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# An Evidence-Based Practice Assessment and Quality Improvement Initiative in Idaho's Critical Access Hospitals

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An Evidence-Based Practice Assessment and Quality Improvement Initiative in Idaho's Critical  
Access Hospitals

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By

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### Abstract

**Background:** Health care providers and systems have been challenged to discard tradition-based care and outdated practices in lieu of evidence-based practice (EBP). Yet, little is known about the state of EBP, barriers and facilitators to EBP, and organizational readiness for EBP in Idaho's Critical Access Hospitals (CAH). To affect positive change, it was necessary to understand whether providers in Idaho's CAHs were using evidence as a foundation for practice—and, if not, what challenges existed in implementing EBP. Mitigating barriers and providing EBP education by way of webinar-based online technology has been proven to be practical and feasible. Providing EBP education, employing EBP tools and techniques, and implementing an evidence-based QI initiative will bridge the gap between knowledge and practice to improve health outcomes

**Project Design:** The aim of this project was to determine whether providers in Idaho's CAH were using evidence as a foundation for practice. Nurse Executives (NE) from CAHs in the Northern region of Idaho answered questions about the state of evidence-based practice. One CAH volunteered to participate in an EBP continuing education program and complete a quality improvement initiative. Pre- and post-education intervention surveys were administered to measure the outcomes of this EBP continuing education program.

**Results:** The results of the NE needs assessment indicated NEs were familiar with EBP and were willing to participate in this project. Nurse executives reported they and their staffs wanted to learn more about EBP, they were interested in participating in an online modular EBP continuing education program, and they were willing to allocate a moderate amount of education dollars to fund this program. Additionally, they were engaged in EBP activities and interested in implementing EBP to address a specific quality issue in his or her organization. However, not all

NEs were able to allocate education funds for clinicians to complete the 13-hour program or implement an interdisciplinary quality improvement initiative. The resulting hybrid modular EBP continuing education program was effective in improving mean scores for EBP competency, EBP beliefs, and EBP knowledge. After five months, mean scores demonstrated additional improvements in EBP competency, EBP beliefs, and EBP implementation.

**Recommendations and Conclusions:** Evidence-based practice improves patient care and quality outcomes. However, barriers exist and removing them can be a challenge for small and rural hospitals. The findings from this EBP assessment and quality improvement initiative demonstrate using an EBP nurse mentor to implement a hybrid modular EBP continuing education program is practical, feasible, and effective. With ongoing support from an EBP nurse mentor, interdisciplinary teams can employ EBP tools, processes, and resources to implement evidence-based quality improvement initiatives to improve patient outcomes. It is recommended this project be replicated in other CAHs in Idaho in partnership with Ohio State University's Center for Transdisciplinary Evidence-Based Practice.

**Keywords:** rural hospitals, hospitals, evidence-based practice, challenges, barriers, research utilization, Idaho, critical access hospitals

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## An Evidence-Based Practice Assessment in Idaho's Critical Access Hospitals

### **Problem Description**

**Introduction.** EBP is a problem-solving approach to health care decision making that integrates the best available research evidence with a clinician's expertise and a patient's preferences and values (Melnyk & Fineout-Overholt, 2015). EBP improves patient care and quality outcomes, including patient mortality and morbidity, by 28%; reduces health care costs and geographic variances. And when clinicians engage in EBP, they demonstrate stronger group cohesion, feel more empowered and satisfied, and assist their organizations to reduce catastrophic events (Fineout-Overholt, Melnyk, & Schultz, 2005; McGinty & Anderson, 2008; Melnyk, 2012; Melnyk, Fineout-Overholt, Giggelman, & Cruz, 2010; Reigle et al., 2008; Talsma, Grady, Feetham, Heinrich, & Steinwachs, 2008; Strout, 2005; Williams, 2004).

EBP is not only good for patients, it is good for hospitals. EBP provides a positive return on the hospital's investment by decreasing staff intent to leave and turnover and increasing revenue, saving costs, improving reimbursement, decreasing lengths of stays, and improving patient self-management after discharge (Melnyk, Fineout-Overholt, 2015; Melnyk, Gallagher-Ford, Fineout-Overholt, & Kaplan, 2012). Pay-for-performance and value-based purchasing provide additional incentives by financially rewarding (or penalizing) hospitals for performance related to processes of care, experiences of care, patient outcomes, and efficiency of care—all, of which, can be improved by employing EBP and QI methodologies (James, 2012).

**Problem background.** Critical access hospitals (CAH) face unique challenges, as do rural Americans. There are approximately 5,000 community acute care hospitals in the U.S. Of those, 60% are considered urban and 40% are rural (American Hospital Association, 2015). According to the U.S. DHHS, Health Resources and Services Administration (2015), 59.5

million Americans live in rural areas, which account for a little over 19% of the U.S. population—meaning, approximately one in five Americans live in rural areas. CAH is a designation status that enables CAHs to receive financial incentives from Medicare. In Idaho, there are 40 hospitals, of which 27 are CAHs (Rural Health Information Hub, 2016).

According to the Federal Office of Rural Health Policy, the current rural health care agenda is focused on moving toward a more evidence-based approach in rural health (U.S. DHHS, 2013). However, this can be a challenge for rural hospitals. A national survey of rural nurse executives (NE) identified 97% of survey respondents indicated they were familiar with EBP but 94% believed that they and their staff wanted to learn more about EBP (Oman, Fink, Krugman, Goode, & Traditi, 2013). Additionally, respondents indicated an 85% interest in participating in a webinar-based course on EBP. Oman's team conducted a series of EBP educational webinars. Post-education survey results found respondents felt strongly that EBP did not place too many demands on their workload and was professionally valuable. Additionally, respondents demonstrated increased mean scores attributed to confidence in implementing EBP after participating in a webinar-based EBP course. At the same time, respondents identified similar barriers related to EBP as identified by other researchers but included other issues such as variable census and limited staff to provide patient care. Idaho, however, was not included in the survey and little was known about the utilization of, and barriers to, EBP in Idaho's Critical Access Hospitals CAHs.

**Local problem.** Oman's findings identified barriers to implementing EBP in rural hospitals and established rural NEs and their staffs had a desire to learn more about EBP by way of webinar-based EBP education. This education delivery method improved participant confidence in implementing EBP. While Oman's (2013) findings gathered information from

rural hospitals about implementing EBP in the interior west region of the United States, Idaho was not included in this study. It is important to understand the state of the science about EBP in Idaho because 68% of Idaho's hospitals are considered small and rural. To date, no one in Idaho has examined this issue.

### **Available Knowledge**

**Literature review.** Fourteen peer-reviewed, scholarly studies provided the evidence to guide this project. These studies are included in the Individual Evidence Summary Tool (Appendix A).

**Synthesis of the evidence.** Lack of time, skill, and support; availability of technical, financial, and human resources; provider attitude; and organizational culture creates significant challenges in implementing EBP in any health care setting (Melnik & Fineout-Overholt, 2015; Melnik, Gallagher-Ford, Thomas et al., 2016; Melnik, Gallagher-Ford, Fineout-Overholt et al., 2012). In addition to known barriers, small and rural hospitals face additional challenges such as lack of computer and Internet access, limited interdisciplinary support, remoteness and geographic isolation from educational opportunities; having a variable census with limited staff and resources; and limited access to EBP mentors and advanced practice nurses (Lenz & Barnard, 2009; Olade, 2004; O'Lynn et al., 2009; Oman et al., 2013; Parahoo, 2000).

Findings from multiple studies indicate that EBP, as compared to care that is tradition-based, leads to higher quality and reliability of care, improved population health and patient outcomes, and reduced costs—otherwise known as the *Triple Aim* (IHI, 2014). Despite these findings, health care professionals are not consistently integrating evidence into practice (Fielding & Briss, 2006; Fink, Thomas, & Bonnes, 2005; Harding, Porter, Horne-Thompson, Donley & Taylor, 2014; IHI, 2014; McGinty & Anderson, 2008; Melnik, Fineout-Overholt et

al., 2012). One urban study (Black, Balneaves, Garossino, Puyat, & Qian, 2015), found providing research training is an effective strategy for promoting EBP and empowering point-of-care clinicians. Two studies suggest education is perceived as valuable in rural settings (O'Lynn et al., 2009; Oman et al., 2013). Based on the evidence, this project included EBP education as a best practice to enhance the use of EBP in Idaho's CAHs.

To assure safe, quality health care and optimal patient outcomes in small and rural hospitals, EBP education is needed—yet, barriers exist, and little is known about the state of EBP in Idaho's CAHs. Oman and her team (2013) developed an EBP needs assessment and surveyed 240 rural hospitals in the Western, Rocky Mountain region of the United States. The needs assessment was used to assess NEs' level of EBP awareness, activity, available resources, and level of interest in participating in an online EBP education program. Once this data was collected, a multifaceted education intervention was designed to introduce participants to the principles of EBP. Pre-education and post-education intervention surveys were administered to assess health care professionals' knowledge, barriers to, attitudes, and abilities with EBP. Finally, Oman's team evaluated the process of providing webinar-based education in rural hospital settings. While the small sample size limited generalizability of some of the findings, the results of this study found online EBP education is perceived as both practical and feasible and can be used to educate interdisciplinary health care teams about EBP (Oman et al., 2013). Based on the evidence, it became clear that it was necessary to identify the state of EBP in a sample of CAHs in the Northern region of Idaho by way of a needs assessment and surveys.

## **Rationale**

**Theoretical models.** The evidence-based Advancing Research and Clinical Practice Through Close Collaboration<sup>®</sup> (ARCC) Model (Dang et al., 2015) provides the framework to

advance and sustain EBP in rural hospital settings. The ARCC<sup>®</sup> Model was built upon the key constructs of control theory (Carver & Scheier, 1982, 1998) cognitive behavioral theory (CBT), and the use of EBP mentors. Control theory contends that when a gap is experienced between the current EBP state and the idealized EBP state individuals will be motivated to reach toward the goal. CBT is used to guide behavior change by appealing to an individual's belief system. EBP mentors work with health care providers to strengthen their beliefs about EBP and the ability to implement it (Dang et al., 2015)

In the ARCC<sup>®</sup> Model, EBP mentors who have knowledge and skills in EBP, change management, and mentorship are placed in the health care system to mitigate barriers. As barriers are reduced, clinicians increase their EBP beliefs and implementation. This results in improved health care outcomes (Dang et al., 2015). Valid and reliable survey instruments are available to measure key constructs of the ARCC<sup>®</sup> Model. These instruments can be used to measure an organization's effectiveness in implementing and sustaining EBP. The ARCC<sup>®</sup> Model is included in Appendix B.

The FOCUS PDCA Model provided the framework for the evidence-based QI (QI) change initiative (White, 2014). FOCUS PDCA is an acronym that identifies each stage of the methodology: *Find* an opportunity to improve; *Organize* an interdisciplinary team; *Clarify* current knowledge of the issue that needs improved; and *Understand* sources of variation; and *Select* strategies and interventions for improvement; *Plan* to implement the strategies and interventions; *Do* implement the interventions; *Check*, analyze, and review the data and results; and *Act* to implement the new process if it is effective or implement another intervention if it was not effective (Kleinpell & Gawlinski, 2005). This model was chosen because it is a best practice framework for continuous QI (Fowler, 2012).

**Project framework.** The Kellogg Logic Model was used as a program planning and evaluation tool. The logic model assisted the project leader to anticipate needs, identify gaps, and was used as a comprehensive plan to guide the process, support evaluation, and facilitate communications (Issel, 2014). The Kellogg Logic Model is included in Appendix C.

### **Specific Aims**

The purpose of this evidence-based project was to identify the state of EBP in four CAHs in the North Central region of Idaho, implement a modular online EBP continuing education program, and conduct a subsequent evidence-based QI initiative in one of these hospitals.

### **Context**

**Setting.** The North Central region of Idaho was the setting for this project. This region is comprised of Latah, Idaho, and Clearwater counties. Latah and Clearwater counties have one hospital each. Idaho County has two hospitals, located 15 miles apart. Hospital A is a 25-bed CAH located in Town 1; Hospital B is a 23-bed CAH located in Town 2; Hospital C is a 16-bed CAH located in Town 3; and Hospital D is a 23-bed CAH located in Town 4. Hospital B and D share an administrative team. These non-profit, tax exempt hospitals offer traditional general, acute care services to residents in the North Central region of Idaho.

**Local care environment.** One NE from the North Central region of Idaho volunteered to fully participate in this project and a Memorandum of Understanding (Appendix D) was obtained. The volunteering hospital is located in a rural community that is comprised of approximately 3,100 residents. The tax-supported hospital is licensed for 15-beds and employs approximately 130 full-time equivalents. Services include 24-hour emergency services, medical and surgical care, and obstetrics (Hospital C, 2017). The hospital experienced a \$57,577 loss for fiscal year 2016 but is considered “financially strong and viable” (as cited in Palmer, 2017).

The organization's primary stakeholders included the Chief Nursing Officer, Director of Quality/Risk Manager, Director of Operating Room/Outpatient, and a primary care Family Nurse Practitioner. This group provided formal organizational support, identified the QI initiative, obtained QI data, championed the project, engaged personnel, monitored progress, provided feedback, assisted in problem-solving, facilitated organization-wide communication, and participated in the QI project (Moran, Burson, & Conrad, 2014).

The interdisciplinary health care team consisted of the primary stakeholder group, a Social Worker, and a Medical-Surgical registered nurse. This team completed the EBP continuing education program and planned, implemented, monitored, and evaluated the QI initiative. Evidence-based tools and surveys were used to plan the EBP education intervention and measure the outcomes. The doctoral candidate served as the project leader and EBP mentor for this project.

**Organizational culture and readiness for change.** Evidence-based practice changes are necessary because three Medicare programs link quality outcomes and costs of care to reimbursement: The Value-Based Purchasing Program, the Hospital-Acquired Conditions Reduction Program, and the Hospital Readmissions Reduction Program. Each program modifies Medicare payments based on how well hospitals perform on quality measures, laying the foundation for increased accountability and enhanced consumer value (Robert Wood Johnson Foundation [RWJF], 2015). How the hospital performs regarding patients' processes of care, experiences, outcomes and safety, efficiency, hospital acquired conditions, and 30-day readmission rates is directly related to financial return, financial success, and organizational sustainability (RWJF, 2015). In general, this makes the business case for *why* hospitals need to

invest time and resources in EBP. Specifically, the hospital was interested in using EBP to implement a practice change to improve patient outcomes.

**Strengths and weaknesses.** Strengths include the project was evidence-based and support from the Idaho Alliance of Leaders in Nursing (IALN) and Ohio State University's Center for Transdisciplinary Evidence-Based Practice (CTEP) significantly improved access to information, tools, instruments, and resources. Weaknesses were competing priorities at CTEP, within the organization, and for members of the implementation team.

### **Interventions**

The implementation of this project was anticipated to take up to eight months and was comprised of three phases: A NE needs assessment, the implementation and evaluation of an interdisciplinary hybrid EBP continuing education program, and the evaluation of a subsequent interdisciplinary evidence-based QI initiative.

In the first phase, NEs were contacted by phone or in-person to discuss the project, ascertain interest, and answer questions. A NE script (Appendix E) was used to guide these calls. If the NE agreed to participate, electronic links were forwarded to him or her. This link provided access to information about informed consent (Appendix F), a Demographics Questionnaire/Needs Assessment (Appendix G), and surveys.

In the second phase, after obtaining consent (Appendix H), discussions were held with key stakeholders. Discussion members agreed to support the EBP education intervention, drafted an initial Group Charter (Appendix I), identified interdisciplinary team members, and selected the initial QI initiative (improve the hospital discharge process for Medicare-eligible diabetic patients). After these discussions, an electronic link was provided to interdisciplinary team members to access information about informed consent (Appendix J), complete a

demographics questionnaire (Appendix K), and complete pre- and post-education intervention surveys. The education intervention consisted of two face-to-face education sessions led by the project leader and six online EBP continuing education modules.

In the third phase, the interdisciplinary evidence-based QI initiative was implemented and evaluated. The original QI initiative idea was abandoned because the interdisciplinary team believed that focusing on the entire discharge planning process versus a defined population (elderly diabetic patients) would serve the greatest number of patients. The project leader assisted the interdisciplinary team to work through the steps in the EBP process to improve discharge planning in their facility. This was guided by the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP), Project Management Guide (Dearholt & Dang, 2012).

**Logic Model.** The Kellogg Logic Model was used as a comprehensive plan to guide the process, support evaluation, and facilitate communication (Issel, 2014). Eleven short-term, two intermediate, and one long-term outcomes were identified and included the following:

1. 100% of NEs in the sample were contacted by telephone or in-person to discuss the project, ascertain interest, and answer questions.
2. 100% of returned NE demographics, EBP needs assessments, and surveys were distributed, compiled, analyzed, and compared to a national sample to obtain information about the use of EBP in the sample.
3. One suitable hospital was identified to participate in the project and a MOU was obtained.
4. Key stakeholders were identified to guide the project, support the EBP education program, identify the QI initiative, identify interdisciplinary team members, and provide feedback.

5. Discussions were conducted with 75% of key stakeholders.
6. Pre- and post-education intervention surveys were administered and analyzed to identify interdisciplinary team demographics and perceptions of the barriers and facilitators to research utilization, EBP competency, EBP beliefs, EBP implementation, cultural readiness for EBP, and EBP knowledge.
7. An evidence-based practice continuing education program was implemented.
8. Post-education intervention survey results demonstrated a 14% improvement in EBP competency, 1% increase in EBP beliefs, and a 33% improvement in EBP knowledge.
9. Project leader assisted interdisciplinary team members to implement an evidence-based QI initiative.
10. Majority of interdisciplinary team members “agreed” or “strongly agreed” the EBP continuing education program was beneficial and effective.
11. Interdisciplinary team members recognized how data could be used to drive organizational change/QI efforts and continued to apply methodologies as evidenced by a 10% improvement compared to QI initiative baseline data.
12. Demographics, needs assessments, surveys, and project results were disseminated to interested students, colleagues, and faculty at Boise State University.
13. Results of this project will be published in a regional publication.
14. Organizational change/evidence-based QI efforts are data-driven as evidenced by current interdisciplinary QI initiatives.

**Correlation of interventions with the theoretical models.** Purposeful strategies were identified and used to maximize this project’s success. In phase one, the NE demographics

questionnaire/needs assessment was used to obtain information about the characteristics of NEs in the sample. The BARRIERS<sup>®</sup> and OCRSIEP<sup>®</sup> surveys were used to obtain information about the state of EBP in Idaho's CAHs, to identify barriers to EBP, and assess cultural readiness for implementation of EBP. Known barriers must be removed or mitigated to implement EBP (Dang et al., 2015). In the ARCC<sup>®</sup> Model, EBP mentors who have advanced knowledge and skills in EBP, mentorship, and change theory are developed and placed in the organization to minimize the effects of these barriers. This is why the project leader completed CTEP's EBP immersion course and served as the project leader. The project leader held discussions with the organization's stakeholders to obtain buy-in, trust, and support. Survey findings revealed time and cost were barriers to EBP implementation. Therefore, the education program was modified to include six of CTEP's online EBP continuing education modules and two face-to-face education sessions (hybrid EBP continuing education program) presented by the project leader.

In phase two, the interdisciplinary team demographics questionnaire and pre- and post-EBP education program surveys were used to obtain information about the characteristics of interdisciplinary team in the volunteering organization, evaluate the effectiveness of the hybrid EBP continuing education program, evaluate the interdisciplinary team's satisfaction with the program, and monitor EBP implementation and sustainability.

In phase three, the interdisciplinary team identified a gap existed between their current hospital discharge processes with that of an evidence-based discharge planning process. Having completed the hybrid EBP continuing education program, it was assumed (and validated) that the interdisciplinary team's knowledge about EBP would improve. Therefore, their beliefs about the value of EBP and their ability to implement EBP would improve. This would give the team the confidence to plan, implement, and evaluate a practice change using

their new EBP knowledge and the FOCUS PDCA Model as a best practice framework for QI.

### **Timeline**

This project began in April of 2017 and was completed in May of 2018. A table (Appendix L) was created to track the project's timeline to assure all milestones, activities, deliverables, and expectations were met within the allotted period for completion (Burson & Moran, 2014).

### **Measures**

Outcomes were achieved by utilizing specific tools and survey instruments to achieve analysis goals. The BARRIERS<sup>®</sup> Scale (Appendix M) was used to identify barriers and facilitators to research utilization. The BARRIERS<sup>®</sup> Scale identifies subscales that are congruent with Rogers' Diffusion of Innovation Theory (Funk, Champagne, Wiese, & Tornquist, 1991). These subscales consist of:

- The characteristics of the *adopter*, which includes the clinicians' research values, skills, and awareness;
- The characteristics of the *organization*, such as the setting, barriers, and limitations;
- The characteristics of the *innovation*, such as the qualities of the research; and
- Characteristics of the *communication* which includes presentation and accessibility of the research.

The OCRSIEP<sup>®</sup> Scale (Appendix N) was used to identify cultural readiness for implementation of EBP. The BARRIERS<sup>®</sup> and OCRSIEP<sup>®</sup> Scales and were administered to NEs and the interdisciplinary team. The EBP-Knowledge Assessment Questionnaire (Appendix O), EBP Competency Self-Assessment (Appendix P), EBP Implementation Scale (Appendix Q), and EBP Beliefs Scale (Appendix R) are self-explanatory and were administered to the

interdisciplinary team pre- and post-education intervention. These survey instruments were used to evaluate the effectiveness of the hybrid EBP continuing education program at four intervals: Prior to the education program and immediately after; and at two additional intervals after completion of the education program (Appendix S)—3-months and 12-months (beyond the timeframe for this DNP project). Permission was obtained to use all survey instruments (Appendices T and U). The overall program evaluations were used to evaluate the effectiveness of, and participant satisfaction with, the hybrid EBP continuing education program. The Outcome Evaluation Table (Appendix W) provides a detailed description of the tools and survey instruments, analysis goals, and the associated analytics techniques that were used throughout this project.

### **Analysis**

The NE demographics questionnaire/needs assessments, the interdisciplinary team demographics questionnaire, and the NE BARRIERS<sup>®</sup> Scale were returned electronically from CTEP to the project leader for data analysis. All other survey data (except face-to-face participant satisfaction evaluations) were forwarded to the project leader from CTEP on an Excel spreadsheet. The project leader used Excel Version 1710 (Microsoft Office 365, 2017) to analyze the data. All outcomes of this project were evaluated with the use of a variety of tools to analyze five clusters of data:

1. Identify, describe, and summarize the characteristics of NEs and interdisciplinary team members who participated in the project and their responses to questions about barriers and facilitators to research utilization and organizational readiness to implement EBP;
2. Identify, describe, and summarize nurse executive responses to questions about the

- state of EBP, barriers to and facilitators of EBP, and organizational readiness for system-wide implementation of EBP in CAHs in Northern Idaho.
3. Identify, summarize, and describe interdisciplinary team perceptions about EBP knowledge, EBP competence, EBP implementation, organizational readiness for EBP, and EBP beliefs;
  4. Summarize responses to questions about participant satisfaction with the online EBP education intervention; and
  5. Describe and summarize the activities associated with the evidence-based QI initiative.

### **Ethical Considerations**

**Protection of participants.** The Institutional Review Board at Boise State University granted approval in February of 2017 (Appendix X).

Health care professionals completed surveys independently. Only the initial survey by NEs had identifying information. This information was provided voluntarily, kept confidential, and was destroyed after the data was analyzed. During travel, data was secured in a locked box. Electronic data collected was encrypted and stored on a secure password-protected computer and server. Only CTEP personnel, the PI, and the co-PI had access to the data. The participating hospital will not be named and the data from these surveys will be used only in aggregate form in reports, presentations, or publications.

**Conflicts of interest, bias, and threats to quality.** No conflicts of interest were identified. One source of bias was identified—the NE acting as the gatekeeper for selecting key personnel. To mitigate this bias, the project leader offered consultative advice to the NE when they were identifying key stakeholders to participate in discussions and the evidence-based QI initiative (O’Mathúna & Fineout-Overholt, 2015). The project leader secured funding to pay the

remaining fees from the already discounted registration costs associated with CTEP's Online Modular EBP Program. Therefore, the hospital did not have to pay for the education intervention. This funding also provided the selected hospital with EBP reference materials, providing additional incentives to participate. The project leader emphasized the importance of completing activities according to the timeline when having conversations with the NE, key stakeholders, and interdisciplinary team members (Brueton et al., 2011). Only one participant was lost to attrition.

## Results

**Steps of the intervention.** In phase one, three out of four NEs were successfully contacted by phone or in-person and agreed to complete the surveys. One NE did not respond to repeated phone calls or emails. Only two NEs completed the online surveys. Because of the limited initial response, four additional NEs were recruited from CAHs from the Panhandle of Northern Idaho. This resulted in a total of four NEs (50% response rate) who completed demographic questionnaires/needs assessments and five (63% response rate) who completed BARRIERS<sup>®</sup> and OCRSIEP<sup>®</sup> surveys.

The age of NEs ranged from 31-64 years of age. The highest level of nursing education was reported to be an associate (2), bachelors (1), and masters (1) degree. Years in their current role ranged from 1-8 years, with a median of 4 years. Years in nursing practice ranged from 8-44 years, with a median of 28.5 years. NEs level of exposure to EBP included learned in school (1), EBP continuing education course (2), read about EBP (3), and did not know much about EBP (1). Demographic characteristics of NEs are included in Appendix Y.

The needs assessment results (Appendix Z) indicated 100% of NEs were familiar with EBP, 100% were willing to participate in this project, 100% of NEs and their staffs (clinicians)

wanted to learn more about EBP, 100% of NEs and their staffs were interested in learning more about EBP by participating in a modular, self-paced online EBP continuing education program, and 100% of NEs were able to allocate a moderate amount of education dollars (not to exceed \$350 per clinician) to support this education option. Three of four NEs (75%) were engaged in EBP activities and interested in implementing EBP to address a specific quality issue in his or her organization. Only half (50%) of the NEs were able to allocate education funds for five to seven clinicians to complete the 13-hour online EBP continuing education program and support the five to seven clinicians to implement a quality improvement initiative.

In phase two, six interdisciplinary team members completed the demographics questionnaire, BARRIERS<sup>®</sup> and OCRSIEP<sup>®</sup> surveys for a 100% response rate. Initial interdisciplinary team members included the Chief Nursing Officer (NE), the Director of Quality/Risk Management (a registered nurse who also had responsibility for infection prevention), a social worker, the peri-operative nurse manager, and a medical-surgical registered nurse. Because the Chief Nursing Officer from the volunteering hospital wanted to participate on the interdisciplinary team, he or she completed 2-BARRIERS<sup>®</sup> Scale surveys. One, as a respondent from the NE sample and one, as a respondent from the interdisciplinary team. These results were then used to compare and contrast the NE sample results from phase one.

The age of the interdisciplinary team ranged from 31-63 years of age. The highest level of education was reported to be a bachelors (4), masters (1), and clinical doctorate (1) degree. Years in their current role ranged from 1-10 years, with a median of 3 year. Years in clinical practice ranged from 9-33 years, with a median of 10.5 years. Interdisciplinary team member's level of exposure to EBP included learned in school (4); EBP continuing education course (1); and read about EBP in journals textbooks, and online (1). No interdisciplinary team member

responded that they did know about EBP. Demographic characteristics of the interdisciplinary team are included in Appendix AA.

The NE sample responses to the BARRIERS<sup>®</sup> Scale ranked the barriers to research utilization marginally higher than the interdisciplinary team. Both groups ranked characteristics of the communication factor (including presentation and accessibility of the research) as most problematic to the potential adopter. The top barriers in this characteristic that were agreed on by the sample NEs and interdisciplinary team members were “statistical analyses are not understandable”, “the research is not reported clearly and more readable”, “the research is not relevant to the clinician’s practice”, and “the relevant literature is not compiled in one place”. Nurse executives and interdisciplinary team BARRIERS<sup>®</sup> Scale results are included in Appendices BB and CC.

The NE sample ranked cultural readiness for EBP implementation slightly higher ( $M = 2.83$ ,  $SD = 1.31$ ) than interdisciplinary team members ( $M = 2.79$ ,  $SD = 1.37$ ). Nurse executives perceived administrators were more committed to EBP ( $M = 3.40$ ,  $SD = 1.52$ ) than was perceived by interdisciplinary team members ( $M = 2.5$ ,  $SD = 0.84$ ). Nurse Executives perceived more fiscal resources were used to support EBP ( $M = 2.20$ ,  $SD = 0.84$ ) than was perceived by interdisciplinary team members ( $M = 1.33$ ,  $SD = 0.52$ ). The results of the OCRSIEP<sup>®</sup> survey identified significant lack of organizational resources pertaining to nurse scientists (doctorally prepared researchers) to assist in generation of evidence, Advanced Practice Nurses (APNs) who are EBP mentors for staff, the extent librarians within the organization have EBP knowledge and skills, and the extent librarians are used to search for evidence. Both NEs and interdisciplinary team members ranked “administrator” lowest on the scale as an EBP champion. Nurse executives ranked “Infection Preventionist” highest on the scale for EBP champions ( $M = 3.8$ ,

$SD = 1.64$ ) while interdisciplinary team members ranked “Quality Improvement Officer”, “Risk Manager”, and “Infection Preventionist” highest ( $M = 4.5$ ,  $SD = 0.84$ ). Nurse executives perceived “the measurement and sharing of outcomes part of the culture of the organization” higher ( $M = 4.60$ ,  $SD = 0.55$ ) than interdisciplinary team members ( $M = 3.17$ ,  $SD = 0.98$ ). Nurse executives perceive decisions are generated most often from “upper administration” (range: 50% - 75%) while interdisciplinary team member perceive decisions are generated most often from “direct care providers” (range: 25 – 75%) and “physicians or other health care provider groups” (range: 25% - 75%). Nurse executives rate organizational readiness for EBP and movement toward an EBP culture higher than interdisciplinary team members. The OCRSIEP<sup>®</sup> survey results are included in Appendix DD.

Interdisciplinary team member pre- and immediate post-education intervention survey results (Appendix EE) demonstrated improvements in mean scores for EBP competency (15.8% increase), EBP beliefs (0.5% increase), and EBP knowledge (49.2% increase) as compared to pre-intervention findings. At five months, mean scores improved over immediate post-education intervention survey results for EBP competency by an additional 13.3%; and EBP beliefs by an additional 1.9%. Furthermore, EBP implementation increased 25.5% above pre-education intervention survey results. However, at five months, cultural readiness for EBP declined by 5.7%, dropping below pre-education intervention (baseline) results. EBP knowledge decreased by 9.4% compared to immediate post-education intervention results but remained above baseline results.

Overall, feedback on the face-to-face EBP continuing education programs was positive for presentation and speaker effectiveness. Participants completing CTEP’s modular online EBP modules rated presentation effectiveness “fair” to “excellent”, with eight out of 10 modules rated

“good” to “excellent”. Participants rated speaker effectiveness “fair” to “excellent”, with nine out of 10 modules rated “good” to “excellent”. At the completion of phase two, interdisciplinary team members completed a Hybrid Presentation Evaluation Survey. A summary of these results is included in Appendix FF.

In phase three, the interdisciplinary team implemented a QI initiative to improve the hospital’s discharge planning process for patients who were at high-risk for readmission. This initiative included using the LACE index (Robertson & Hudali, 2017) to identify patients at risk, developing a patient tracking tool, implementing pharmacist-led patient discharge medication education, introducing post-discharge phone calls, and developing techniques to improve the continuity of care between inpatient and outpatient settings. With minimal guidance from the EBP mentor, team members used the EBP process to make clinical decisions, implement the practice change, and monitor the results. Because the volunteering hospital did not have access to a medical library, the project leader downloaded several articles for their use.

The interdisciplinary team implemented the new discharge planning process in November, 2018. In December, the results of the QI initiative demonstrated in a 12.1% drop in 30-day, same cause inpatient readmissions (from 14.7% in November to 2.6% in December). Pre-QI initiative intervention data from January through October, 2018 demonstrate an average 9.5% readmission rate compared to an average of 8.6% in 2016.

After phase three, the volunteering hospital’s Director of QI responded to the question, “What specific tools, processes, or resources would be helpful to CAHs attempting to implement EBP?” Responses included a centralized resource center with open office hours and a list-serve option to ask questions and learn from others; access to EBP mentors, a university-based medical

library, and ongoing access to CTEPs modules and PowerPoint presentations; and assistance to access and navigate relevant databases.

**Contextual elements that interacted with the interventions and outcomes.** Responses from the original NE sample proved far too small. Therefore, the sample was expanded to include CAHs Northern regions of Idaho. This increased the NE demographics/needs assessment sample size from two to four and the responses from the BARRIERS<sup>®</sup> and OCRSIEP<sup>®</sup> scales from two to five.

One hospital volunteered to participate in the project which was fortunate, as the remaining hospital declined. The OCRSIEP<sup>®</sup> scale was going to be used to select the most suitable hospital among the sample. Ultimately, that process was not used.

Since one of the two hospitals in the original sample reported they were not able to support education funding for five to seven clinicians to participate in 13-hours of online continuing education, the project leader collaborated with CTEP to create a hybrid face-to-face online modular EBP continuing education program. This reduced the number of modules from 14 to eight and reduced the amount education time by approximately 30%.

Approximately one month after the original QI project was identified and a literature search was completed, the volunteering hospital chose to re-focus their efforts on an issue that would serve a greater number of patients. The original project was abandoned and the EBP process started over. This created a delay in implementing the QI initiative and the original group charter was abandoned.

A miscommunication between CTEP and the project leader created a two-month delay in administering and analyzing the 3-month post-education intervention surveys.

**Missing data.** One NE did not complete the demographics questionnaire/needs assessment and some questions were left blank by respondents. It was evident participants were confused by the free-text option of adding additional barriers and facilitators to the BARRIERS<sup>®</sup> survey. Therefore, the analysis of this data was omitted. One interdisciplinary team member did not complete the EBP implementation or OCRSIEP<sup>®</sup> surveys.

**Actual project revenues and expenses.** Income was comprised of a \$5,000 grant from the IALN and in-kind personnel expenses totaling approximately \$14,372. Year-end expenses were comprised of facilities and equipment, education and training, and travel and subsistence. Total expenses were estimated at approximately \$17, 156.36, resulting in an operating deficit of \$2,783.82. The 1 – 5 Year Budget Plan (Appendix GG), Scholarly Project Expense Report (Appendix HH), and Scholarly Project Statement of Operations (Appendix II) are included.

### **Summary of Key Findings**

Nurse Executive needs assessment findings were used to identify the state of EBP in Northern Idaho. The majority of NEs were associate-degree prepared. Nurse executives were familiar with EBP, were willing to participate in EBP activities and EBP education, and were willing to allocate education dollars to support an online EBP continuing education program. Most NEs were engaged in EBP activities and were interested in using EBP to address quality issues. However, half of the NEs surveyed were not able to allocate education dollars to complete a 13-hour continuing education program for 5 – 7 clinicians.

Most interdisciplinary team members were at least bachelors-prepared and learned about EBP in school. Nurse executives (NE) and interdisciplinary team members identified presentation and accessibility of the research most problematic. Nurse executives rated cultural readiness for EBP, administrative commitment, and fiscal support higher than interdisciplinary

team members. It is noteworthy the CAHs in this sample reported a significant lack of doctorally-prepared nurse researchers, EBP mentors, and librarians with EBP knowledge and skill to assist in searching for evidence.

## **Interpretation**

**Comparison of results with previous finding.** The NE demographics questionnaire described the characteristics for NEs and interdisciplinary team members in the Northern region of Idaho. It also identified that providers in Idaho's CAHs are not consistently using evidence as a foundation for practice. However, it did verify that Idaho NEs and their staffs had a desire to learn more about EBP by way of webinar-based education. These results are consistent with Oman's (2013) findings and provides new information about state of EBP in Idaho. Nevertheless, these small and rural hospital still faced barriers to implementing EBP—specifically, cost and time. The barriers of cost and time have financial implications and are consistent with findings that identified NEs believe that EBP results in high-quality care, but it is ranked as a low priority with low budget allocation (Melnik, Gallagher-Ford, Thomas, Troseth, Wyngarden, & Szalacha, 2016). This information led to the development of the hybrid modular EBP continuing education program.

The results of the BARRIERS<sup>®</sup> survey identified barriers in Idaho that were consistent with findings from previous studies such as lack of time, skill, and support; availability of resources; and organizational culture (Lenz & Barnard, 2009; Melnyk & Fineout-Overholt, 2015; Melnyk, Gallagher-Ford, Fineout-Overholt et al, 2012; Olade, 2004; O'Lynn et al., 2009; Oman et al., 2013; & Parahoo, 2000). However, these results specifically identified characteristics of the *communication* factor as most problematic. This includes presentation and accessibility of the research.

The results to the OCRSIEP<sup>®</sup> survey identified a significant lack of resources in Northern Idaho's CAHs. Specifically, a lack of nurse scientists to assist in the generation of evidence, advanced practices nurses who are mentors for staff, librarians within the organization with EBP knowledge and skills, and librarians available to search for evidence in Northern Idaho CAHs. The lack of EBP mentors will strongly influence an organizations ability to influence clinicians' beliefs about EBP and the ability to implement it (Melnyk & Fineout-Overholt, 2015). This could result in provider dissatisfaction, decreased group cohesion, increased intent to leave, and increased staff turnover; leading to poorer patient outcomes and increased hospital costs—quite the opposite of the goal for the *Triple Aim*.

**Impact of project on people and systems.** Evidence-based practice competency, EBP beliefs, EBP knowledge, and participant satisfaction survey findings validated the hybrid modular EBP continuing education program was effective, practical, feasible, and satisfactory to interdisciplinary team members in Northern Idaho. Additionally, participants were able to use their EBP knowledge and skills to implement an evidence-based quality improvement initiative aimed at improving patient outcomes. Finally, interdisciplinary team participants were able to identify actionable tools, processes, and resources to support other CAHs attempting to implement EBP. These finding are important because the evidence demonstrates EBP improves patient care and quality outcomes, the majority of hospitals in Idaho are small and rural, and approximately one-third of Idahoans live in rural areas (U.S. Census Bureau, 2010). The results from this project can be used as a model for replication in other rural settings across the nation.

**Reasons for differences between observed and anticipated outcomes.** The decrease in OCRSIEP<sup>®</sup> survey scores to below baseline levels may be secondary to interdisciplinary team member perceptions about the lack of nurse scientists, APNs, librarians, and resources to assist

in the process of implementing EBP in a small and rural hospital. The decrease in knowledge scores may be secondary to knowledge retention and/or some team members not fully participating in the EBP change initiative (improving the discharge planning process). The primary EBP champions/change agents in the volunteering hospital were the CNO and the Director of Quality/Risk Management/Infection Control.

**Costs and strategic trade-offs.** Continuing barriers may influence replication of this project—such as organizational buy-in; limited financial and human resources, and a lack of EBP mentors, EBP tools, processes, and resources. The short-term financial return on this long-term investment may not be evident to the organization’s clinicians or decision makers.

**Policy implications.** Rural communities face unique challenges but NEs in small and rural hospitals hold formal leadership roles in organizations, communities, and health care systems. Nurse executives need to identify strategies to educate their staffs, clinicians, and other administrators about the importance of using EBP as a foundation for practice. Then, they need identify resources to educate themselves and their staffs about how to implement EBP. This can be accomplished by making EBP an organizational priority, advocating for financial and human resources at the organizational level, partnering with local colleges and universities for resources and support, and calling upon their specialty nursing organizations and state hospital associations for assistance and resources. By asserting their power and authority they can facilitate the implementation of EBP in CAHs across the nation. NEs influence policy and policy making at all levels. At the micro-level, NEs can establish policy to assure caregivers are competent in EBP (job descriptions, performance appraisals, and clinical ladders), evidence-based policies and procedures are developed and implemented, and patient care outcomes are monitored. At the meso-level, NEs can create an environment that allows EBP to flourish by making policy

decisions, inspiring a vision for EBP; removing and mitigating barriers to EBP; and providing EBP education, resources, and nurse mentors. At the meso-level, NEs can use his or her expertise to provide expert consultation about the importance of EBP, educate policy makers about EBP, develop achievable goals for using EBP to promote community/population health, lobby for access to EBP resources, make the business case for EBP, and disseminate strategies for the effective adoption of EBP.

### **Limitations**

This project had several limitations. First, the small number of participants of NEs and clinicians is a significant limitation to the applicability of these findings to other small and rural hospitals. Second, the wording of one question on the BARRIERS<sup>®</sup> survey, “Are there other things you think are barriers to research utilization? If so, please list and rate each on the scale:” may have led to some confusion. Participants were varied in their responses. Some listed additional barriers, some referred to previous survey questions. This resulted in confounding responses. Third, one participant did not complete the entire education series or participate in quality improvement initiative because of scheduling issues. Fourth, the time frame to complete and evaluate the EBP QI project may have been too short to fully explicate the discharge process. Fifth, readmission rates as a measure of QI project effectiveness may not have captured other positive impacts of the change in the discharge process.

### **Conclusions**

**Usefulness of the work.** The results of this project add to the state of the science about EBP in CAHs in the Northern region of Idaho. In addition, implementing a hybrid EBP continuing education program increased an interdisciplinary team’s EBP competency, EBP beliefs, EBP implementation, and EBP knowledge. Participants validated this hybrid EBP

continuing education program was a practical, feasible, and effective way to deliver EBP continuing education to small and rural hospitals. After this education intervention, an interdisciplinary team of clinicians were able to utilize the EBP process to implement a QI initiative aimed at improving patient care outcomes. Participants in this project were also able to identify specific EBP tools, processes, and resources to assist other small and rural hospitals attempting to implement EBP.

**Sustainability.** This project was the impetus behind Idaho's first state-wide EBP workshop. Participant feedback was overwhelmingly positive, and plans are underway to offer another workshop in the future. The results of this study identified additional EBP tools, processes, and resources that can be used to assist other small and rural hospitals in Idaho. The CTEP is engaged with the project leader to identify strategies for supporting EBP in Idaho CAHs. Additionally, the results of this study may position the IALN or other specialty nursing organization to apply for grant-funding to position EBP nurse mentors strategically throughout the state of Idaho. These nurse mentors could serve as regional resources and presenters for hybrid modular EBP continuing education programs for small and rural hospitals. Ideally, these EBP nurse mentors would be paired with regional universities or community colleges to access medical libraries and databases. In turn, these EBP mentors could provide valuable rural nursing expertise to educate and inform nursing students and faculty about the challenges and rewards of rural nursing practice.

**Potential for spread to other contexts, implications for practice, and dissemination.** This project adds to the available body of knowledge about the use of EBP in Idaho's CAHs that can be used to inform nursing research, education, and practice. Additionally, this project provides an evidence-based model for EBP continuing education and quality improvement in

small and rural hospitals throughout Idaho. In turn, small and rural hospitals can employ a practical and feasible strategy to improve health care outcomes, quality, and decrease health care costs.

The results of this project will be disseminated to interested students, colleagues, and faculty at Boise State University. Additional plans include publishing these results in a peer-reviewed scholarly journal in collaboration with CTEP.

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## Appendix A

**Johns Hopkins Nursing Evidence-Based Practice  
Individual Evidence Summary Tool**

**EBP Question:** Are providers in Idaho's Critical Access Hospitals (CAH) using evidence as a foundation for practice? If not, what are the challenges in implementing evidence-based practice (EBP)?

**Date:** April 17, 2016

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
<b>RESEARCH EVIDENCE</b>						
1	Oman, et al. (2013)	Descriptive study, survey  Baseline & post-course assessment	67 rural hospital CNOs from CO, WY, NE, KS, UT, NM & MT, responded to needs assessment; 11 hospitals participated in web-based learning, 42 baseline knowledge surveys completed; 8 post-webinar surveys	<p><u>Purpose:</u> To develop, implement, &amp; evaluate the effectiveness of a multifaceted intervention to facilitate EBP continuing education in western US rural hospital settings.</p> <p><u>Objective #1:</u> Conduct a 10-item needs assessment to determine level of awareness, activity, and available resources related to EBP.</p> <p><u>Objective #2:</u> Develop &amp; implement a multifaceted intervention to introduce principles of EBP. 3 components: Webinar education series on EBP, an EBP resource toolkit (texts, UC Hospital's Outcome &amp; EBP manual, journal articles, &amp; an EBP resource list) and a structured EBP activity with mentorship &amp; support.</p> <p><u>Objective #3:</u> Measure healthcare professionals' knowledge, barriers to, attitudes, and abilities pre-intervention &amp; post-intervention. --Used <u>survey</u> (McCluskey &amp; Lovarini, 2005): barriers to EBP, attitudes about EBP, and sources of evidence by participants.</p>	Small sample size	IIIB

				<p><u>Objective #4:</u> Evaluate the process of providing Web-based education in rural hospital settings.                  --Used <u>survey</u> (Online learner support instrument: Atack &amp; Rankin, 2002) to measure interactions with teacher &amp; peers, course design &amp; resources, technology, work environment, &amp; overall impression scale.</p> <p><u>Results:</u></p> <ul style="list-style-type: none"> <li>• Although 97% of respondents were familiar with EBP, 94% believed that they &amp; their staff desired to learn more about EBP.</li> <li>• Interest level in a Web-based course exceeded 85% &amp; outranked other methods of learning.</li> <li>• Demographics information obtained.</li> <li>• Knowledge survey: Barriers that affect implementing or adopting EBP in your worksite.</li> <li>• Implementation phase of the project: included: developing an interdisciplinary EBP council, implementing journal club meetings, developing &amp; revising P &amp; Ps.</li> </ul> <p><u>Discussion:</u></p> <ul style="list-style-type: none"> <li>• Only 5 hospitals engaged in an implementation project.</li> <li>• Learning curve to conduct webinars was more involved than expected.</li> <li>• Hospitals engaged in implementation project required more time to plan, implement, &amp; evaluate than expected (took 6-months longer).</li> <li>• Only a few postcards were returned by hospitals about feedback on the educational DVD intervention.</li> <li>• Small sample size.</li> <li>• Barriers are similar to other researchers (Lenz &amp; Barnard, 2009; McCoy, 2009) but included more acute issues such as variable census &amp; limited staff numbers to cover patient care.</li> <li>• Web-based professional development in rural setting is both feasible &amp; practical.</li> </ul>		
2	Brown, et al. (2009)	Descriptive study, survey	Convenience sample of 458 nurses from an	<u>Purpose:</u>	One hospital, self-reports may have	IIIB

			<p>academic medical center in CA.</p> <p>To describe nurses’ practices, knowledge, and attitudes related to EBP nursing and the relation of perceived barriers to and facilitators of EBP.</p> <p><u>Survey #1: BARRIERS®</u> to Research Utilization (Funk et al., 1991a, 1991b). Includes two, free-text items for respondents to list other barriers and facilitators to research utilization (ranked 1-3). 4 subscales: characteristics of the adopter.</p> <p><u>Survey #2: EBP Questionnaire</u> (Upton &amp; Upton, 2006). 3 subscales: practice, knowledge/skills, and attitudes.</p> <p><u>Demographics form:</u> age, education preparation, sex, ethnic group, highest educational degree, years of nursing experience, nursing position, and hospital unit. One open-ended question to elicit EBP information that was not covered by other means.</p> <p><u>Results:</u></p> <ol style="list-style-type: none"> <li>1. What are nurses’ baseline practice, knowledge, and attitudes about EBP?             <ul style="list-style-type: none"> <li>--Attitudes showed the highest mean score followed by knowledge, and then practice.</li> <li>--Top 5 items for the knowledge subscale were converting information into questions, research skills, evaluating validity of material, critical appraisal, and awareness of information types &amp; sources.</li> <li>--The top items for the attitudes subscale was ‘time to read research’.</li> <li>--The top priority items for the practice subscale were critical appraisal and formulating questions around clinical problems.</li> <li>--Higher knowledge scores were associated with higher practice scores.</li> </ul> </li> <li>2. What are the perceived barriers to and facilitators of EBP?             <ul style="list-style-type: none"> <li>--Organization had the highest mean score followed by communication, adopter, and innovation.</li> <li>--The majority of top ten barriers ranked by respondents were from the ‘organization’ subscale, with items relating to ‘time’ identified as the top 2 barriers, followed by lack of autonomy to change practice and lack of support by other staff.</li> </ul> </li> </ol>	<p>inflated scores, missing data, internal consistency for one subscale</p>	
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			<p>3. Open-ended questions, 4 themes were identified as related to the greatest barriers (time, knowledge, support, &amp; culture) and three themes as related to facilitators of nursing research &amp; EBP (learning environment, building culture, &amp; availability &amp; simplicity of evidence). Refer to study.</p> <p>4. What are the relationship between perceived barriers and EBP practice, knowledge, and attitudes?          --The more nurses perceived the research as difficult to find and understand, the lower they perceived their own knowledge and skill related to EBP.          --The more the organization was perceived to be a barrier, the lower the nurses perceived their own knowledge and skills about EBP.</p> <p><u>Discussion:</u></p> <ul style="list-style-type: none"> <li>• Top 10 barriers: lack of time to implement new ideas, lack of time to read research, lack of authority to change patient care, staff not supportive, unaware of research, relevant literature not compiled in one place, physicians will not cooperate, not capable of evaluating quality, amount of information is overwhelming, and results are not generalizable to setting.</li> <li>• Barriers (open-ended question themes): lack of time, lack of knowledge, lack of support (resources &amp; mentoring), and culture (nurse’s autonomy in changing practice &amp; resistance to changing established patterns).</li> <li>• Nurses need time away from the responsibilities of bedside care, autonomy over their practice, education in finding &amp; assessing evidence, access to evidence, and mentorship to shepherd them through the implementation process and reinforce didactic learning.</li> <li>• A research-based needs assessment is needed to provide an evidence-based foundation for organizational strategic planning efforts and educational initiatives to support EBP.</li> <li>• Roadmap to increase nursing capacity for EBP: Nursing autonomy over practice: implementing shared governance structures (including clinical ladders) &amp; staff-nurse-led councils for professional practice &amp; research; Organizational commitment: authorization of non-patient care hours for staff nurses to participate in changing practice during work hours; and</li> </ul>		
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				<p>tiered education opportunities: begin with lowest scoring knowledge items.</p> <p><u>Conclusion:</u> Barriers to EBP have proved consistent from US, Ireland, Canada, Finland, &amp; Sweden.</p>		
3	Fink, et al. (2005)	Descriptive study, survey	215 pre-survey & 239 post-survey RNs at UCH, a university-affiliated Magnet hospital	<p><u>Purpose:</u> (1) Identify nurses' attitudes and perceptions about organizational culture and research utilization, (2) identify perceived barriers and facilitators to nurses' use of research in practice, and (3) determine which factors are correlated with research utilization.</p> <p><u>Surveys:</u> BARRIERS<sup>®</sup> (Funk 1991) and Research Factor Questionnaire (Thompson, 1997).</p> <p>Barriers to research utilization: the nurse has no authority to change practice, the nurse is unaware of the research, &amp; the nurse does not have time on the job to read research.</p> <p>Use of Professional Resources Practice Outcomes Research Manual distributed to stimulate nurse interest in EBP, organizational strategies to improve research utilization were identified, Magnet designation, &amp; EBP council.</p>	One setting, volunteer bias, low response rate, EBP history, post-survey tool redesign	IIIB
4	Friesen-Storms, et al. (2014).	Participatory action study, interviews, focus groups, & observation	Purposive sampling of 16 nurses, 2 IT specialists, 10 patients, & 2 caregivers in a lung unit of rural hospital in the Netherlands	<p>Barriers: negative attitude toward EBP, little motivation to implement EBP b/c of fear that nurse's expertise was not valued &amp; overruled by evidence, little knowledge &amp; skill, lack of time and personnel, little trust in success, &amp; lack of bottom-up decision making.</p> <p>Participatory action research used to implement EBP. Need for simplified &amp; pragmatic method vs. academic version. Utilize pre-appraised evidence (clinical practice guidelines). EBP should not claim priority over patient wishes and professional knowledge.</p> <p>Instrument(s): N/A</p>	Small sample size, may not have achieved data saturation, approach was time consuming, complex subject for initial project	IIIB

5	Gerrish & Clayton. (2004).	Descriptive study, survey	Convenience sample of 330 nurses in a large teaching hospital in England	<p>Barriers to finding and reviewing information: lack of time, research is not readily available, lack of confidence judging the quality, lack of understanding research, inability to identify implications for practice, lack of skill to find research.</p> <p>Barriers to changing practice: insufficient time and resources, difficulty overcoming barriers, lack of authority, culture not receptive to change, &amp; lack of confidence.</p> <p>Barriers to support: Managers, nursing colleagues, &amp; medical staff are not supportive of change.</p> <p>Multiple strategies to promote EBP: managerial support, facilitation, and a culture that is receptive to change.</p> <p><u>Surveys:</u> Canadian research utilization tool (Estabrooks, 1998), BARRIERS<sup>®</sup> to Research Utilization Scale (Funk et al., 1991).</p>	One organization	IIIB
6	Lenz & Barnard. (2009).	Descriptive study, survey	13 RNs 65-bed hospital outside Minneapolis-St. Paul, MN	<p>Barriers to implementing research into practice: having other work priorities, the system, lack of computer access and knowledge, lack of interest (pre-intervention).</p> <p>Barriers to implementing research into practice: lack of time, other work commitments, continued lack of computer knowledge or inability to search topic (post-intervention).</p> <p>Factors influencing the achievement of EBP in small rural hospitals: Iowa Model for EBP as framework for intervention, a 2-hour education presentation with interactive learning exercises by nurse faculty &amp; information specialist. Hospital leaders must facilitate staff engagement, need for ongoing learning, need for mentors outside of rural setting (i.e., schools of nursing, IT, &amp; other hospitals). Nurses need to accept “full responsibility” for keeping informed of research developments in their area of practice. Need for EBP competencies (6).</p> <p><u>Surveys:</u> BARRIERS<sup>®</sup> to Research Utilization Scale (Funk, et al., 1991).</p>	One hospital, small sample size	IIIB

7	Majid, et al. (2011).	Descriptive study, survey	1486 RNs in 2 public hospitals in Singapore	<p>Barriers to implementing EBP: lack of time at workplace to search and read research articles, inability to understand statistical terms and technical jargon, lack of skill judging the quality of evidence, &amp; lack of time to change patient care practices.</p> <p>Training is needed for nurses to use EBP and librarians can support this goals by teaching search strategy skills.</p> <p>Need to build organizational cultures that support EBP, implement strategies to enhance nurses' knowledge and skills, and provide environments where EBP can thrive &amp; be sustained. Magnet hospitals promote this culture, provide EBP experts &amp; education, facilitate routine implementation of EBP, and recognize nurses for their EBP efforts. Need resources and structures (research &amp; EBP councils, EBP-focused grand rounds, educational sessions, and use of outcome measures to evaluate evidence-based initiatives.</p> <p>Instrument(s): Research team-developed questionnaire (on-line only).</p>	Two hospitals, few questions were asked	IIIB
8	Melnik, et al. (2012).	Descriptive study, survey	1015 ANA members	<p>Things that prevents nurses from implementing EBP: time, organizational culture, lack of EBP knowledge/skills, lack of access to information/evidence, leader/manager resistance, lack of available information and evidence to support EBP, resistance toward EBP from work colleagues including physicians, fellow nurses, &amp; nurse leaders &amp; managers.</p> <p>Instrument(s): Adapted EBP Beliefs Scale (Melnik, et al., 2003a), EBP Implementation Scale (Melnik, et al., 2003b).</p>	Low response rate	IIIB
9	Melnik et al. (2016).	Descriptive study, survey	276 CNEs & CNOs across U.S.	<p>Findings from this study indicate the NEs need education and skill building in EBP and outcomes management so that they themselves implement and role model EBP.</p> <p>Evidence regarding ROI with EBP is necessary so that NEs and hospital administrator realize that health care outcomes are improved and cost savings are generated with EBP, and that it is key to quality and safety.</p>	Convenience sample, low response rate, snapshot in time	IIIB

				<p>NEs and health care administrators need to build cultures and environments that promote and sustain EBP, which requires a financial investment.</p> <p>Healthcare systems need to provide support for their nurses to obtain BSNs and be encouraged to embark on the Magnet journey.</p> <p>The new EBP competencies for practicing nurses and APNs need to be integrated into job descriptions and organizational expectations.</p> <p>All ADN and BSN programs need to prepare their students to meet the new EBP competencies for practicing nurses and graduate nursing programs should prepare their students to meet the EBP competencies for advanced practice.</p> <p>Instrument(s): EBP Beliefs Scale &amp; the EBP Implementation Scale (Melnik, et al., 2008b), the Organizational Culture &amp; Readiness Scale for EBP (Fineout-Overholt &amp; Melnyk, 2003), CMS core measure data, NDQI data.</p>		
10	Newman, et al. (1998).	Descriptive, rapid organizational appraisal: interviews, focus groups, & observation	<p>Key stakeholders in the National Health Services trust (hospital) in England— Interviews with 9 clinical &amp; Non-clinical managers, 5 ward managers, 7 nurses &amp; 3 CNS. Focus groups with 12 ward managers, 22 staff</p>	<p>Organizational EBP barriers: EBP is a low management priority, problems with teamwork &amp; communication, inadequate systems for personal &amp; professional development, difficulties in the management of innovations, accessing evidence, &amp; resource constraints.</p> <p>Cultural EBP barriers: Motivation to change practice cannot be assumed, ill-defined &amp; competing interpretations of nursing roles &amp; practice, cultures emphasize 'doing' &amp; inhibit questioning of practice.</p> <p>Individual practice: motivation, lack of clarity about roles &amp; practice, &amp; a culture of practice which emphasizes “routine” patient care. Requires the use of multiple strategies.</p> <p>Instrument(s): N/A</p>	<p>Researcher present at meetings &amp; practice areas may have influenced respondents, the project was viewed “suspiciously” by some clinicians</p>	IIIB

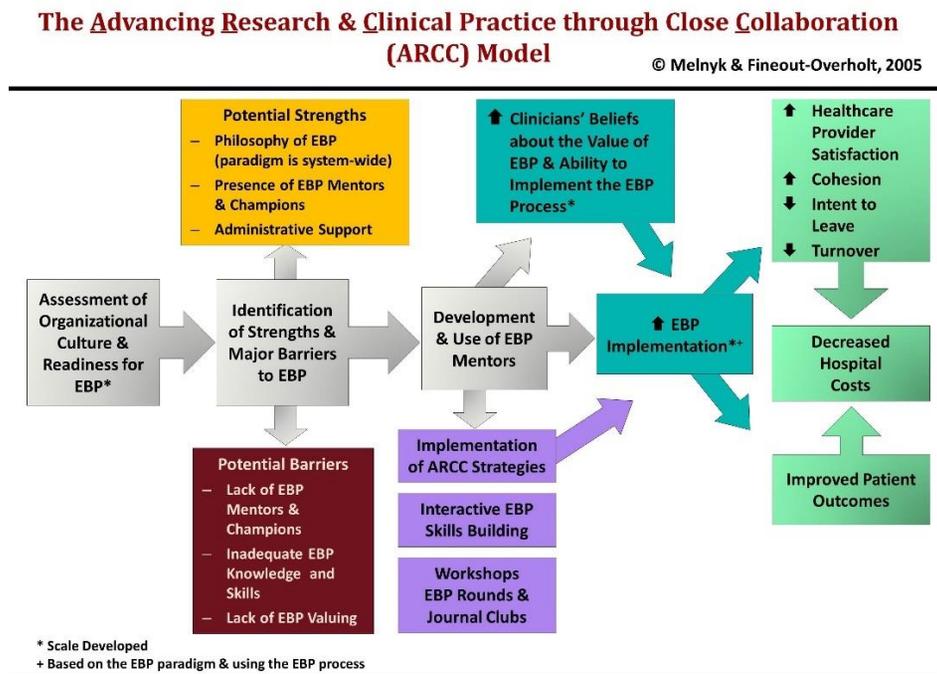
			nursing, 10 junior medical staff, 4 clinical audit & quality assurance staff, & 8 CNS			
11	Olade. (2004).	Descriptive study, survey	Convenience sample of 106 nurses from various practice areas in 6 rural counties of a SW state	<p>Reasons for not utilizing research in clinical practice: isolation from nurse researchers, or from any nurse with experience in research utilization (role models).</p> <p>Barriers to research utilization: lack of time because of poor staffing, lack of interest by nursing administrators, lack of financial resources &amp; organizational support, isolation from nurse researchers, lack of research consultants, &amp; lack of experienced nurses to serve as role models.</p> <p>Quality improvement committees could facilitate the use of scientific findings by documenting the degree of adherence to EBP. In a culture where research is valued, reinforce research utilization at all levels of nursing education. Collaborative efforts required among administrators, researchers, &amp; educators in neighboring urban areas.</p> <p>NEs can demonstrate research utilization is valued by including money for research in budgets, role-models &amp; mentors needed, long distance learning media could help reduce research isolation in rural settings.</p> <p>Instrument(s): Researcher-developed questionnaire.</p>	Limited sample size	IIIB
12	O'Lynn, et al. (2009).	Descriptive study, survey	Convenience sample of 200 RNs working in rural facilities in	Barriers to using research in practice: research reports having conflicting results, lack of time to implement research, lack of incentive to develop research skills, amount of research is overwhelming, difficulty influencing change in the workplace, research articles are not understood, isolation from knowledgeable colleagues, findings not easily transferred to practice, lack of	Small sample size, rural resources are variable & may have	IIIA

			SD, MT & OR	<p>management support, lack of support from colleagues, lack of confidence in ability to evaluate quality, lack of knowledge of how to search for, lack of confidence in personal skills with computers.</p> <p>Contradictory Findings: about half of the participants reported difficulty in understanding research articles, yet most participants denied a lack of confidence in evaluating the quality of the research; general agreement that incorporating research into practice is beneficial, few nurses indicated they would change their practice</p> <p>Nurses need assistance interpreting research findings &amp; nursing programs need to develop their curriculums.</p> <p>Rural facilities should collaborate with academic institutions to help nurses obtain skills &amp; employ on-line learning modules, obtain CNS.</p> <p>Instrument(s): “Rural Nurses’ Access to &amp; Use of Research in Practice” adapted from (Estabrooks, 1996; Funk, et al., 1995; McKenna, et al., 2004).</p>	influenced results	
13	Parahoo. (2000).	Descriptive study, survey	Convenience sample of 1368 nurses in 23 hospitals in Northern Ireland	<p>Top 10 barriers (survey): lack of authority to change procedures, statistical analyses are not understandable, insufficient time on the job to implement new ideas, management will not allow implementation, the nurse feels results are not generalizable to own setting, the nurse does not feel capable of evaluating research, doctors will not cooperate, facilities are inadequate, other staff are not supportive, &amp; relevant literature is not compiled in one place.</p> <p>Top 10 barriers (open-ended questions): lack of time, lack of funding, staff shortages, lack of manager’s support, lack of education/training, lack of motivation, low morale, lack of resources, senior staff set in their ways, &amp; lack of support from nursing colleagues.</p> <p>Facilitators to research utilization: manager’s support, time &amp; support from MDs &amp; colleagues, access to findings, training &amp; education is research, opportunity for further studies-especially in research.</p>	High proportion of “no-opinion” answers, convenience sample	IIIA

				<p>Empowerment of nurses is crucial if nurses are to feel that they have autonomy in, &amp; ownership of, their practice.</p> <p>Instrument(s): BARRIERS<sup>®</sup> to Research Utilization Scale (Funk, et al., 1991).</p>		
14	Pravikoff, et al. (2005).	Descriptive study, survey	Stratified random sample of 760 working RNs working in the U.S.	<p>Individual barriers to nurse’s use of research (other than time): lack of value for research, lack of understanding of electronic databases, difficulty accessing research, lack of computer skills, difficulty understanding research articles, lack of access to a computer, lack of library access, lack of search skills, lack of knowledge about research, &amp; lack of skills to critique or synthesize the literature.</p> <p>Institutional barriers (other than time): presence of other goals with a higher priority; difficulty recruiting &amp; retaining nursing staff; organizational budget for acquisition of information resources; organizational budget for training; organization perceives nursing staff is not eager, prepared, or ready to pursue EBP; &amp; organization perceives EBP is not achievable in the “real world”.</p> <p>Nursing education needs to change so that information literacy, research use, &amp; EBP are integrated into the curricula.</p> <p>NEs need to lobby in their organizations for the resources, time, &amp; training to support EBP.</p> <p>Clinicians need to recognize gaps in their own information-retrieval &amp; evaluation skills, obtain continuing education, demand greater access to high-quality information resources, &amp; demonstrate a commitment to using information to improve care, &amp; set goals for integrating EBP that link practice interventions to patient &amp; organizational outcomes.</p> <p>Requires a multi-faceted approach.</p> <p>Instrument(s): Researcher-developed questionnaire.</p>	None identified	IIIA

Appendix B

Advancing Research and Clinical Practice Through Close Collaboration (ARCC) Model



*Note:* Advancing Research Through Close Collaboration. Adapted from Dang, D., Melnyk, B. M., Fineout-Overholt, E., Ciliska, D., DiCenso, D., Cullen, L., Cvach, M., Larrabee, J. H., Rycroft-Malone, J., Schultz, A. A., Stetler, C. B., & Stevens, K. R. (2015). *Models to guide implementation and sustainability of evidence-based practice*. In B. M. Melnyk & E. Fineout-Overholt (Eds.). *Evidence-based practice in nursing and healthcare*. (pp. 274 – 315). Philadelphia, PA: Wolters Kluwer Health. Used with permission.

Appendix C

Kellogg Logic Model

Resources/Inputs	Activities	Outputs	Outcomes: Short term	Outcomes: Long term	Impact
Includes the human, financial, organizational, and community resources a program has available to direct toward the work.	Includes the processes, tools, events, technology, and actions that are intended to bring changes or results.	Direct products of program activities and may include types, levels, and target of services to be delivered by the program.	Specific changes in program. SMART. Attainable in 1-3 years.	Specific changes in program. SMART. Attainable in 4-6 years	Fundamental intended or unintended change occurring as a results of program activities in 7-10 years.
<p><u>Partnerships:</u></p> <ul style="list-style-type: none"> <li>• Project leader</li> <li>• Hospital A</li> <li>• Hospital B</li> <li>• Hospital C</li> <li>• Hospital D</li> <li>• NEs (NE)</li> </ul> <p><u>Facilities/Equipment:</u></p> <ul style="list-style-type: none"> <li>• Office space &amp; supplies</li> <li>• Telephone</li> </ul> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>• Project script to guide conversation</li> </ul> <p><u>Financial Resources:</u></p> <ul style="list-style-type: none"> <li>• Project leader’s time</li> <li>• NEs’ time</li> </ul>	Contacted NEs to discuss project, ascertain interest, & answer questions	<ul style="list-style-type: none"> <li>• Established professional relationship</li> <li>• Predicted level of interest in participating in project</li> <li>• Unanticipated concerns and/or challenges were mitigated or resolved</li> </ul>	By April 30, 2017 the project leader contacted 100% of NEs by telephone or in person at Hospitals A, B, C, & D to discuss project, ascertain interest, & answer questions	Non-applicable	Enhanced professional relationships with NEs from 4 critical access hospitals (CAH) in Idaho’s North Central region
<p><u>Partnerships:</u></p> <ul style="list-style-type: none"> <li>• Project leader</li> <li>• Hospital A</li> <li>• Hospital B</li> </ul>	Conducted Idaho needs assessment & surveys of NEs	<ul style="list-style-type: none"> <li>• Identified if providers are using evidence as a</li> </ul>	By May 12, 2017 the project leader distributed, compiled, analyzed, & compared	By April 2018 results of demographics, needs assessments, surveys, and project results will	Increased knowledge about the use of EBP in 4 CAHs in Idaho’s North Central region

Resources/Inputs	Activities	Outputs	Outcomes: Short term	Outcomes: Long term	Impact
<ul style="list-style-type: none"> <li>• Hospital C</li> <li>• Hospital D</li> <li>• NEs</li> <li>• Key stakeholders, opinion leaders, &amp; clinical specialists</li> <li>• Interdisciplinary health care professionals</li> </ul> <p><u>Information:</u></p> <ul style="list-style-type: none"> <li>• Results from national samples (Funk, 1991; Oman, 2013)</li> </ul> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>• Adapted demographics questionnaire (Oman, 2013)</li> <li>• Adapted needs assessment (Oman, 2013)</li> <li>• Survey instruments</li> </ul> <p><u>Financial Resources:</u></p> <ul style="list-style-type: none"> <li>• Project leader’s time</li> <li>• NE’s time</li> </ul>	<ul style="list-style-type: none"> <li>• identified demographics section, needs assessment, &amp; survey instruments</li> <li>• obtained permission from authors to utilize tools &amp; survey instruments</li> <li>• conducted needs assessment &amp; surveys</li> <li>• evaluated &amp; analyzed needs assessment &amp; survey results</li> <li>• compared &amp; contrasted needs assessment with a national sample (Funk, 1991; Oman, 2013)</li> </ul>	<p>foundation for practice</p> <ul style="list-style-type: none"> <li>• Increased knowledge about the use of EBP and the challenges that exist</li> <li>• Increased knowledge about EBP in Idaho as compared to a national sample</li> </ul>	<p>100% of returned NE demographics, EBP needs assessment and surveys to a national sample to obtain information about the use of EBP at Hospitals A, B, C, &amp; D</p>	<p>have been disseminated to interested students, colleagues, and faculty at BSU. This will add to the available body of knowledge about the use of EBP in Idaho’s CAHs</p> <p>By January 2019, results of this project will have published in a regional publication</p>	
<p><u>Partnerships:</u></p> <ul style="list-style-type: none"> <li>• Project leader</li> <li>• Hospital A</li> <li>• Hospital B</li> <li>• Hospital C</li> <li>• Hospital D</li> <li>• NE</li> </ul>	<p>Identified one suitable hospital for online EBP education program &amp; evidence-based QI (QI) initiative</p> <ul style="list-style-type: none"> <li>• obtained memorandum of</li> </ul>	<ul style="list-style-type: none"> <li>• Established formal partnership/MOU</li> <li>• Engaged key stakeholders, opinion leaders, &amp; clinical specialists to guide the project, develop a</li> </ul>	<p>By July 10, 2107 the project leader identified one suitable hospital from Hospital A, B, C, or D to implement project &amp; obtained MOU</p>	<p>Non-applicable</p>	<p>Enhanced interprofessional collaboration of key stakeholders, opinion leaders, clinical specialists, &amp; interdisciplinary teams</p>

Resources/Inputs	Activities	Outputs	Outcomes: Short term	Outcomes: Long term	Impact
<ul style="list-style-type: none"> <li>• Key stakeholders &amp; opinion leaders</li> <li>• Interdisciplinary health care professionals</li> </ul> <p><u>Facilities/Equipment:</u></p> <ul style="list-style-type: none"> <li>• CAHs have organized infrastructure, facilities, meeting space, office supplies, &amp; equipment</li> </ul> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>• MOU template</li> <li>• Team charter template</li> <li>• EBP education curriculum</li> <li>• Semi-structured interview questions</li> </ul> <p><u>Financial Resources:</u></p> <ul style="list-style-type: none"> <li>• Project leader’s time</li> <li>• Key stakeholders’, opinion leaders’, &amp; clinical specialists’ time</li> </ul> <p><u>Information:</u></p> <ul style="list-style-type: none"> <li>• Results of needs assessment</li> </ul>	<p>understanding (MOU)</p> <ul style="list-style-type: none"> <li>• NE selected key stakeholders, opinion leaders &amp; clinical specialists</li> <li>• implemented on-site semi-structured interview of hospital key stakeholders, opinion leaders, &amp; clinical specialists</li> <li>• developed team charter</li> <li>• support online EBP continuing education program</li> <li>• supported educational curriculum</li> <li>• identified QI initiative</li> <li>• selected interdisciplinary team members</li> </ul>	<p>team charter, support the educational program, &amp; select a QI project</p> <ul style="list-style-type: none"> <li>• Established formal authority and organizational buy-in to participate in project</li> <li>• Obtained baseline data for QI initiative from key stakeholders, opinion leaders, &amp; clinical specialists</li> </ul>	<p>By July 10, 2017 the NE identified key stakeholders, opinion leaders, &amp; clinical specialists to guide the project, draft and approve the team charter, support the education program, identify the QI initiative, identify interdisciplinary team members, &amp; provide feedback</p> <p>By July 10, 2017 the project leader conducted on-site semi-structured discussions with at least 75% of hospital key stakeholders, opinion leaders, &amp; clinical specialists to guide the project, draft and approve the team charter, support the educational program, identify the QI initiative, identify interdisciplinary team members, &amp; provide feedback</p>		

Resources/Inputs	Activities	Outputs	Outcomes: Short term	Outcomes: Long term	Impact
<p><u>Partnerships:</u></p> <ul style="list-style-type: none"> <li>• Project leader</li> <li>• NE</li> <li>• Interdisciplinary health care professionals from selected hospital</li> </ul> <p><u>Facilities/Equipment:</u></p> <ul style="list-style-type: none"> <li>• CAHs have organized infrastructure, facilities, meeting space, office supplies, &amp; equipment</li> </ul> <p><u>Information:</u></p> <ul style="list-style-type: none"> <li>• Needs assessment</li> <li>• Baseline data</li> <li>• Survey results</li> </ul> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>• Survey instruments</li> <li>• Team charter template</li> <li>• Online EBP education program</li> </ul> <p><u>Financial Resources:</u></p> <ul style="list-style-type: none"> <li>• Project leader’s time</li> <li>• Interdisciplinary health care team member’s time</li> </ul>	<p>Implemented, &amp; evaluated online EBP continuing education program to interdisciplinary health care team in selected hospital</p> <ul style="list-style-type: none"> <li>• identified pre- &amp; post-education survey instruments</li> <li>• administered pre- &amp; post-education surveys</li> <li>• administered post-education program evaluation</li> <li>• disseminated results</li> </ul>	<p>Increased interdisciplinary health care team knowledge about EBP</p>	<p>By July 19, 2017 the interdisciplinary health care team started the interdisciplinary hybrid EBP continuing education program.</p> <p>Prior to July 19, 2017 the project leader administered and analyzed a pre-EBP continuing education program demographics questionnaire and surveys to measure interdisciplinary health care team perceptions of EBP barriers &amp; facilitators, EBP knowledge, EBP competence, EBP implementation, organizational readiness for implementing EBP, &amp; EBP beliefs. Results established baseline data.</p> <p>On August 25, 2017, the project leader assisted the interdisciplinary team members to implement an evidence-based QI initiative</p> <p>By December 31, 2017 interdisciplinary team</p>		<ul style="list-style-type: none"> <li>• Enhanced provider knowledge about EBP</li> <li>• Enhanced level of practice for health care providers</li> <li>• Improved EBP knowledge, competence, &amp; beliefs</li> <li>• Idaho’s CAHs have access to educational resources to implement EBP</li> <li>• High quality &amp; cost-effective patient care</li> </ul>

Resources/Inputs	Activities	Outputs	Outcomes: Short term	Outcomes: Long term	Impact
			<p>member survey results demonstrated a 33% improvement in knowledge, 14% increase in EBP competence, and a 1% improvement in EBP beliefs, as compared to pre-intervention findings. Results measured outcomes of the EBP education intervention.</p>		
<p><u>Partnerships:</u></p> <ul style="list-style-type: none"> <li>• Project leader</li> <li>• NE</li> <li>• Key stakeholders, opinion leaders, &amp; clinical specialists</li> <li>• Interdisciplinary health care professionals</li> </ul> <p><u>Facilities/Equipment:</u></p> <ul style="list-style-type: none"> <li>• CAHs have organized infrastructure, facilities, meeting space, office supplies, &amp; equipment</li> </ul> <p><u>Information:</u></p> <ul style="list-style-type: none"> <li>• Results of needs assessment</li> </ul>	<p>Planned, implemented, and evaluated an evidence-based QI change initiative</p> <ul style="list-style-type: none"> <li>• Developed interdisciplinary health care team charter</li> <li>• Identified a QI initiative</li> <li>• NE selected IDT members</li> <li>• Assisted IDT to plan, implement, &amp; evaluate a QI initiative by way of team development, group facilitation, &amp; use of leadership skills</li> <li>• Disseminated results</li> </ul>	<ul style="list-style-type: none"> <li>• Improved outcomes related to an evidence-based QI initiative</li> <li>• Improved interdisciplinary collaboration, empowerment, &amp; ownership of an evidence-based QI initiative</li> <li>• Obtained and analyzed baseline &amp; post-QI initiative data to identify outcomes</li> </ul>	<p>On August 25, 2017 the project leader evaluated participant satisfaction. Results demonstrated 100% of inter-disciplinary team members “agreed” or “strongly agreed” the online EBP continuing education program was beneficial &amp; effective. By May 2018, the interdisciplinary team recognized how data was used to drive organizational change/QI efforts &amp; continues to apply methodologies as evidenced by a 10% improvement in EBP implementation survey results.</p>	<p>By December 2022, health care professionals continue to use data to drive organizational change/evidence-based QI efforts as demonstrated by examination of current interdisciplinary QI initiatives</p>	<ul style="list-style-type: none"> <li>• Enhanced level of practice for health care providers</li> <li>• Improved interdisciplinary collaboration</li> <li>• Improved health system performance</li> <li>• Improved health outcomes</li> <li>• Improved community health status</li> <li>• Improved payment incentives</li> <li>• Improved efficiency or effectiveness of health system</li> <li>• Improved provider adherence to EBPs</li> <li>• Avoided costs associated with process failures,</li> </ul>

Resources/Inputs	Activities	Outputs	Outcomes: Short term	Outcomes: Long term	Impact
<ul style="list-style-type: none"> <li>• Results of post-EBP continuing education program surveys</li> </ul> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>• Team charter template</li> <li>• TBD, based on QI initiative selected</li> </ul> <p><u>Data/Statistics:</u></p> <ul style="list-style-type: none"> <li>• Idaho state health care data</li> <li>• North Central Idaho region health care data</li> <li>• County demographic data</li> <li>• County health statistics</li> <li>• Hospital-specific core measure data, HCAHPS data, national patient safety goals data, nurse-sensitive indicators data, QI data, etc.</li> <li>• Additional data (TBD, based on QI initiative selected)</li> </ul>					<p>errors, &amp; poor outcomes</p> <ul style="list-style-type: none"> <li>• High quality &amp; cost-effective patient care</li> </ul>

## Appendix D

## Volunteering Hospital: Memorandum of Understanding

**Date:** July 10, 2017

**Subject:** Memorandum of Understanding for **An Evidence-Based Needs Assessment in Idaho's Critical Access Hospitals**

Deena Rauch, a Doctorate of Nursing Practice student at Boise State University, has permission from Volunteering Hospital to utilize our hospital facilities, equipment, and professional staff to complete surveys and collect data about the use of evidence-based practice (EBP) in Idaho's Critical Access Hospitals (CAH). Additionally, the Chief NE will select members of an interdisciplinary team to complete all or part of an online EBP continuing education program and to complete an evidence-based QI project utilizing the team's new knowledge and skills. This may take several weeks to a couple of months to complete. This QI initiative will be selected by key stakeholders, opinion leaders, and clinical specialists at Volunteering Hospital. This QI initiative may take several weeks to a couple of months to complete. Meeting times will be arranged to maximize participation. The project will commence July 10, 2017 and be completed on or around October 31, 2017.

The possible benefits of participation in this project are health care professionals may gain some knowledge about EBP. Additionally, health care professionals will contribute to the body of knowledge about the state of EBP in Idaho's CAHs and will evaluate the effectiveness of an online EBP continuing education program. This education program will be made available at no cost to Volunteering Hospital. Finally, health care professionals in your organization will work as a team to complete a QI initiative to improve patient care outcomes. There are no foreseeable risks to your participation. Once the project is completed, Volunteering Hospital will receive an executive summary of the results. This can be used by the Volunteering Hospital to document education or QI activities.

If there are any questions, please contact Deena Rauch at [deenarauch@u.boisestate.edu](mailto:deenarauch@u.boisestate.edu) or 509-330-6600 or Teresa Serratt, PhD, RN at [teresaserratt@boisestate.edu](mailto:teresaserratt@boisestate.edu) or 208-297-6778.

Signed,

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Chief NE Date

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Doctorate of Nursing Practice Student Date

## Appendix E

## Nurse Leader Recruitment Phone Call Script

Hello! My name is Deena Rauch and I am the Executive Director for Nurse Leaders of Idaho and Doctorate of Nursing Practice student at Boise State University. Do you have 10 minutes to discuss a special project I am doing? I am conducting a school project about the use of evidence-based practice (EBP) in Idaho's Critical Access Hospitals (CAH). I am calling to ask if you would be willing to complete a brief survey that will take less than 10 minutes of your time. This survey asks questions about the current state of EBP in your organization. If you complete this survey and are interested in participating in my project, you will receive an online link to another survey that will ask you about perceived as barriers and facilitators to EBP and your organizational readiness to implement EBP. If you decide to complete the surveys and are interested in volunteering in this project, it will assist me to select one hospital to participate in an online EBP continuing education program for an interdisciplinary team of your choosing (5-7 clinicians).

This EBP continuing education program consists of 14 self-paced online EBP continuing education modules that takes about 13 hours to complete. Pre- and post-EBP education program surveys will be administered to gather information about your team's perceptions about the barriers and facilitators to EBP; EBP knowledge, competencies, implementation, and beliefs; and perceptions of organizational readiness for EBP. Participants will also be awarded continuing education hours if they complete the entire program.

Once your team has completed the EBP education program, I would like to lead them through an evidence-based QI initiative using their new knowledge and skills. This may take several weeks to a couple of months to complete. Meeting times can be arranged to maximize participation. Participation in this project is voluntary.

This project is being conducted with the assistance of Ohio State University's Center for Trans-Disciplinary Evidence-Based Practice (CTEP). They are providing the education modules for a substantially reduced price, specifically for this project. Also, I received additional support to offset the cost of the modules so there will be no charge to your organization. CTEP is assisting me to administer the online surveys. For further information about the CTEP's EBP continuing education program, see the Center for Transdisciplinary Evidence-based Practice's *EBP Modular Program Overview*. This is available at: <https://ctep-ebp.com/online-modular-ebp-program>.

## Nurse Leader Recruitment Phone Call Script (continued)

Throughout this project, I will make every effort to protect your confidentiality. The possible benefits of participating in this project are that you and your staff will gain knowledge about EBP and contribute to the body of knowledge about the state of EBP in Idaho's CAHs and the effectiveness of the online EBP continuing education program. Additionally, health care professionals in your organization will be able use their new knowledge and skills to complete a QI initiative to improve patient care outcomes. There are no foreseeable risks to participating in this project.

Again, I am asking you to complete an initial survey that includes a limited demographics section and questions about the current state of EBP in your organization. This survey will also ask you if you and your hospital would like to be considered for the online EBP continuing education program and interdisciplinary QI initiative. If you are interested, you will be sent a link to two additional surveys. Again, only one hospital will be chosen.

Can I answer any questions?

Are you willing to complete an initial survey? If so, may I send it to you by email or post? Which address should I use?

Would you like a copy of this phone script for your files?

Can I answer any other questions?

If you have any questions, please do not hesitate to contact me (deenarauch@u.boisestate.edu or 509-330-6600) or Dr. Teresa Serratt (teresaserratt@boisestate.edu or 208-297-6778).

Thank you for your time!

COMMENTS/NOTES:

## Appendix F

## NE Cover Letter

**An Evidence-Based Practice Assessment in Idaho's Critical Access Hospitals**

Deena Rauch, MSN, RN, NEA-BC, FACHE a Doctorate of Nursing Practice (DNP) student at Boise State University, is conducting a survey to evaluate whether providers in Idaho's Critical Access Hospitals (CAH) are using evidence as a foundation for practice—and, if not, what barriers exist. You are being asked to complete this voluntary survey because you are the NE in one of Idaho's CAHs.

The possible benefits of participation in this project are your organization will contribute to the body of knowledge about the state of EBP in Idaho's CAHs and possibly, the evaluation of the effectiveness of an online EBP continuing education program. Additionally, health care professionals in your organization may be selected work as a team to complete an evidence-based QI initiative to improve patient care outcomes.

There are no foreseeable risks to your participation. However, the project leader is requesting limited demographic information. Due to the make-up of Idaho's population and the inclusion of just four ID CAHs, the answers to some questions may make an individual identifiable. If you are uncomfortable answering any of these questions, you may leave them blank. The results of this survey may be used in reports, presentations, or publications, but your name or the organization's name will not be used. Data will be reported only in aggregate form.

If you have any questions or concerns, feel free to contact Deena Rauch or her faculty advisor:

<b>Deena Rauch, MSN, RN, NEA-BC, FACHE</b>	<b>Teresa Serratt, PhD, RN</b>
<b>DNP Student</b>	<b>Associate Professor</b>
<b>School of Nursing</b>	<b>School of Nursing</b>
<b>Boise State University</b>	<b>Boise State University</b>
<b>(509) 330-6600</b>	<b>(208) 297-6778</b>
<b>deenarauch@u.boisestate.edu</b>	<b>teresaserratt@boisestate.edu</b>

If you have questions about your rights as a project participant, you may contact the Boise State University Institutional Review Board (IRB), which is concerned with the protection of volunteers in research projects. You may reach the board office between 8:00 AM and 5:00 PM, Monday through Friday, by calling (208) 426-5401 or by writing: Institutional Review Board, Office of Research Compliance, Boise State University, 1910 University Dr., Boise, ID 83725-1138.

If you would prefer not to participate, please do not fill out the survey.

If you consent to participate, please complete the survey.

## Appendix G

## NE Evidence-Based Practice Demographics Questionnaire/Needs Assessment

Thank you for completing each survey question by either placing a check mark in the appropriate space or providing written statements to describe the current state of evidence-based practice (EBP) in your organization. Your responses will be kept confidential. The results of this needs assessment will be used for planning an evidence-based practice continuing education program and evidence-based QI project. Please, return this completed survey by fax (208-882-2606), email ([deenarauch@u.boisestate.edu](mailto:deenarauch@u.boisestate.edu)), or post (536 S. Mountain View Road, Moscow, ID 83843) by **May 5, 2017**. Thank you for taking the time to complete this survey.

**DEMOGRAPHICS**

1. Age: \_\_\_\_\_
2. Highest level of nursing education:
  - Diploma: \_\_\_\_\_
  - Associate: \_\_\_\_\_
  - Bachelors: \_\_\_\_\_
  - Masters: \_\_\_\_\_
  - DNP: \_\_\_\_\_
  - PhD: \_\_\_\_\_
  - Other: \_\_\_\_\_ Please, specify: \_\_\_\_\_
3. Number of years in current role: \_\_\_\_\_ (Please, enter a whole number. If partial, round up to the nearest whole number.)
4. Number of years in practice: \_\_\_\_\_ (Please, enter a whole number. If partial, round up to the nearest whole number.)
5. What has been your level of exposure to the concept of evidence-based practice (EBP)? (Check all that apply.)
  - I learned about EBP in school \_\_\_\_\_
  - I took a continuing education course in EBP \_\_\_\_\_
  - I read about EBP in journals, textbooks, or online \_\_\_\_\_
  - I do not know much about EBP \_\_\_\_\_

**NEEDS ASSESSMENT**

1. Are you familiar with the concept of evidence-based practice?  
Yes \_\_\_\_\_ No \_\_\_\_\_
2. Is your hospital currently engaged in evidence-based practice activities?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, please describe:

## NE Evidence-Based Practice Demographics Questionnaire/Needs Assessment (continued)

3. Would you like to learn more about evidence-based practice?  
Yes \_\_\_\_\_ No \_\_\_\_\_
4. Do you think clinical staff in your organization (nurses, respiratory therapists, physical therapists, etc.) would be interested in learning more about evidence-based practice?  
Yes \_\_\_\_\_ No \_\_\_\_\_
5. Would you and/or your staff be interested in learning more about evidence-based practice by participating in a modular, self-paced, online continuing education course?  
Yes \_\_\_\_\_ No \_\_\_\_\_
6. If your hospital is chosen for this project, there is no cost to your organization but if that had not been the case, would you be willing to allocate a modest amount of education dollars (not to exceed \$350 per health care professional) to provide 13-hours of online evidence-based practice continuing education?  
Yes \_\_\_\_\_ No \_\_\_\_\_
7. Would you be willing to allocate a modest amount of education dollars (salary) to support five (minimum) to seven (maximum) interdisciplinary team members to complete 13-hours of online evidence-based practice continuing education?  
Yes \_\_\_\_\_ No \_\_\_\_\_
8. Would you be interested in implementing evidence-based practice to address a specific quality issue in your organization?  
Yes \_\_\_\_\_ No \_\_\_\_\_
9. Would you be willing to identify and support five (minimum) to seven (maximum) clinicians to participate in an evidence-based QI project utilizing newly acquired EBP knowledge and skills?  
Yes \_\_\_\_\_ No \_\_\_\_\_
10. Are you interested in participating in this online evidence-based practice education program and evidence-based QI project?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If you selected "No", simply return this survey by fax, email, or post without any identifying information. If you selected "Yes", please complete the following information.

Name: \_\_\_\_\_

Hospital: \_\_\_\_\_

Phone number: \_\_\_\_\_

Email address: \_\_\_\_\_

## NE Evidence-Based Practice Demographics Questionnaire/Needs Assessment (continued)

Once this survey is returned, Deena Rauch will send you an online link to complete the *Barriers and Facilitators to Evidence-Based Practice* questionnaire and the *Organizational Culture and Readiness for System-Wide Integration of Evidence-Based Practice* survey. This information will be used to select one hospital to participate in the online evidence-based practice continuing education program and evidence-based QI initiative.

*Thank you for participating in this survey!*

## Appendix H

## Informed Consent



BOISE STATE UNIVERSITY

**INFORMED CONSENT****Key Stakeholders, Opinion Leaders, and Clinical Specialists in Selected Hospital**

**Project Title:** An Evidence-Based Practice Assessment in Idaho’s Critical Access Hospitals

**Project Leader:** Deena Rauch, MSN, RN, NEA-BC, FACHE

**Faculty Mentor:** Teresa Serratt PhD, RN

This consent form will give you the information you will need to understand why this project is being done and why you are being invited to participate. It will also describe what you will need to do to participate as well as any known risks, inconveniences, or discomforts that you may have while participating. I encourage you to ask questions at any time. If you decide to participate, you will be asked to sign this form and it will be a record of your agreement to participate. You will be given a copy of this form to keep.

**PURPOSE AND BACKGROUND**

You are invited to participate in a project to identify whether providers in Idaho’s Critical Access Hospitals (CAH) are using evidence as a foundation for practice—and, if not, what barriers exist? The information gathered will be used to better understand the use of evidence-based practice (EBP) in Idaho CAHs. This project includes participation in an online EBP continuing education program and an interdisciplinary evidence-based QI initiative. Your Chief NE will choose the health care professional he or she wants to participate in this project. You are being asked to participate because you are key stakeholder, opinion leader, or clinical specialist in an Idaho CAH and a volunteer over the age of 18.

**PROCEDURES**

If you agree to participate in this project, you will be asked to attend one meeting. This meeting will last 60 minutes or less. During the meeting, you will be asked about your opinions on what QI initiative should be selected and provide input to draft and approve the interdisciplinary team’s charter (scope of the project). This meeting may be audio-recorded and the project leader may take notes. At the completion of this project, the organization will be provided with an executive summary of the results. This can be used to document your organizations education or QI activities.

## Informed Consent (continued)

**RISKS**

Some of the questions asked may make you uncomfortable. You are always free to decline to answer any question or to stop your participation at any time. There are no foreseeable risks.

**BENEFITS**

By participating in this project, you may gain some knowledge about evidence-based practice, you will contribute to the body of knowledge about the state of EBP in Idaho's CAHs and the effectiveness of the online EBP continuing education program, and health care professionals in your organization may complete a QI initiative to improve patient care outcomes.

**EXTENT OF CONFIDENTIALITY**

Reasonable efforts will be made to keep any personal information private and confidential. Any identifiable information obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. Only the project leader, faculty mentor, and Ohio State University key personnel, Boise State University Office of Research Compliance (ORC) may access the data. The ORC monitors research studies to protect the rights and welfare of research participants.

Your name will not be used in any written reports or publications which result from this project, unless you have given explicit permission for me to do this. Data will be kept for three years (per federal regulations) after the study is complete and then destroyed.

**PAYMENT/COMPENSATION**

You will not receive any payment or compensation by the project leader for your participation.

**PARTICIPATION IS VOLUNTARY**

You do not have to participate in this project if you do not want to. If you volunteer to participate in this project, you may withdraw from it at any time without consequences of any kind or loss of benefits to which you are otherwise entitled.

**QUESTIONS**

If you have any questions or concerns about your participation in this project, you should contact the project leader at [deenarauch@u.boisestate.edu](mailto:deenarauch@u.boisestate.edu) or (509) 330-6600.

If you have questions about your rights as a research participant, you may contact the Boise State University Institutional Review Board (IRB), which is concerned with the protection of volunteers in research projects. You may reach the board office between 8:00 AM and 5:00 PM, Monday through Friday, by calling (208) 426-5401 or by writing: Institutional Review Board, Office of Research Compliance, Boise State University, 1910 University Dr., Boise, ID 83725-1138.

## Informed Consent (continued)

**DOCUMENTATION OF CONSENT**

I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of my involvement, and possible risks have been explained to my satisfaction. I understand I can withdraw at any time. I have received a copy of this form.

---

**Printed Name** of Project Participant

---

**Signature** of Project Participant

---

Date

---

Signature of Person Obtaining Consent

---

Date

Appendix I  
Group Charter

<b>QI Project Charter Volunteering Hospital 2017</b>			
Project Title:			
Project Leader: Deena Rauch		NE Sponsor:	
Team Members:			
What are we trying to accomplish?			
Aim Statement: (How good? For whom? By when?)			
Purpose Statement: (Reason for the effort. Defines <i>WHY</i> .)			
Expected Outcomes: (Defines <i>WHAT</i> .)			
Project SMART Goals:	<u>Baseline</u>	<u>Current</u>	<u>Goal</u>
•			
Project Scope Is:			
Project Scope Is Not:			
Deliverables:			
Support Required:			

Project Charter (continued)

Schedule: (key milestones and dates)	<u>Target</u> Dates	<u>Actual</u> Dates	<u>Status</u> Dates
<p>F—<i>Find</i> a process to improve:                      O—<i>Organize</i> a team:                      C—<i>Clarify</i> the current knowledge of the process                      U—<i>Understand</i> the processes and the root cause(s) of problem                      S—<i>Select</i> a part of the process to improve</p> <p>P—<i>Plan</i> the improvement (design)                      D—<i>Do/Implement</i> the plan (measure)                      C—<i>Check</i> the results (assess)                      A—<i>Act</i> on the findings (improve)</p>			
End Outcomes: (financial, LOS, readmissions, etc.)			
Prepared by:	Date:	Revised:	
Approvals:	Project Leader:	NE Sponsor:	

## Appendix J

## Participant Cover Letter

**Idaho's Critical Access Hospital Evidence-Based Practice Online Survey Information Sheet****Dear Health Care Professional:**

You have been selected by your NE to participate in a survey that is being conducted to assess the perceptions of health care professionals about evidence-based practice (EBP) in Idaho's Critical Access Hospitals (CAH). Additionally, you will be asked to complete an online EBP continuing education program and participate in an evidence-based QI initiative. To be included in this project, you must:

- be a licensed health care professional in Idaho;
- work in a hospital that is licensed in the State of Idaho;
- read and understand English;
- be willing to complete a 13-hour online EBP continuing education program by **June 16, 2017**; and
- after you complete the EBP continuing education program, be willing to utilize your EBP knowledge and skills to implement an evidence-based QI initiative.

This is a survey about what you perceive as barriers and facilitators to evidence-based practice (EBP) and EBP knowledge, competencies, implementation, beliefs, and perceptions of organizational readiness to implement EBP. This online survey has six main sections that includes demographic information section, the barriers and facilitators to EBP questionnaire, the EBP knowledge questionnaire, a self-assessment of EBP competencies, a self-assessment of EBP implementation, and two EBP scales: beliefs scale and the organizational readiness scale.

You will be asked to complete a survey at two intervals; prior to beginning the online EBP continuing education program and immediately at the completion of the program. It will take **approximately 30 minutes** of your time to complete the survey at each interval.

For this project, the investigator is requesting demographic information. Due to the make-up of Idaho's population, the combined answers to these questions may make an individual identifiable. The project leader will make every effort to protect your confidentiality by not releasing you or your hospital's name and only reporting data in aggregate form. Again, if you are uncomfortable answering any of these questions, you may leave them blank.

Your participation in this project is voluntary and you can choose not to participate. If you choose not to participate in this project, there is no penalty. You can skip any question you do not wish to answer. The possible benefits of participating in this project are that you may gain some knowledge about EBP and you will contribute to the body of knowledge about the state of EBP in Idaho's CAHs and the effectiveness of the online EBP continuing education program. Additionally, you will work with other health care professionals in your organization to complete a QI initiative to improve patient care outcomes. There are no foreseeable risks to your participation.

The completed survey will not contain any personal identifying information and therefore, the project leader will not know who provided the data. The survey results will be kept locked in a research office at Ohio State University (OSU) and locked in a cabinet in the project leader's private office. Only the project leader, the project leader's faculty mentor, and OSU key personnel will have access to the data. Although confidentiality of data collected cannot be guaranteed in online research, confidentiality will be protected by encryption of data and storage on a secure server. The results of this study may be used in reports, presentations, or publications, but your name or the organization's name will not be used. Data will be reported only in aggregate form.

After reading this information, if you determine you meet the inclusion criteria and you are willing to participate, please complete the survey and proceed to the EBP continuing education program. An online link will be provided after completion of the survey.

## Participant Cover Letter (continued)

For specific information about the continuing education program, see the Center for Transdisciplinary Evidence-based Practice's *EBP Modular Program Overview*.

**It will take approximately 13 hours to complete these EBP modules.** Upon completion of the entire modular program, participants will receive 13 continuing education (CE) hours and a certificate of completion. All participants will be asked to complete a feedback survey so that we can determine your satisfaction with the online EBP continuing education program.

After completion of the online EBP continuing education program, the project leader will guide you and your colleagues through an evidence-based QI initiative in order to apply your new knowledge and skills. This specific QI initiative will be selected by key stakeholders, opinion leaders, and clinical specialists in your organization. This QI initiative may take several weeks to a couple of months to complete. Meeting times will be arranged to maximize participation.

Any questions you have concerning this project or your participation in the study can be answered by Deena Rauch, MSN, RN, NEA-BC, FACHE, the project leader and Doctorate of Nursing Practice student at Boise State University. Ms. Rauch can be contacted at [deenarauch@u.boisestate.edu](mailto:deenarauch@u.boisestate.edu) or 509-330-6600. Or, you may contact Teresa Serratt, PhD, RN, Associate Professor at Boise State University, School of Nursing. Dr. Serratt can be contacted at [teresaserratt@boisestate.edu](mailto:teresaserratt@boisestate.edu) or at 208-297-6778.

If you have questions about your rights as a project participant, you may contact the Boise State University Institutional Review Board (IRB), which is concerned with the protection of volunteers in research project. You may reach the board office between 8:00 AM and 5:00 PM, Monday through Friday, by calling 208-426-5401 or by writing: Institutional Review Board, Office of Research Compliance, Boise State University, 1910 University Dr., Boise, ID 83725-1138.

If you would prefer not to participate, simply do not complete the survey. If you consent to participate, please complete the survey. Submission of the online survey will be considered your consent to participate.

I appreciate your willingness to assist me to learn more about the use of evidence-based practice in Idaho's Critical Access Hospitals.

Sincerely,

*Deena Rauch*

Deena R. Rauch, MSN, RN, NEA-BC, FACHE  
Project Leader and Doctorate of Nursing Practice Student  
Boise State University

## Appendix K

## Interdisciplinary Team Demographics Questionnaire

Thank you for completing each survey question by either placing a check mark in the appropriate space or providing written statements to describe your demographic characteristics. Your responses will be kept confidential. Please, return this completed survey to the online link provided.

**DEMOGRAPHICS**

1. Age: \_\_\_\_\_
2. Highest level of nursing education:  
Diploma: \_\_\_\_\_  
Associate: \_\_\_\_\_  
Bachelors: \_\_\_\_\_  
Masters: \_\_\_\_\_  
Clinical Doctorate: \_\_\_\_\_  
PhD: \_\_\_\_\_  
Other: \_\_\_\_\_ Please, specify: \_\_\_\_\_
3. Number of years in current role: \_\_\_\_\_ (Please, enter a whole number. If partial, round up to the nearest whole number.)
4. Number of years in practice: \_\_\_\_\_ (Please, enter a whole number. If partial, round up to the nearest whole number.)
5. What has been your level of exposure to the concept of evidence-based practice (EBP)? (Check all that apply.)  
I learned about EBP in school \_\_\_\_\_  
I took a continuing education course in EBP \_\_\_\_\_  
I read about EBP in journals, textbooks, or online \_\_\_\_\_  
I do not know much about EBP \_\_\_\_\_

*Thank you for participating in this survey!*

## Appendix L

## Timeline

Activity	Fall 2015	Spring 2016	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
Literature review, problem statement, mission, & vision	X	X	X	X	X	X	X	
Project goals & objectives		X	X	X	X			
Theoretical model/framework, theory of change, logic model, & timeline		X	X	X	X	X	X	
Project proposal draft 1 & CITI training			X					
Evaluation plan, financial plan, & IRB application				X	X			
Presentation of project proposal					X			
Project implementation <ul style="list-style-type: none"> <li>• Contact NEs</li> <li>• Conduct needs assessment</li> <li>• Analyze &amp; compare data</li> <li>• Facilitate focus group</li> <li>• Support education curriculum</li> <li>• Identify QI initiative</li> <li>• Identify interdisciplinary team members</li> </ul>						X		

Timeline (continued)

Project management • Facilitate team • Administer & analyze surveys • Educate team on EBP • Implement & evaluate QI initiative						X	X	
Present final project								X
Dissemination & final report								X

Appendix M

BARRIERS<sup>®</sup>: The Barriers for Research Utilization Scale (BARRIERS<sup>®</sup>)



**Barriers and Facilitators to Using research Research in Practice**

Articles in clinical journals indicate that clinicians in practice do not use the results of research to help guide their practice. There are a number of reasons why this might be. We would like to know the extent to which you think each of the following situations is a barrier to clinicians' use of research to alter/enhance their practice. For each item, select the response that best represents your view. Thank you for sharing your views with us.

Click to write the question text

	To no extent	To a little extent	To a moderate extent	To a great extent	No opinion
1. Research reports/articles are not readily available	<input type="radio"/>				
2. Implications for practice are not made clear	<input type="radio"/>				
3. Statistical analyses are not understandable	<input type="radio"/>				
4. The research is not relevant to the clinician's practice	<input type="radio"/>				
5. The clinician is unaware of the research	<input type="radio"/>				
6. The facilities are inadequate for implementation	<input type="radio"/>				
7. The clinician does not have time to read research	<input type="radio"/>				
8. The research has not been replicated	<input type="radio"/>				
9. The clinician feels the benefits of changing practice will be minimal	<input type="radio"/>				
10. The clinician is uncertain whether to believe the results of the research	<input type="radio"/>				
11. The research has methodological inadequacies	<input type="radio"/>				
12. The relevant literature is not compiled in one place	<input type="radio"/>				
13. The clinician does not feel she/he has enough authority to change patient care procedures	<input type="radio"/>				
14. The clinician feels results are not generalizable to own setting	<input type="radio"/>				
15. The clinician is isolated from knowledgeable colleagues with whom to discuss the research	<input type="radio"/>				

BARRIERS<sup>®</sup>: The Barriers for Research Utilization Scale (BARRIERS<sup>®</sup>) (continued)

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16. The clinician sees little benefit for self	<input type="radio"/>				
17. Research reports/articles are not published fast enough	<input type="radio"/>				
18. Physicians will not cooperate with implementation	<input type="radio"/>				
19. Administration will not allow implementation	<input type="radio"/>				
20. The clinician does not see the value of research for practice	<input type="radio"/>				
21. There is not a documented need to change practice	<input type="radio"/>				
22. The conclusions drawn from the research are not justified	<input type="radio"/>				
23. The literature reports conflicting results	<input type="radio"/>				
24. The research is not reported clearly and readably	<input type="radio"/>				
25. Other staff are not supportive of implementation	<input type="radio"/>				
26. The clinician is unwilling to change/try new ideas	<input type="radio"/>				
27. The amount of research information is overwhelming	<input type="radio"/>				
28. The clinician does not feel capable of evaluating the quality of the research	<input type="radio"/>				
29. There is insufficient time on the job to implement new ideas	<input type="radio"/>				

**BARRIERS<sup>®</sup>: The Barriers for Research Utilization Scale (BARRIERS<sup>®</sup>) (continued)**

Are there other things you think are barriers to research utilization?

If so, please list and rate each on the scale:

	To no extent	To a little extent	To a moderate extent	To a great extent	No opinion
Barrier 30, please specify: <input type="text"/>	<input type="radio"/>				
Barrier 31, please specify: <input type="text"/>	<input type="radio"/>				
Barrier 32, please specify: <input type="text"/>	<input type="radio"/>				
Barrier 33, please specify: <input type="text"/>	<input type="radio"/>				

34. Which of the above items do you feel are the three greatest barriers to clinicians' use of research?

Greatest Barrier & Item # on above barrier list

Second Greatest Barrier & Item # on above barrier list

Third Greatest Barrier & Item # on above barrier list

35. What are the things you think facilitate research utilization?

Facilitator 1

Facilitator 2

Facilitator 3

Facilitator 4

Once this survey is returned, this information will be used to select one hospital to participate in the online evidence-based practice continuing education program and evidence-based quality improvement initiative.

**Thank you for participating in this survey!**

*This questionnaire was adapted from: Crane, J., Pelz, D., & Horsely, J. A. CURN Project Research Utilization Questionnaire. Ann Arbor, Michigan: Conduct and Utilization of Research in Nursing Project, School of Nursing. The University of Michigan, 1977.*

## Appendix N

## Organizational Culture and Readiness for System-Wide Integration of Evidence-based Practice

(OCRSIEP<sup>®</sup>) Survey

**Below are 19 questions about evidence-based practice (EBP).**

	None at All	A Little	Somewhat	Moderately	Very Much
1. To what extent is EBP clearly described as central to the mission and philosophy of your organization?	<input type="checkbox"/>				
2. To what extent do you believe that EBP is practiced in your organization?	<input type="checkbox"/>				
3. To what extent are clinicians in your organization committed to EBP?	<input type="checkbox"/>				
4. To what extent is the medical staff with whom you work with committed to EBP?	<input type="checkbox"/>				
5. To what extent are the administrators within your organization committed to EBP (i.e. have planned for resources and support [e.g. time] to initiate EBP)?	<input type="checkbox"/>				
6. In your organization, to what extent is there a critical mass of nurses who have strong EBP knowledge and skills?	<input type="checkbox"/>				
7. To what extent are there nurse scientists (doctorally prepared researchers) in your organization to assist in generation of evidence when it does not exist?	<input type="checkbox"/>				
8. In your organization, to what extent are there Advanced Practice Nurses (APN) who are EBP mentors for staff nurses as well as other APNs?	<input type="checkbox"/>				
9. To what extent do clinicians model EBP in their clinical settings?	<input type="checkbox"/>				

OCRSIEP® Survey (continued)

10. To what extent do clinicians have access to quality computers and access to electronic databases for searching for best evidence?	<input type="checkbox"/>				
11. To what extent do clinicians have proficient computer skills?	<input type="checkbox"/>				
12. To what extent do librarians within your organization have EBP knowledge and skills?	<input type="checkbox"/>				
13. To what extent are librarians used to search for evidence?	<input type="checkbox"/>				
14. To what extent are fiscal resources used to support EBP (e.g. education—attending EBP conferences/workshops, computers, paid time for the EBP process, mentors)?	<input type="checkbox"/>				
15. To what extent are there EBP champions (i.e. those who will go the extra mile to advance EBP) in the organization among:					
	<b>None at all</b>	<b>A Little</b>	<b>Somewhat</b>	<b>Moderately</b>	<b>Very Much</b>
a) Administrator?	<input type="checkbox"/>				
b) Nurse Executive?					
c) Physicians?	<input type="checkbox"/>				
d) Nurse Managers?					
e) Nurse Educators?	<input type="checkbox"/>				
f) Advanced Nurse Practitioners?	<input type="checkbox"/>				
g) Staff Nurses	<input type="checkbox"/>				
h) Other Clinicians?	<input type="checkbox"/>				
i) Quality Improvement Officer?	<input type="checkbox"/>				
j) Risk Manager?	<input type="checkbox"/>				
k) Infection Preventionist?	<input type="checkbox"/>				
16. To what extent is the measurement and sharing of outcomes part of the culture of the organization in which you work?					
17. To what extent are decisions generated from:					

OCSIIEP<sup>®</sup> Survey (continued)

	None	25%	50%	75%	100%
a) Direct care providers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Upper administration?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Physicians or other health care provider groups?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Not Ready</b>	<b>Getting Ready</b>	<b>Been Ready but Not Acting</b>	<b>Ready to Go</b>	<b>Past Ready &amp; Onto Action</b>
18. Overall, how would you rate your organization in readiness for EBP?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>None at All</b>	<b>A Little</b>	<b>Somewhat</b>	<b>Moderately</b>	<b>Very Much</b>
19. Compared to 6 months ago, how much movement in your organization has there been toward EBP culture?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Note:* Organizational Culture and Readiness for System-Wide Integration of Evidence-based Practice (OCSIIEP<sup>®</sup>) Survey. Adapted from Ohio State University, College of Nursing, Center for Transdisciplinary Evidence-base Practice. (2016). *Examination of evidence-based practice knowledge, competencies, beliefs, implementation, and perceptions of organizational readiness among evidence-based practice mentors, leaders and faculty.* Ohio State University, Columbus, OH: Author. Used with permission.

## Appendix O

## EBP Knowledge Assessment Questionnaire (EBP-KAQ)

The EBP Knowledge Assessment Questionnaire (EBP-KAQ) measures knowledge of the process of evidence-based practice (EBP).

**Instructions:** Select the one BEST response for each question. I am interested in what you currently know. Please do not guess. Respond “I don’t know”, if that is the most appropriate response.

**1. For the next ten items, determine which of the following are key steps in the evidence-based practice (EBP) process. Respond “Yes”, “No”, or “I don’t know” for each item.**

	Yes	No	I don’t know
a) Search the literature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Evaluate the evidence-based practice change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Implement the study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Critique the articles from the literature search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Formulate a searchable question	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Formulate a hypothesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Appraise the articles from the literature search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Disseminate results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Implement a practice change based on the best article from the literature search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Utilize expert opinion to determine a course of action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2. EBP is:**

- a) An analytical approach to answering a research question.
- b) A problem-solving approach to case management.
- c) A problem-solving approach to the delivery of health care.
- d) An analytical approach to QI.
- e) I don’t know.

## EBP Knowledge Assessment Questionnaire (EBP-KAQ) (continued)

**3. Which of the following is NOT a clinical inquiry competency?**

- a) Identify clinical problems or issues.
- b) Demonstrate ability to search for evidence to change practice.
- c) Design a research project.
- d) Display knowledge seeking behaviors.
- e) I don't know.

**4. Which of the following is an example of a complete PICOT question?**

- a) Does an onboarding program promote new graduate retention?
- b) In first time mothers, how does mother-baby couplet care compared to traditional maternity care affect maternal competence?
- c) Is Amoxicillin the best first line antibiotic for treating ear infections in children?
- d) In hospitalized adult who have had surgery, does early mobilization decrease length of stay?
- e) I don't know.

**5. Which of the following are organizational barriers to EBP:**

- A. Inadequate resources to support EBP.**
- B. Leaders who do not embrace and role model EBP.**
- C. Lack of EBP mentors.**
- D. Lack of a strategic plan that includes EBP.**

- a) A, B, and C
- b) B, C, and D
- c) A, B, and D
- d) A, B, C, and D
- e) I don't know

**6. What is the difference between research and EBP?**

- a) EBP is the process used to implement the findings from a research study into practice with consideration of patient preferences.
- b) Research is a scientific process that develops new knowledge and external evidence whereas EBP is a process used to evaluate QI projects.
- c) Research is a rigorous scientific process that results in the generation of new knowledge, whereas EBP is the translation of evidence into practice.
- d) EBP is a type of research study design used when rapid practice changes are needed.
- d) I don't know.

## EBP Knowledge Assessment Questionnaire (EBP-KAQ) (continued)

**7. Which of the following statements best describes the purpose of a PICOT question?**

- a) It is a questioning mechanism to determine types of research in a hierarchy.
- b) It is a clinical question used to organize critique of research articles.
- c) It is a strategy to summarize the results of a literature search.
- d) It is a way to formulate a question that can be used to search in electronic databases effectively.
- e) I don't know.

**8. What is the difference between QI and EBP?**

- a) EBP is a QI method.
- b) EBP is a process that supports decision making related to implementing best practices whereas QI is a process to assure best practices are ongoing.
- c) EBP is a process that provides answers to clinical questions whereas QI is a process to assure benchmarks are met.
- d) EBP is a systematic process that generates the evidence that forms the basis for QI projects.
- e) I don't know.

**9. Which of the following is a correct hierarchical listing of levels of evidence (from highest-most confident to lowest level-lesser confidence):**

- a) Descriptive correlational study, clinical practice guideline, meta-analysis of RCTs.
- b) Ethnography, prospective cohort study, case study.
- c) Systematic review of RCTs, expert opinion, retrospective cohort study.
- d) RCT, case-control study, descriptive study.
- e) I don't know.

**10. For the next three questions, consider the following evidence regarding EBP mentors. When a group of EBP mentors (health care providers who work directly with point-of-care staff to educate staff, implement EBP projects, role model EBP, and promote a culture of EBP) are integrated into a health care organization, which of the following outcomes have been demonstrated: (select "Yes" or "No" or "I don't know" for each option)**

	Yes	No	I don't know
a) EBP beliefs increase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Patient outcomes improve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) EBP implementation increases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## EBP Knowledge Assessment Questionnaire (EBP-KAQ) (continued)

**11. In a PICOT question; the P, I, C, O, and T represent;**

- a) Prediction, Interest, Collect data, Objective, Time.
- b) Percentage, Idea, Collect data, Observation, Trial.
- c) Problem, Implementation, Consideration, Objective, Test.
- d) Population, Intervention or area of Interest, Comparison, Outcome, Time.
- e) I don't know.

**12. Which of the following is NOT an example of dissemination of an EBP project?**

- a) Podium presentation at a national conference.
- b) Publication in a peer-reviewed journal.
- c) Poster presentation at the EBP celebration day at your organization.
- d) Team meeting discussion of the EBP protocol to be implemented.
- d) I don't know.

**13. Which of the following is NOT considered a barrier to implementation of EBP?**

- a) Time
- b) Manager/leader resistance
- c) Patient preferences
- d) Access to EBP education
- e) I don't know

**14. An EBP tool that displays a combination/fusion of findings from a body of evidence is:**

- a) Synthesis table
- b) Evaluation table
- c) Systematic review
- d) Spirit of inquiry
- e) I don't know

**15. Assessment of an organization's readiness for EBP would include questions about all of the following EXCEPT:**

- a) Clinicians' knowledge, beliefs, and implementation of EBP.
- b) Whether EBP is reflected in the organization's mission and philosophy.
- c) Whether resources are available to support EBP.
- d) Whether organization metrics are reaching benchmarked levels.
- e) I don't know.

## EBP Knowledge Assessment Questionnaire (EBP-KAQ) (continued)

**16. How many research articles are required to adequately answer a clinical question?**

- a) At least five.
- b) Never more than 10; pick the best 10 articles available and use them.
- c) It varies and depends on the question being addressed.
- d) It varies and depends on the amount of time available to answer the question being addressed.
- e) I don't know.

**17. What are the three components of EBP?**

- a) Evidence and clinical expertise/experience and patient preferences/values.
- b) Evidence and organizational context and patient preferences/values.
- c) Evidence and clinical expertise/experience and provider preferences.
- d) Evidence and organizational context and provider preferences.
- e) I don't know.

**18. With clinical inquiry, which of the following is likely to occur?**

- A. News of clinical advances diffuses more rapidly.**
- B. A smaller percentage of clinicians access and use research findings in a timely fashion.**
- C. Translation of research to clinical practice is accelerated.**
- D. Clinical questions are answered effectively.**

- a) A, B, and D
- b) B, C, and D
- c) A, C, and D
- d) A, B, and C
- e) I don't know.

**Please answer questions 19-21 based on the following PICOT question: In hospitalized patients, how does turning patients every 2 hours compared to event-based turning affect HAPU (hospital acquired pressure ulcers) during hospitalization?**

**19. Which 3 databases should be searched first, to find the best evidence to answer this PICOT question?**

- a) Clinical Guidelines, ERIC, and Cochrane.
- b) CINAHL, PubMed, and ERIC.
- c) PubMed, Cochrane, and CINAHL.
- d) Cochrane, Google Scholar, and Clinical Guidelines.
- e) I don't know.

## EBP Knowledge Assessment Questionnaire (EBP-KAQ) (continued)

**20. What would be the best outcomes measurement for this question?**

- a) Nurses knowledge of the HAPU prevention protocol
- b) HAPU rates
- c) Staff compliance with the turning protocol
- d) Patient satisfaction
- e) I don't know

**21. The database search resulted in the following studies. Which study would represent the highest level of evidence to contribute to answering this PICOT question?**

- a) Case study
- b) Descriptive study
- c) Randomized controlled trial
- d) Cohort study
- e) I don't know

**22. Which of the following is NOT a key element for promoting a successful organizational transition to an EBP culture?**

- a) Develop and share a clear vision for EBP.
- b) Write a well-defined strategic plan for EBP.
- c) Select a specific EBP model.
- d) Implement strategies to overcome EBP barriers.
- e) I don't know.

**23. After using the IOWA model to facilitate a successful change in practice as evidenced by ongoing data monitoring, what step remains for the committee leading the change?**

- a) Disseminating
- b) Evaluating
- c) Planning
- d) I don't know

**24. Which of the following is a valid reason to modify an evidence-based plan of care?**

- a) Individualized patient choice
- b) Lack of experience with the proposed treatment
- c) Limited access to knowledge or resources
- d) I don't know

## EBP Knowledge Assessment Questionnaire (EBP-KAQ) (continued)

**25. How can health care providers identify opportunities to improve care outcomes for individual patients and organizations?**

- a) Continually question care practices
- b) Integrate more clinical evidence into policies
- c) Rely on advanced practice health care providers for policy and procedure review
- d) I don't know

**26. When collaborating with the research team, which of the following options would allow the health care providers to disseminate their clinical findings from EBP projects to the largest, interested audience?**

- a) Department-based QI meeting
- b) Poster presentation at a large national conference
- c) Publication in a clinically-focused professional journal
- d) I don't know

**27. Considering the differences between QI (QI) and research, which of the following statements is true?**

- a) QI involves interventions supported by research studies, whereas research involves testing novel interventions.
- b) QI project results are not published in scholarly journals whereas research results appear primarily in scholarly journals.
- c) QI used different statistical methods than those used in research.
- d) I don't know.

*Note.* EBP Knowledge Assessment Questionnaire (EBP-KAQ). Adapted from Ohio State University, College of Nursing, Center for Transdisciplinary Evidence-base Practice. (2016). *Examination of evidence-based practice knowledge, competencies, beliefs, implementation, and perceptions of organizational readiness among evidence-based practice mentors, leaders and faculty.* Ohio State University, Columbus, OH: Author. Used with permission.

## Appendix P

## Evidence-Based Practice Competency Self-Assessment

**Please select your level of competence for each of the EBP competencies using the following 4-point Likert rating scale:**

(1=Not Competent / 2=Need Improvement / 3=Competent / 4=Highly Competent)

	Not Competent	Need Improvement	Competent	Highly Competent
Competency 1: Questions clinical practices for the purpose of improving the quality of care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 2: Describes clinical problems using internal evidence*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 3: Participates in the formulation of clinical questions using PICO(T)** format.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 4: Searches for external evidence*** to answer focused clinical questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 5: Participates in critical appraisal of pre-appraised evidence****.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 6: Participates in critical appraisal of published research studies to determine their strength and applicability to clinical practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 7: Participates in the evaluation and synthesis of a body of evidence gathered to determine its' strength and applicability to clinical practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 8: Collects practice data (e.g., individual patient data, QI data) systematically as internal evidence for clinical decision making in the care of individuals, groups, and populations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 9: Integrates evidence gathered from external and internal sources in order to plan evidence-based practice changes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Evidence-Based Practice Competency Self-Assessment (continued)

Competency 10: Implements practice changes based on evidence, clinical expertise, and patient preferences to improve care processes and patient outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 11: Evaluates outcomes of evidence-based decisions and practice changes for individuals, groups, and populations to determine best practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 12: Disseminates best practices supported by evidence to improve quality of care and patient outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 13: Participates in strategies to sustain an evidence-based practice culture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 14: Systematically conducts an exhaustive search for external evidence*** to answer clinical questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 15: Critically appraises relevant pre-appraised evidence**** and primary studies, including evaluation and synthesis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 16: Integrates a body of external evidence*** from allied health and related fields with internal evidence* in making decisions about patient care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 17: Leads trans-disciplinary teams in applying synthesized evidence to initiate clinical decisions and practice changes to improve the health of individuals, groups, and populations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 18: Generates internal evidence through outcomes management and EBP implementation projects for the purpose of integrating best practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 19: Measures processes and outcomes of evidence-based clinical decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 20: Formulates evidence-based policies and procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## EBP Competency Self-Assessment (continued)

Competency 21: Participates in the generation of external evidence with other health care professionals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 22: Mentors other in evidence-based decision making and the evidence-based practice process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 23: Implements strategies to sustain an evidence-based practice culture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competency 24: Communicates best evidence to individuals, groups, and policy-makers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## LEGEND:

\*internal evidence = evidence generated internally within a clinical setting, such as patient assessment, outcomes management, and QI data

\*\*PICO(T) = Patient population, Intervention or area of Interest, Comparison intervention or group, Outcome, Time

\*\*\*external evidence = evidence generated from research

\*\*\*\*pre-appraised evidence such as; clinical guidelines, evidence-based policies and procedures, and evidence summaries and syntheses

*Note.* EBP Competency Self-Assessment. Adapted from Ohio State University, College of Nursing, Center for Transdisciplinary Evidence-base Practice. (2016). *Examination of evidence-based practice knowledge, competencies, beliefs, implementation, and perceptions of organizational readiness among evidence-based practice mentors, leaders and faculty.* Ohio State University, Columbus, OH: Author. Used with permission.

## Appendix Q

## Evidence-Based Practice Implementation Scale

**Below are 18 questions about evidence-based practice (EBP). Some clinicians and executives do some of these things more often than others. There is no certain frequency you should be performing these tasks. Please answer each question by selecting the number that best describes how often each item has applied to you in the past 8 weeks.**

In the past 8 weeks, I have:

	<b>0 times</b>	<b>1-3 times</b>	<b>4-5 times</b>	<b>6-7 times</b>	<b>≥8 times</b>
1. Used evidence to change clinical practice.	<input type="checkbox"/>				
2. Critically appraised evidence from a research study.	<input type="checkbox"/>				
3. Generated a PICO(T) question about my leadership or clinical practice in my organization.	<input type="checkbox"/>				
4. Informally discussed evidence from a research study with a colleague.	<input type="checkbox"/>				
5. Collected data on a patient problem.	<input type="checkbox"/>				
6. Shared evidence from a study or studies in the form of a report or presentation to more than 2 colleagues.	<input type="checkbox"/>				
7. Evaluated the outcomes of a practice change.	<input type="checkbox"/>				
8. Shared an EBP guideline with a colleague.	<input type="checkbox"/>				
9. Shared evidence from a research study with a patient/family member.	<input type="checkbox"/>				
10. Shared evidence from a research study with a multi-disciplinary team member.	<input type="checkbox"/>				
11. Read and critically appraised a clinical research study.	<input type="checkbox"/>				
12. Accessed the Cochrane database of systematic reviews.	<input type="checkbox"/>				

## Evidence-Based Practice Implementation Scale (continued)

13. Accessed the National Guidelines Clearinghouse.	<input type="checkbox"/>				
14. Used an EBP guideline or systematic review to change clinical practice or policy where I work.	<input type="checkbox"/>				
15. Evaluated a care initiative by collecting client outcome data.	<input type="checkbox"/>				
16. Shared the outcome data collected with colleagues.	<input type="checkbox"/>				
17. Changed practice based on patient outcome data.					
18. Promoted the use of EBP to my colleagues.					

*Note.* EBP Implementation Scale. Adapted from Ohio State University, College of Nursing, Center for Transdisciplinary Evidence-base Practice. (2016). *Examination of evidence-based practice knowledge, competencies, beliefs, implementation, and perceptions of organizational readiness among evidence-based practice mentors, leaders and faculty.* Ohio State University, Columbus, OH: Author. Used with permission.

## Appendix R

## Evidence-Based Practice Beliefs (EBPB) Scale

**Please use the scale provided to rate your level of agreement with each of the following statements. THERE ARE NO RIGHT OR WRONG ANSWERS.**

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I believe that evidence-based practice (EBP) results in the best care for patients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I am clear about the steps of EBP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I am sure that I can implement EBP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I believe that critically appraising evidence is an important step in the EBP process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I am sure that evidence-based guidelines can improve clinical care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I believe that I can search for the best evidence to answer clinical questions in a time efficient way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I believe that I can overcome barriers in implementing EBP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am sure that I can implement EBP in a time efficient way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I am sure that implementing EBP will improvement the care that I deliver to my patients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I am sure about how to measure the outcomes of clinical care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I believe that EBP takes too much time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I am sure that I can access the best resources in order to implement EBP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I believe EBP is difficult.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I know how to implement EBP sufficiently enough to make practice changes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Evidence-Based Practice Beliefs (EBPB) Scale (continued)

15. I am confident about my ability to implement EBP where I work.	<input type="checkbox"/>				
16. I believe the care that I deliver is evidence-based.	<input type="checkbox"/>				

*Note.* Evidence-Based Practice Beliefs (EBPB) Scale. Adapted from Ohio State University, College of Nursing, Center for Transdisciplinary Evidence-base Practice. (2016). *Examination of evidence-based practice knowledge, competencies, beliefs, implementation, and perceptions of organizational readiness among evidence-based practice mentors, leaders and faculty.* Ohio State University, Columbus, OH: Author. Used with permission.

## Appendix S

## Survey Instruments and Measurement Intervals

<b>Survey Instrument</b>	<b>Pre-intervention</b>	<b>Post-intervention</b>	<b>3-months</b>	<b>12-months*</b>
Chief NEs				
Needs Assessment	5/31/17			
BARRIERS <sup>®</sup> Scale	5/31/17			
EBP OCRSIEP <sup>®</sup> Scale	5/31/17			
Interdisciplinary Team				
BARRIERS <sup>®</sup> Scale	8/9/17			
EBP OCRSIEP <sup>®</sup> Scale	8/9/17		1/11/18	8/25/18
EBP-KAQ	8/9/17	8/25/17	1/11/18	8/25/18
EBP Competency Self-Assessment	8/9/17	8/25/17	1/11/18	8/25/18
EBP Implementation Scale	8/9/17		1/11/18	8/25/18
EBP Beliefs Scale	8/9/17	8/25/17	1/11/18	8/25/18
EBP Modular Programs, Overall Program Evaluation		8/9/17 & 8/25/17		

*Note.* 12-month follow-up is beyond the timeframe of this project but will be conducted to gather additional data.

## Appendix T

Agreement to Use the BARRIERS<sup>®</sup> Scale**AGREEMENT TO USE THE BARRIERS SCALE**

I agree to the conditions included in the document "Permission to use the BARRIERS Scale"

Name: Deena R. Rauch, RN, MSN, NEA-BC, FACHE

Title: DNP Student

Academic/business affiliation: Boise State University, Boise, Idaho

E-mail address: deenarauch@u.boisestate.edu

Postal Address: 536 S. Mountain View  
Moscow, Idaho 83843

Phone Number: 509-330-6600

Study Title: An Evidence-Based Practice Assessment In Idaho's Critical Access Hospitals

Brief Description of Study:

Rauch: An Evidence-Based Practice Assessment in Idaho's Critical Access Hospitals

**PICO Question:** Are providers in Idaho's Critical Access Hospitals (CAH) using evidence as a foundation for practice—and, if not, what are the barriers.

**Objective:** To evaluate the state of evidence-based practice in four critical access hospitals in the North Central region of Idaho.

**Project Strategy**

The proposed project will survey nurse executives from a purposive sample of four critical access hospitals (CAH) in the North Central region of Idaho. The survey will consist of a needs assessments and surveys in order to inform the practice question and add to the available body of knowledge about the use of evidence-based practice (EBP) in Idaho's CAHs. The results of this needs assessment will be analyzed and compared to national samples to obtain information about the use of EBP and barriers and facilitators to research utilization at [REDACTED].

[REDACTED]. These results will assist the project leader to develop and implement an EBP education intervention. One of these four CAHs will be selected by the project leader to receive the web-based EBP education intervention and engage in a quality improvement (QI) initiative. The CAH will be selected based on interest in participating in the project and suitability. The project leader will obtain a memorandum of understanding from the selected hospital and meet with key stakeholders and opinion leaders to develop a team charter, approve the EBP education curriculum, identify a QI initiative, identify interdisciplinary team members, and provide project feedback. The interdisciplinary team will received an EBP education intervention in order to plan, implement, and

Agreement to Use the BARRIERS<sup>®</sup> Scale (continued)

evaluate the QI initiative. Key stakeholders, opinion leaders, and interdisciplinary team members will be surveyed about their demographic characteristics and perceptions of the organization's culture and readiness for implementing EBP. The project leader will lead and develop this interdisciplinary team by way of group facilitation and use of leadership skills. Pre-intervention and post-intervention surveys will be administered to interdisciplinary team members to measure their beliefs about EBP and EBP implementation practices (insert EBP knowledge and EBP competency?). Additionally, interdisciplinary team members will evaluate their satisfaction with the online EBP education program. The QI initiative is intended to improve the quality of patient care outcomes and/or process improvements by adhering to established national guidelines and endorsed quality measures.

Signature Deena R. Rauch Date 12.02.16

E-mail to:  
[sfunk@unc.edu](mailto:sfunk@unc.edu)

Please keep a copy of this form in your files. You automatically have permission to use the scale and do not need a response from the authors.

## Appendix U

## Ohio State University, College of Nursing Memorandum of Understanding

**Memorandum of Understanding**

This Memorandum of Understanding ("MOU") by and between The Ohio State University on behalf of its College of Nursing ("CON") and Deena Rauch, serves to identify key commitments related to the collaborative agreement between Boise State University to help implement, advance and sustain Evidence-based Practice (EBP) at Idaho Community Hospitals. EBP has been shown to improve both clinician and patient care outcomes.

- A. Effective Date  
Projects detailed within this MOU will be effective February 1, 2017 to February 1, 2018. This MOU shall remain in effect until February 1, 2018 and may be renewed, unless terminated or modified by either party upon written notice to the other party. Such termination or modification may be with or without cause.
- B. Services  
Services to be provided by the CON Center for Transdisciplinary Evidence-based Practice ("CTEP") staff include, but are not limited to:
- Provide up to eight registrations to the Online EBP Modular Course
  - Submit EBP project IRB application to The Ohio State University
  - Include Deena as key personnel on The Ohio State University IRB application
  - Share EBP scales and self-assessment tools
  - Build and host the EBP project surveys
  - Retain ownership of the EBP project survey data and results
  - Share the EBP project survey data and results with Deena
  - Provide modular program evaluation data to Deena
  - Share aggregated survey results (summary) with project (1) hospital leader (as identified by Deena)
  - Collaborate on a manuscript related to the EBP project
- C. CTEP Resource Commitments
- CON CTEP will provide EBP project mentoring and support (Lynn Gallagher-Ford)
  - As a state institution of higher education and therefore mindful of its obligation to steward carefully its resources, CON requires at least three weeks notice for the cancellation of any scheduled programs for which CON faculty or staff may be involved.
- D. Deena Rauch Commitments:

## Ohio State University, College of Nursing Memorandum of Understanding (continued)

Conduct an EBP project including:

Project Tools:

- organizational needs assessments; at 4 hospitals/OCRSEIP
- key stakeholders and EBP readiness; at 1 selected hospital/OCRSEIP
- pre and post implementation of education program; up to 8 participants at 1 hospital/EBP Beliefs, EBP competencies, EBP implementation, and OCRSEIP
- educational intervention program evaluation

Project Outreach:

- XXXX (TBD) Community Hospital will pay CON the following fee for the Online EBP Modular Course: \$175.00 per registered person (there will be up to 7 paid registrations and 1 free registration) for the delivery of the above mentioned services.
- CON CTEP will invoice XXXX (TBD) Community Hospital at the time of participant registration and payment will be due prior to the participants gaining access to the modular program.

Project Tasks:

- submit EBP project IRB application to Boise State University
- include CTEP personnel as co-PI and key personnel on Boise State University IRB application
- share completed IRB application with CTEP for submission at OSU IRB
- obtain IRB approval to conduct the EBP project
- share IRB approval letter received from Boise State University with CTEP
- share assessment data collected with CTEP
- collect education program participant email addresses
- share email addresses with CTEP for project related communications
- send survey invitations
- send survey reminders
- analyze EBP project data
- draft a manuscript related to the EBP project
- collaborate with CTEP team to finalize manuscript related to the EBP project
- grant permission for CTEP to include the EBP project results in other presentations/publications
- promote CTEP programs and offerings with key stakeholders at multiple hospital sites

E. Ownership

CON CTEP shall, at all times, have and retain all ownership, right, title, interest, and all proprietary rights of every kind whatsoever in and to its intellectual property and any derivation works arising therefrom. Upon termination of this Agreement, and thereafter, Deena Rauch is hereby granted a non-exclusive non-transferable license to use deliverables developed hereunder specifically and solely for Deena Rauch for non-commercial purposes relating directly to its internal operations.

## Ohio State University, College of Nursing Memorandum of Understanding (continued)

- F. Communication  
Should either party wish to use the other party's name or logo in public communication (media, online, speeches, or any other format), they must first receive written permission from the other party, which permission shall not be unreasonably withheld.
- G. Independent Contractor Status  
The parties agree that in performing their responsibilities hereunder, CTEP staff will have the status of an independent contractor. Nothing herein shall be deemed or construed to create a joint venture, partnership, agency or employer/employee relationship between the parties for any purpose.
- H. Law  
This agreement shall be governed by and construed in accordance with the laws of the State of Ohio.
- I. Indemnification  
Each party to this Agreement agrees that it will be responsible for its own acts and omissions and the results thereof; and shall not be responsible for the acts and omissions of the other party and the results thereof. Each party agrees that it will assume all risk and liability to itself, its agents, or its employees for any injury to persons or property resulting in any manner from conduct of its own operations and the operations of its agents or employees under this Agreement.
- J. Disclaimer of Warranty  
NEITHER THE UNIVERSITY NOR DEENA RAUCH MAKE ANY OTHER WARRANTY OR GUARANTEE OF ANY KIND IN CONNECTION WITH THE DELIVERABLES PROVIDED BY EACH OTHER UNDER THIS MOU, AND BOTH THE UNIVERSITY AND XXXX DISCLAIM ANY AND ALL WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ANY INFORMATION, DESIGN, SPECIFICATION, PROTOTYPE OR ANY OTHER ITEM FURNISHED TO EACH OTHER, OR TO OTHERS AT EACH OTHER'S REQUEST, IN CONNECTION WITH THIS MOU OR THE SUBJECT THEREOF.
- K. Notices  
Any notices required to be given or which shall be given under this MOU shall be in writing and delivered by first-class mail, e-mail or facsimile transmission addressed to the Parties as follows:

IN WITNESS WHEREOF, the parties have duly executed this MOU as of the dates set forth below.

For THE OHIO STATE UNIVERSITY:

  
\_\_\_\_\_

3/13/2017

Ohio State University, College of Nursing Memorandum of Understanding (continued)

Lynn Gallagher- Ford, PhD, RN, DPFNAP, NE-BC                      Date  
Director

**For BOISE STATE UNIVERSITY:**

Deena R. Rauch, MSN, RN, NEA-BC, FACHE                      March 7, 2017  
Deena Rauch, MSN, RN, NEA-BC, FACHE                      Date  
DNP Student/Candidate

Note: Signed on-line at 0812 a.m.

Appendix V

The Academy for Continuing Education and Lifelong Learning, Overall Program

Evaluation



*The Academy for Continuing Education and Lifelong Learning*

**OVERALL PROGRAM EVALUATION**

Name of Program: **Evidence-based Practice Modular Program**  
 Date of Program: **December 2015 to December 2017**

Please use the scale provided below to rate your level of agreement with the following statements:

<i>Program Content</i>				
<b>Evidence-based Practice Modular Program</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
The program met my expectations and will enhance my professional expertise				
The information presented in the modules can be applied to my practice				
The information presented in the modules will contribute to my professional or personal goals				
The program content was organized well				

<i>Overall Program: Logistics &amp; Quality</i>				
<b>Evidence-based Practice Modular Program</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
The program was easy to access and use				
The contributions of streaming video and audio made this course an enriching learning experience.				
The quality of the presentation videos was good				
The self-paced nature of the program was very helpful.				
Program brochure was accurate and informative				
Registration process was clear and efficient				
The program was appropriately priced				
The logistics & technology support I received throughout the program was timely and adequate				

The Academy for Continuing Education and Lifelong Learning, Overall Program  
Evaluation (continued)



**Additional Questions:**

**Why did you choose to attend this program?**

- Subject
- Speaker
- Requirement
- Other

---

---

**When we follow up with you in 6 months, what will have been the impact of this activity on your practice?**

---

---

**Choose the response that best represents the total number of clock hours it took to complete this 13 hour course:**

- More than 15 hours
- 12-15 hours
- Less than 12 hours

**What was your overall impression of this program?**

---

---

**What did you like most about the program?**

---

---

**What could be improved?**

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The Academy for Continuing Education and Lifelong Learning, Overall Program

Evaluation (continued)



What topics or speakers would you like to see at future CE programs?

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General Comments

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By submitting this evaluation, I certify that I have watched and listened to the recorded course materials and personally completed the post tests.

- Agree
- Disagree

---

## Appendix W

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
<p>By April 30, 2017 the project leader contacted 100% of NEs by telephone at Gritman Medical Center (GMC), St. Mary's Hospital (SMH), Syringa Hospital (SH), &amp; Clearwater Valley Hospital (CVH) to discuss the project, ascertain interest, and answer questions.</p>	<p><b><u>Tools:</u></b></p> <ul style="list-style-type: none"> <li>• Self-developed <i>Tally Sheet</i> indicating “yes” or “no” response (by hospital) to NEs’ interest in participating in the project.</li> <li>• Self-developed <i>Process Evaluation Checklist</i> indicating NEs were contacted.</li> </ul>	<p>Identified critical access hospitals in the North Central region of Idaho that are interested in participating in the project.</p> <p>Validated all essential elements of the project were implemented.</p>	<p>Simple count of hospitals interested and hospitals not interested in participating in project.</p> <p>No data analyses were involved with this tally or checklist other than noting the presence or absence of whether the item occurred.</p>
<p>By May 12, 2017 100% of NEs from Gritman Medical Center (GMC), St. Mary's Hospital (SMH), Syringa Hospital (SH), &amp; Clearwater Valley Hospital (CVH) completed the on-line demographics questionnaire, needs assessment, and surveys.</p>	<p><b><u>Instruments:</u></b></p> <ul style="list-style-type: none"> <li>• Self-adapted <i>Demographics Questionnaire</i>. This was a five-item questionnaire. (Ohio State University [OSU], 2016; Oman et al., 2013).</li> <li>• Self-adapted formative needs assessment from Oman, Rink, Krugman, Goode, &amp; Traditi (2013). The needs assessment included nine “yes” or “no” questions. Item two provided an open-ended response to describe what type of EBP activities the hospital was currently</li> </ul>	<p>Identified, described, and summarized the characteristics of the interdisciplinary team.</p> <p>Identified, described, and summarized NEs’ responses to questions about the current state of evidence-based practice (EBP) in organizations</p>	<p>Analyses included measures of central tendency, frequencies, percentages, and a list of responses to open-ended questions.</p> <p>Analyses included measures of central tendency, frequencies, percentages, and a list of responses to open-ended questions.</p>

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
	<p>engaged in. Item nine provides a “Yes” or “No” question to ascertain whether the NE was interested in participating in this project. Results were tallied according to “Yes” and “No” responses. Responses to item two were recorded as descriptive themes. Regarding item nine, “Are you interested in participating in this EBP project?”, “Yes” responses were considered eligible for selection to participate in the project. Following item nine, there were two open-ended items to list “Name”, “Hospital”, “Phone number”, and “Email address” for hospital selection and follow-up communication.</p> <ul style="list-style-type: none"> <li>• <i>BARRIERS</i><sup>®</sup>: <i>The Barriers to Research Utilization Scale</i> (Funk, Champagne, Tornquist, &amp; Wiese, 1991). The questionnaire consisted of 35 items, including a 29 Likert-type scale using a 5-point scale ranging from “To no extent” (1) to “To a great extent” (4) and “No opinion” (5). 6 items were open-ended questions regarding barriers and facilitators to research utilization.</li> </ul> <p>Principal components analyses identified four factors on the scale: characteristics of the potential <i>adopter</i>, characteristics of the <i>organization</i> in which the research will be used, characteristics of the <i>innovation</i> or research, and</p>	<p>located in the North Central region of Idaho.</p> <p>Identified, described, and summarized NEs’ responses to questions about barriers and facilitators to research utilization in their organizations.</p> <p>Responses guided the EBP education intervention and evidence-based QI initiative.</p>	<p>Analyses included measures of central tendency, frequencies, percentages, and a list of responses to open-ended questions.</p>

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
	<p>characteristics of the <i>communication</i> of the research. The factors, their corresponding items and Cronbach’s alphas are listed below:                      Factor 1. Characteristics of the adopter: The nurse’s research values, skills, and awareness. (8 items; alpha = .80)                      Factor 2. Characteristics of the organization: Setting, barriers, and limitations. (8 items; alpha = .80)                      Factor 3. Characteristics of the innovation: Qualities of the research. (6 items; alpha = .72)                      Factor 4. Characteristics of the communication: Presentation and accessibility of the research. (6 items; alpha = .65).</p> <ul style="list-style-type: none"> <li>• Self-adapted <i>Organizational Culture &amp; Readiness for System-Wide Integration of Evidence-Based Practice Survey (OCSIEP®)</i> (Fineout-Overholt &amp; Melnyk, 2006). The <i>OCSIEP</i> survey was a 19-item, Likert-type scale that measured organizational culture and readiness for system-wide integration of EBP. The first 16 items and item 19 were scored on a Likert-type scale with responses that ranged from, “<i>None at all</i>” (1) to “<i>Very much</i>” (5). Item 17 is scored on a Likert-type scale with responses ranging from “<i>None</i>” (1) to “<i>100%</i>” (5). Item 18 is scored on a Likert-type scale with responses ranging from “<i>not ready</i>” (1) to “<i>past ready and into action</i>” (5). Higher total</li> </ul>	<p>Identified, described, and summarized NEs’ perceptions about their organizations’ culture and readiness for implementing EBP. Results were used to select a suitable hospital for the EBP education intervention and evidence-based QI project.</p>	<p>Analyses included measures of central tendency, frequencies, percentages, and a list of responses to open-ended questions.</p>

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
	<p>scores reflect greater organizational readiness for EBP. Validity of this scale has been established. Pretest and posttest Cronbach's alphas with the sample in this study ranged from 0.93 to 0.94.</p> <p><b><u>Tool:</u></b></p> <ul style="list-style-type: none"> <li>• Self-developed <i>Process Evaluation Checklist</i> indicating needs assessment and surveys were completed.</li> </ul>	Validated all essential elements of the project were implemented.	No data analyses were involved with this checklist other than noting the presence or absence whether the checklist item occurred.
By May 12, 2017 the project leader distributed, compiled, tallied, analyzed, and compared returned NE demographics questionnaire, needs assessments, and surveys to national samples.	<p><b><u>Tool:</u></b></p> <ul style="list-style-type: none"> <li>• Self-developed <i>Process Evaluation Checklist</i> indicating needs assessments and surveys were distributed compiled, tallied, analyzed, and compared to a national sample.</li> </ul>	Validated all essential elements of the project were implemented.	No data analyses were involved other than noting the presence or absence whether the checklist item occurred.
By May 12, 2017 the project leader has identified one suitable hospital from GMC, SMH, SH, or CVH to	<p><b><u>Tool:</u></b></p> <ul style="list-style-type: none"> <li>• Self-developed <i>Process Evaluation Checklist</i> indicating memorandum of understanding was obtained.</li> </ul>	Project leader and organization have documented a formal relationship.	No data analyses were involved other than noting the presence or

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
implement the project (based on OCRSIEP <sup>®</sup> survey results and closest proximity to residence) and obtained a memorandum of understanding.		Validated all essential elements of the project were implemented.	absence whether the checklist item occurred.
By May 19, 2017 the NE identified key stakeholders and opinion leaders that participated in semi-structured discussions to guide the QI initiative aspects of this project (select the initiative, draft and approve the charter, and select members of interdisciplinary team).	<p><b>Tool:</b> Self-developed <i>Process Evaluation Checklist</i> indicating NEs identified key stakeholders and opinion leaders.</p>	Validated all essential elements of the project were implemented.	No data analyses were involved with checklist other than noting the presence or absence whether the checklist item occurred.
By May 26, 2017 the project leader conducted semi-structured discussions with at least 75% of primary stakeholders and key opinion leaders to share the results of the	<p><b>Tool:</b></p> <ul style="list-style-type: none"> <li>• Self-developed <i>Process Evaluation Checklist</i> indicating NEs identified key stakeholders and opinion leaders.</li> </ul>	Validated all essential elements of the project were implemented.	No data analyses were involved with checklist other than noting the presence or absence whether the checklist item occurred.

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
surveys, identify the QI (QI) initiative, draft and approve the group charter, identify interdisciplinary team members, and provide project feedback.	<ul style="list-style-type: none"> <li>Self-developed <i>Semi-Structured Discussion Questions</i> form.</li> </ul>	Guided the semi-structured interview with key stakeholders, opinion leaders, and clinical specialists in order to draft the interdisciplinary team charter, support the online EBP continuing education program, select an evidence-based QI initiative, identify interdisciplinary team members, and obtain feedback.	No data analyses were involved with checklist other than noting the presence or absence whether or not the checklist item occurred. Results of these questions will be used to guide the implementation of the online EBP continuing education program and resulting evidence-based QI initiative.
By June 16, 2017 the project leader administered and analyzed an interdisciplinary demographics questionnaire and pre-education surveys to measure interdisciplinary team member's perceptions of the barriers and facilitators to research utilization, EBP knowledge, EBP	<p><b><u>Instruments:</u></b> A pre-EBP education intervention on-line survey of CAH NEs and/or interdisciplinary team members who participated in an on-line EBP continuing education program. The survey consisted of:</p> <ul style="list-style-type: none"> <li><i>Demographics Questionnaire.</i> This was a five-item questionnaire. (OSU, 2016; Oman et al., 2013). The <i>demographics questionnaire</i> was described above.</li> </ul>	Identified, described, and summarized the characteristics of the interdisciplinary team.	Analyses included measures of central tendency, frequencies, percentages, and a list or responses to open-ended questions.

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
<p>competence, EBP implementation, perceptions about organizational readiness for EBP, and EBP beliefs.</p>	<ul style="list-style-type: none"> <li data-bbox="548 310 1188 415">• <i>BARRIERS</i>® scale (Funk, Champagne, Tornquist, &amp; Wiese, 1991). The <i>BARRIERS</i>® scale was described above.</li>   <li data-bbox="548 898 1188 1403">• <i>EBP Knowledge Assessment Questionnaire (EBP-KAQ)</i> (OSU, 2016). This was a multiple-choice questionnaire consisting of 27-items. It was used to examine EBP knowledge derived from the domains identified in <i>EBP Competencies for Practicing Registered Nurses and Advanced Practice Nurses</i> (Melnik, Gallagher-Ford, and Fineout-Overholt 2014) and the <i>Quality and Safety Education for Nurses (QSEN)</i> competencies (Cronenwett, Sherwood, Barnsteiner et al., 2007; Cronenwett, Sherwood, Pohl et al., 2009). The assessment tool is currently being tested for validity and reliability. Data</li> </ul>	<p>Identified, described, and summarized participant responses to questions about barriers and facilitators to research utilization in their organization. Responses guided the online EBP education intervention and evidence-based QI initiative. Interdisciplinary team responses were compared to responses obtained from NEs.</p> <p>Identified, described, and summarized participants pre-EBP education intervention responses to questions related to EBP knowledge, skills, and abilities.</p>	<p>Analyses included measures of central tendency, frequencies, percentages, and a list or responses to open-ended questions.</p> <p>Analyses included measures of central tendency, frequencies, and percentages.</p>

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
	<p>collected assessed knowledge of the processes of EBP.</p> <ul style="list-style-type: none"> <li>• <i>EBP Competency Self-Assessment</i> (OSU, 2016). The self-assessment consisted of 24-items, including a Likert-type 4-point scale ranging from “<i>Not competent</i>” (1) to “<i>Highly Competent</i>” (4). EBP competencies were derived from the domains identified in <i>EBP Competencies for Practicing Registered Nurses and Advanced Practice Nurses</i> (Melnik, Gallagher-Ford, and Fineout-Overholt 2014) and the <i>Quality and Safety Education for Nurses (QSEN)</i> competencies (Cronenwett, Sherwood, Barnsteiner et al., 2007; Cronenwett, Sherwood, Pohl et al., 2009). Delphi studies were used to establish consensus and clarity, resulting in a set 13 clinical competencies for practicing registered nurses and 11 additional competencies for advanced practice nurses. The assessment tool is currently being tested for validity and reliability. Data collected assessed self-EBP competence.</li> <li>• <i>EBP Implementation</i> scale (Melnik, Fineout-Overholt, &amp; Mays, 2008). The <i>EBP Implementation</i> scale was an 18-item, Likert-type scaled with responses that ranged from “0 times” to “≥8 times”, indicating how often in</li> </ul>	<p>Identified, described, and summarized the participants pre-EBP education intervention responses to questions related to EBP competence.</p> <p>Identified, described, and summarized participant responses to pre-education questions</p>	<p>Analyses included measures of central tendency, frequencies, and percentages.</p> <p>Analyses included measures of central tendency, frequencies, and percentages.</p>

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
	<p>the last 8 weeks they had performed the item. The <i>EBP Implementation</i> scale measured the extent that EBP was implemented. Validity of this scale has been established and Cronbach alphas have been <math>\geq .85</math> across various samples.</p> <ul style="list-style-type: none"> <li data-bbox="548 529 1188 634">• Self-adapted <i>OCRSIEP</i><sup>®</sup> <i>Survey</i> (Fineout-Overholt &amp; Melnyk, 2006). The <i>OCRSIEP</i><sup>®</sup> survey was described above.</li> <li data-bbox="548 824 1188 1295">• <i>EBP Beliefs (EBPB)</i> scale (Melnyk &amp; Fineout-Overholt, 2003a). The <i>EBPB</i> scale was a 16-item scale that measured an individual’s beliefs about the value of EBP and their ability to implement it. The items are measured on a 5-point Likert-type scale ranging from “<i>Strongly Disagree</i>” (1) to “<i>Strongly Agree</i>” (5). There are two reverse-score items. Once reversed, all items are summed to give a total score. Higher scores reflect more positive beliefs about EBP. Validity of the scale has been established and Cronbach alpha’s have been <math>\geq .85</math> across various samples.</li> </ul>	<p>about EBP implementation.</p> <p>Identified, described, and summarized the pre-EBP education responses to questions related to organizational readiness for EBP.</p> <p>Identified, described, and summarized participants pre-EBP education responses to questions related to EBP beliefs.</p> <p>Established pre-EBP education intervention baseline and collected data regarding the current state of EBP in the North Central region of Idaho.</p>	<p>Analyses included measures of central tendency, frequencies, and percentages.</p> <p>Analyses included measures of central tendency, frequencies, and percentages.</p>

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
	<p><b><u>Tools:</u></b></p> <ul style="list-style-type: none"> <li>• Self-developed <i>Process Evaluation Checklist</i> indicating demographics questionnaire and surveys were completed and analyzed.</li> </ul>	Validated all essential elements of the project were implemented.	No data analyses were involved with checklist other than noting the presence or absence whether the checklist item occurred.
By June 16, 2017 the interdisciplinary health care team completed the interdisciplinary online EBP education program in one CAH in the North Central region of Idaho.	<p><b><u>Tool:</u></b></p> <ul style="list-style-type: none"> <li>• Online CTEP attendance records for online EBP continuing education modules (OSU, 2016).</li> </ul>	Described and summarized the process and number of attendees that participated in the on-line EBP education program.	Simple tally of those who completed modules and date.
By June 19, 2017 the project leader assisted an interdisciplinary team members to implement a QI initiative resulting in an improvement of 10% above baseline.	<p><b><u>Tools:</u></b></p> <ul style="list-style-type: none"> <li>• Self-developed <i>Attendance Record</i> for QI initiative meetings. TBD.</li> <li>• <i>Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) Project Management Guide</i> (Dearholt &amp; Dang, 2012).</li> </ul>	<p>Described and summarized the process and number of attendees who participated in the evidence-based QI initiative.</p> <p>Described and summarized QI initiative activities, including the practice question, evidence, and translation.</p>	<p>Simple tally of those who were present and date.</p> <p>No data analysis involved with project management guide, comparison of pre- and post-QI initiative data, or checklist other than</p>

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
			noting the presence or absence whether the checklist item occurred.
<p>By August 31, 2017 the interdisciplinary team member survey results demonstrated <math>\geq 10\%</math> improvement in interdisciplinary team EBP knowledge, <math>\geq 10\%</math> increase in EBP competence, and <math>\geq 10\%</math> improvement in EBP beliefs as compared to pre-intervention findings.</p>	<p><b><u>Instruments:</u></b></p> <ul style="list-style-type: none"> <li>• <i>EBP-KAQ</i> (OSU, 2016). This instrument was described above.</li> <li>• <i>EBP Competency Self-Assessment</i> (OSU, 2016). This self-assessment was described above.</li> <li>• <i>EBP Beliefs Scale</i> (Melnik &amp; Fineout-Overholt, 2003a). This self-assessment was described above.</li> </ul>	<p>Identified, described, and summarized post-intervention responses to questions related to EBP knowledge.</p> <p>Identified, described, and summarized post-intervention responses to questions related to EBP competence.</p> <p>Identified, described, and summarized post-intervention responses to questions related to EBP beliefs.</p> <p>Results measured outcomes of the EBP education intervention and collected data regarding the current state of EBP in the North Central region of Idaho.</p>	<p>Analysis included measures of central tendency, frequencies, and percentages.</p> <p>Analysis included measures of central tendency, frequencies, and percentages.</p> <p>Analysis included measures of central tendency, frequencies, and percentages.</p>

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
	<p><b><u>Tool:</u></b></p> <ul style="list-style-type: none"> <li>• Self-developed Process Evaluation Checklist indicated post-education surveys were completed</li> </ul>	Validated all essential elements of the project were implemented.	No data analyses involved with checklist other than noting the presence or absence whether the checklist item occurred.
<p>By August 31, 2017 the project leader evaluated participant satisfaction. Results demonstrated the majority of interdisciplinary team members “agreed” or “strongly agreed” the online EBP continuing education program was beneficial and effective.</p>	<p><b><u>Tools:</u></b></p> <ul style="list-style-type: none"> <li>• <i>Evidence-based Practice Modular Programs, Overall Program Evaluation, December 2015 to December 2017</i> (Ohio State University, College of Nursing, Academy for Continuing Education and Lifelong Learning, 2015). The program evaluation consists of 18-items. The first 12 questions are composed of a Likert-type scale with responses ranging from “strongly agree” to “strongly disagree”. Four questions evaluated program content and eight questions evaluated program logistics and quality. The remaining eight-items were multiple choice response and/or open-ended questions. The final question certifies the evaluator watched and listened to the recorded course materials and personally completed post-tests by responding “agree” or “disagree”.</li> </ul>	<p>Identified, described, and summarized responses to questions about participant satisfaction with the on-line EBP education intervention.</p> <p>Results measured relative participant satisfaction with the online EBP education intervention.</p>	Analysis included measures of central tendency, frequencies, percentages, and a list of responses to open-ended questions.

Outcome Evaluation Table

Outcome	Outcome Instrument Data	Analysis Goal	Analytic Technique
	<p><b><u>Tools:</u></b></p> <ul style="list-style-type: none"> <li>• Self-developed <i>Process Evaluation Checklist</i> indicating the program evaluation was completed.</li> </ul>	<p>Validated all essential elements of the project were implemented.</p>	<p>No data analysis involved with process evaluation checklist other than noting the presence or absence whether the checklist item occurred.</p>
<p>By August 31, 2017 interdisciplinary team members achieved a minimum of 10% improvement above baseline on an evidence-based QI initiative.</p>	<p><b><u>Tools:</u></b></p> <ul style="list-style-type: none"> <li>• <i>John Hopkins Nursing Evidence-Based Practice (JHNEBP) Project Management Guide</i> (Dearholt &amp; Dang, 2012).</li> <li>• Comparison of pre- and post-QI initiative data (to be determined).</li> <li>• Self-developed <i>Process Evaluation Checklist</i> indicating a 10% improvement in QI initiative obtained.</li> </ul>	<p>Described and summarized QI initiative activities, including the practice question, evidence, and translation.</p> <p>Validated a minimum of 10% improvement above baseline achieved.</p> <p>Validated all essential elements of the project were implemented.</p>	<p>No data analyses involved with guide other than noting whether the checklist item occurred.</p> <p>Data analyses completed to determine whether the checklist item occurred.</p> <p>No data analyses involved with checklist other than noting whether the checklist item occurred.</p>



## Appendix Y

## Demographic Characteristics of Nurse Executives (N=4)

	n	min. – max.
Age	4	31 – 65
Highest level of nursing education	4	
Associate	2	
Bachelors	1	
Masters	1	
Years in current role	4	1 – 8
Years in nursing practice	4	8 – 44
Level of exposure to EBP	4	
Learned in school	1	
EBP continuing education course	2	
Read about EBP	3	
I don't know much about EBP	1	

## Appendix Z

## Nurse Executive Needs Assessment Results (N=4)

Question	Yes	No
	n (%)	n (%)
Are you familiar with the concept of EBP?	4 (100%)	0
Is your hospital currently engaged in EBP activities?	3 (75%)	1 (25%)
If yes, please describe:		
<ul style="list-style-type: none"> <li>• <i>“working on embedding QSEN competencies within job descriptions, evaluations, and competencies”</i></li> <li>• <i>“We utilize Lippincott as our primary source for nursing procedures. It is continuously current based on EBP. We will also begin incorporating ‘Zynx’ into our next EHR upgrade; it provides EBP alerts, care plan info, etc.</i></li> <li>• <i>“We use EBP in areas of ED, medical staff decisions, and antibiotic stewardship program.”</i></li> </ul>		
Would you like to learn more about EBP?	4 (100%)	0
Do you think clinical staff would be interested in learning more about EBP?	4 (100%)	0
Would you and your staff be interested in learning more about EBP by participating in a modular, self-paced continuing education course?	4 (100%)	0
Would you be willing to allocate a modest amount of education dollar to provide 13-hours of online continuing education?	4 (100%)	0
Would you be willing to allocate a modest amount of education dollars to support 5 – 7 clinicians to complete 13-hours of online EBP continuing education?	2 (50%)	2 (50%)
Would you be interested in implementing EBP to address a specific quality issue in your organization?	3 (75%)	1 (25%)
Would you be willing to support 5 – 7 clinicians to participate in a quality improvement project utilizing newly acquired EBP knowledge and skills?	2 (50%)	2 (50%)

## Nurse Executive Needs Assessment Results (N=4) (continued)

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Question	Yes	No
Are you interested in participating in this online EBP education program and EBP quality improvement project?	4 (100%)	0

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## Appendix AA

## Demographic Characteristics of Interdisciplinary Team (N=6)

	n	min. – max.
Age	6	31 – 63
Highest level of education		
Associate	0	
Bachelors	4	
Masters	1	
Clinical Doctorate (DNP)	1	
Years in current role	6	1 – 10
Years in practice	6	9 – 33
Level of exposure to EBP		
Learned in school	4	
EBP continuing education course	1	
Read about EBP	1	
I don't know much about EBP	0	

## Appendix BB

Nurse Executive BARRIERS<sup>®</sup> Scale Factors (N=5)

Factor	N	Mean	Std. Dev.	Barrier
Factor 1. Characteristics of the adopter: The clinician's research values, skills, and awareness	5	2.74	0.90	<ul style="list-style-type: none"> <li>• There is not a documented need to change practice</li> <li>• The clinician is unaware of the research, The clinician is isolated from knowledgeable colleagues with whom to discuss the results of the research, and the clinician sees little benefit for self</li> </ul>
Factor 2. Characteristics of the organization: Setting barriers and limitations	5	2.64	0.84	<ul style="list-style-type: none"> <li>• There is insufficient time on the job to implement new ideas</li> <li>• The clinician does not have time to read research</li> </ul>
Factor 3. Characteristics of the innovation: Qualities of the research	5	2.54	0.83	<ul style="list-style-type: none"> <li>• The literature reports conflicting results</li> <li>• The research has not been replicated and the conclusions drawn from the research are not justified</li> </ul>

Nurse Executive BARRIERS<sup>®</sup> Scale Factors (N=5) (continued)

Factor 4. Characteristics of the communication: Presentation and accessibility of the research	5	2.93	0.91	<ul style="list-style-type: none"> <li>• The relevant literature is not compiled in one place</li> <li>• The research is not reported clearly and readably</li> </ul>
Total Scale Factors		2.71	0.17	

Scale: "To no extent" (1) to "To a great extent" (4) and "No opinion" (5).

## Appendix CC

Interdisciplinary Team BARRIERS<sup>®</sup> Scale Factors (N=6)

Factor	N	Mean	Std. Dev.	Barrier
Factor 1. Characteristics of the adopter: The clinician's research values, skills, and awareness	6	2.43	0.86	<ul style="list-style-type: none"> <li>• The clinician feels the benefits of changing practice will be minimal and the clinician see little benefit for self</li> <li>• The clinician is unaware of the research and the clinician is unwilling to change/try new ideas</li> </ul>
Factor 2. Characteristics of the organization: Setting barriers and limitations	6	2.54	0.78	<ul style="list-style-type: none"> <li>• The clinician does not have time to read research</li> <li>• There is insufficient time on the job to implement new ideas</li> </ul>
Factor 3. Characteristics of the innovation: Qualities of the research	6	2.67	0.82	<ul style="list-style-type: none"> <li>• The research has not been replicated</li> <li>• The conclusions drawn from the research are not justified</li> </ul>

Interdisciplinary Team BARRIERS<sup>®</sup> Scale Factors (N=5) (continued)

Factor 4. Characteristics of the communication: Presentation and accessibility of the research	6	3.04	0.79	<ul style="list-style-type: none"> <li>• The relevant literature is not compiled on one place</li> <li>• Research reports/articles are not readily available</li> </ul>
Total Scale Factors		2.71	0.17	

Scale: “To no extent” (1) to “To a great extent” (4) and “No opinion” (5).

## Appendix DD

Results of Nurse Executive and Interdisciplinary Team Perceptions of Organizational Culture and Readiness for System-Wide  
Integration of Evidence-based Practice (OCRSIEP<sup>®</sup>) Survey

Survey Question	Nurse Executive Responses (N=5)		Interdisciplinary Team Responses (N=6)	
	Mean	Std. Dev.	Mean	Std. Dev.
1. To what extent is EBP clearly described as central to the mission and philosophy of your organization?	2.83	1.31	2.33	0.52
2. To what extent do you believe that EBP is practiced in your organization?	3.00	0.71	3.17	1.47
3. To what extent are clinicians in your organization committed to EBP?	3.20	1.48	2.83	1.33
4. To what extent is the medical staff with whom you work with committed to EBP?	3.40	1.34	3.83	1.17
5. To what extent are the administrators within your organization committed to EBP (i.e. have planned for resources and support [e.g. time] to initiate EBP)?	3.40	1.52	2.5	0.84
6. In your organization, to what extent is there a critical mass of nurses who have strong EBP knowledge and skills?	2.20	0.84	2.0	0.89
7. To what extent are there nurse scientists (doctorally prepared researchers) in your organization to assist in generation of evidence when it does not exist?	1.00	0.0	1.5	0.55

OCSIEP<sup>®</sup> Survey (continued)

Survey Question	Nurse Executive Responses (N=5)		Interdisciplinary Team Responses (N=6)	
	Mean	Std. Dev.	Mean	Std. Dev.
8. In your organization, to what extent are there Advanced Practice Nurses (APN) who are EBP mentors for staff nurses as well as other APNs?	1.20	0.45	1.17	0.41
9. To what extent do clinicians model EBP in their clinical settings?	2.40	1.14	3.00	1.26
10. To what extent to clinicians have access to quality computers and access to electronic databases for searching for best evidence?	3.80	1.30	3.00	1.26
11. To what extent do clinicians have proficient computer skills?	3.60	0.55	3.83	1.17
12. To what extent do librarians within your organization have EBP knowledge and skills?	1.00	0.00	1.00	0.00
13. To what extent are librarians used to search for evidence?	1.00	0.00	1.00	0.00
14. To what extent are fiscal resources used to support EBP (e.g. education-attending EBP conferences/workshops, computers, paid time for the EBP process, mentors)?	2.20	0.84	1.33	0.52

OCSIEP<sup>®</sup> Survey (continued)

Survey Question	Nurse Executive Responses (N=5)		Interdisciplinary Team Responses (N=6)	
	Mean	Std. Dev.	Mean	Std. Dev.
15. To what extent are there EBP champions (i.e. those who will go the extra mile to advance EBP) in the organization among:				
a) Administrator?	1.60	0.89	1.83	1.17
b) Nurse Executive?	3.60	1.14	3.67	1.21
d) Nurse Managers?	3.60	1.14	3.33	1.37
e) Nurse Educators?	3.60	1.14	2.83	1.17
f) Advanced Nurse Practitioners?	2.60	1.14	3.00	1.41
g) Staff Nurses	2.80	0.84	2.83	0.41
h) Other Clinicians?	2.80	0.84	3.00	1.41
i) Quality Improvement Officer?	3.60	1.52	4.50	0.84
j) Risk Manager?	3.40	1.52	4.50	0.84
k) Infection Preventionist?	3.80	1.64	4.50	0.84
16. To what extent is the measurement and sharing of outcomes part of the culture of the organization in which you work?	4.60	0.55	3.17	0.98

OCSIEP<sup>®</sup> Survey (continued)

	None	25%	50%	75%	100%
17. To what extent are decisions generated from:					
a) Direct care providers?					
Nurse Executive Responses (N=5)					
Frequency (Percentage)	0	2 (40%)	1 (20%)	2 (40%)	0
Interdisciplinary Team Responses (N=6)					
Frequency (Percentage)	1 (17%)	0	2 (33%)	3 (50%)	0
b) Upper administration?					
Nurse Executive Responses (N=5)					
Frequency (Percentage)	0	0	3 (60%)	2 (40%)	0
Interdisciplinary Team Responses (N=6)					
Frequency (Percentage)	0	1 (16.5%)	4 (67%)	0	1 (16.5%)
c) Physicians or other health care provider groups?					
Nurse Executive Responses (N=5)					
Frequency (Percentage)	0	2 (40%)	1 (20%)	2 (40%)	0
Interdisciplinary Team Responses (N=6)					
Frequency (Percentage)	0	1 (17%)	2 (33%)	3 (50%)	0

OCRSIEP<sup>®</sup> Survey (continued)

	Not Ready	Getting Ready	Been Ready but Not Acting	Ready to Go	Past Ready & Onto Action
18. Overall, how would you rate your organization in readiness for EBP?					
Nurse Executive Responses (N=5) Frequency (Percentage)	1 (20%)	1 (20%)	1 (20%)	2 (40%)	0
Interdisciplinary Team Responses (N=6) Frequency (Percentage)	3 (50%)	3 (50%)	0	0	0
	None at All	A Little	Somewhat	Moderately	Very Much
19. Compared to 6 months ago, how much movement in your organization has there been toward EBP culture?					
Nurse Executive Responses (N=5) Frequency (Percentage)	1 (20%)	2 (40%)	0	2 (40%)	0
Interdisciplinary Team Responses (N=6) Frequency (Percentage)	2 (33%)	3 (50%)	0	1 (17%)	0

Scale: The first 16 items and item 19 were scored on a range from, “None at all” (1) to “Very much” (5). Item 17 is scored on a range from “None” (1) to “100%” (5). Item 18 is scored on range from “not ready” (1) to “past ready and into action” (5). Higher total scores reflect greater organizational readiness for EBP.

## Appendix EE

## Participant Means for Five Scales

Survey Instrument	Pre-Education			Post- Education			5-Months Post-Education		
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.
EBP Competency	6	2.15	0.68	5	2.49	0.62	3	2.82	0.79
EBP Beliefs	6	3.68	1.0	5	3.7	1.07	3	3.77	0.97
EBP Implementation	6	0.51	0.80	—	—	—	2	0.64	0.93
Cultural Readiness for EBP	6	2.79	1.37	—	—	—	2	2.63	1.45
EBP Knowledge	6	18.5	7.23	5	27.6	6.27	3	25.0	11.37

Note: Refer to individual scales for each survey.

## Appendix FF

## Advancing Evidence-Based Practice (EBP) in Idaho's Critical Access Hospitals

## Hybrid Presentation Evaluation Survey Results

*While answering the following questions, think about your experience with the in-person presentations and the Center for Transdisciplinary Evidence-Based Practice's (EBP) online EBP continuing education modules. Consider what advice you would give to planners of future EBP continuing education programs in small and rural hospitals. Thank you!*

**1. What went well?**

*"Even though I did all the modules, having the combo with the beginning and end was good. It allowed for current-time questions. The modules were very easy to complete."*

*"Precise, pertinent, and to the point. Excellent information and seems it will be easy to implement. Loved the online videos...they were very well presented."*

*"Having an on-site presenter. Reviewing some modules with the presenter. All presenters passionate about EBP."*

*"I enjoyed the in-person presentation the best. Web-based is good for rural areas."*

*"Very interactive with group. Engaging."*

**2. What could be changed or improved?**

*"Honestly I think it all went well."*

*"Some modules could be a little shorter with more bulleted important points."*

*"I would have like to have more time to do modules."*

*"Give EBP examples throughout class to encourage and spark ideas."*

**3. Additional comments?**

*"I very much enjoyed the class and see an easy way to start implementation."*

*"Thank you!"*

*"It would have been good to have other speakers on modules."*

*Thank you for completing this survey!*

Appendix GG

Scholarly Project 1 – 5 Year Budget Plan

	Budget Year 1 (2017)	Budget Year 2 (2018)	Budget Year 3 (2019)	Budget Year 4 (2020)	Budget Year 5 (2021)	Rationale
<b>REVENUES</b>						
Idaho Alliance of Leaders in Nursing (IALN)	\$5,000.00	-	-	-	-	Demonstration Project
<i>Annual total revenue:</i>	\$5,000.00	\$0.00	\$0.00	\$0.00	\$0.00	
<b>EXPENSES</b>						
<b>Salaries and Benefits</b>						
I. Hospital Planning/Implementation and Evaluation/Dissemination of Outcomes						
CAH Needs Assessment & Surveys						
Project leader (\$45.00/hour x 1 individual x 8 hours)	\$360.00 (In-kind)	-	-	-	-	Project leader wages
Nurse executives (\$57.03/hour + benefits @ 31.5% x 5 NEs x 1 hour)	\$354.95 (In-kind)	-	-	-	-	CAH needs assessments/surveys
EBP Education and QI Initiative						
Hospital Key Stakeholders Interview (\$39.42/hour + benefits @ 31.5% x 5 individuals x 1 hour)	\$259.20 (In-kind)	-	-	-	-	Project leader, nurse executive, stakeholders, interdisciplinary team wages and benefits
Project leader (\$45.00/hour x 104 hours)	\$4,680.00 (In-kind)	-	-	-	-	Preparation, travel, instruction time, etc.
NE face-to-face initial and summary education (\$57.03 + benefits @ 31.5% x 1 individual x 4.5 hours)	\$377.48 (In-kind)					
Face -to-face initial education (\$39.42/hour + benefits @ 31.5% x 5 individuals x 1.5 hours)	\$466.56 (In-kind)	-	-	-	-	Interdisciplinary team education
Interdisciplinary team members online modular EBP education (\$39.42/hour + benefits @ 31.5% x 6 hours x 6 clinicians)	\$1,866.24 (In-kind)	-	-	-	-	Interdisciplinary team education
Face -to-face summary education (\$39.42/hour + benefits @ 31.5% x 5 individuals x 3 hours)	\$933.12 (In-kind)	-	-	-	-	Interdisciplinary team education
Nurse executive meetings with project leader (\$57.03/hour + benefits @ 31.5% x 2 meetings x 0.5 hours)	\$74.99 (In-kind)	-	-	-	-	NE update and discussions
<i>Total in-kind expenses:</i>	\$9,372.54	-	-	-	-	

Scholarly Project 1 – 5 Year Budget Plant (continued)

<b>II. Sustainability</b>						
Immersion training for EBP nurse mentor (\$45.00/hour + benefits @ 31.5% x 40 hours)	-	\$2,367.20	-	-	-	Initial EBP Immersion training
Part-time (33%) EBP RN mentor (\$45.00/hour + benefits @ 31.5% + annual 2% COL adjustment/yr x 686.40 hours)	-	\$41,431.10	\$42,259.72	\$43,104.91	\$43,967.01	RN wages and benefits
Interdisciplinary team members EBP education (\$39.42/hour + benefits @31.5% + annual 2% COL adjustment x 13 hours x 3 clinicians)	-	\$2,062.32	\$2,103.57	\$2,145.64	\$2,188.55	Interdisciplinary team wages and benefits
<i>Total cash expenses:</i>	\$0.00	\$45,860.62	\$44,363.29	\$45,250.55	\$46,155.56	
<b>Facilities and Equipment</b>						
Meeting space, computer, projector, and screen (\$150/day x 2)	\$300.00 (In-kind)	\$1,200.00 (In-kind)	\$1,200.00 (In-kind)	\$1,200.00 (In-kind)	\$1,200.00 (In-kind)	Space and equipment for EBP/QI meetings @ fair market value
Computer for EBP modules	\$200.00 (In-Kind)	\$200.00 (In-Kind)	\$200.00 (In-Kind)	\$200.00 (In-Kind)	\$200.00 (In-Kind)	Computer for EBP modules at fair market value
Printer/scanner	\$97.00					
<b>Education and Training</b>						
CTEP online modules (Year 1: \$350/person* x 7 individuals then, \$350 x 3 individuals/yr)	\$2,450.00	\$1,050.00	\$1,050.00	\$1,050.00	\$1,050.00	Tuition for CTEP web-based EBP education modules
CTEP EBP nurse mentor immersion course	\$1,500.00	\$2,100.00	-	-	-	
<b>Subscriptions</b>						
Hospital online medical/university library subscription	\$0.00	\$0.00	TBD	TBD	TBD	Project leader has access to BSU library. CTEP Immersion tuition includes one year of free Ohio State University library access
<b>Travel and Subsistence</b>						
Project leader travel to Grangeville (404 miles x \$0.54/mile)	\$218.16	-	-	-	-	IRS mileage rate plus actual food cost estimates
EBP RN mentor travel, housing, & meals to attend CTEP mentor immersion course (RT airfare @ \$650, RT shuttle @ \$70, lodging @ \$934, and meals @ \$378)	\$2,032.00	\$2,032.00	-	-	-	Actual travel costs plus IRS per diem for food for CTEP course
Food for team meetings	\$83.17					Meals
Project leader meals	\$30.35					Meals
<b>Communications</b>						
Project leader cell phone (10% of total annual charges)	\$274.80	-	-	-	-	Project communications
Hospital telecommunications	-	-	-	-	-	Ongoing EBP and QI projects



Appendix HH

Scholarly Project Expense Report

<b>Expenses (actual &amp; in-kind):</b>	<b>Year 1 (01/01/17 – 12/31/17)</b>
<b>Staff Salaries and Benefits</b>	
Project leader (\$45 per hour x 112 hours x 1 individual, based on current wage)	\$5,040.00
CAH NEs (\$57.03 per hour + benefits @ 31.5% x 5 individuals x 1 hour)	354.95
Key stakeholders discussion (\$39.42 per hour + benefits @ 31.5% x 1 hours x 5 individuals)	259.20
NE initial and summary education (\$57.03/hour + <u>benefits @ 31.5%</u> x 6 hours x 1 individual)	377.48
Face-to-face initial education (\$39.42/hour + benefits @ 31.5% x 6 individuals x 1.5 hours)	466.56
Interdisciplinary team EBP education (\$30.42 per hour + benefits @ 31.5% x 6 hours x 6 individuals)	1,866.24
Face-to-face summary education (\$39.42/hour + benefits @31.5% x 5 individuals xv3 hours)	933.12
Nurse executive meetings with project leader (\$57.03/hour + benefits @ 31.5% x 2 meetings x 0.5 hours)	<u>74.99</u>
<b>Total Salaries and Benefits:</b>	<b>\$9,372.54</b>

## Scholarly Project Expense Report (continued)

<p><b>Facilities and Equipment</b></p> <p>Meeting space, computer, projector, etc. (\$150/ day x 2)</p> <p>Computer for EBP modules</p> <p>Printer/scanner</p> <p style="text-align: right;"><b>Total Facilities and Equipment:</b></p>	<p style="text-align: right;">\$300.00 (In-kind) 200.00 (In-kind) 97.00 <u>(Actual)</u> <b>\$597.00</b></p>
<p><b>Education and Training</b></p> <p>CTEP Modular online EBP continuing education program registration (\$350.00 x 7 individuals*)</p> <p>Tuition for CTEPs EBP Immersion for Project Leader</p>	<p style="text-align: right;">\$2,450.00 (In-Kind) <u>1,500.00</u> <b>\$3,950.00</b></p>
<p><b>Travel and Subsistence</b></p> <p>Face-to-face meetings (travel to Grangeville @ \$0.54 per miles for 404 miles)</p> <p>Project leader meals</p> <p>Interdisciplinary team meals for face-to-face meetings</p> <p>EBP Immersion for project leader: travel, lodging, meals, etc. (RT airfare @ \$650, RT shuttle @ \$70, lodging @ \$934, and meals @ \$378)</p> <p style="text-align: right;"><b>Total Travel and Subsistence:</b></p>	<p style="text-align: right;">\$218.16 30.35 83.17 <u>2,032.00</u> <b>\$2,363.68</b></p>
<p><b>Communications</b> (phone, postage, etc.)</p> <p>Cell phone (10% of total annual charges)</p>	<p style="text-align: right;">\$274.80</p>
<p><b>Printing</b></p> <p>Copying, printing, resource notebooks, etc.</p>	<p style="text-align: right;">\$356.47</p>

## Scholarly Project Expense Report (continued)

<b>Supplies</b>	
Computer paper, printer ink, etc.	\$95.37
Books (2-books @ \$73.25 each)	<u>\$146.50</u>
<b>Total Supplies:</b>	<b>\$241.87</b>
<b>TOTAL YEAR 1 EXPENSES:</b>	<b>\$17,156.36</b>

## Appendix II

## Scholarly Project Statement of Operations

<b>Income (Year 1)</b>	
Idaho Alliance of Leaders in Nursing	5,000.00
Staff Salaries and Benefits (in-kind)	9,372.54
<b>TOTAL:</b>	<b>\$14,372.54</b>
<b>Expenses (Year 1)</b>	
Facilities and Equipment	597.00
Education and Training	3,950.00
Travel and Subsistence	2,363.68
Communications	274.80
Printing	356.47
Supplies	241.87
<b>TOTAL:</b>	<b>\$17,156.36</b>
<b>Operating Income (Year 1)</b>	<b>-\$2,783.82</b>