

Evidence-based practice project handbook

Vizient/AACN Nurse Residency Program™

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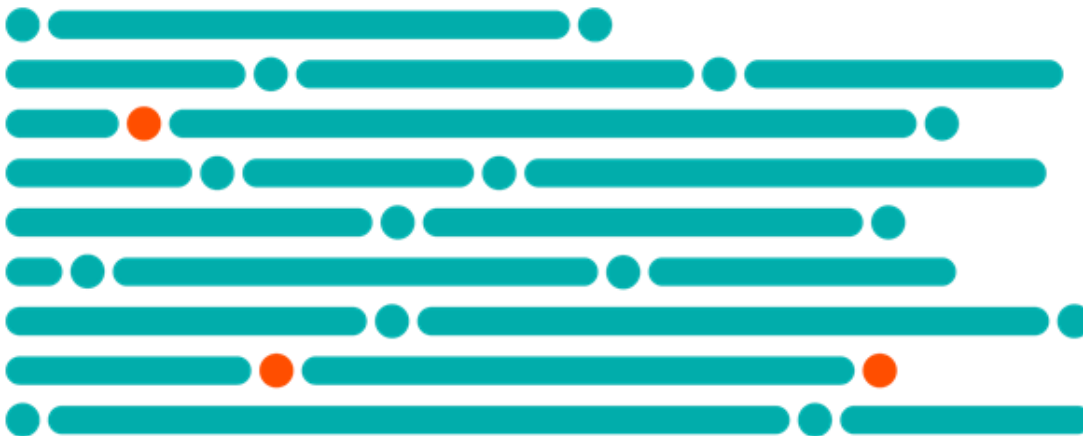


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Introduction

An integral component of the Vizient/AACN Nurse Residency Program™ (NRP) is the utilization of the evidence-based process to develop a best practice project (EBPP), which supports the development of critical thinking and clinical reasoning skills. Learning to think critically about patient care is essential to maximizing quality, safe and cost-effective outcomes for patients, families and health care providers, and the health care system.³

Hospitals and academic institutions may have a specific definition of an evidence-based practice project, but in the NRP, the term refers to projects that fall anywhere on the continuum of implementing the best evidence, conducting a program evaluation of existing programs, creation of educational materials and quality or process improvement projects that are evidence-based. An EBPP is any project that includes a clinical question or identifies a clinical problem, completes an appraisal of the evidence, evaluate the levels of evidence, completes an appraisal and synthesis critique of the evidence, determines an intervention based on the synthesis of the best available evidence, conducts an evaluation of outcomes and the outcome measurement, and monitors practice recommendations for sustainability. The project is considered an EBPP and can be submitted for poster or podium presentation at the NRP annual meeting. Most EBPPs conducted by nurse residents do not require approval by your organization's institutional review board (IRB), but you should always check to be sure.

The EBPP should be introduced during orientation or at least by month three in the residency year and accelerate by about the sixth month. Organizations are creative with the structure of their projects as well as the use of an academic partner. This handbook, along with the Evidence-Based Practice (EBP) chapter in the Professional Role section of the NRP curriculum, provides coordinators and facilitators with some specific guidelines for projects and includes references and tools to support the projects.

Evidence-based practice

Definition: An evidence-based approach to decision making includes: clinician's expertise, which includes clinical judgment and reasoning, patient preferences and values, along with the strongest level of evidence from external evidence from research, evidence-based theories, and experts. EBP is a decision-making process that uses the best available evidence.

Example: Fever in patients with head injuries results in increased intracranial pressure and secondary

PICOT is a format used to determine questions in evidence-based practice, standing for:

Population or patient problem: Who is your patient? (disease or health status, age, race, sex)

Intervention: What do you plan to do for the patient? (Specific tests, therapies, medications)

Comparison: What is the alternative to your plan? (i.e. No treatment, different type of treatment, etc.)

Outcome: What outcome do you seek? (less symptoms, no symptoms, full health, etc.)

Time: What is the time frame? (This element is not always included.)

brain injury. However, it was noted that management of fever in patients with traumatic brain injury varied widely in one neuroscience intensive care unit. A team used the EBP process, which included developing a PICOT question¹, searching for the evidence, leveling the evidence and completing a critical appraisal and synthesis of the evidence to determine best practices for management of low, medium, and high fevers. Evaluation of the guideline implementation resulted in a threefold improvement in temperature management practices; monitoring of compliance with the guideline is ongoing.

Quality and process improvement

Definition: "The systematic, data-based monitoring and evaluation of organizational processes with the end goal of continuous improvement. The goal is internal application rather than external generalization." (Melnyk, 2005)

Example: Routine lab audits revealed that the emergency department had a high rate of blood culture contamination. The department's nurse manager shared the data with staff, and a clinical nurse volunteered to lead a quality improvement initiative in practice. Through the initiative, staff standardized a blood culture draw procedure, developed educational materials for nurses and technicians, and verified staff competency on the new procedure. Repeat audits demonstrated that the contamination rate decreased from 6.38% to 2.7%, which is below the national benchmark.

Program evaluation

Definition: The systematic collection of information about the activities, characteristics, and results of programs to make judgments about the program, improve or further develop program effectiveness, inform decisions about future programs, and/or increase understanding. (Houser, 2011)

Examples:

- Evaluating the effectiveness of a staff education program to increase referrals for specific programs such as palliative or home care.
- Evaluating the implementation of an evidence-based practice in a clinical setting.
- Evaluating an educational support program designed to help nurses with an associate degree obtain a baccalaureate degree.
- Evaluating a diabetes management program conducted by a community clinic
- Evaluating a discharge teaching program to reduce readmission rates among cardiac patients.

Research

Definition: "Systematic inquiry that uses disciplined methods to answer questions and solve problems. The ultimate goal of research is to develop, refine and expand a body of knowledge" (Polit, 2009).

Example: Research findings discussed at a unit journal club indicated that applying heat to the extremity facilitated intravenous catheter insertion. Nurses participating in the journal club questioned whether moist or dry heat was more effective. The nurses found no literature addressing this question. They consulted a research nurse scientist at their organization for help with designing a clinical study. They then developed a randomized controlled trial and obtained Institutional Review Board (IRB) approval. The nurses conducted the study in the oncology infusion center. It was found that dry heat was the best type of heat with respect to time to cannulation, number of cannulation attempts and patient satisfaction. They presented the study at a local research symposium and published in Oncology Nursing Forum.

Organizational value of EBPPs

Hospitals strive to provide high-quality patient care, reduce readmission rates, retain their employees and support the communities they serve. Many hospitals incorporate the EBP process as an integral part of achieving those goals and expect their health care teams to participate. Employees throughout the organizational hierarchy value the resident EBPPs. The projects may be presented at quality or research events or during quality-of-care discussions with hospital board members. In addition, EBPPs can be submitted to professional associations and conferences. For many, the nurse residency program and EBPP inspire changes in thought and behavior throughout the organization.

“Transform nursing culture.”

Victoria Rich, chief nurse executive, Hospital of the University of Pennsylvania

“Increased professionalism and organizational engagement.”

Robert Rose, senior vice president and chief nursing officer, Trinity Mother Frances Hospital & Clinics

“Decreased reported incidents.”

Margaret Jackson, assistant vice president and chief nursing officer, SUNY Downstate Medical Center/University Hospital

“I see a higher level of professionalism.... They are already curious; I see the benefit.... She has that intellectual curiosity and preparation that really helps the more senior nurses who let things get in their way, if you will.”

Nurse Manager Survey respondent

“I can see that anything is possible.... It feels good to be recognized for my work and it’s only my first year.”

Nurse resident at The University of Kansas Hospital Authority

First steps

Guiding your residents through their first year of practice requires planning, patience, a sense of humor, creativity and organization. Your residents learned the EBP clinical decision-making process as students, and may have conducted initial aspects of EBPPs as a course requirement, used the process in the plan of care and/or were involved in research projects. As new nurses, their EBPPs are “real” and have the potential to contribute to maximizing quality patient care. The by-product of the project is that it enhances their critical thinking skills as well as their ability to evaluate best practices and work as a team to implement those best practices.

For most EBPPs, the starting place is a simple question. It can be a question about a particular nursing intervention, medication therapy, procedure, policy or practice. Any number of people throughout the organization may identify the idea for a project: a chief nursing officer, a nurse manager in a unit who is addressing an organizational initiative, a unit educator, residency coordinator or the residents themselves. Identifying topics that align with organizational priorities and are of interest to your residents is vital to ensuring full engagement.

Generating excitement about the projects may be challenging because residents may see them as a repetition of their educational preparation. It is important that they understand that the process they learned in school will now be utilized in the practice setting to make decisions about care that will be provided and its potential impact on their unit or service. Having a positive attitude about the project and the resident’s ability to carry it out within the NRP will go a long way towards easing his or her acceptance of the project. If you have an established nurse residency program, you might consider having former residents share their experiences.. Consider asking them what type of projects they engaged in while in school or what parts of the EBP process did they learn about to establish a baseline to work from. Enlist the assistance of your nursing leaders to share the impact of EBP on your hospital and, in doing so, show their support for the residents’ projects.

Engaging your institution’s experts in the projects provides essential support to your residents, whether they are nurse researchers, staff from your quality or risk management department, faculty from your academic partner, or your residency staff. Depending on the size of your cohorts and your resources, you may choose to have your residents work in groups; we recommend that any EBPP group contain no more than five residents. Of course, some residents may prefer to work on their own.

Use the following checklist to get started. Be sure to assess your internal and external resources that can help guide your residents as they begin their projects.

EBPP facilitator checklist: Getting started

- Determine if your institution uses a specific EBP model or framework. Most projects will be considered performance improvement projects; but others may require IRB approval.
- Identify what organizational resources (e.g., a nursing research department, EBP committee) are available to support nurse residents in their projects, and assess if additional external resources, such as those provided by your academic partner, are needed.
- Communicate with your academic partner to request help with EBP resources.
- Review the EBP resources available online (see the Related Resources section of this handbook).
- Develop a list of resources that you and your residents can use for EBPPs, including library and clinical resources at your organization and your academic partner.
- Identify your organization's EBP mentors.
- Develop a library of previous EBPPs.
- Outline the activities needed for the project from inception to completion, including dissemination, and create a sample timeline (or two!) for resident reference.
- Determine how much seminar time will be designated for residents to work on their projects.
- Ensure access to and availability of computers with library and Internet search capabilities for residents to use when they work on their projects.
- Identify IRB processes within your organization. If your organization does not have an IRB, your academic partner may be able to provide resources if IRB approval is needed.
- Highlight existing or previously completed projects.

Roles and responsibilities for EBPPs

The Vizient/AACN Nurse Residency Program conducted a survey of Residency Coordinators in 2012 to find out the resources needed or used in various stages of the residents' projects. What follows is a summary of the 63 responses received.

Who guides the residents in developing their project ideas?

This question had the greatest variety of responses, ranging from the residents' own observations or activities (e.g., in patient care, looking at quality reports, conversations with other staff or their unit leadership), to project ideas generated from unit clinical nurse specialists (CNSs), nurse educators and nurse managers. One site reported using a formal brainstorming method from the "Transforming Care at the Bedside" booklet during a resident session. Input into project ideas comes from formal and informal routes, which also includes other hospital departments (e.g., quality or quality improvement [QI]).

Who guides the development of the EBPP?

The residency coordinators and facilitators are the primary resources for the development of the EBPP. Additionally, institutions with nurse researchers involve them in EBPP support, along with CNSs, nurse educators, preceptors and nurse managers.

Who guides the implementation of the EBPP?

Organizations may involve a similarly wide variety of persons in the implementation of the EBPP, including all of those mentioned in response to the previous item. Additionally, clinical directors for specialty areas, nursing faculty from partner schools of nursing and members of the institution's EBP committee are involved in assisting residents with the actual conduct of the EBPP.

Who guides evaluation or analysis of the EBPP data?

Some participants named one or two people who guide the EBPP evaluation, while others listed many who might be involved. To some extent the length of the list may depend on the depth of the organization's resources and the degree to which a wide variety of people are connected to the NRP.

Who guides the creation of the dissemination output (e.g., poster, presentation, manuscript) for the EBPP?

The coordinators and those most intimately involved with the NRP primarily guided the creation of the dissemination output, with the additional inclusion of educators at the unit, hospital and partner school of nursing levels.

Academic partnership

As described above in the survey of residency coordinators, the primary responsibility for leading EBPPs falls on the core team for the NRP. Engaging your academic partners in the EBPP can be a vital strategy for supporting your residents in their projects and cultivating the relationship with your partners. They can be instrumental in supporting the residents in evaluating the evidence, designing data collection methods and understanding the results.

Options for EBPP

The NRP is based on the Essentials of Baccalaureate Nursing. If your organization is interested in accreditation, standards require that nurses with bachelor's degrees (BSN) and higher are doing project work consistent with their education and that those with associate degrees (ADN) have EBP assignments consistent with their level of knowledge, supported by the residency content. Below are some examples of projects for your BSN-prepared and ADN nurses.

Your residents will undertake various types of projects (Table 1); the one constant is that your residents will need support, guidance and resources.

All EBPPs identify a clinical problem through development of a clinical question (PICOT), involves searching for the evidence (research), conducting a critical appraisal and critique of the evidence, leveling the evidence, related to the issue, completing an evaluation and synthesis of best available evidence, conducting a gap analysis to identify intervention options, identification and deployment of the selected intervention based on the best available evidence, measurement of outcomes (pre- and post-comparison), and generation of recommendations, and evaluation of practice outcomes for sustainability when indicated. This section defines different types of projects, the resources needed, and examples of the work required. The choice of project will depend on your organizational resources and initiatives, the specific interests of your residents, and your comfort with supporting the projects. As stated earlier in this manual, all projects described in this section would be considered EBPPs.

Sample project guidelines from the University of Kentucky are available in this handbook. In addition, the NRP curriculum outlines the objectives of the EBPP in the Professional Role section and provides references. We recommend that you keep a library of your residents' projects or take pictures of the posters from your cohorts so that you can use past projects as inspiration or examples.

Table 1. EBP options for organizations with BSN-prepared nurses

Project activity	Resources	End product
Use policy and procedure manuals to evaluate an area of current practice	Pre-appraisal and synthesis of the evidence, review of current policy, internal data on a clinical issue, Medical librarian	Poster, presentation, outcome evaluation
Use sources of evidence such as NDNQI/NQDB data, clinical quality data or core measures data to implement a new practice or change nurse practice	QI manager with access to NDNQI/NQDB statistics, Medical librarian	Poster, presentation, outcome evaluation
Implement an educational program using an interprofessional approach	Medical librarian, hospital educators, hospital intranet, competencies, medical/pharmacy/PT, etc.	Poster, presentation, outcome evaluation
Implement patient education to decrease readmissions	Online hospital resources, QI officer, NDNQI/NQDB database, nursing quality department, Medical librarian	Poster, presentation, outcome evaluation
Use patient satisfaction data such as HCAHPS to implement unit-level change	Hospital reports, outcomes, etc.	Poster, presentation, outcome evaluation

Project activity	Resources	End product
Create unit-level education; for example, develop and implement a program that increases nurses' awareness of specific hospital programs	Unit nurse manager, unit-based educator, CNS, CNO, Medical librarian	Poster, presentation, outcome evaluation

CNO = chief nursing officer; CNS = clinical nurse specialist; HCAHPS = Hospital Consumer Assessment of Health care Providers and Systems; NDNQI = National Database of Nursing Quality Indicators; NQDB = Vizient Nursing Quality Data Base; PT= physical therapy; QI = quality improvement.

EBPPs for ADN-prepared nurses

The Institute of Medicine's 2010 report, *The Future of Nursing: Leading Change, Advancing Health*, called for 80% of nurses to have a BSN by 2020. Many of our NRP organizations continue to hire nurses with ADNs and then support them through a BSN bridge program. ADN programs provide varied academic preparation for evidence-based practice. Some of your nurses may have learned to do a literature search, while others may have participated in a quality improvement project. If you have ADN prepared nurses, you may consider conducting an educational session to provide an overview of the EBP project process and then providing them with additional support throughout the project development.

Models for EBPPs

Evidence-based practice models have existed in nursing for more than 30 years, with some of the oldest ones (e.g., Stetler⁴) still in common use. If your institution already has a focus on EBP and uses a particular model, familiarity with the components of the model and how it has been used in the past to direct EBPP will help you in guiding the work of the residents. If EBP is relatively new to your organization, then you may want to review several of the models to see if there is one that makes the most sense to you and that you could use with residents to assist them with their projects. The following is a list of some of the more common models of EBP; more are listed in the references.

- Advancing Research and Clinical Practice through Close Collaboration (ARCC) (Melnik & Fineout-Overholt, 2011)
- Evidence-Based Multidisciplinary Practice, University of Colorado Hospital (Goode, 2010)
- The Iowa Model of Evidence-based Practice to Promote Quality Care (Titler et al., 2001)
- The Johns Hopkins Nursing Evidence-based Practice Model (Newhouse et al., 2007)
- The Model for Evidence-based Practice Change (Larrabee, 2009)
- The Stetler Model of Evidence-based Practice (Stetler, 2001)
- Rycroft-Malone, J. & Bucknall, T. (2010). Models and frameworks for implementing evidence-based practice: Linking evidence to action. Malden, MA: Wiley-Blackwell.

Suggested timeline for EBPPs

As you plan your residency year, ensure that there is adequate time for EBPPs as well as the other curriculum topics. Table 2 is one example of an EBPP timeline.

Table 2. Example of EBPP timeline

Residency month	Project step	Task for resident
Months 1-3	Topic discussion	<ul style="list-style-type: none"> • Review or attend a project presentation by a previous nurse resident. • Identify current projects and/or clinical issues affecting your department and/or organization. • Discuss why it is a clinical issue and its significance to nursing, patient outcomes, quality care, safety or financial concerns. • Article appraisal: Review medication safety, handoff communication and pain management policies for accuracy. • Cite one article for each policy that is evidence that supports the policy. • Suggestion: CNO may attend a session and share the organizations improvement opportunities.
Month 4	Question development and searching for the evidence	<ul style="list-style-type: none"> • Turn in a draft of your PICOT question. • Conduct a systematic search for evidence and summarize at least three articles related to your PICOT question. • Level the evidence based on a selected hierarchy.
Month 5	Critical appraisal of the evidence collected	<ul style="list-style-type: none"> • Discuss how the evidence has answered the clinical PICOT question. • Complete a Rapid Critical Appraisal (RCA) of the evidence. • Start to construct, evaluate and synthesize tables from the evidence collected that answer the clinical question (PICOT).
Month 6	Synthesis and plan	<ul style="list-style-type: none"> • Finalize your project plan based on the evidence collected and turn in a timeline for completion.

Problem statement	Problem statement	Problem statement
Month 7	Project plan and outcomes assessment	<ul style="list-style-type: none"> • Submit a draft of your intervention (intervention and outcomes are selected from the various synthesis table created from the evidence), which may include a pre and post-test, survey with cover letter, educational handouts, etc. • Determine whether you need IRB approval before moving forward. • Discuss the process for collecting data during the implementation phase of the project to determine achievement of outcomes based on the evidence appraised. • Find a journal that would be appropriate to publish your project in; bring the guidelines to your facilitator or your assigned EBP mentor to discuss.
Months 8 and 9	Data collection	<ul style="list-style-type: none"> • Collect your data and turn in a progress summary. If IRB approval is required, do not do any data collection until you have the approval.
Months 10 and 11	Analysis and Dissemination	<ul style="list-style-type: none"> • Complete your PowerPoint presentation and/or poster for submission to the residency coordinator or EBP mentor. • Develop an outline: <ul style="list-style-type: none"> • Problem statement • Background information • Intention (what you intended to do to effect change) • Methodology (how you collected the data) • Analysis • Outcome • Conclusion and recommendation for the sustainability when indicated
Month 12	Presentation	<ul style="list-style-type: none"> • Develop a presentation and/or poster. • Present it to your peers and nursing leaders at the nurse residency completion ceremony. • Celebrate your success!

EBP = evidence-based practice; IRB = Institutional Review Board; PICOT = patient/problem/population, intervention, comparison, outcome and timeframe.

Institutional review board

Most EBPPs developed to meet the NRP curriculum requirement will not be the types of projects that need IRB approval. It is important to understand, however, the types of projects for which IRB approval *is* necessary. Resources within your organization or your academic partner can provide guidance. More developed projects, projects that are interprofessional or those that require further investigation may be passed from cohort to cohort to continue the work. Below is information to provide support if the need arises to seek IRB approval for your projects. If there is intent to publish, Vizient provides a notification form in the Program Implementation: Marketing/Publication section of the online NRP curriculum.

Purpose

The IRB is a committee established to review and approve research involving human subjects. The IRB's primary purpose is to protect the rights and welfare of human subjects. Research is generally considered to involve human subjects if the investigator will have direct or indirect contact with individuals or with identifiable data about or pathological specimens from living persons. Research using only data from publicly available and deidentified databases or published sources may not be considered human subjects research if no one on the study team has a link to the identity of the original subjects; this determination is best made by your organization's IRB. It is important to note that databases without names or Social Security numbers are not necessarily deidentified, as many other demographics are considered identifiers. The IRB determines whether or not data are sufficiently deidentified.

A number of studies submitted to an IRB are deemed "not human subjects" research, which means that once the studies are reviewed, no further involvement of the IRB is needed. This designation can be given to studies that may involve human beings but are not systematic (e.g., single-subject case study) and/or are designed to contribute to generalizable knowledge (e.g., program evaluation). In addition, while such studies may involve humans, they may collect information *from* them but not *about* them, such as a survey of public health department directors about programs offered.

Because each organization's rules for what must be reviewed by the IRB differ, you need to check with your IRB to understand its rules and practices.

Process

If an EBPP requires IRB review, you should work with your organization's IRB office to learn the procedure and obtain the forms (online or paper) needed to submit an application. When completing the application, you can get help at the IRB office or from experienced researchers at your organization. The rules for who can submit an IRB application vary by organization. Some IRBs require senior-level staff to

either submit the application as the principal investigator or to otherwise sponsor the IRB application from non-senior staff, while others allow the person responsible for the study to be the principal investigator (with or without a sponsor or coinvestigator). If a consent form is required, the IRB should have a template to use so that you do not have to start from scratch. Different studies with human subjects lend themselves to different types of consent forms, ranging from full-consent documents to information sheets and other less formal types of documents.

Most IRBs, especially those associated with academic institutions, require researchers (usually principal investigators and coinvestigators) to have recent “human subjects protection” education. This requirement is most commonly met by completing modules at CITI, the Collaborative Institutional Training Initiative (www.citiprogram.org). Check with your IRB to see if it has “human subjects protection” education requirements, as noncompliance will delay approval of an application.

As a residency coordinator, you need to be familiar with the overall IRB process at your organization and any rules or restrictions on who can be listed as the principal investigator on a submission form. If you are advising residents directly, you should also be listed as personnel on the IRB application. Questions about anything related to the IRB should be answered directly by the IRB office because there are many non-IRB staff with little or no information about the IRB submission and review processes. NRP staff will support your efforts as needed.

Project tools

If your organization uses a prescribed model, please feel free to use the tools included in the selected model.

Project worksheet

Resident Name(s):

Unit:

Project Topic:

Clinical Issue: (PICOT created based on the clinical issue):

Objectives and desired outcome: What do you want to happen by the end of your project? Why? (based on the outcomes of the evidence collected)

Content: What will be included in the project? Summarize the evidence (discuss the outcome of the synthesis tables).

Target Audience: Who is the project for? (population)

Methodology: How will you complete the project? What components need to be developed? How will you implement the project?

Timeline: By when?

Rapid critical appraisal guide

©KMW 2017 Critical Appraisal Guide: Adapted from Melnyk, B. M. & Fineout-Overholt, E. (2015). Evidence-based practice in nursing & healthcare: A guide to best practice. (3rd ed.). Wolters Kluwer: Philadelphia.

Part A: Study overview

Article citation, using APA format:

Type of study: ☐ Quantitative ☐ Qualitative ☐ Mixed method (both qualitative and quantitative)

Level of evidence:

Design Type: ☐ Experimental ☐ Quasi-experimental ☐ Non-experimental

Specific research design:

Setting:

Subjects (sample size and selection): Who participated or contributed data? (Population, how was sample obtained, inclusion and exclusion criteria, demographics, dropout rate (attrition).

Variables:

Intervention/independent variable:

Outcome/dependent variable:

Describe the intervention:

Was an intervention tested? Yes No

If yes, answer the following two questions:

1. How was the sample size determined?

2. Were participants randomly assigned to treatment groups? Yes No

Methods of data collection: (Survey, Observation, Sequence, timing, types of data and measures)

Result/analysis of findings:

List statistics used to answer the clinical question. Determine if appropriate and why?

Recommendations the study (Usually found in the discussion section as well as your interpretation after reading the study): (Include strengths and weaknesses of the study, and limitations)

Implications for nursing practice (Usually at the end of the study and well as your interpretation after reading the study):

Part B: Answer the following questions with yes or no. Provide a brief statement of explanation.

I. Study credibility: Are the study findings valid?

Is the study published in a source that required peer review?

Yes

No

Not Sure

Explain

Was the study design used appropriate to the research questions?

Yes

No

Not Sure

Explain

Did the data obtained and the analyses conducted answer the research questions?

Yes

No

Some but not others

Explain

Was there anything about the way the participants were chosen or their characteristics that could have influenced the findings?

Yes

No

Explain

Were the measuring instruments valid and reliable? What is the Cronbach's alpha score of the instruments used?

Yes

No

Explain

Was there anything about the way the study was done that could have influenced the finding(s)?

Yes

No

Explain

If an intervention was tested, answer the following five questions;

Were participants randomly assigned to groups and were the two groups similar at the start (before the intervention)? If no, explain how the sample

Yes

No

Were the interventions well defined and consistently delivered?

Yes

No

Were the groups treated equally other than the difference in the intervention?

Yes

No

If no difference was found, was the sample size large enough to find a difference, if one existed?

Yes

No

If a difference was found, are you confident that it was due to differences in the intervention?

Yes

No

Is each finding consistent with or different from previous findings in this area of study?

Yes

No

Can't be sure

II. Significance: Are the study results reliable?

What are the results of the study?

Were the results reported clearly? Yes No

Explain

Were the results logical, consistent and easy to follow? Yes No

Explain

Was the interpretation/analysis of the results accurate? Yes No

Explain

Are the conclusion/implications logically presented? Yes No

Explain

Were the statistics appropriate? Yes No

Explain

Is there evidence of significance? Statistical and/or clinical significance? Yes No

Explain

III. Applicable: How are the results applicable to your patients?

Are my patients similar to the ones included in this study? Yes No

Explain

Are the results applicable to my patients? Yes No

Explain

Are the conclusions appropriate to my patient population?

Yes

No

Explain

Do the results inform my practice to improve patient, provider and/or system outcomes?

Yes

No

Explain

Where study limitations identified and discussed?

Yes

No

Explain

Will the results help me in patient care?

Yes

No

Explain

Impact on practice:

Describe how and why or why not you would use this research in your practice to make a difference in patient outcome(s).

Evidence level and quality guide

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Evidence levels	Quality guides
<p>Level I</p> <p>Experimental study, randomized controlled trial (RCT)</p> <p>Systematic review of RCTs, with or without meta-analysis</p>	<p>A. High quality: Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence</p> <p>B. Good quality: Reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence</p> <p>C. Low quality or major flaws: Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn</p>
<p>Level II</p> <p>Quasi-experimental study</p> <p>Systematic review of a combination of RCTs and quasi-experimental, or quasi-experimental studies only, with or without meta-analysis</p>	
<p>Level III</p> <p>Non-experimental study</p> <p>Systematic review of a combination of RCTs, or quasi-experimental and non-experimental studies, or non-experimental studies only, with or without meta-analysis</p> <p>Qualitative study or systematic review with or without a meta-analysis</p>	
<p>Level IV</p> <p>Opinion of respected authorities and/or nationally recognized expert committees/consensus panels based on scientific evidence</p> <p>Includes:</p> <ul style="list-style-type: none"> • Clinical practice guidelines • Consensus panels 	<p>A. High quality: Material officially sponsored by a professional, public, private organization, or government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise is clearly evident; developed or revised within the last 5 years</p> <p>B. Good quality: Material officially sponsored by a professional, public, private organization, or government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise is clearly evident; developed or revised within the last five years.</p>

Evidence levels	Quality guides
	<p>C. Low quality or major flaws: Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy; no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the last 5 years</p>
<p>Level V</p> <p>Based on experiential and non-research evidence</p> <p>Includes:</p> <ul style="list-style-type: none"> • Literature review • Quality improvement, program or financial evaluation • Case reports • Opinion of nationally recognized expert(s) based on experiential evidence 	<p>Organizational Experience;</p> <p>A. High quality: Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence</p> <p>B. Good quality: Clear aims and objectives; consistent results in a single setting; formal quality improvement or financial or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence</p> <p>C. Low quality or major flaws: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial or program evaluation methods; recommendations cannot be made</p> <p>Literature review, expert opinion, case report, community standard, clinician experience, consumer preference:</p> <p>A. High quality: Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field</p> <p>B. Good quality: Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions</p> <p>C. Low quality or major flaws: Expertise is not discernable or is dubious; conclusions cannot be drawn</p>

Evidence-based project timeline

Table 2. Example of EBPP timeline

Residency month	Project step	Task for resident
Months 1-3	Topic discussion	<ul style="list-style-type: none"> • Review or attend a project presentation by a previous nurse resident. • Identify current projects and/or clinical issues affecting your department and/or organization. • Discuss why it is a clinical issue and its significance to nursing, patient outcomes, quality care, safety or financial concerns. • Article appraisal: Review medication safety, handoff communication and pain management policies for accuracy. • Cite one article for each policy that is evidence that supports the policy. • Suggestion: CNO may attend a session and share the organizations improvement opportunities.
Month 4	Question development and searching for the evidence	<ul style="list-style-type: none"> • Turn in a draft of your PICOT question. • Conduct a systematic search for evidence and summarize at least three articles related to your PICOT question. • Level the evidence based on a selected hierarchy.
Month 5	Critical appraisal of the evidence collected	<ul style="list-style-type: none"> • Discuss how the evidence has answered the clinical PICOT question. • Complete a Rapid Critical Appraisal (RCA) of the evidence. • Start to construct, evaluate and synthesize tables from the evidence collected that answer the clinical question (PICOT).
Month 6	Synthesis and plan	<ul style="list-style-type: none"> • Finalize your project plan based on the evidence collected and turn in a timeline for completion.

Problem statement	Problem statement	Problem statement
Month 7	Project plan and outcomes assessment	<ul style="list-style-type: none"> • Submit a draft of your intervention (intervention and outcomes are selected from the various synthesis table created from the evidence), which may include a pre and post-test, survey with cover letter, educational handouts, etc. • Determine whether you need IRB approval before moving forward. • Discuss the process for collecting data during the implementation phase of the project to determine achievement of outcomes based on the evidence appraised. • Find a journal that would be appropriate to publish your project in; bring the guidelines to your facilitator or your assigned EBP mentor to discuss.
Months 8 and 9	Data collection	<ul style="list-style-type: none"> • Collect your data and turn in a progress summary. If IRB approval is required, do not do any data collection until you have the approval.
Months 10 and 11	Analysis and Dissemination	<ul style="list-style-type: none"> • Complete your PowerPoint presentation and/or poster for submission to the residency coordinator or EBP mentor. • Develop an outline: <ul style="list-style-type: none"> • Problem statement • Background information • Intention (what you intended to do to effect change) • Methodology (how you collected the data) • Analysis • Outcome • Conclusion and recommendation for the sustainability when indicated
Month 12	Presentation	<ul style="list-style-type: none"> • Develop a presentation and/or poster. • Present it to your peers and nursing leaders at the nurse residency completion ceremony. • Celebrate your success!

EBP = evidence-based practice; IRB = Institutional Review Board; PICOT = patient/problem/population, intervention, comparison, outcome and timeframe.

Progress report

Project Progress	Please input all information in this table as your project progresses
Topic discussion	
Question development PICOT Literature review	
Appraisal review, evaluation and synthesis of the evidence collected	
Implementation plan	
Assessment plan for data collection and evaluation of project	
Recommendations	
Conclusion	
Presentation	

Sample project guidelines from University of Kentucky Hospital

Nurse residents accomplish two goals of the nurse residency program—providing clinical nursing leadership at the point of care and incorporating research-based evidence into practice—by completing the residency project. The following guidelines will be used by the residents to complete the residency project.

1. The FADE process will serve as the conceptual basis for the project. Residents will focus on a clinical problem, analyze data, develop solutions and execute a plan (FADE) when completing the residency project. The FADE process description and worksheet handouts will serve as resources during project development (F = focus, A = analyze, D = develop, E = execute and evaluate).
2. Data analysis will include a review of the literature, a review of current hospital and nursing policies, and a review of relevant clinical practice outcome data (e.g., quality improvement data). Published research data will be reviewed during project development to broaden the resident's understanding of the clinical problem. The literature review should also include an analysis of best clinical practices. Research and best practice interventions described in the literature will be incorporated into the projects as appropriate.
3. Residents will examine the UK Patient Safety Requirements to help them identify potential safety issues in their clinical areas. Projects may address a safety issue if a residency group identifies relevant patient safety problems in their clinical areas.
4. Some seminar time will be devoted to working on projects.
5. Nurse managers and staff development specialists will be consulted early during project development to help keep administrative and education staff informed about clinical issues and to obtain information about potential resources for project development. Staff development specialists and managers can inform the residents about work groups in the hospital that are engaged in similar or the same projects. Consultation or group work can take place between nurse residents and established hospital work group members when they are working on similar issues.
6. Group projects will be presented during the end-of-residency celebration. PowerPoint presentations are required. Professional attire and communication styles are required. The PowerPoint presentation will be saved on CD or DVD and submitted to a resident facilitator for the residency program archives.
7. Residents will describe follow-up plans for their projects when they present their projects to their peers and to other professionals during the end-of-program celebration.
8. First slide: Please put your group number and date, your cohort (ICU, pediatrics, etc.), and your names—take credit!

Related resources

Online resources

Academic Center for Evidence-Based Practice. University of Texas Health Science Center at San Antonio Web site. <http://www.acestar.uthscsa.edu>. Accessed April 20, 2017.

Agency for Healthcare Research and Quality Web site. <http://www.ahrq.gov>. Accessed April 20, 2017.

The Essentials of Baccalaureate Education for Professional Nursing Practice and Tool Kit. American Association of Colleges of Nursing Web site. <http://www.aacn.nche.edu/education/bacessn.htm>. Accessed April 20, 2017..

Evidence-Based Practice: An Interprofessional Tutorial. University of Minnesota Libraries Web site. <http://www.biomed.lib.umn.edu/learn/ebp>. Accessed April 20, 2017.

Quality and Safety Education for Nurses Web site. <http://www.qsen.org>. Accessed April 20, 2017.. [Peer-reviewed teaching strategies for EBP content and an annotated bibliography of EBP resources.]

Poster resources

Poster and presentation resources. The Graduate School at the University of North Carolina at Chapel Hill Web site. <http://gradschool.unc.edu/academics/resources/postertips.html>. Updated May 2013. Accessed April 20, 2017.

Radel J. Developing a poster presentation. University of Kansas Medical Center Web site. http://www.kumc.edu/SAH/OTEd/jradel/Poster_Presentations/PstrStart.html. Accessed April 20, 2017.

Journal resources

Steps in evidence-based practice (12-article series):

<http://journals.lww.com/ajnonline/pages/collectiondetails.aspx?TopicalCollectionId=10>. Accessed April 20, 2017.

Fineout-Overholt E., Gallagher-Ford L., Melnyk B.M., & Stillwell S.B. Evidence-based practice, step by step: Evaluating and disseminating the impact of an evidence-based intervention: Show and tell. American Journal of Nursing. 2011;111(7):56–59.

Fineout-Overholt E., Melnyk B.M., Stillwell S.B., & Williamson K.M. Evidence-based practice, step by step: Critical appraisal of the evidence: Part I. American Journal of Nursing. 2010;110(7):47–52.

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Fineout-Overholt E., Melnyk B.M., Stillwell S.B., & Williamson K.M. Evidence-based practice, step by step: Critical appraisal of the evidence: Part III. *American Journal of Nursing*. 2010;110(11):43–51.

Fineout-Overholt E., Williamson K.M., Gallagher-Ford L., Melnyk B.M., & Stillwell S.B. Evidence- based practice, step by step: Following the evidence: Planning for sustainable change. *American Journal of Nursing*. 2011;111(1):54–60.

Fineout-Overholt, Ellen; Gallagher-Ford, Lynn; Mazurek Melnyk, Bernadette. Evidence- Based Practice, Step by Step: Evaluating and Disseminating the Impact of an Evidence-Based Intervention: Show and Tell. Fineout-Overholt, Ellen; Gallagher-Ford, Lynn; Mazurek Melnyk, Bernadette; Stillwell, Susan B. *Less American Journal of Nursing* . 111(7):56-59, July 2011.

Gallagher-Ford L., Fineout-Overholt E., Melnyk B.M., & Stillwell S.B. Evidence-based practice, step by step: Implementing an evidence-based practice change. *American Journal of Nursing*. 2011;111(3): 54–60.

Gallagher-Ford L., Fineout-Overholt E., Melnyk B.M., & Stillwell S.B. Evidence-based practice: Rolling out the rapid response team. *American Journal of Nursing*. 2011;111(5):42–47.

Melnyk B.M., Fineout-Overholt E., Stillwell S.B., & Williamson K.M. Evidence-based practice, step by step: Igniting a spirit of inquiry. *American Journal of Nursing*. 2009;109(11):49–52.

Melnyk B.M., Fineout-Overholt E., Stillwell S.B., & Williamson K.M. Evidence-based practice, step by step: The seven steps of evidence-based practice. *American Journal of Nursing*. 2010;110(1):51–53.

Stillwell S.B., Fineout-Overholt E., Melnyk B.M., & Williamson K.M. Evidence-based practice, step by step: Asking the clinical question: A key step in evidence-based practice. *American Journal of Nursing*. 2010;110(3):58–61.

Stillwell S.B., Fineout-Overholt E., Melnyk B.M., & Williamson K.M. Evidence-based practice, step by step: Searching for the evidence. *American Journal of Nursing*. 2010;110(5):41–47.

Additional journal resources

Adams S, Cullen L. EBP: evidence to practice implementation. *J Perianesth Nurs*. 2011;26(1):35-37.

Adams S, Farrington M, Cullen L. Evidence into practice: publishing an evidence-based practice project. *J Perianesth Nurs*. 2012;27(3):193-202.

Cullen L, Adams S. What is evidence-based practice? J Perianesth Nurs. 2010;25(3):171-173. Deberg J, Adams S, Cullen L. Evidence into practice: basic steps for planning your evidence search. J Perianesth Nurs. 2012;27(1):37-41.

Patel P, Panzera A, Denigris J, Dunn R, Chabot J, Conners S. Evidence-based practice and a nursing journal club: an equation for positive patient outcomes and nursing empowerment. J Nurses Staff Dev. 2011;27(5):227-230.

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Stetler CB. Updating the Stetler Model of research utilization to facilitate evidence-based practice. Nurs Outlook. 2001;49(6):272-279.

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Contributors

Julianne Gentile, MS, RN

Stony Brook University Medical Center

Janet Hosking, MSN, RN-BC

University of Iowa Hospitals and Clinics

Brenda L. Janotha, DNP-DCC, ANP-BC, MSN, APRN

Stony Brook University School of Nursing

Mary L. Lynn, PhD, RN

University of North Carolina at Chapel Hill

Marie Ann Marino, EdD, RN, PNP

Stony Brook University School of Nursing

Debra D. Mark, PhD, RN

School of Nursing and Dental Hygiene

University of Hawaii at Manoa

Kathy Oman, RN, PhD, CEN, FAEN, FAAN

University of Colorado Hospital

Jill Valde, PhD, RN

University of Iowa Hospitals and Clinics

2017 Revision

Cathleen Krsek, MSN, MBA, RN, FAAN
Vizient

Claudia Diebold, MSN, RN
Vizient

Mandy Moorer, MSN, RN-BC, CCRN-K
University of Colorado Hospital

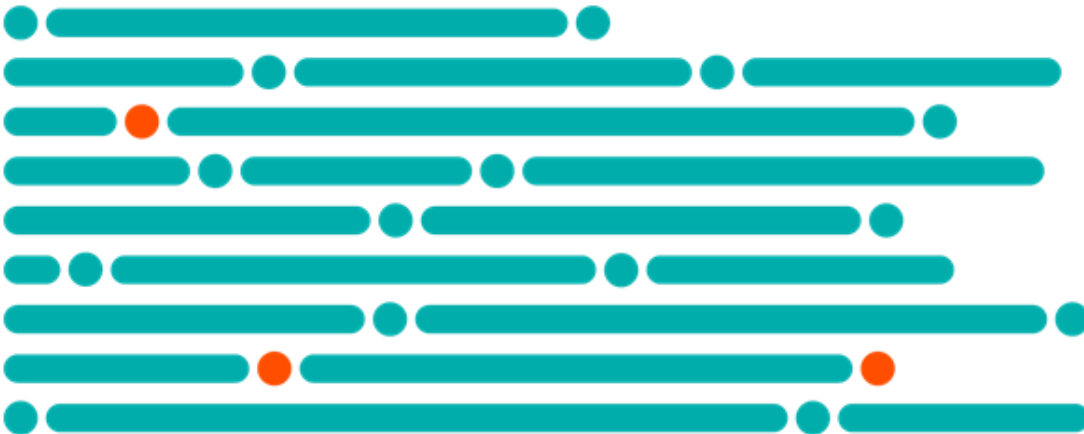
Kathleen Williamson, MSN, PhD, RN
Midwestern state University
Robert D. & Carol Gunn College of Health Sciences & Human Services

Nelda Godfrey, PhD, ACNS-BC, FAAN
University of Kansas School of Nursing

Vickie Adams, MSN, RN
The University of Kansas Hospital

Robyn Setter, MSN, RN-BC
The University of Kansas Hospital

Faith Cantrell, MSN, RN-BC
UC Health, Northern Colorado Region



Vizient, Inc.
290 E. John Carpenter Freeway
Irving, TX 75062-5146
(800) 842-5146