Transcending Boundaries to Transform Healthcare through Intervention Research and Evidence-based Practice

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In God We Trust,
Everyone Else Must Bring Data!
The State of U.S. Healthcare and Health

- There are up to 200,000 unintended patient deaths per year (more than auto accidents & breast cancer)
- Patients only receive about 55% of the care that they should when entering the healthcare system
- Poor quality healthcare costs the United States about 720 billion dollars every year
- The U.S. healthcare system could reduce its healthcare spending by 30% if patients receive evidence-based healthcare
- One in 2 Americans have a chronic condition and 1 in 4 have multiple chronic conditions
- One in 4 Americans have a mental health disorder
# Current State of Health in Nurses

## Chronic Health Problems Among Physicians, Nurses, and Other Workers

<table>
<thead>
<tr>
<th>Health Issue</th>
<th>Physicians</th>
<th>Nurses</th>
<th>Other workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Obesity</td>
<td>13</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>% High Blood Pressure</td>
<td>16</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>% High Cholesterol</td>
<td>21</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>% Diabetes</td>
<td>4</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>% Depression</td>
<td>7</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>% Heart Attack</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>% Asthma</td>
<td>9</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>% Cancer</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Gallup-Healthways Well-Being Index
What Will the Last 10 Years of YOUR Life Look Like?
Every day, we make behavioral choices that influence our health and wellness outcomes.
SITTING IS THE NEW SMOKING
it's time to quit
KRISTENBENTSON.COM

BEWARE OF THE CHAIR
Based on Evidence
What Do We Know?

People who have the following behaviors have 66% less diabetes, 45% less heart disease; 45% less back pain, 93% less depression, and 74% less stress

• **Physical activity** - 30 minutes 5 days per week
• **Healthy eating** - 5 fruits and vegetables per day
• **No smoking**
• **Alcohol in moderation** - 1 drink per day for women, 2 drinks per day for men
Kaylin’s Story: Australian Dream Trip Turned Nightmare

The Merging of Science and Art: EBP within a Context of Caring & EBP Culture and Environment Results in the Highest Quality of Patient Care

Context of Caring

Research Evidence & Evidence-based Theories

Clinical Expertise and Evidence from assessment of the patient’s history and condition as well as healthcare resources

Patient Preferences and Values

Clinical Decision-making

EBP Culture & Environment

Quality Patient Outcomes

© Melnyk & Fineout-Overholt, 2003
Acting on the Evidence

• Strength of the Evidence + Quality of the Evidence = Confidence to Act!
Annual Guide to Clinical Preventive Services

- Evidence-based gold standard recommendations adapted for a pocket-sized book

- Formatted for clinicians to consult for clinical guidance in their daily practice

- Recommendations are presented in an indexed, easy-to-use format with at-a-glance charts
Patient Outcomes With and Without Evidence-Based Practice

![Bar chart comparing traditional practice with evidence-based practice. The Y-axis represents outcomes ranging from 0 to 40, with evidence-based practice significantly higher than traditional practice.]
Despite an aggressive research movement, the majority of findings from research often are not integrated into practice to improve outcomes.

The gap between the translation of research into practice and policy is huge; it often takes decades to translate research findings into practice and policy.
Why Must We Accelerate EBP?

Practices routed in tradition are often outdated and do not lead to the best patient outcomes

- Daily changing of IV dressings
- Mayonnaise for head lice
- Sugar paste for pressure ulcers
- Albuterol delivery with nebulizers
- Checking placement of NG tubes with air
- Vital signs every 2 or 4 hours
- 12 Hour Shifts for Nurses
Why Must We Accelerate EBP?

- Tongue Patch for Weight Loss
The Steps of EBP

<table>
<thead>
<tr>
<th>Step 0:</th>
<th>• Cultivate a Spirit of Inquiry &amp; EBP Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1:</td>
<td>• Ask the PICO(T) Question</td>
</tr>
<tr>
<td>Step 2:</td>
<td>• Search for the Best Evidence</td>
</tr>
<tr>
<td>Step 3:</td>
<td>• Critically Appraise the Evidence</td>
</tr>
<tr>
<td>Step 4:</td>
<td>• Integrate the Evidence with Your Clinical Expertise and Patient Preferences to Make the Best Clinical Decision</td>
</tr>
<tr>
<td>Step 5:</td>
<td>• Evaluate the Outcome(s) of the EBP Practice Change</td>
</tr>
<tr>
<td>Step 6:</td>
<td>• Disseminate the Outcome(s)</td>
</tr>
</tbody>
</table>
The Typical Progression of Research

Qualitative → Descriptive Research → Predictive Research → Experimental Research
The Strongest Experimental Design

Two Group Randomized Controlled Trial with Pre-test/Post-test Design and Structurally equivalent comparison group

\[
\begin{array}{ccc}
R & O1 & X1 & O2 \\
R & O1 & X2 & O2 \\
\end{array}
\]

Advantages

Strongest design for testing cause and effect
Comparison intervention controls for time spent with experimental group
Pre-test may sensitize subjects to testing

Disadvantages

Expensive and time consuming
The State of Intervention Studies

• Determining effects of interventions is currently a top research priority

• Only approximately 20-25% of studies test interventions

• Common problems in intervention studies
  ○ Lack of a theoretical framework to guide interventions
  ○ Lack of sufficient power to detect differences between study groups
  ○ Lack of an appropriate attention control intervention
  ○ Failure to limit sources of error
The Role of DNPs and PhDs in Generating External and Internal Evidence

- PhDs should be the best generators of “external evidence” from rigorous research

- DNPs should be the best generators of “internal evidence” from quality improvement, outcomes management and evidence-based practice projects
Findings from our EBP Survey with U.S. Nurses

Melnyk et al., 2012, JONA

- Over 1000 randomly sampled nurses from the American Nurses Association
- The more years in practice, the less nurses were interested in and felt it was important to gain more knowledge and skills in EBP
Percent of Respondents from the ANA Survey Who Agreed or Strongly Agreed with the Following Statements

<table>
<thead>
<tr>
<th>Statement</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBP is consistently implemented in my healthcare system</td>
<td>53.6</td>
</tr>
<tr>
<td>My colleagues consistently implement EBP with their patients</td>
<td>34.5</td>
</tr>
<tr>
<td>Findings from research studies are consistently implemented in my institution to improve patient outcomes</td>
<td>46.4</td>
</tr>
<tr>
<td>EBP mentors are available in my healthcare system to help me with EBP</td>
<td>32.5</td>
</tr>
<tr>
<td>It is important for me to receive more education and skills building in EBP</td>
<td>76.2</td>
</tr>
</tbody>
</table>
The One Thing That Prevents You From Implementing EBP

<table>
<thead>
<tr>
<th></th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Time</td>
<td>151</td>
</tr>
<tr>
<td>2. Organizational culture,</td>
<td>123</td>
</tr>
<tr>
<td>including policies and</td>
<td></td>
</tr>
<tr>
<td>procedures, politics, and a</td>
<td></td>
</tr>
<tr>
<td>philosophy of “that is the way</td>
<td></td>
</tr>
<tr>
<td>we have always done it here.”</td>
<td></td>
</tr>
<tr>
<td>3. Lack of EBP knowledge/</td>
<td>61</td>
</tr>
<tr>
<td>education</td>
<td></td>
</tr>
<tr>
<td>4. Lack of access to evidence</td>
<td>55</td>
</tr>
<tr>
<td>/information</td>
<td></td>
</tr>
<tr>
<td>5. Manager/leader resistance</td>
<td>51</td>
</tr>
<tr>
<td>6. Workload/staffing,</td>
<td>48</td>
</tr>
<tr>
<td>including patient ratios</td>
<td></td>
</tr>
<tr>
<td>7. Nursing (staff) resistance</td>
<td>46</td>
</tr>
<tr>
<td>8. Physician resistance</td>
<td>34</td>
</tr>
<tr>
<td>9. Budget/payors</td>
<td>24</td>
</tr>
<tr>
<td>10. Lack of resources</td>
<td></td>
</tr>
</tbody>
</table>
Chief Nurse Survey Demographics

- 93% currently in the CNO role
- Ages ranged from 32-68 (M= 55 years)
- Years in practice ranged from 8-47 (M=31 years)
- Years as a CNO ranged from <1- 32 (M= 9 years)
- 92% female; 94% White
- 6% bachelor’s degree; 69% master’s degree;
- 8% PhD prepared; 10% DNP prepared
- 45 States and DC represented
- 18% work in Magnet facilities
- 55% reported having clinical ladder systems
- 47% had no ongoing nursing research projects
## Organization Related Questions

<table>
<thead>
<tr>
<th>What % of your annual operating budget do you spend on building and sustaining EBP in your organization?</th>
<th>Frequency</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>41</td>
<td>15%</td>
</tr>
<tr>
<td>1 to 10</td>
<td>162</td>
<td>59%</td>
</tr>
<tr>
<td>11 to 25</td>
<td>49</td>
<td>18%</td>
</tr>
<tr>
<td>26 to 50</td>
<td>15</td>
<td>5%</td>
</tr>
<tr>
<td>51 to 100</td>
<td>6</td>
<td>2%</td>
</tr>
</tbody>
</table>
Performance Metrics

NDNQI Metrics

- Falls
- Falls with Injury
- Pressure Ulcers
- Pressure Ulcers (Stage 2 and above)
- Restraints
- Nursing Care Hours
- RN Education
- RN Certification

- Below benchmark
- At benchmark
- Exceeding benchmark
Performance Metrics

Core Measures

- Catheter Associated Urinary Tract Infections
- Pressure Ulcers (Stage 3 and 4)
- Vascular Catheter Associated Infections
- Falls and Trauma
- Manifestations of Poor Glycemic Control

Below National Rate
Same as National Rate
Above National Rate
EBP Priorities

How important is it for you to build & sustain a culture of EBP?

How important is it for your organization to build & sustain a culture of EBP?
EBP Priorities

How much do you believe implementation of EBP improves quality & patient outcomes?
EBP Beliefs, EBP Implementation, EBP Culture

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBPPractice_Beliefs_SUM</td>
<td>275</td>
<td>16.00</td>
<td>80.00</td>
<td>60.2</td>
<td>11.2195</td>
</tr>
<tr>
<td>EBPPractice_Implementation_SUM</td>
<td>276</td>
<td>.00</td>
<td>72.00</td>
<td>27.8</td>
<td>14.9707</td>
</tr>
<tr>
<td>ORG_CULT_READINESS_SUM</td>
<td>276</td>
<td>14.00</td>
<td>70.00</td>
<td>41.9</td>
<td>11.8030</td>
</tr>
<tr>
<td>EBP_READINESS</td>
<td>276</td>
<td>1</td>
<td>5</td>
<td>3.41</td>
<td>1.180</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>275</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CNOs EBP Beliefs

I am sure that I can implement EBP

1 = Strongly Disagree  
2 = Neither Agree/Disagree  
3 = Neither Agree/Disagree  
4 = Neither Agree/Disagree  
5 = Strongly Agree
CNOs EBP Beliefs

I am sure about how to measure the outcomes of services provided to patients
Organizational Readiness for EBP
To what extent do you believe that EBP is practiced in your organization?
Organizational Readiness

In your organization, to what extent is there a critical mass of nurses who have strong EBP knowledge & skills?
Creating a Culture and Environment to Sustain EBP

What Works
The only person that likes a change is a baby with a wet diaper!
An Essential Element Required for a Successful Change to System-wide EBP

A Vision with Specific Written Goals

We must begin with the end in mind
SHOCK!

“You are asking me to implement EBP on top of everything else that I do?”
Critical Components of an EBP Culture

A Philosophy, Mission and Commitment to EBP:
• there must be commitment to advance EBP across the organization as evidenced in orientation, clinical ladders, evaluations

A Spirit of Inquiry:
• health professionals are encouraged to continuously ask questions, review and analyze practices to improve patient outcomes

EBP Mentors:
• who have in depth knowledge and skills in EBP, mentoring others, and overcoming barriers to individual and organizational change
Critical Components of an EBP Culture

Administrative Role Modeling and Support:
• leaders who value and model EBP as well as provide the needed resources to sustain it

Infrastructure:
• tools and resources that enhance EBP across the organization; computers for searching, up to date data bases, library resources

Recognition:
• individuals and units are rewarded regularly for EBP
EBP Competencies for Practicing Nurses and Advanced Practice Nurses

The Establishment of Evidence-Based Practice Competencies for Practicing Registered Nurses and Advanced Practice Nurses in Real-World Clinical Settings: Proficiencies to Improve Healthcare Quality, Reliability, Patient Outcomes, and Costs

Download free at:

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Lynn Gallagher-Ford, RN, PhD, DPFNAP, NE-BC
Lisa English Long, RN, MSN, CNS
Ellen Fineout-Overholt, RN, PhD, FAAN
Making Use of the Competencies

The new EBP competencies should be integrated into healthcare system orientation programs, clinical ladders, and performance appraisals.

Incorporating the competencies into real world practice settings will assist healthcare systems in improving quality, safety, and patient outcomes as well as reducing costs!
Return on Investment with EBP

**It is critical to establish ROI with EBP projects**

**ROI helps with sustainability of EBP**

We must measure quality indicators, which include:

- hospital-acquired conditions (HACs) declared by the Centers for Medicare and Medicaid (CMS) as preventable unless present upon admission to the hospital (Centers for Medicare & Medicaid Services (CMS), 2014); or

- those included in the scoring for the value-based purchasing program (VBP) that CMS began in 2013, whereby incentive payments will be distributed across all hospitals performing in the top 50% on selected quality indicators. These incentive payments are based on how closely hospitals follow best clinical practices and how well they enhance patients’ experiences of care (CMS, 2012).
Melnyk & Fineout-Overholt’s ARCC (Advancing Research and Clinical practice through close Collaboration) Model

Potential Strengths
- Philosophy of EBP (paradigm is system-wide)
- Presence of EBP Mentors & Champions
- Administrative Support

Potential Barriers
- Lack of EBP Mentors & Champions
- Inadequate EBP Knowledge & Skills
- Lack of EBP Valuing

Implementation of ARCC Strategies
- Interactive EBP Skills Building
- EBP Rounds & Journal Clubs

Clinicians’ Beliefs About the Value of EBP & Ability to Implement the EBP Process *

EBP Implementation*+

Nurse Satisfaction
- Cohesion
- Intent to Leave
- Turnover

Decreased Hospital Costs

Improved Patient Outcomes

© Melnyk & Fineout-Overholt, 2005
Evidence to Support ARCC

• **Study #1**: Descriptive correlational study with 160 nurses
• **Study #2**: A psychometric study of the EBP beliefs and EBP implementation scales with 360 nurses
• **Study #3**: A randomized controlled pilot study with 47 nurses in the VNS
• **Study #4**: A quasi-experimental study with 159 nurses in a clinical research medical center environment
• **Study #5**: A pre-experimental study with 52 clinicians at WHHS
Outcomes of Implementing the ARCC Model at Washington Hospital Healthcare System

- Early ambulation in the ICU resulted in a reduction in ventilator days from 11.6 to 8.9 days and no VAP
- Pressure ulcer rates were reduced from 6.07% to .62% on a medical-surgical unit
- Education of CHF patients led to a 14.7% reduction in hospital readmissions
- 75% of parents perceived the overall quality of care as excellent after implementation of family centered care compared to 22.2% pre-implementation
The simple provision of resources and dissemination of information alone will not lead to uptake of EBP.

A multi-component active strategy is necessary, including behavior and organizational change strategies.
Diffusion of Innovation

- Innovators 2.5%
- Early Adopters 13.5%
- Early Majority 34%
- Late Majority 34%
- Laggards 16%

Culture shift
A key ingredient for success is persistence as there will be many “character-building” experiences along the way!!

“At least I have found 9000 ways that it won’t work.”

Thomas Edison
Worldviews on Evidence-Based Nursing™

Linking Evidence to Action

Editor
Bernadette Melnyk, PhD, CNPN/PMHNP, FAANP, FAAN

✓ Gives readers methods to apply best evidence to practice

✓ Global coverage of practice, policy, education and management

✓ From a source you can trust, the Honor Society of Nursing, Sigma Theta Tau International

www.blackwellpublishing.com/wvn
Ask yourself:

• What will you do if you know you can not fail in the next 2 to 5 years?

• What is the smallest EBP change that you can make tomorrow that would have the largest positive impact for your patients’ outcomes?
“...because we’ve always done it that way.”
Greatest Hitter in the World
Nothing Happens Unless First a Dream!

Carl Sandburg
The Next 2-5 Years

What can we do together in the next 2 to 5 years if we know that we cannot fail?

Let’s shoot for the moon, even if we miss, we will land amongst the stars

-Les Brown

There Is A Magic In Thinking Big!
Contact Information

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