanate / morphine / povidone iodine topical 10% swab / Shellfish / Seafood / Coumadin / Ceclor /
Patient Risk:	Fall Strict — Date/time Previous Fall: — Braden: 9 Severe Risk Isolation type: Gloves/Gown — Isolation detail: MRSA(Methicillin resistant Staphylococcus aureus)
Consults :	Consult Pastoral Care 05/28/09
Problems :	Homeless / Divorce / Loss of job / Atypical psychosis / Bipolar disorder in partial remission / Difficult intubation / CHF - Con

Nursing SBAR - Background

Nursing SBAR - Assessment & Recommendation

Deployment & Optimization

- Piloted medicine, surgery, oncology tool for 6 months on one unit
- Implemented in medicine/surgery and oncology units
- Training
  - Job aide document
  - Train the trainer sessions
  - Coaching support at change of shift

Deployment & Optimization

- Workflow process
  - Off going shift creates or updates existing form
  - Each patient SBAR is printed individually and organized in preparation for the next shift
  - Oncoming shift reviews the SBAR and utilizes during walking rounds
  - Model of care change
- Prioritization of "next to go" areas
  - Nursing Technology and Informatics Committee determined sequence
  - Informatics RN worked through design with content experts
  - Same training and deployment approach
    - Psych for transfers from inpatient
    - Psych shift to shift

Printing the SBAR

Three step process to modify report and print

Ad hoc chart

Respiratory Assessment, M
SBAR Additions Form
Short Portable Mental Stat

Reports

Rounds Rpt: Must select ALL PATIENTS
SBAR report for an active inpatient

SBAR Additions:

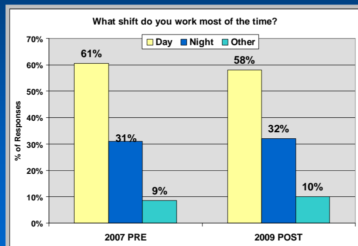
History & Psychosocial Family Issues:
Other Input & Outputs:
Patient Assessment:
Wound Documentation:
Pending Labs & Procedures:
Outstanding Patient & Family Education:
Discharge Planning Issues:

Survey Findings

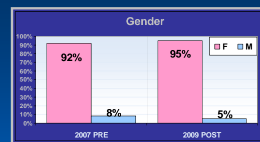
Nursing Report Survey

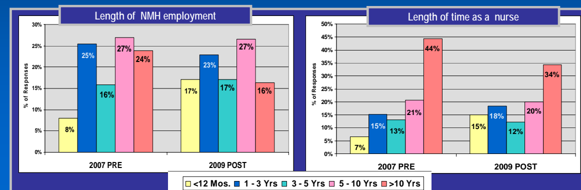
To obtain nurses' perceptions of the quality, safety, and efficiency of change of shift reporting

- Administered online in September 2007 & April 2009
- 198 (20%) RNs Pre
- 245 (25%) RNs Post
- Wide range of clinical units from all shifts

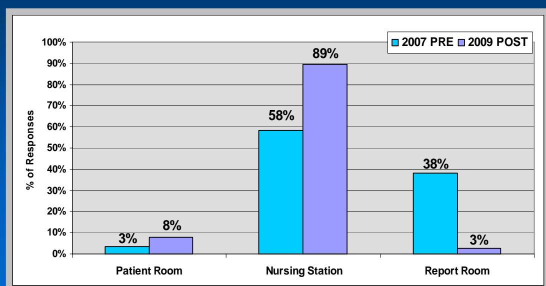


Nursing Report Survey



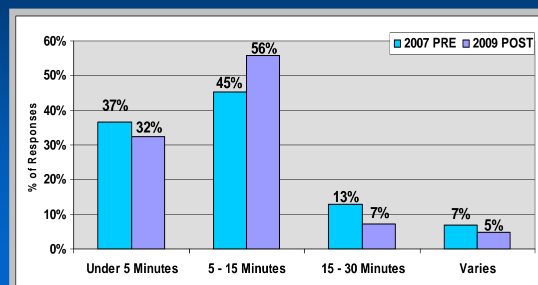


Where do you prepare report?



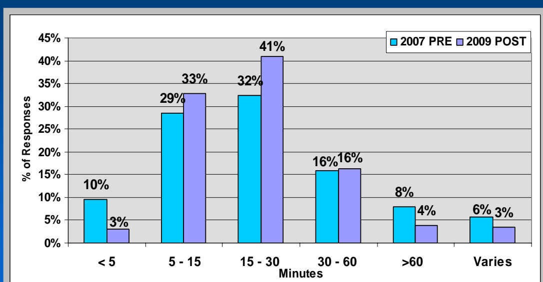
How long do you spend preparing report on each patient?

Shift to the 5-15 minute timeframe



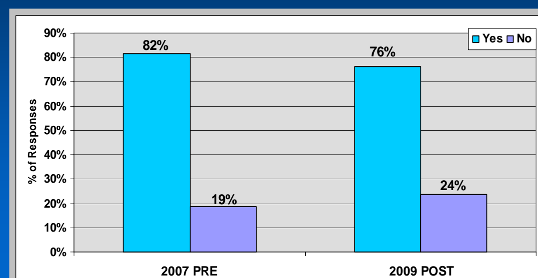
How long do you spend preparing report in total?

Slight reduction in total time for report preparation



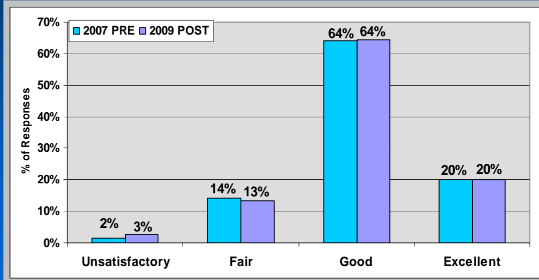
Do you feel you have adequate time to prepare report?

Decline in perception of time to prepare report



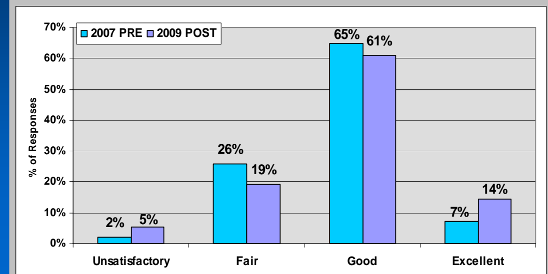
Do you feel your reports are…?

No change in perception of own report quality

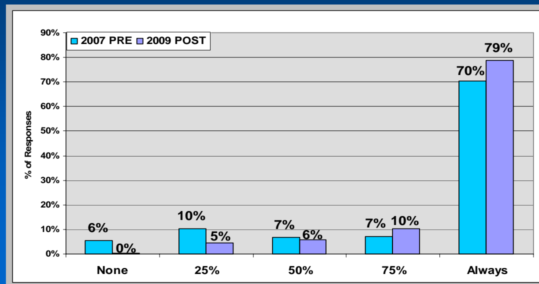


How would you rate the quality of the report you receive?

Reports received rating of excellent improved, but increase in unsatisfactory as well

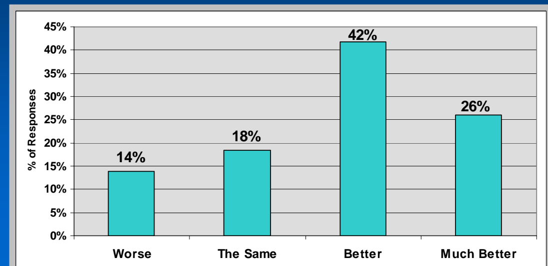


What percentage of time do you review patient's information face-to-face with the incoming nurse?

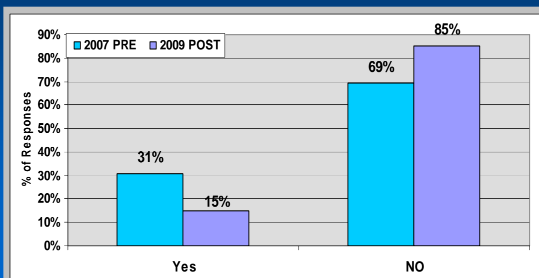


Perception of Quality of Report using Electronic SBAR

Two-thirds of RNs report better and much better quality



Can you think of a time that something bad happened or almost happened because you did not receive a complete or accurate report?



Can you think of a time that something bad happened or almost happened because you did not receive a complete or accurate report?

- Incomplete/Inaccurate Documentation
  - Incomplete diagnosis information, incorrect/not updated information
  - Did not know the most recent BP and pt was Hypertensive while receiving chemotherapy
  - Patients history of falls, violence and sedation was missing that influenced pt's current behavior
  - SBAR stated patient had CABG when they actually had an aortic aneurysm repair with valve
  - SBAR failed to mention isolation, pt's pregnancy, and the pt was able amputee

Benefits of Electronic SBAR

Reports are easier and shorter

- More legible, more consistent, more accurate, less time if not new patient because you just need update the previous information
- Quicker than rewriting history every night
- Standardized form makes it easier to quickly access what we are looking for
- Instead of waiting for report w/ the nurse in the morning, I am able to start preparing my day and general report for each pt by using the SBAR
- Being able to tweak it at the end of your shift instead of starting from scratch saves hours of time, and helps you not forget to report certain details
- When a pt is readmitted, you can open the last SBAR and get valuable info on dates and procedures that sometimes get buried when pt is readmitted. Excellent way to keep continuity throughout units. When floating you have same report system everywhere

Do you have suggestions for improving the report process?

- More specificity
  - It needs to be more specific to each unit
  - The space for free texting should be increased
  - Would also be nice to have isolation reason on SBAR
  - Would be great to have a specific place on there for pm pain meds WITH time of last dose
  - Allow more space for each system to be documented
- More accurate information
  - Too many abbreviations used by RNs in free text-often don't know what they stand for
  - The only issue I have, is people forgetting to erase old information
    - Some information is inaccurate. Example: activity level – some patients have 3 different kinds of activity listed
  - It pulls the admission IV documentation instead of most recent IV
- Save a tree or two; have it viewable online so we don't have to print it
- Get the ICU online with the SBAR; receiving nurse has to "start fresh" with the electronic SBAR

Lessons Learned

- Electronic report format is the way to go, but it's not a panacea
- The SBAR is only as good as the documentation within the EMR
  - The electronic format shines a light on problems
- Stakeholder lead is imperative
  - Design that is incorporated into workflow is key
  - Design is iterative
  - Standard expectation by leadership for Implementation
- Nurses prefer the electronic report format despite a lack of sweeping changes in perception of quality and efficiency
- Technology evolving rapidly to better accommodate workflow needs
  - CCL optimization on initial coding
  - Views with drill down and linking capabilities