Embracing a Research-Based Culture: Best Practices to Implementing Evidence-Based Practices

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Objectives

- Implementing reporting and other quality initiatives to cultivate a research-based culture
- Educating staff to ensure continuous evidence based development
- Assigning responsibilities to emerging leaders to facilitate process mentorship
Components of Evidence-Based Practice

- Current Best Evidence
- Additional Considerations
- Patient Conditions
- Patient and Family Preferences
Importance and Benefits of Evidence-Based Practice

- Assist in complying with JCAHO standards
- ANCC Magnet Recognition Program criteria
- Federal funding
- Consumer expectations
- Policy makers
- Quality Care
- Cost savings and cost avoidance
- Tradition-based to evidence-based practice
- Empowerment and increased perceived professionalism of the staff
Practices Not Supported by Evidence

- Restricted visiting patients in ICU – every 2 hours; 10 minute visits; immediate family members; no children
  - Flexible visiting practices
- Shoe covers necessary in the OR to reduce infection transmission
  - No studies to support this

Where Are We?

“We invest billions in research to find appropriate treatments, we spend more than $1 trillion on healthcare annually, we have extraordinary capacity to deliver the best care in the world, but we repeatedly fail to translate that knowledge and capacity into clinical practice”

Examples

- Fewer than half of adults >50 years of age received recommended screening tests for colorectal cancer
- Inadequate care after a heart attack results in 18,000 unnecessary deaths per year
- 17 million people were informed by their pharmacist that the drugs that were prescribed could cause an interaction

(IOM, 2003)
Examples

- Failure to rescue, decubitus ulcers, and post-op sepsis account for 60% of all patient safety incidents among Medicare patients hospitalized (2000 – 2002)
- Decubitus ulcers account for $2.57 billion in excess inpatient costs to Medicare over 3 years (2000 – 2002)
- Post-op pulmonary embolism or DVT account for $1.4 billion in excess inpatient costs to Medicare over 3 years (2000 – 2002)

- Safe and reliable care
- Vitality and teamwork
- Patient-centered care
- Value-added care processes
Characteristics of Adoption

Multifaceted strategies are necessary to translate research into Practice
(Greenhalgh et al, 2005)

- Complexity of EBP
- Compatibility with needs of users
- Use of quick reference guides and decision aides
- Use of clinical reminders
- Communication
- Change Champions
  - Role models
  - Point of Care Coaching
  - Educational outreach
  - Education alone is not effective
- Nurses like to learn from one another

(Titler, M.G.; Everett, L.Q, 2006)
Key Points Evidence-Based Practice

- Attributes of the EBP topic as perceived by users and stakeholders (e.g., ease of use, valued part of practice) are neither stable features nor sure determinants of their use.

- Rather it is the interaction among characteristics of the EBP topic, the intended users, and a particular context of practice that determines the rate and extent of adoption.

(Greenhalgh et al., 2005, Titler & Everett, 2001; Rogers, 2003)
Staff Nurse Role

- Part of T-E-A-M
- Empowered
- Autonomous
- Patient focused
- Quality and Safety Champion- front line advocate
Staff Development – Educator Role

- Creative ways of imparting new information to increase nurses’ knowledge of EBPs (e.g., every four hour pain assessment)
- Annual competencies
- Ground rounds – critique the evidence
- Educational series on process of EBP
- Skills reviews – are the practices evidence-based?
Nurse Manager Role

- Nurse Manager / Assistant Nurse Manager – conductors of unit
  - Must be a team advocate and include staff
  - Need development regarding EBP from multiple sources
  - Formal leadership
  - Building the unit team
  - Unit goals for planned change
- Open communication
- Shared Governance – Team
- Stay ahead of the culture by creating the culture
Advanced Practice Nurse Role

- Primary mentor
- Clinical expert
- EBP expert
- Planning, leading, and coaching
- Problem solving
Nurse Executive Role

- Vision
- Champion
- Catalyst
- Connector
- Influencer
- Encourage CFO to be Quality Champion
Business Case for EBP
CMS / Medicare Examples

- Five types of adverse events lead to a total additional cost of $313 million per year
  - Decubitis ulcers adds $735/case; total impact is $16.4 million
  - Post-op PE and DVT adds $2,520; total impact is $95 million
  - Postoperative sepsis adds $8,881/case; total impact is more than $59.2 million

(Zhan, et.al., 2006)
Business Case for EBP

- Cost avoidance
  - Avoiding use of products, equipment, or healthcare interventions that are not helpful/effective. Avoidance of waste or redundancy.
    - Bed alarms for fall reduction – evidence is inconclusive
    - Reduction in adverse events – falls, pressure ulcers, nosocomial infections
Business Case for EBP

- Cost reduction – saving dollars by instituting an EBP intervention that saves healthcare dollars
  - Ergonomics
  - Staff retention
  - Pain management practices

- Cost benefit – benefits of a program or intervention (outcomes) in comparison to the cost of the program and competing alternatives for use of the dollar
  - Exercise programs in the work setting
Creating a Culture to Support EBP

- Mission / Vision for delivery of EBP care
- Determine who has primary responsibility for EBP within your organization (Shared Governance)
- Share ideas for supporting EBP
- High visibility of EBP care
  - Communicate from / with senior leadership
  - Publications
  - Recognize and reward staff
  - Public “Bravos”
Organizational Focus

- Structure
- Resources
- Systems that provide support
- Concurrent monitoring of critical indicators
- Data needs to be perceived by clinicians that it is valid and reliable
Integrate into Practice Policies

- Expert Opinions
- Research
- Literature
- Networking
Implementing & Evaluating the Impact

- Transparent outcomes data posted
- Evaluation
  - So What?
  - Did the practice change to improve patient care
  - Were outcomes consistent with outcomes of research
  - Result in cost savings
Ohio State University Medical Center

Mission

To improve people’s lives through innovation in research, education and patient care
Ohio State University Medical Center

Vision

Working as a team, we will shape the future of medicine by creating, disseminating and applying new knowledge, and by personalizing health care to meet the needs of each individual.
Geographic Clustering

- Evidence demonstrates quality improvements will be realized
  - Decrease LOS
  - Increase patient satisfaction
  - Increase staff satisfaction
  - Communication between care teams improved

(Litch, B.K., The Re-emergence of clinical service line management, Healthcare Executive, July/Aug, 2007)
## Current Primary Services

<table>
<thead>
<tr>
<th>Current Primary Services</th>
<th>Units</th>
<th>Capacity (Beds)</th>
<th>ADC (Mean)</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuro / Neuro-Surg / ID</td>
<td>11 East Rhodes</td>
<td>38</td>
<td>25.7</td>
<td>6.3</td>
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<tr>
<td>Med1 / Med2 / Med5 / Med7</td>
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<td>24</td>
<td>26.5</td>
<td>4.0</td>
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<tr>
<td>Surg1 / Surg2</td>
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<td>25.1</td>
<td>6.1</td>
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<td>4.6</td>
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<tr>
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<td>11.4</td>
<td>4.3</td>
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<tr>
<td>Orth Surg / Surg6</td>
<td>10 East Rhodes</td>
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<td>17.1</td>
<td>4.7</td>
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<tr>
<td>Benign HEM / GE1 / GE2 / Med3</td>
<td>11 East Doan</td>
<td>26</td>
<td>24.5</td>
<td>4.5</td>
</tr>
<tr>
<td>TRM / TRO / TRR</td>
<td>9 East Rhodes</td>
<td>30</td>
<td>26.7</td>
<td>5.4</td>
</tr>
</tbody>
</table>

**Units with capacity available**

**Units with no capacity**
Team Members

- Associate Executive Officer
- Chief Medical Officer
- Associate Medical Director
- Chief Nursing Officer
- Director Hospital Medicine
- Administrative Director
- Management Engineer
## Proposed Primary Services

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<th>SD</th>
</tr>
</thead>
<tbody>
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<td>38</td>
<td>29.7</td>
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<td>Med1 / Med2</td>
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<td>2.8</td>
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<td>Surg1 / Surg2</td>
<td>10 East Doan</td>
<td>27</td>
<td>25.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Med7 / Genmed3 / NP1</td>
<td>9 West Rhodes</td>
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<td>23.4</td>
<td>3.4</td>
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<td>42.8</td>
<td>7.5</td>
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<tr>
<td>Plastic Surgery / ENT / GU / OMFS / Ophthal / Burn</td>
<td>9 West Doan</td>
<td>22</td>
<td>11.4</td>
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Implementation Plan

- Decision to implement “Big Bang” vs. slow roll out
  - February 1, 2008
  - Will not move patients
  - After 1\textsuperscript{st} week if patients are not on correct service will consider moving if discharge not impending
Expectations

- Clinical services to be placed on primary assigned unit 80% of the time
- ED patients will be placed in a bed within 4-hours
- Multidisciplinary rounding to occur daily
- Decrease in LOS 0.3 days
Communication Plan

- **Meetings**
  - Physician and key stakeholders
  - Ohio Nurses Association
  - Nurse Managers
  - Individual Units

- **Broadcast e-mails**
  - Supervisory Council
  - All nursing staff

- **Open Staff Forums**

- Informational link on internal website
Education Plan

- Developed F.A.Q.
- Open door with Chief Nursing Officer
- Individual education with units, may vary depending on needs
Multiple Teaching Strategies

- Walking rounds
- Manager open forums
- Town hall meetings
- Staff meetings
Sustaining / Re-infusion of Practice Quality Improvement

- Incorporating day to day activities into normal workflow that are not an “add on”
  - Patient Rounds
  - Assignment sheets with nurse contact information
  - Standardized organization of nursing station
  - Patient care conferences
  - All disciplines charting on same chart
  - Build into current systems
  - Unit ownership of practice
  - Daily, monthly, quarterly follow-up
  - Updating Policy and Procedure
Sustaining Practice
Unit Routines

- Staff meetings
- CNO newsletters and forums
- Recognition and rewards – making a difference
- MD collaborative practices
Evaluate the Impact

- Monthly evaluation and timely outcome data sharing
  - Overall LOS
  - Patient placement
  - ED LOS
University of Iowa Hospitals and Clinics Mission

University of Iowa Hospitals and Clinics, in concert with the University of Iowa health science colleges, functions in support of health care professionals and organizations in Iowa and other states by:

- Offering a broad spectrum of clinical services to all patients cared for within the center and through its outreach programs
- Serving as the primary teaching hospital for the University
- Providing a base for innovative research to improve health care
University of Iowa Hospitals and Clinics

Vision

We will be the Midwest hospital that people choose for innovative care, excellent service, and exceptional outcomes. We will be an internationally recognized academic medical center in partnership with the UI Carver College of Medicine.
Implementation of Blood Administration

- National Statistics on Near Misses
  - Errors in blood administration do not adequately reflect the “near misses” caught at the last minute
  - Actual “near miss” occurs approximately
    - 1/8,610 for compatibility
    - 1/27,007 for blood units issued.

- Causes of transfusions near misses:
  - patient mis-identification at phlebotomy (47.6%)
  - mislabeled specimens (23.8%)
  - mis-identification at final infusion of the blood product (9.6%)

(Bojie & Urganiak, 2000)
Root Causes

- Incomplete patient/blood verification
- Faulty laboratory procedures
- Insufficient staff training
- Inadequate number of staff
- Improper use of equipment
- Inadequate management of information

(JCAHO, 1999)
National Institute of Medicine and JCAHO

Recommended two major steps to reduce blood component error:

1. Use of barcode scanning technology
2. Accurate identification of patients
Blood Administration Process at UI Hospitals and Clinics

- Institutional error rates historically low (1.4 – 1.7 %)
- Errors due to Complex process
  - Multiple steps
  - Requirement of two signatures
  - Transcription errors
  - Handwritten / addressograph
Interdisciplinary Team

- Nursing
- Hospital Information Systems
- Pathology
- Information Technology Services
- Epidemiology
- Clinical laboratory
- Nursing Informatics
- Department of Nursing Research
- Blood Bank Center
- Physicians
Expectations of Barcode System

• Expected a reduction of at least 73% of errors
• Sample rejection decreased
  • From average 1.82% in the manual system
  • To 0.17% in the automated system.

• Improvement of 91%
Education Plan

- Goal – teach ALL end users the new process
- ALL Nursing personnel
  - 1326 RNs, NAs, NUCs
- ALL Anesthesia personnel
- ALL Blood Bank personnel
- ALL Pathology personnel
  - Phlebotomists
  - Critical Care Lab staff who dispense blood products
Educate Bar-code Super Users

- 233 Super Users – 2-hour class
  - Representative from each nursing unit
  - Covered all shifts, including weekends
  - Readily available role models / mentors
  - Assist with troubleshooting / problem-solving
  - Chart of schedule
Multiple Teaching Strategies

- PowerPoint presentation
- Written hand-outs
- Proficiency testing with return demonstration
- Blackboard Web
Re-infusion of Bar-code Process

- 5 months post implementation
- Samples sent and not recorded in IPR
- Re-education of Super Users
- Educational tools
  - 1-2-3 Scan Poster / Post-it
  - E-mail broadcast

1-2-3 Scan

1. SCAN at the Point of Care - “Take the COW to the bedside”
2. Identify the Patient with “2 Identifiers” before you SCAN.
3. Always SCAN in order:
   - Scan the Patient
   - Scan the Paper
   - Scan the Blood Tube/Product

Keys to Success

- Always Scan 1-2-3
- Always make sure the date is on the barcode label
Evaluation

- Transfusion: Blood Product history
- Skipped steps and prevented errors
- Daily review
- E-mail notification
- Follow-up
- Lessons learned
Media Campaign

UI Health Care News: Week of February 14, 2005

UI Hospitals and Clinics Pioneers Bar Code System for Blood Transfusion Safety

We scan for safety!
Sustaining Practice
Quality Improvement

- Build into current systems
- Unit ownership of practice
- Daily, monthly, quarterly follow-up
- Updating Policy and Procedure
Sustaining Practice Competencies

- Include in yearly competencies
  - Testing via Blackboard
  - Return demonstration
- QM data will indicate need
Sustaining Practice Orientation

- Nursing orientation
  - Preceptor / Role-model
  - Checklist
- Anesthesia physician orientation
- Return demonstration of process
Dissemination Results

- To Clinicians
- Quarterly / Periodically
- Posters
- Newsletters
- Quality Management Program
- Professional Community
- Shared Governance Committees / Councils
Summary

○ Investigate
○ Implement
  ● Include education but don’t make it the sole strategy
○ Evaluation Components
Hmmm...cake crumbs...candle wax...

ice-cream drippings...
All Clues Point TO...

- You can’t just whale around willy nilly theorizing, you need the EVIDENCE!
Questions?

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