Driving Evidence-based Practice Through Remote and/or Remote Application

Kim Tharp-Barrie, DNP, RN, SANE, FNAP
Norton Healthcare
Louisville, KY

Sigma Theta Tau International’s 28th Nursing Research Research Conference
July 27-31, 2017
Dublin, Ireland
Government Health Reform – Core Components

Coverage Reform - the WHO

Delivery System Reform - the WHAT

Payment Reform - the HOW MUCH

Quality Improvement - the HOW WELL
The **Value** Proposition

\[ \text{Value} = \frac{\text{Health Care Costs}}{\text{Costs of Delivering Outcomes}} \]
Value in the Future is...the Patient Care Continuum

Acuity and Cost

Hospital - ER services, OP services, IP stays

Skilled Nursing; LTAC; Rehab

Patient Home

Home - Care Team Center - Wellness Center - ICC - Specialty Physician - Diagnostic Center
IOM Report – Through Nursing Perspective

Ten Rules for Redesign:

1. Care is based on **continuous healing relationships**.
2. Care is **customized** according to patient needs and values.
3. **The patient is the source of control.**
4. Knowledge is shared and information flows freely.
5. Decision making is **evidence-based**.
6. **Safety** is a system property.
7. **Transparency** is necessary.
8. Needs are anticipated.
9. Waste is continuously decreased.
10. **Cooperation among clinicians is a priority.**
IOM report, Future of Nursing Key Messages

- Nurses should practice to the full extent of their education and training.
- Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression.
- Nurses should be full partners, with physicians and other health professionals, in redesigning health care.
- Effective workforce planning and policy making require better data collection and an improved information infrastructure.
IOM report, Future of Nursing Recommendations

- Remove scope of practice barriers.
- Expand opportunities for nurses to lead and diffuse collaborative improvement efforts.
- Implement nurse residency programs.
- Increase the proportion of nurses with a baccalaureate degree to 80% by 2020.
- Double the nurses with a doctorate by 2020.
- Ensure that nurses engage in lifelong learning.
- Prepare and enable nurses to lead change to advance health.
- Build an infrastructure for the collection and analysis of interpersonal health care workforce data.
Remote Patient Management

**Issues:**

- **Variability and access to resource**
  - Kinds and numbers of APRNs between facilities
  - Patients/Families with unanswered questions/concerns
  - Availability of support to staff and patients

- **Timeliness**
  - Current APRNs work “traditional” hours
  - No weekend coverage

- **Economic Impact**
  - Delays in treatment drive LOS
Remote Patient Management

Goal: Any patient, any family, any caregiver/provider 24/7 access to APRN real time.

Solution:
- Creation of a system APRN consult service located in a central location
  - Available 24/7
  - Via two way interactive platform (i.e. Skype)
  - Allows every RN in NHC to access clinical expert/APRN in real time.
- RN Bedside support and education
- Issue Orders and document findings
- Patient/family education and support
- Dispatch bedside support
Next Generation - APRN “TeleNursing”

Issues
- **Readmission** to acute care facilities from Nursing Homes, SNFs, etc.
- Impacted health outcomes.
- Expansion of model to affiliates’ communities.
- Need value added service for continued ROI development.

Solutions
- Use of Remote Management Center for rapid response within system and to all designated “partners” (i.e. Nursing home, LTAC, etc.) via tele-monitor and/or teleconference with facility prior to patient transfer. Center to be staffed with 24/7 Acute Care APRN.
- **Traveling/On call APRNs** to respond either remotely or on site to view and review all patients requesting and/or requiring transfer to acute care.
Remote Patient Management

Status:

- Creation of a system **APRN consult** service located in a central location
  - Space acquired, equipped and opened April, 2014
  - Purchased technology for central office
  - Purchased **IPADs** for every Nursing Unit in system
  - Budgeted **6.4 FTEs APRNs for 24/7 coverage** (Hired 4.0 thus far)
  - Director of APRN Practice
  - Reviewing and consolidating standards of practice across system
  - Launched **June 2014**
Attention Nurses: Remote Patient Management Is Just a Call Away

http://nsite/nursing/Pages/default.aspx
Remote Patient Management

 Lessons Learned and Sustainability:
  • **Push vs. Pull** to Gain Acceptance and credibility
  • EPIC reporting triggers
  • **New Graduate Intervention**
  • Patient/Family Communication
  • **Targeted rounds**
  • **Focus on Key Attributes “No One” owned**
    ▪ Early Sepsis identification
    ▪ Rapid Response (Patient deterioration variables)
    ▪ Early Skin Integrity Identification
    ▪ Falls Huddles
NHC Nursing 2020

Key Goals

• Leverage “system-ness”
• Create standard and decrease variability
• Enhance effectiveness and outcomes
• To effectively use resources and gain efficiency
• Prepare and leverage workforce
• To provide right model of care for right patient in right location with right caregiver
Change Process vs. Grief Process
Seven Key Initiatives for 2014

1. Remote Patient Management
2. System Bed Management
3. Orientation Units/Service
4. System Staffing & Scheduling
5. Alpha Units
6. Models of Care and Cost/UOS
7. BSN/DNP with APRN credentials
Innovation Decision Tree

Adopt

Adapt

Abandon and Try Again
Background on mission to drive partnerships. The I4N drives partnerships through our professional practice model.

Identify collaborative partnerships:
- Schools of nursing: Galen, University of Kentucky and Bellarmine University
- Louisville KY Metro Police Department (SANE program)
- Clark Memorial Hospital, IN

Affiliates: (rural)
- Breckinridge Health, Hardinsburg, KY
- Carroll County Memorial Hospital, Carrollton, KY
- Caverna Memorial Hospital, Horse Cave, KY
- Harrison County Hospital, Corydon, IN
- Spring View Hospital, Lebanon, KY
- Twin Lakes Regional Medical Center, Leitchfield, KY
- Westlake Regional Hospital, Columbia, KY
Norton Healthcare Nursing Professional Practice Model

As a professional nurse at Norton Healthcare ...

I believe in Norton Healthcare's and Nursing's:
- Mission
- Vision
- Values

I provide excellent care
- Enabling
- Maintaining belief

I commit to:
- Professional development
- Professional standards
- Practice governance
- Professional ethics

I am accountable for:
- Teamwork
- Collaboration
- Leadership
- Best practice

CARING
- Patient
- Family
- Self
- Community
- Colleague

I achieve:
- Patient safety
- Quality outcomes
- Service excellence
- Flow and efficiency

©2011 Norton Healthcare, Inc. May not be reproduced without permission from Norton Healthcare, Inc. All rights reserved.

The professional practice model incorporates the Theory of Caring developed by Kristen M. Swanson, RN, PhD, FAAN.
ERAS (Enhanced Recovery After Surgery)

ERAS - enhanced recovery after surgery protocols are multimodal perioperative care pathways designed to achieve early recovery after surgical procedures by maintaining pre-operative organ function and reducing the profound stress response following surgery. {www.ncbi.nlm.nih.gov/pmc/articles/PMC3203008}.

Fitbit devices are included in our patient care path. These electronic activity tracking devices allow accurate measurement of the ERAS patient’s progress and link this important element to a visual encouragement scheme for the patients. In addition, we are in talks with our British colleagues to beta test an android data entry app for ERAS team-nursing, anesthesia, patients, and surgeons. This is another exciting development in mobile care management.
System Bed Management

Results:

• Will facilitate appropriate utilization of resources across system.

• View the organization as a system and leverage appropriate utilization and placement of patient’s based upon care needs.

• Utilize expensive resource more effectively.

• Higher placement protocols used based upon APRN skill.

• Need in place to effectively use in preparation of rationalization of resources.
Mobile Web Application Project Aim (What?)

- Pilot study to demonstrate an innovative point-of-care mobile web application that drives critical thinking and clinical decision-making

- Background
  - Shift from volume-based service to value-based care
  - Nurses at the forefront of driving quality and safe care
Nurses at the forefront of driving quality and safe care

• According to Carrie Pallardy (June, 2015), 88% of nurses use smartphone apps on a daily basis. New data from market intelligence provider InCrowd indicates that 93% own smartphones. While smartphones are being integrated more frequently into daily nursing work flow, the majority of nurses are paying for this technology themselves. Also of interest, is news that less than 1% of nurses indicated that smartphone use was prohibited while on the job.

{www.beckershospitalreview.com/healthcare-information-technology}. 
Design Strategy (How)

- Binary decision tree logic
- Collaboration
  - Master’s prepared bedside nurse leaders
  - Subject matter experts
  - Instructional design team
  - Sample of registered nurses working on medical, surgical or critical care units who volunteered to participate
Despite the rise in healthcare-related mobile applications, research on their use at the bedside remains sparse. The healthcare shift from fee-for-service or volume-based service, to value-based care places nurses at the forefront of managing and coordinating key quality and safety initiatives.
Methodology/Approach

The pilot study investigated the efficacy of a mobile application designed to facilitate critical thinking and clinical reasoning at the bedside specifically related to nurse-sensitive quality indicators and core measures or more specifically those healthcare acquired conditions we are all charged with managing and even eliminating from our organizations.

The mobile web application pilot provided resources in the navigation and management of one nurse-sensitive quality indicator Catheter Associated Urinary Tract Infection (CAUTI), and two core measures, Acute Myocardial Infarction & Stroke (AMI, STK).
# Demonstration

![Galen Center for Professional Development Login Form](image)

## Dashboard

<table>
<thead>
<tr>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point of Care</td>
</tr>
<tr>
<td>Core Measure Sets</td>
</tr>
<tr>
<td>Calculations</td>
</tr>
</tbody>
</table>
### Results *(How well)*

**Core Measure Sets**
- Substance Use
- Tobacco Treatment
- Venous Thromboembolism
- Stroke
- Heart Failure
- Surgical Care Improvement Project
- Pneumonia
- Immunization
- Acute Myocardial Infarction

**Point of Care**
- Catheter Associated Urinary Tract Infection (CAUTI)
- Central Line-Associated Bloodstream Infection (CLABSI)
- Ventilator Associated Pneumonia (VAP)
- Universal Protocol
- Surviving Sepsis
Sustainability (Status)

Seamless updates to the mobile web application are planned to remain current with the latest evidence-based practice recommendations established by regulators such as the Centers for Medicare and Medicaid Services (CMS) and The Joint Commission and national experts such as the Agency for Healthcare Research and Quality (AHRQ).
Lessons Learned

- Hospitals are increasingly developing policies and procedures to restrict the use of mobile phones in the clinical arena.
- Caution should be exercised before instituting policies that will limit bedside nurse leaders from accessing valuable resources, devices, and methods required to optimize the acquisition, retrieval, and use of information in health to inform clinical decisions—the very purpose of informatics in healthcare.
Findings

The pilot included

- 1 healthcare acquired condition (CAUTI)
- 2 core measures (AMI, STK) and
- A medication calculator

Early feedback from the participants prompted few changes in algorithms. An overwhelming interest indicated a need for adding more nursing sensitive indicator bundle and core measure algorithms.
Improvements/Recommendations (Next?)

- Add additional core measure sets
  - 7 more core measure sets added
- Add additional nurse sensitive quality/safety indicators
  - 4 more nursing sensitive indicators added
- Add the point-of-care bedside mobile application to nursing workstations
- Collaborate with leadership on allowing cellular devices in patient care areas
**Results/Outcomes**

- Seven additional core measure sets added
- Four additional nurse sensitive quality/safety indicators added
- An icon was placed on nursing workstations for easy access to the point-of-care bedside mobile application
- Continued collaboration with leadership on allowing cellular devices in patient care areas is on-going
Despite the rise in healthcare-related mobile applications, research on their use at the bedside remains sparse. The healthcare shift from fee-for-service or volume-based service, to value-based care places nurses at the forefront of managing and coordinating key quality and safety initiatives.
Contact Information

- Kim Tharp-Barrie, DNP, RN, SANE, FNAP
- kim.tharp-barrie@nortonhealthcare.org
- (502) 629-2975