OBJECTIVES

- Discuss the use of research and other forms of evidence in improving patient and community outcomes
- Develop a clinically relevant, researchable question.
- Compare synthesis versus summary for determining the usefulness of research findings
FUTURE OF NURSING REPORT (2010)
Nurses thus are poised to help bridge the gap between coverage and access, to coordinate increasingly complex care for a wide range of patients, to fulfill their potential as primary care providers to the full extent of their education and training, and to enable the full economic value of their contributions across practice settings to be realized. In addition, a promising field of evidence links nursing care to high quality of care for patients, including protecting their safety. Nurses are crucial in preventing medication errors, reducing rates of infection, and even facilitating patients’ transition from hospital to home.

COLLABORATING AND LEADING
Nurses are needed to lead and participate in ongoing reforms to the health care system, to direct research on evidence-based improvements to care, to translate research findings into practice, to be full partners on the health care team, and to advocate for policy change. Nurses in leadership positions contribute their unique perspective and expertise on issues such as health care delivery, quality, and safety.

MESSAGE TO THE FRIENDS OF NATIONAL INSTITUTE OF NURSING RESEARCH
Nurse scientists are a critical link in the discovery and translation of knowledge, and for increasing the evidence base for the practice of care.

NINR’s strategic plan stresses four key themes:
1. Designing interventions to help caregivers and patients manage symptoms, from acute to chronic illness.
2. Promoting health and wellness and preventing illness.
3. Research into self-management to move care wherever possible from providers to individuals, families and communities.
4. And advanced illness and palliative care – a critical need in our aging society – an issue I work on every day with the Coalition to Transform Advanced Care (C-TAC). NINR is NIH’s lead institute for this research.

NURSES ARE THE LENS TO PRACTICE
BUT we must learn to think differently

AND

WORK as equals in interdisciplinary teams
WE MUST CHANGE THE WAY THAT WE THINK ABOUT THE CONDUCT AND USE OF RESEARCH AND OTHER FORMS OF EVIDENCE IN THE CLINICAL SETTING

IT MUST BECOME AS MUCH A PART OF OUR DAILY PRACTICE AS PROVIDING THE CARE

NIGHTINGALE (1859)
“In dwelling upon the vital importance of sound observation, it must never be lost sight of what observation is for. It is not for the sake of piling up miscellaneous information or curious facts, but for the sake of saving life and increasing health and comfort”

THE SO WHAT?

1980s

PROGRAM OF CLINICAL INQUIRY

What are you doing to improve the care of adults and children?

Physical Symptoms
- Pain
- Nausea & Vomiting
- Incontinence
- Fatigue
- Sleep Deprivation

Adverse Effects
- Falls
- Pressure Ulcers
- Phlebitis
- Urinary Tract Infections
- Surgical Site Infections

Quality of Life
- Functional Physical
- Social/Family Spiritual

End of Life Care
- Palliative Care

Mental Status
- Confusion
- Depression

Cost

Satisfaction

Instrument Development
Evaluation of Care
Testing Interventions

Clinical Outcomes
WHAT IS RESEARCH?

Research is a systematic investigation (study) designed to generate new, generalizable knowledge or to validate and refine existing knowledge.

The Scientific Definition

The strict definition of scientific research is performing a methodical study in order to prove a hypothesis or answer a specific question. Finding a definitive answer is the central goal of any experimental process. Research must be systematic and follow a series of steps and a rigid standard protocol. These rules are broadly similar but may vary slightly between the different fields of science.

MODES OF RESEARCH

Mode 1: traditional paradigm of scientific discovery conducted through curiosity driven, pure, theoretical science

Mode 2: new paradigm where knowledge is generated through the process of application: the situations at which knowledge is produced and the type of knowledge that is produced

MODE 1 IS A PRE-REQUISITE FOR MODE 2.

WHAT IS EVIDENCE-BASED PRACTICE?

It is an interdisciplinary approach to healthcare practice that bases decisions and practice strategies on the best available evidence including: research findings, quality improvement data, clinical expertise, and patient (recipient) values; considering feasibility, risk or harm, and costs, for the purpose of improving patient, administrative, and environmental outcomes (Schultz).

Requires Creative, Critical Thinkers and the support and flexibility of management to implement and evaluate change and innovation in clinical practice; in hospitals, ERP usually requires an organizational change.
WHAT IS QUALITY IMPROVEMENT?

Quality improvement (QI) consists of systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups. Activities or processes within a health care organization contain two major components: 1) what is done (what care is provided), and 2) how it is done (when, where, and by whom care is delivered).

(Department of Health and Human Services, 2011)

Clinical Scholar Model
Promoting the Spirit of Inquiry

OBSERVE & REFLECT
CRITIQUE & ANALYZE
SYNTHESIZE
APPLY & EVALUATE
DISSEMINATE

Clinical Scholarship is not the same as clinical proficiency...
Performing a procedure well does not make it scholarly unless you are questioning whether we need to perform it in the first place or whether we can find a better way to accomplish the same objective.

(STTI, White Paper, 1999)

THE SO WHAT?
PROFILE OF AN CLINICAL SCHOLAR

High level of curiosity
Critical thinker
Continuous learner
Reflects on experience
Seeks and uses wide spectrum of resources
Uses evidence to improve effectiveness of interventions
NEVER STOPS ASKING WHY?

(Clinical Scholar White Paper, STTI, 1999)

“A LEARNING ORGANIZATION
...IS CONTINUALLY EXPANDING ITS CAPACITY TO CREATE ITS FUTURE. FOR SUCH AN ORGANIZATION, IT IS NOT ENOUGH MERELY TO SURVIVE. ‘SURVIVAL LEARNING’...IS IMPORTANT...BUT FOR A LEARNING ORGANIZATION...[IT] MUST BE JOINED BY ‘GENERATIVE LEARNING,’ LEARNING THAT ENHANCES OUR CAPACITY TO CREATE.”

(PETER SENGE, 1990)

Callahan & Ruchlin (2003) urged nurse leaders to create a culture of generative learning vs. a culture of survival in establishing a culture of safety (Nursing Economics).

OUR CURRENT SYSTEM FOSTERS ‘SINGLE-LOOP’ LEARNING...WE IDENTIFY THE NEED FOR EDUCATION ABOUT A PARTICULAR SKILL OR KNOWLEDGE. WE PROVIDE THE EDUCATION.

WE MUST CREATE SYSTEMS THAT FOSTER ‘DOUBLE-LOOP’ LEARNING...QUESTIONING WHAT WE THINK AND DO, COMING UP WITH NEW WAYS OF DOING AND THINKING.
ACTUALIZING OUTCOMES

What are the primary issues for your patients and their families?
What are the clinical indicators that are not equal to or higher than the national benchmarks?
What are your core indicators?
What is your hospital’s strategic plan? Nursing’s strategic plan?
What are the major community issues?
In education, which of your quality indicators are you not meeting?
How do you know you are teaching using the best evidence?

IS THERE A DIFFERENCE BETWEEN BEST PRACTICE AND EVIDENCE-BASED PRACTICE?

YOU ARE COLLECTING LOTS OF DATA. WHAT ARE YOU DOING WITH IT? THE SO WHAT?

BEST STATES TO GROW OLD   MAINE 13/50
65 AND OLDER

Percent 65 and older 18.2%  2nd highest
Percent in poverty 8.9%  22nd highest
Percent with 4 year college degree 26.4%  17th highest
Life Expectancy at birth 78.7 years  23rd highest
Safe place to live!  Second lowest crime rate
Percent employed ages 55-64 98%

24/7 Wall Street, January 19, 2016

30 DAY RE-ADMISSION RATE FOR HEART FAILURE

National Average is 22.7%
Northern Maine Medical Center (Fort Kent) — 18.6 %
Mary Hitchcock Memorial Hospital (Lebanon, N.H.) — 19%
Southern New Hampshire Medical Center (Nashua) — 19%
HOSPITAL READMISSIONS

Hospital readmissions within 30 days after discharge account for more than $17 billion in avoidable Medicare expenditures, and are associated with poor outcomes.

FY13. The Affordable Care Act (ACA), passed in March 2010, created the Hospital Readmissions Reduction Program, penalizing hospitals higher than-expected 30-day readmission rates for acute myocardial infarction, heart failure, and pneumonia. The maximum penalty was 1% of a hospital’s Medicare base diagnosis-related-group (DRG) payments.

FY15 Total hip or knee replacement and chronic obstructive pulmonary disease (COPD) were added. The maximum penalty has been increased to 3%.

From 2007 to 2015, readmission rates for targeted conditions declined from 21.5% to 17.8%, and rates for non-targeted conditions declined from 15.3% to 13.1%.

Study Findings:

- No large changes in the trends of observation-service use associated with the passage of the ACA
- Hospitals with greater reductions in readmission rates were no more likely to increase their observation-service use than other hospitals.


SO WHAT IS CREATING THE REDUCTION?

WHAT FACTOR HAS THE BIGGEST IMPACT ON READMISSION RATES?

Although hospitals are spending increasing amounts to improve patient comfort and the amenities available at their facilities, six years of data from nearly 3,000 acute-care hospitals suggest that it is the communication between caregivers and patients that has the largest impact on reducing readmissions.

The study shows the real shift in readmission stems from changing hospital culture and solving delivery of care problems.

WHAT ARE WE DOING TO PROMOTE NURSES AS CARE COORDINATORS IN THE NEW HEALTHCARE MODELS?

- ANA is promoting robust definitions of care coordination and quality measures that demonstrate nurses’ impact
- Promote nurses in Key Government committees
- Promote NURSE-LED health models of care
  - Promote NURSE-LED health models of care
    - ANA successfully influenced Centers for Medicaid and Medicare (CMS) to revise its final rule on Accountable Care Organizations (ACOs) to acknowledge NPs, CNSs, and Nurse Midwives as primary care providers
- American Academy of Nursing Coordination Workgroup is identifying nurse leadership roles in inter-professional healthcare teams and creating opportunities for nurse-led models

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CARE COORDINATION IS A CORE NURSING FUNCTION!!

Definition: a function that helps ensure that the patient’s needs and preferences for health services and information sharing across people, functions, and sites are met over time.” (National Quality Forum, NQF)

Care coordination is mentioned 14 times in the Affordable Care Act (ACA). We need to use and claim it (Linda Lindeke, PhD, RN, CNP, member of the CNPE Health Policy Workgroup)

In the Medical Home Models, physicians are now claiming the care coordination is a function that they delegate!!

Physicians surveyed reported that if they had the power to write prescriptions to address social needs, these would represent one out of every seven prescriptions they write** — or an average of 26 additional prescriptions per week.

Retrieved http://www.rwjf.org/pr/product.jsp?id=73675 1/31/2012
Conducted Fall 2011; 1000 physicians
NURSE-MANAGED, HOSPITAL BASED TRANSITION CARE
(BROOTEN MODEL, 1986)

- Low birth weight women
- Mothers undergoing C-section
- High risk pregnant women
- Women undergoing hysterectomies
- Hospitalized elderly (Mary Naylor)

The evidence is there. We need to adapt these models to chronic illness management.

Adopted by IOM RWJF

GERIATRIC EMERGENCY CARE

- Nearly 20% of Medicare beneficiaries who had been discharged were readmitted within 30 days
- Two-thirds who were discharged with medical conditions such as heart failure, pneumonia, chronic obstructive pulmonary disease, psychoses or gastrointestinal problems were readmitted or died within one year of the initial hospitalization.

Seniors at Risk screening tool for patients 65 and older (Refer if 2 or more are yes)
- Are you taking more than five medications?
- Have you been hospitalized in the last 30 days?
- Have you experienced changes in your functional status?
- Have you experienced any change in vision?
- Before coming to the ED, did you need someone to help you at home on a regular basis?

Community services are coordinated. RN makes phone within 72 hours. Reported unscheduled returns of ED patients ages 65 and older dropped from 20% to just more than 1% since the dedicated ED opened


A SHIFT FROM NURSING HOMES TO MANAGED CARE AT HOME
NEW YORK TIMES, FEBRUARY 2012

THE PACE PROGRAM
OF ALL-INCLUSIVE CARE FOR THE ELDERLY

42 programs in 22 states in 2007 to 84 in 29 states today

Over the next three years, New York State plans to shift 70,000 to 80,000 people who need more than 120 days of Medicaid reimbursed long-term care services into managed care models

2009 study showed that PACE programs reduce lengths of stays in hospitals and delay assignments to nursing homes.

Cost: $4,000 a month from Medicaid for each participant and $3,300 from Medicare.

By comparison, the chief executive of ArchCare, the archdiocesan health care network, stated that a month of nursing home care can cost the government $9,000.

What works?
For whom?
In what situations/circumstances?
What was the impact?
How did you do it?
What are the costs?
Nursing leadership must adopt a “learning organization approach”

Thinking must change from “a culture of survival”
To
“a culture of generative learning”

(Peter Senge, 1990)

10 TOP PATIENT SAFETY ISSUES FOR 2016

1. Medication errors. 5% of hospitalized patients (AHRQ); half of all surgery patients
2. Medication errors. 6 to 17 percent of hospital adverse events and roughly 10 percent of patient deaths (IOM). Can be improved with better communications among providers and among patients, families, & providers.
3. Discharge practices to post-acute, home care. 20 percent of patients experience an adverse event within three weeks of discharge. Comprehensive Care for Joint Replacement model (April, 2016) will make hospitals responsible for the care quality and cost of joint replacement patients for a full 90 days post-discharge.
4. Workplace safety
5. Hospital facility safety
6. Reprocessing issues
7. Sepsis
8. "Super" superbugs
9. The cyber-insecurity of medical devices
10. Going transparent with quality data.

MAGNET OUTCOMES

Falls with Injuries
Hospital Acquired Pressure Ulcers (Stage 2 and higher)
Catheter Associated Urinary Tract Infections
Central Line Associated Blood Stream Infections
One Core Measure (Nurse Sensitive)
Ambulatory/Outpatient (Primary or Specialty)
Patient Satisfaction
Nurse Satisfaction

SO WHAT?

According to an HHS report released in December, hospital-acquired condition rates dropped 17 percent from 2010 to 2014, leading to 87,000 fewer patient deaths in hospitals.
LEAPFROG NAMES TOP RURAL HOSPITALS FOR 2015

Top Hospitals tend to have lower infection rates, higher survival rates for high-risk procedures, decreased length of stay and fewer readmissions. Among other metrics included in the Leapfrog Hospital Survey that Top Hospitals tend to excel on: maternity care, evidence of a hospital's ability to prevent medication errors and appropriate staffing to ensure quality of care.

Maine
Blue Hill Memorial Hospital
Cary Medical Center
Houlton Regional Hospital
Inland Hospital
Lincoln Health
Sebasticook Valley Health

LESS THAN 20% OF NURSES COMPLY WITH STANDARD PRECAUTIONS FOR INFECTION PREVENTION

17.4 percent of ambulatory care nurses reported that they comply with all nine standard precautions for infection prevention, Northwell Health findings

1. Provide care considering all patients as potentially contagious
2. Wash hands after removing gloves
3. Avoid placing foreign objects on my hands
4. Wear gloves when exposure of my hands to bodily fluids is anticipated
5. Avoid needle recapping
6. Avoid disassembling a used needle from a syringe
7. Use a face mask when anticipating exposure to air-transmitted pathogens
8. Wash hands after providing care
9. Discard used sharp materials into sharp containers

American Journal of Infection Control, January 20, 2016

DEEP TISSUE INJURIES IN END OF LIFE PATIENTS

Purpose: To define, describe, compare, and contract observed skin changes in end-of-life patients

Retrospective chart review of 80 patients with documented alteration in skin
Median LOS from admission to death = 11 days
Median time from identification of terminal tissue injury = 36 hours
Tissue injury may or may not be over bony prominence
All but one wound remained intact; variety of shapes, sizes, and locations
All were on pressure redistribution surfaces and all but 2 patients had documentation regarding turning and positioning frequency
Questions for study: Can these deep tissue injuries be prevented? Or are they unavoidable as the result of organ failure and should not be counted as Hospital Acquired Pressure Ulcers?

Trombley, Bratianu, Thomas, & Kline, American Journal of Hospice, February 8, 2016
1. Sleep deprivation from clinicians coming to do tests and draw blood in the middle of the night.
2. Noisy nurses’ stations that can interfere with sleep.
3. Personal belongings being lost.
4. Staff not knocking before entering the room, which can be interpreted as a sign of disrespect.
5. Not keeping whiteboards updated. Updated whiteboards allow patients to know who is caring for them. Patients would also appreciate a notebook where they can keep important information and take notes.
6. Lack of clear communication and not updating the patient or family members if the patient’s condition changes.
7. Messy rooms where surfaces aren’t wiped down, or the bathroom smells.
8. Feeling unengaged in their care or like they are not being listened to.
9. Lack of orientation to the room and hospital. Patients would like to know how to work the television and how to order food.
10. Lack of professionalism from hospital staff, especially when they are on break. “While you may be on your break, you are still a hospital employee and a reflection of the hospital,” the article reads.

SITTING AT THE BEDSIDE IMPROVES PATIENT SATISFACTION

A pilot study following a physician on 120 patients rounds

The physician either stood or sat by the bedside between 1 and 2 minutes

Patients believed the physician spent anywhere from five minutes to as much as 15 more minutes when sitting versus standing

MAGNET OUTCOMES

Falls with Injuries
Hospital Acquired Pressure Ulcers (Stage 2 and higher)
Catheter Associated Urinary Tract Infections
Central Line Associated Blood Stream Infections
One Core Measure (Nurse Sensitive)
Ambulatory/Outpatient (Primary or Specialty)
Patient Satisfaction
Nurse Satisfaction

SO WHAT?

NURSE JOB STRESS AND OBESITY

Data Source: Secondary data analysis from a survey of 2,100 female nurses
• 55% were obese based on Body Mass Index (BMI)
  • Long work hours and shift work adversely affect quantity and quality of sleep
  • Nurses working long hours at jobs that are not physically demanding are considerably more likely to become obese than other nurses

Han, K. et al., 2011

CREATING A BETTER WORK ENVIRONMENT FOR NURSES

Nurses 5th among all occupations for work days missed due to injuries and illnesses

Recent ANA Survey:
90% of nurses with work related neck, back or shoulder pain
13% responded that they had been injured 5 or more times at work, compared to 7% in 2001
6 of 10 nurses state that health and safety concerns impact their decisions to continue working

EB interventions:
67% have access to lift equipment compared to <50% in 2001
only 1/3 use them frequently!!
96% of facilities have safe needle devices compared to 82% in 2001
Increase in concern about job physical assault from 25 to 34% but actual assault decreased from 17% to 11%
Percentage of RNs working >40 hours a week decreased from 64% to 55%
RNs working mandatory or unplanned overtime decreased from 68% to 53%

JOINT COMMISSION ALERT ON HEALTH CARE FATIGUE

JC Report 2007: Nurses who work >12 hours and residents who work >24 hours are involved in 3X more fatigue-related preventable adverse event

Alert on Health Care Fatigue and Patient Safety
Assess fatigue-related risks
Examine processes when patients are handed off or transitioned from one caregiver to another
Create and implement a fatigue management plan that included evidence-based strategies
Engaging in conversation
Physical activity
Caffeine consumption
Short naps
Educate staff on the importance of good sleep habits
Independent second checks for critical tasks or complex patients

What works?
For whom?
In what situations/circumstances?
What was the impact?
How did you do it?
What are the costs?

Han, K. et al., 2011
REGISTERED NURSES OF ONTARIO (RNAO)

43 Clinical Best Practice Guidelines
Examples:
- Asthma, delirium, dementia, depression, post-partum depression pressure ulcers, tobacco & nicotine interventions

1 Foundational Best Practice Guideline
Clinical Practice Education in Nursing

10 Healthy Work Environment Guidelines
Examples:
- Intra-professional collaborative practice among nurses
- Developing and sustaining effective staffing & workload practices

Free download (www.RNAO.ca) and can be purchased in hard copy

Clinical Scholar Model

Promoting the Spirit of Inquiry

OBSERVE & REFLECT
CRITIQUE & ANALYZE
SYNTESIZE
APPLY & EVALUATE
DISSEMINATE


WHERE WILL YOUR IDEAS COME FROM?

Observe
Are you “passionate” about the topic?
What is the outcome that you wish to fix, correct, or change?
Is it important? High Frequency, High Volume, High Risk?
Is there a national benchmark? National data? Do you have QI data on the issue?
WHAT RESOURCES WOULD IT TAKE?

ASKING THE IMPORTANT QUESTION
ANWERING “THE SO WHAT?”

Critique & Analyze

Primary Sources
- Original Research articles
  - Qualitative
  - Quantitative

Integrated Sources
- Guidelines
- Professional Organizations
- Protocols

Secondary Sources
- Pre-reviewed studies
- Evidence-based Nursing
- Integrated literature Reviews
- Systematic Reviews
  - Meta-analysis

EVALUATE PUBLISHED GUIDELINES BEFORE IMPLEMENTATION
**Synthesis**

Synthesis IS NOT the same as Summary!

Following review of all of the evidence, its level and quality....

What is the strength of the combined evidence for each outcome of interest for each intervention?

**Integrate internal evidence with the science**

**Apply & Evaluate**

Develop guideline/project
Implement on Pilot Unit
Monitor Outcomes
Evaluate
Change to New Practice/Discard Old Practice
Monitor Outcomes

**Disseminate**

Write an abstract for a poster or podium presentation
Present internally and at professional meetings
Publish

**Join your professional nursing association**

- Academy of Medical-Surgical Nurses
- American Association of Critical Care Nurses
- American Nephrology Nurses Association
- American Nurses Association
- American Nursing Informatics Association
- American Organization of Nurse Executives
- American Psychiatric Nurses Association
- American Society of Pain Management Nursing
- American Society of Peri-Anesthesia Nurses
- Association of Pediatric Oncology Nurses
- Association of periOperative Registered Nurses
- Association of Women's Health, Obstetric and Neonatal Nurses
- Emergency Nurses Association
- Gerontological Advanced Practice Nurses Association
- Hospice and Palliative Nurses Association
- Infusion Nurses Society (see intravenous)
- National Association of Neonatal Nurses
- National Association of Orthopaedic Nurses
- National Association of School Nurses

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Pathway to Improved Outcomes ©

Opportunity identified for improvement of processes or outcome

Review of the current internal evidence (facility data) and external evidence (science)

Determine strength

Conduct research study

Strong enough to implement without potential for harm?

Evidence-based practice project

Yes

No

Improved Outcomes

Processes analyzed & repetitive cycles using different means to improvement

Schultz, 2007 ©

AS YOU IMPLEMENT INNOVATIONS
WHAT DO YOU NEED TO CONSIDER?

What works?
For whom?
In what situations/circumstances?
What is the impact?
How did you do it?
How will you sustain change?

Evidence-based Practice is MORE than just implementing a guideline or new intervention

SCHOLARSHIP OF PRACTICE
Knowledge will dictate the role that nurses have in the future.
We must question existing practices.
We must search for evidence that underlies our practice.
We must be able to synthesize the scientific data and integrate the synthesis with the internal quality data.
We must function as knowledgeable leaders in health care delivery.

THE FUTURE
Focus on Speeding up the Spread of Knowledge Translation
Putting Knowledge into Action “The Study of Implementation”

WHAT MAKES A DIFFERENCE? THE SO WHAT?
Clinical scholars consistently bring a spirit of inquiry and creativity to their practice to solve clinical problems and improve outcomes. As clinical scholars mature, they assume an active role in creating & perpetuating an environment in which scholars will grow in sharing the results of their work with the nursing community (Schultz, 2006).

Questions to ponder

A person who saves hundreds of lives every day is obviously a nurse!

Asking the important clinical, administrative or educational question

Where will the ideas come from?

Questions??

Do You Know a Nurse?

The Book: George Mason University College of Nursing

Contact: Dr. Jeanne Sorrell jsorrell@gmu.edu

What is the purpose of the PICO question?
WHAT ARE YOUR CONCERNS?

What are the primary issues for your patients and their families?
What are the clinical indicators that are not equal to or higher than the national benchmarks?
What are your core indicators?
What is your hospital’s strategic plan? Nursing’s strategic plan?
What are the major community issues?
In education, which of your quality indicators are you not meeting? How do you know you are teaching using the best evidence?

SELECTING THE ISSUE

Are you “passionate” about the topic?
Is it important? High Frequency, High Volume, High Risk?
Will you have unit support for this change?
Can it be researched?
Is there a national benchmark? National data? Do you have QI data on the issue?
WHAT RESOURCES WOULD IT TAKE?

DEVELOPING THE PICO QUESTION

Clearly DEFINE the problem. Who is the POPULATION OF INTEREST?
SIGNIFICANCE. Is the problem significant only to your discipline and/or to other disciplines? Is there an urgency to change? Are other nurses/peers interested in changing?
Is it significant to patient/families?
Is it significant to the community?

OUTCOMES (IN RESEARCH, THE DEPENDENT VARIABLE)

What is “it” about this problem that you wish to fix, correct, or change?
Is it a Nurse-Sensitive Outcome?
Is it an Interdisciplinary-Sensitive outcome?
How will the outcome be MEASURED?
Are you currently measuring (internal evidence)? How?
Key Words?
HOW DO YOU DEFINE?

Diarrhea
Healing pressure ulcers
“Non-compliance” with discharge instructions (orders)
Pain in the Ventilated, Sedated Child
Post-operative nausea and vomiting
A fall

AN EDUCATIONAL OUTCOME?? WITH DEFINITION

MEASURING THE DEPENDENT VARIABLE (THE OUTCOME)

Diarrhea...what a mess!

Hart & Dobb Scale 1988

Frequency, Consistency & Quantity

<table>
<thead>
<tr>
<th>Consistency</th>
<th>&lt;200 ml</th>
<th>200-250 ml</th>
<th>&gt;250 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formed</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Semi-solids</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Liquid</td>
<td>6</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>

>200 g liq. Stool/day
>500 ml soft or liquid/2 days

WHAT IS THE CURRENT PRACTICE? WHAT WILL BE THE NEW PRACTICE?

- Is there a current policy, procedure, or protocol?
- What actions affect the outcome?
- Can you manipulate the interventions (actions)?
- Will this intervention (independent variable in research) require a significant change in practice?

FEASIBILITY

WHAT RESOURCES ARE NECESSARY?

Ethical considerations/POTENTIAL FOR RISK or HARM
Support you will need
Availability of staff or student to monitor the outcome
Cooperation of others/STAKEHOLDERS
Does this occur often so you will see the changes?

What are the costs?
- Time and timing
- Money
- Equipment
PICO QUESTION

P Population of Interest
I Intervention/treatment
C Comparison/current practice
O Outcome

Each component must be clearly defined. Remember “The So What?”

In very low birth weight infants (P), what is the effect of nutritive sucking (sucrose pacifier) (I) as compared to nonnutritive sucking on a pacifier (C) for relieving procedural pain (O)?

Conceptualize a potential research study/evidence-based practice project ©

Alyce A. Schultz (1999)
(Is it important? Can it be searched? What is the current research base?)

Synthesis begins with analysis of research studies

Analyze

Reading articles that are not research articles does not form the basis for evidence-based practice.

But they may help you develop and refine your clinical question.

Work in small groups on an important question
SELECTING A PRIMARY RESEARCH STUDY
SEARCH FOR EVIDENCE (MEDLINE, CINAHL, COCHRANE LIBRARY)

MAKE YOUR LIBRARIAN YOUR BEST FRIEND!!

SELECTING RESEARCH ARTICLES FROM YOUR LITERATURE SEARCH
A good title should tell you what the study is about (design and variables) and who were the subjects.
Almost all research articles have an abstract; however, other types of articles may also have an abstract.
Integrative reviews are not research but may be very helpful in helping you focus your clinical question.

COMPONENTS OF A QUANTITATIVE RESEARCH ARTICLE
Abstract
Introduction
Problem
Identification
Statement of Purpose
Literature Review
Conceptual or Theoretical Framework
Methodology
➢ Design
➢ Setting
➢ Sample
➢ Procedure
➢ Instrument
➢ Data Collection
➢ Analysis
Results/Findings
Discussion
➢ Limitations
Clinical Implications

SYNTHESIZE, NOT SUMMARIZE
Synthesize
➢ 1.to form (a material or abstract entity) by combining parts or elements (opposed to analyze): to synthesize a statement.
➢ 2.Chemistry, to combine (constituent elements) into a single or unified entity.
Summarize
➢ 1.to make a summary of; state or express in a concise form.
   Related words: resume, sum up, sum
SYNTHESIS

Synthesis IS NOT the same as Summary!

Purpose: To determine the Strength of the Evidence

Following review of all of the evidence, its level and quality....

What is the strength of the combined evidence for each outcome of interest for each intervention?

INTEGRATE INTERNAL EVIDENCE WITH THE SCIENCE

LEVEL, QUALITY, AND STRENGTH OF THE EVIDENCE

Level of evidence is determined by the design of the study or the source of the evidence (expert consensus)

Quality of the evidence is determined by individuals appraising the evidence, e.g. guideline developers; research panel

STRENGTH of the evidence is the combination of the level of study design, quality, consistency, and the number of studies measuring an independent (intervention) or dependent (outcome) variable

STRENGTH OF EVIDENCE ©(STETLER, 2001)

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>Systematic Statistical Review (meta-analysis)</td>
</tr>
<tr>
<td>Level II</td>
<td>Systematic interpretive of multiple quantitative studies</td>
</tr>
<tr>
<td>Level III</td>
<td>Experimental studies (RCTs)</td>
</tr>
<tr>
<td>Level IV</td>
<td>Quasi-experimental studies</td>
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<tr>
<td>Level V</td>
<td>Systematic interpretive of multiple qualitative studies</td>
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<tr>
<td>Level VI</td>
<td>Non-experimental studies</td>
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<tr>
<td>Level VII</td>
<td>Systematically obtained, verifiable quality or program evaluation data from the literature</td>
</tr>
<tr>
<td>Level VIII</td>
<td>Consensus opinion of respected authorities</td>
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</table>

WHAT SHOULD GO IN A SYNTHESIS TABLE?

HOW MANY SYNTHESIS TABLES DO I NEED?

What will help answer/support your project question?

There are no pre-set criteria!! Cluster your variables of interest
CORE OF SYNTHESIS
Organize your studies according to the same intervention(s) or the same outcome(s)
- You may have more than one intervention and/or more than one outcome
- This is why your definition of outcome is soooooooo important
Make sure that the “results” section (important statistical findings) on the evaluation form is written in the same order
- e.g. experimental group first, control group second
- e.g. correlates listed in same order

SYNTHESIS TABLES
First column is always citation information
The second column is the level of evidence. You also need to indicate the level of evidence that you are using so the reader can understand your overall decision.
The next column should be study design and possibly the purpose
The next column should be the intervention
With the intervention, you need to indicate dose, how often, how much, how long
If the outcome is defined the same in all studies, you do not need an outcome column but if not, you need a column with outcome and definition

STATISTICAL FINDINGS
You need to include the actual findings along with the statistical findings
- i.e. t = xxxx, p = xxxxx
Lastly, you need write a few notes on limitations and strengths of the study

OUTCOMES
Table 3, page 520
Put in the column Intervention group findings first, then control group for each finding
Incidence of delirium
- Intervention: 20/62 (32%) p = .04
- Control: 32/64 (50%) p = .04
Severe Delirium
- Intervention: 7/62 (12%) p = .02
- Control: 18/64 (29%) p = .02
Add other outcomes in the same way
### Evidence Table 3: Studies Examining Exercise-Related Interventions in the Community

<table>
<thead>
<tr>
<th>Study</th>
<th>Study Design</th>
<th>Subjects</th>
<th>Intervention</th>
<th>Outcome Definition</th>
<th>Results</th>
<th>Limitations</th>
<th>Strengths</th>
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<tbody>
<tr>
<td>Donahue et al.</td>
<td>RCT, 2 parallel groups</td>
<td>N = 175, mean age 66 ± 10</td>
<td>Usual Care vs. Exercise intervention</td>
<td>Turning during sitting periods</td>
<td>No difference in PU incidence</td>
<td>- No difference in Norton scores at start of intervention</td>
<td>- Prevention during sitting periods standardized for all experimental patients</td>
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#### Study 3: Repositioning for the Prevention of Pressure Ulcers

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<td>Defloor et al.</td>
<td>RCT, 4 intervention groups vs. control</td>
<td>N = 488, mean age 74 ± 10</td>
<td>Usual Care vs. Different Turning Schedules</td>
<td>- Erythema: Grade 1</td>
<td>Erythema: Grade 1</td>
<td>- No difference in Norton scores at start</td>
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#### Study 4: Turning Interventions

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<td>Young et al.</td>
<td>RCT, 2 parallel groups</td>
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**Table 1: Data Synthesis**

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**References**

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|--------------------|-----------------|--------|--------------|--------------------------|------------|----------|----------|--------|---------------------|-----------------------|

### STRENGTH OF EVIDENCE DETERMINED

Now is the time to determine if your important question is driving a research study or an evidence-based practice project.

### Any Questions?

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