QSEN Evidence-Based Practice Competency

Teaching Strategy Competency Category: Evidence-Based Practice

Learner Level: Graduate or Doctoral

Strategy Title: Sacred Cows

Learner Setting: Classroom or Assignment

Strategy Type: Problem based learning assignment

Learning Objectives:
- Determine the need for evidence based practice in the clinical setting
- Gain experience searching the literature using the PICO method

Assignment:

This assignment is called the “Sacred Cows Contest.” Have each graduate student (can be an individual assignment or they can work in pairs or small groups) choose a clinical area to visit. They can either ask nurses in the clinical area individually or in a group the following questions:

1. What is the most traditional nursing practice being done in this clinical area?
2. What is the least logical nursing practice happening in this area?
3. What is the most time consuming practice in your area?

Once the list has been compiled, have the students:

1. Search the literature and obtain evidence about the practices identified.
2. Develop an Evidence Based Project about the “sacred cows” identified.
3. Determine if a change in practice might be required based on the evidence.
QSEN Evidence-Based Practice Competency

Teaching Strategy Competency Category: Evidence-Based Practice

Strategy Title: Improving Evidence Based Practice in Systems

Learner Level: Graduate or Doctoral

Learner Setting: Assignment

Strategy Type: Problem based learning assignment; Case Study

Learning Objectives:
- Identify barriers to implementing evidence based practice in clinical areas
- Navigate systems in improving the level of evidence based practice in use
- Develop plans to improve systems access to evidence based practice

Assignment:

This assignment might be suitable for a Doctoral Capstone project, or if no real experience exists then use the case study here as the assignment.

Case Study
A chief nurse approaches you as the doctorally prepared nurse to lead a project in the hospital. She asks you to partner with her director of nursing continuing education. The nursing strategic plan has an objective to increase the use of evidence based practice to guide clinical decision making. There is very little infrastructure in place, and the Chief Nurse wants you and the Director of Education to develop a plan for the organization to improve evidence based practice. When you make rounds on the units, you find there is a large proportion of associate degree prepared nurses, practice that is traditional with many nurses responding that “we have always done it this way”, and as the chief nurse assessed, no infrastructure or support is in place. In addition, there is very little understanding from the clinical nurses what evidence based practice means.

Your job is to develop a plan to present to the chief nurse with the following elements in place:

- Design an evidence based practice structure to allow for shared decision making about clinical practice. This can include a shared governance structure. If a council, identify stakeholders you would include and a team charter for the council work.
Choose from the following strategies to include in your plan:

- Journal clubs
- Research critique rounds
- Library rounds
- E-Database and library search lessons
- Development of mentors in clinical practice
- Use of unit-based champions to educate about evidence based practice
- Participation in research studies
- Inservices and grand rounds
- Creative education strategies in the clinical arena
- Encouraging the development of clinical questions by staff nurses

Create an education, implementation, and communication plan to present to the chief nurse. If she decides to implement your plan, give her suggestions on how to evaluate the effectiveness of your plan.
QSEN Evidence Based Practice Competency

**Teaching Strategy Competency Category:** Evidence-Based Practice

**Learner Level:** Graduate or Doctoral

**Strategy Title:** Development and Implementation of a Practice Change based on Evidence

**Learner Setting:** Classroom or Assignment; Capstone Project for DNP

**Strategy Type:** Problem based learning assignment

**Learning Objectives:**
- Experience the steps in creating an evidence based practice clinical policy or practice
- Develop practice recommendations taking into account:
  - Patient population being served
  - Organizational priorities
  - Resources available
- Differentiate when to use patient values and clinical judgement to deviate from guidelines
- Prepare an environment for changes in practice
- Doctoral level: Actually implement a practice change

**Development and Implementation of a Practice Change based on Evidence**

**Strategy Overview**
The assignment can be used for any size classroom group and can be done individually or in a group. Each student/pair/group needs to choose a clinical area and a clinical partner site. You can tailor this assignment to just include one part of the EBP process, or have the assignments be due over the course of the entire EBP course.

1. Once a clinical area is chosen, work with the clinical team to determine a clinical practice problem.
2. Develop the researchable question (ex: “what is the most effective pain management method”) using the PICO method (Patient Population, Intervention, Outcome, Time)
   Examples of PICO questions are at the end of this assignment
3. Search for the best evidence available and determine the strength of the evidence.
5. Develop recommendations for practice changes.
6. Develop an implementation plan to include key activities, education plan, implementation planning steps, and evaluation plan for the clinical area.
7. DNP Capstone project: Actually implement the clinical practice change in partnership with the clinical leadership team of the clinical area chosen.
8. Evaluate the outcome of the evidence based practice change.

Other areas to consider as assignments:

1. Barrier Identification:
   a. Once a clinical practice change is identified, identify barriers to successful implementation of change.
   b. Develop a plan to overcome those barriers.

2. Perform a rigorous evaluation of multiple sources of evidence
   a. Consider patient preferences and what clinical judgment might do to change the evidence
   b. Develop options (at least one) that might be different in the clinical setting based on a patient preference or clinical judgment

3. Have the student actually participate on a team that is working on a change in practice. Have the student develop a communication plan to articulate a change in practice that is being anticipated. If the change has already occurred, have the student evaluate the change in practice:
   a. At the graduate level – participate on a team
   b. At the doctoral level- lead a team
PICO Examples

Available at the Cochrane Library Tutorial:

http://learntech.physiol.ox.ac.uk/cochrane_tutorial/cochlibd0e187.php

Many clinical or research questions can be divided into these four components, which we call ‘P I C O’. Try to use all four parts of the question, if possible.

- **P** Population/patient
- **I** Intervention/indicator
- **C** Comparator/control
- **O** Outcome

**Example:**

A 28-year-old male presents with recurrent furunculosis (skin boils) for past 8 months; these episodes have been treated with drainage and several courses of antibiotics but keep recurring. He asks if recurrences can be prevented. To convert this to an answerable question, use the P I C O method as follows:

**Question:**

‘In patients with recurrent furunculosis, do prophylactic antibiotics, compared to no treatment, reduce the recurrence rate?’

- **P** Population/patient = patients with recurrent furunculosis
- **I** Intervention/indicator = prophylactic antibiotics
- **C** Comparator/control = no treatment
- **O** Outcome = reduction in recurrence rate of furunculosis
Example:

George wants to discuss the possibility of a vasectomy. He says he has heard something about vasectomy causing an increase in testicular cancer later in life. You know that the risk of this is low but want to give him a more precise answer.

Question:

‘In men, does having a vasectomy (compared to not having one) increase the risk of getting testicular cancer in the future?’

P  Population/patient   =  adult males
I  Intervention/indicator =  vasectomy
C  Comparator/control   =  no vasectomy
O  Outcome             =  testicular cancer

Example:

Mabel is a 6-week-old baby at her routine follow-up. She was born prematurely at 35 weeks. You want to tell the parents about her chances of developing hearing problems.

Question:

‘In infants born prematurely, compared to those born at full term, what is the subsequent lifetime prevalence of sensory deafness?’

P  Population/patient   =  infants
I  Intervention/indicator =  premature
C  Comparator/control   =  full-term
O  Outcome             =  sensorial deafness

Example:
Julie is pregnant for the second time. She had her first baby when she was 33 and had amniocentesis to find out if the baby had Down's Syndrome. The test was negative but it was not a good experience as she did not get the result until she was 18 weeks pregnant. She is now 35, one month pregnant and asks if she can have a test that would give her an earlier result. The local hospital offers serum biochemistry plus nuchal translucency ultrasound as a first trimester test for Down's Syndrome. You wonder if this is as reliable as conventional amniocentesis.

Question:

‘For pregnant women, is nuchal translucency ultrasound plus serum biochemistry testing in the first trimester as accurate (ie with equal or better sensitivity and specificity) as conventional amniocentesis for diagnosing Down's Syndrome?’

P Population/patient = pregnant women
I Intervention/indicator = nuchal translucency ultrasound plus serum biochemistry (first trimester)
C Comparator/control = conventional amniocentesis
O Outcome = accurate diagnosis (measured by sensitivity and specificity) of Down's Syndrome (trisomy 21)

Examples to assign to students:

Exercise: 2

"Is there evidence to suggest that the prophylactic use of vitamin B12 supplements is effective in improving the quality of life (specifically cognition) of apparently healthy older people?"

Exercise: 3

"Would you recommend self-monitoring of blood glucose levels for patients with Non-Insulin Dependent Diabetes Mellitus (NIDDM)?"

Exercise: 4

"In elderly patients with congestive heart failure, is digoxin effective in reducing the need for rehospitalization?"
Exercise: 5

"Is glucosamine sulphate an effective agent in the short-term treatment of osteoarthritis?"

Exercise: 6

"In a 70 year old woman with primary insomnia and a previous adverse reaction to hypnotics, can cognitive behavior therapy improve sleep quality and duration?"
PICO is a mnemonic used to describe the four elements of a good clinical question. It stands for:

P -- Patient/Problem
I -- Intervention
C -- Comparison
O -- Outcome

Many people find that it helps them clarify their question, which in turn makes it easier to find an answer.

Use PICO to generate terms - these you'll use in your literature search for the current best evidence. Once you have your PICO terms, you can then use them to re-write your question. (Note, you can do this in reverse order if that works for you.)

Example:

Often we start with a vague question such as, "How effective is CPR, really?" But, what do we mean by CPR? And how do we define effective? PICO is a technique to help us - or force us - to answer these questions. Note that you may not end up with a description for each element of PICO.

P - our question above doesn't address a specific problem other than the assumption of a person who is not breathing. So, ask yourself questions such as, am I interested in a specific age cohort? (Adults, children, aged); a specific population (hospitalized, community dwelling); health cohort (healthy, diabetic, etc.)

I - our question above doesn't have a stated intervention, but we might have one in mind such as 'hands-only'
C - Is there another method of CPR that we want to compare the hands-only to? Many research studies do not go head to head with a comparison. In this example we might want to compare to the standard, hands plus breathing.

O - Again, we need to ask, what do we mean by 'effective'? Mortality is one option with the benefit that it's easily measured.

Our PICO statement would look like:

P - community dwelling adults
I - hands only CPR
C - hands plus breathing CPR
O - mortality

From our PICO, we can write up a clearer and more specific question, such as:

In community dwelling adults, how effective is hands-only CPR versus hands plus breathing CPR at preventing mortality?

Now that we've clarified what we want to know, it will be much easier to find an answer.

We can use our PICO statement to list terms to search on. Under each letter, we'll list all the possible terms we might use in our search.

P - Community Dwelling: It is much easier to search on 'hospitalized' than non-hospitalized subjects. So I would leave these terms for last. It might turn out that I don't need to use them as my other terms from the I, C, or O of PICO might be enough.

community dwelling  OR out-of-hospital

P - Adults: I would use the limits in MEDLINE or CINAHL for All Adults. Could also consider the following depending upon the population you need:

adult OR adults OR aged OR elderly OR young adult
I - CPR

CPR - cardiopulmonary resuscitation

I - Hands-only

hands-only OR compression-only OR chest compression OR compression OR Heart Massage

C - CPR

CPR - cardiopulmonary resuscitation

C - Hands plus breathing  Breathing is a tougher term to match.

breathing OR mouth to mouth OR conventional OR traditional

O - Mortality:  If your outcomes terms are general, they may not as useful in the literature search.  They will still be useful in your evaluation of the studies.

mortality OR death OR Survival

Putting it together - a search statement from the above might look like this:

cardiopulmonary resuscitation AND (hands-only OR compression-only OR chest compression OR compression OR Heart Massage) AND (breathing OR mouth to mouth OR conventional OR traditional)
Teaching Considerations:
- Enthusiasm is contagious. Approach the content in a positive and upbeat way.
- Role model the use of evidence based practice. Share examples from your own practice during lectures and small group report out.
- Whenever possible, the work should be interactive.
- Have the class work in small groups as much as possible.
- Consider experiential approaches. This will require a practice partner / clinical service partnership.
- Cite examples of clinical research in class
- Allow the students whenever possible to choose their clinical interest area to conduct evidence analysis.
- Teach them how to critique a nursing research study using any of the research guides available. (reference here)
- Invite a guest speaker to share a case study of an experience where research was incorporated into clinical practice. Have the students review the 5 steps in the EBP process – did the case study touch on all of the steps?
- Develop researchable questions in a fun way – consider a contest, or a game show format for generating ideas for questions that they want answered or want to know more about.
- Millenial students want pedagogy of engagement – Don’t lecture at them – engage them in the work.

Assignment Ideas:
- Assign the students into pairs. Allow them to choose the clinical topic of their choice. Assignment is to create a video that is in a news show format that is a one minute “health spot” based on evidence.