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QI, EBP, Research: Similarities and Differences

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Greetings from the University of Michigan

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Objectives

- Compare and contrast QI, EBP, and Research
  - Definitions
  - Purpose
  - Methods
  - Examples

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Evidence-Based Practice

- Integration of best research evidence with clinical expertise, patient values, preferences, and culture/ethnicity (Sackett et al, 2000)

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Conduct of Research

- Systematic study of a phenomenon such as testing an intervention to improve self-care of individuals with heart failure.

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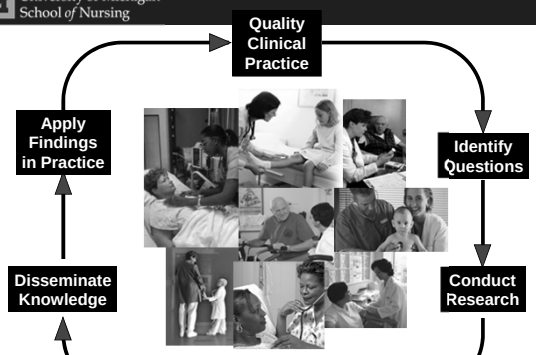

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Quality Improvement

- QI as a management model is both a philosophy of organizational functioning and a set of statistical analysis tools and change techniques used to reduce variations in the quality of goods or services that an organization produces
- QI uses data to monitor the outcomes of care, processes of care, and apply methods to institute changes to continuously improve the quality and safety of health care systems.

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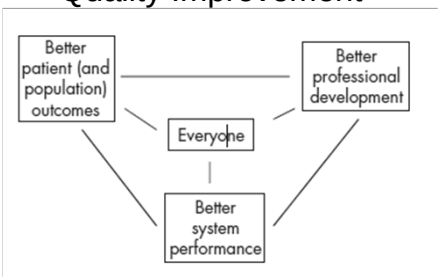
Quality Improvement



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Quality Improvement & EBP

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Examples: EBP

"It is my hope that nursing leaders in other states will … seriously consider replicating Hawaii's program to engage nurses in EBP to improve patient care" Susan Hassmiller

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Articles/Topics in NCNA

- Shhh….. I'm Growing: Noise in the NICU
- Promoting Sleep in Adult SICU to Prevent Delirium
- Normothermia for NeuroProtection – It's Hot to be Cool
- Perioperative Hyperglycemia Management

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Example: Conduct of Research

August 2015 Volume 21, Issue 8, Pages 630–641

Nurse-Enhanced Computerized Cognitive Training Increases Serum Brain-Derived Neurotropic Factor Levels and Improves Working Memory in Heart Failure

Susan J. Pressler, PhD, RN, Marita Titler, PhD, RN, Todd M. Koelling, MD, Penny L. Riley, PhD, RN, Miyeon Jung, MSN, RN, Lisa Hoyland-Domenico, PhD, RN, David L. Ronis, PhD, Dean G. Smith, PhD, Barry E. Bleske, PharmD, Susan G. Dorsey, PhD, RN, Bruno Giordani, PhD

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Example: Quality Improvement

Shorten wait times. Akron Children's radiology department cut MRI wait time by 90 percent - from 25 days to within 2 - by obtaining insurance authorization earlier, streamlining scheduling, and improving coordination between radiology staff and the doctors who sedate children undergoing MRIs. The hospital can now perform more than 112 MRIs a week, up from the previous high of 84, helping to boost revenue. This lean project received an honorary mention award from the International Quality and Productivity Center in the category of "Best Process Improvement Project Under 90 Days."

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Purpose: EBP, Research, QI

Components	EBP	Research	QI
Ideas	*Problem* or Knowledge Focused Triggers	Gaps in the Science	*Problem* QI data Finance
Purpose	Application of research findings &/or other evidence in local practice &/or communities to improve quality of care	Knowledge/science generation. Generalizable	Reduce errors, waste &/or variations in the quality of goods or services that an organization produces

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Examples: Idea & Purpose

EBP	Research	QI
High fall rates and moderate to severe fall injuries.	Despite high prevalence & severe consequences of memory loss in HF, there are no research-based therapies to improve memory in HF patients. Few studies have tested interventions to improve cognition in HF. Prior studies have been small sample sizes, & lacked control groups.	Satisfaction scores are low for clinical encounters in Internal Medicine (IM) Clinics. They are the lowest of all ambulatory sites of care delivery.
Decrease fall rates and severity of fall injuries of adults on inpatient units [specify]	Test an intervention to improve memory in HF patients	Improve satisfaction of patients & families receiving care in the IM clinics

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The Question

Components	EBP	Research	QI
The Question	Clinical question or purpose of the EBP project **derived from the PICO (tool)**.	Research questions or hypotheses that advance the state of the science.	QI question(s) that address eliminating waste; improving workflow; optimizing inventory; reduce variation; improving systems to reduce errors or improve quality of care .
Examples	How do we improve acute pain management of older adults hospitalized with a hip fracture ? How do we decrease falls and severity of fall injuries?	Do HF patients who receive a computerized cognitive training program have greater improvement in delayed recall memory, IADLs & HRQOL (E vs C)?	How do we improve turn around time in the main OR? How do we improve patient & family satisfaction with care delivered in the IM clinics [specify}

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"The challenge of course is not the answer but asking the right question"

Jonas Salk

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Methods/Approach

EBP	Research	QI
Select an EBP Topic Form a team Evidence retrieval Critical appraisal of the evidence Evidence synthesis Set forth EBP recommendations Decision to change practice Convert EBP recommendations into local standards Implement the practice change Evaluation	Research design to address the research questions or hypotheses (e.g. RCT; step-wedge design; prospective cohort design)	TQM, Lean Six Sigma, PSDA Assess system performance Analyze data to clarify problem (SPC charts; pareto; fish bones; 5 whys; tree diagram; flow chart) Develop plan for addressing the identified problem (clear aim; team; measures to know improved; changes) Implement improvement plan – PDSA cycles (small tests of change) Evaluation of PDSA cycles

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Example: First the Question

EBP	Research	QI
Does implementing EB fall prevention interventions that target patient specific fall risk factors decrease falls and severity of fall injuries in hospitalized adults?	Compared with active & usual care control groups, do HF patients who receive a computerized cognitive training program have greater improvement in delayed recall memory, IADLs, & HRQOL?	How do we improve the clinical encounter & satisfaction of patients & families receiving care in the internal medicine clinics? How do we address variations in clinic wait times and work flow in Internal Medicine Clinics?

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Example: Now the Approach

EBP	Research	QI
Form interdisciplinary team Retrieve & critically appraise evidence of fall prevention in hospitals. Construct a synthesis table & make practice recommendations. Decide to modify fall prevention practices to include interventions targeting patient-specific fall risks. Convert into local standards. Implement the EBPs. Evaluate fall rates and severity of fall injuries.	3 arm RCT Compare BrainHQ (computerized general cognitive stimulation) with crossword puzzles (active control) & usual care. Dependent measures: HRQOL etc.	Assess specific components of patient satisfaction. Analyze data to clarify problem: do a *SPC chart* for wait times each IM clinic for each day of the week. *Pareto* chart of wait times by day of week. *Flow chart* patient flow from arrival thru discharge. Go to clinics – *ask 5 whys*. Develop & implement plan (PDSA cycles).

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EBP Led by a Nurse

C.S. MOTT CHILDREN'S HOSPITAL
UNIVERSITY OF MICHIGAN HEALTH SYSTEM

Building Bridges to give a Voice and a Choice to Children Undergoing Pokes and Procedures

Julie Piazza, MS, CCLS
Project Manager
Patient Family Centered Care / Child & Family Life

Mary Watson, MSBA, RN
Senior Project Manager, Ambulatory Care Services

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UNIVERSITY OF MICHIGAN HOSPITALS & HEALTH CENTERS
Pediatrics

Care Plan – Poke and Procedure

MRN:
NAME:
BIRTHDATE:
CSN:

Today's date: _____/_____/_____ (mm/dd/yyyy)

Comfort measures for (child's name): _____

How would you describe **your/your child's** experience (s) with previous needlesticks/procedures?
☐ no problems ☐ cries ☐ worries ☐ very fearful ☐ no previous experience

Comments: _____

Information:

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Evaluation & Example

EBP	Research	QI
Measures that address *processes* of care & patient *outcomes*. Use QI metrics when available. Costs Patient & staff perceptions Track measures for a specified period of time pre implementation, during implementation, post-implementation.	Standardized dependent measures with known reliability and validity. Also confounders.	Measures of intended & unintended consequences of changes (QI data). Costs/Finance data Patient & staff perceptions Stability of the new process (decrease in variation). Evaluate with every PDSA cycle
Outcomes - Fall rates; types of fall injuries *Processes – if* a specific fall risk factor present, was fall prevention intervention implemented targeting the patient-specific risk factor	Hopkins Verbal Learning Test- R; IADL Everyday Problems Test; Minnesota Living with Heart Failure Questionnaire.	Wait times: to get an appointment; to be seen on day of appointment. Patient satisfaction scores Turnaround time of diagnostic tests (e.g. labs)

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Case1: EBP & QI

- Problem: Readmissions within 30 days after hospital discharge of people with HF.
- Steps to consider
  - Investigate internal data- administrative inpatient discharge files of those with and without < 30 day readmissions. Differences? Reason for readmission?
  - Examine discharge instructions provided (know when & who to call for symptoms?; meds? Diet?)
  - Interview some patients with/without readmissions <30 days (scales to weigh themselves)
  - Based on results of internal data, consider research findings from 1) care coordination; 2) Naylor transitional model of care; 3) telephone follow-up.

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Mistakes to Avoid

- Going to the evidence (research findings) first without understanding internal data and issues.
- Assuming there is a "quick fix"
- Lack of engaging clinicians and patients perspectives
- One discipline perspective; interdisciplinary team include patient/family member
- Placing blame
- Dismissing innovative approaches prematurely

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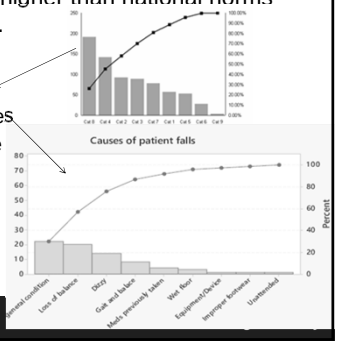
Case 2: QI, EBP & Research

- Problem: Despite QI efforts via PDSA cycles, fall rates continue to be higher than national norms and peer institutions.
- Steps to consider:
  - Pareto chart of units
  - Pareto chart of causes
  - Retrieval and critique of the evidence.
  - Assumption: patients know they are at risk for falling.



Case 2: QI, EBP & *Research*

- Assumption: Patients know they are at risk for falls – we tell them.

Patient perceptions and experiences with falls during hospitalization and after discharge

Clayton Shuman, MSN, RN [a], Jia Liu, MSN [a], Mary Montie, PhD [a,*], Jose Gabriel Galinato, MSN, RN [a], Molly A. Todd, MS, RN [b], Marcia Hegstad, RN, MN [b], Marita Titler, PhD, RN [a]

[a] University of Michigan, School of Nursing, Ann Arbor, MI 48109, USA
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Applied Nursing Research 31 (2016) 79–85

- Aims: perceptions about their fall risks and interventions they received to prevent falls while hospitalized; the instructions received at discharge to prevent falls at home.

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What we learned

- Despite being currently designated as fall risks as well as having experienced prior falls, most informants stated that they did not believe they were at risk for falling while in the hospital:

"…No, because there is enough people around when I get up go to the bathroom. They all helped me…"

"…I'm not necessarily concerned about falling because the hospital staff…they have a belt on me. So, I'm not worried about that…"

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What we learned

- Initially, informants stated that healthcare providers had not had conversations with them about falls:

"I don't think they've talked about falling, but they've taught [me] how to get into the bed and out of the bed. They trained me how to do it, which I assume is to prevent falling…"

"…Uh, I don't know if they have actually told me anything about falling."

- After probing, informants commented on various conversations and actions that their healthcare providers initiated regarding fall prevention.

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Considerations for QI

- Patients' initial perceptions about their fall risks & interventions suggest that the level and type of engagement with patients and families regarding understanding their fall risks, and interventions to prevent falls has significant room for improvement.
- Have conversations with hospitalized patients and their families about why they are at risk for falling, and note the specific fall risk factors they have that may contribute to a fall or injury from a fall (more than imparting information).

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Considerations for QI

- Have repeated conversations with patients and family members about what they can contribute to prevent falls.
- Explain to patients and family members that fall prevention is a collaborative process, which necessitates the active participation of patients and their family members in understanding their risks for falling and interventions to prevent falling.

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Your Turn

- You are the nurse manager of the adult chemo ambulatory care center. You have been notified 3 months ago that over the past 6 months, medication errors are trending upward.
- You come back from a week away and have been notified of two SEs related to medication errors that occurred in the past week.
- How will you proceed?

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Reflections



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Reflections

- EBP, Research, and QI have some related components but with distinct definitions and overall purpose.
  - EBP apply evidence into day-to-day practice to improve quality of care
  - QI reduce errors, waste &/or variations in the quality of services
  - Research – generation of science

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REFLECTIONS

- QI can be based on research evidence or not.
- It is not EB QI if there is not an evidence-base.
- Conduct of Research is essential to build an evidence-base for practice

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Reflections

- EBP and QI have some similarities such as both include improving quality
  - EBP quality of care
  - QI focus on improving quality of care but also on efficiencies, reduction of waste etc.
  - Tools in the QI and EBP toolbox have some similarities (e.g. use of SPC charts) while others differ (e.g. fishbone diagram; 5 whys, PDSA rapid cycle change)


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Reflections

- EBP and QI work can lead to some very interesting questions for conduct of research: study on patient perceptions of falls.


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Faced with the choice between changing one's mind and proving that there is no need to do so, almost everybody gets busy on the proof.

J. K. Galbraith
American Economist

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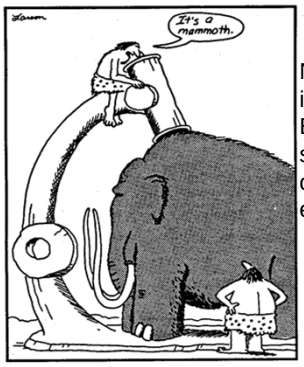

Early microscope

Not all practice or system issues are conducive to EBP &therefore, we should not spend our time searching for the evidence.

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Patients' Perspectives

If breakfast is the most important meal of the day, why doesn't it come with a cocktail and dessert?

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Thank you





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