



ORIGINAL ARTICLE

Barriers and facilitators influencing EBP readiness: Building organizational and nurse capacity

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Abstract

Background: Organizational supported evidence-based practice (EBP) enables nurses to be change agents and impact patient outcomes. Globally, a multitude of barriers limits EBP implementation, evaluation, and dissemination, which include time constraints, staff, resource access, education, technology, and fiscal support. These barriers and other disenfranchising elements hinder nurses' ability to actualize EBP and change practice within their workplace.

Aims: This study describes the EBP readiness, barriers, and facilitators reported by inpatient registered nurses (RNs) employed in a nationwide healthcare system before COVID-19.

Methods: The study employed a cross-sectional descriptive survey design using the 2005 Nursing EBP Survey for RN EBP readiness. The setting included 14 hospitals in Southern California. The survey was deployed in November 2016 and closed after 23 weeks. Descriptive statistics analyzed demographics and EBP scores, with inferential statistics for associations between demographics and EBP scores. ANOVA examined differences between EBP scores, service lines, years of employment, and education level. A content approach synthesized open-ended barrier and facilitator questions into seven specific themes.

Results: Seven hundred and twenty-four nurses completed the survey. Overall, the scores of inpatient RNs were highest scores for Practice Climate, suggesting the health system fosters a climate conducive to EBP. Scores were lowest for Data Collection and Implementation. Qualitative themes were: (1) Everyone Involved in EBP Implementation, (2) Fear and Resistance to Change, (3) Protected Release Time, (4) Knowing EBP Culture Outside of Current Organization, (5) Organizational Communication and Education, (6) Management and Leadership Support, and (7) Pragmatic Solutions to Facilitate EBP. Fear and Resistance to Change cut across all themes.

Linking Evidence to Action: Nurses at all organizational levels from the C-suite to the bedside can create strategies to determine essential EBP readiness components,

including EBP mentors to guide knowledge uptake activities. Pragmatic solutions for EBP capacity require frontline nurse feedback, commitment, and partnership with nursing leaders.

KEYWORDS

descriptive analysis, evidence-based practice, nursing practice, qualitative, survey, work environment

BACKGROUND

A multitude of barriers exists, which limit the initiation, planning, implementation, evaluation, and dissemination of evidence-based practice (EBP) within healthcare organizations (Melnik, Tan, et al., 2021; Smith-Miller, 2022; Speroni et al., 2020). These barriers are not unique to the United States and extend beyond its borders into the global community (Hasanpoor et al., 2019; Lizarondo et al., 2019; Wang et al., 2021). Common organizational barriers are time constraints, adequate staff, access to EBP and research resources, education to address knowledge gaps, technology, money, and organizational support. Other disenfranchising elements included isolation from experts, workloads, inability to properly evaluate the quality of the evidence, and inability to implement new knowledge into practice (Melnik et al., 2018; Wang et al., 2021). These multiple barriers have resulted in an inability for nurses to actualize EBP and change practice within their organizations (Berthelsen & Hølge-Hazelton, 2021; Geerligs et al., 2018; Lizarondo et al., 2019; Smith-Miller, 2022; Whitehorn et al., 2021).

Organizational supported EBP enables nurses to assume the role of change agent, facilitate nurse autonomy, and impact patient outcomes (Cleary-Holdforth et al., 2021; Djukic et al., 2021; Melnik et al., 2014). Making EBP a priority for professional nurses is a critical organizational and leadership commitment. Nursing leaders must provide the resources and expertise needed by professional nurses to translate and synthesize scientific and other types of evidence and to implement EBP in healthcare (Shuman et al., 2019; Speroni et al., 2020).

Many EBP appraisal tools are available to assess various aspects of EBP, including the Information Literacy for Evidence-Based Nursing Practice Questionnaire (©ILNP; Thorsteinsson, 2012), the Organizational Readiness for Implementing Change (ORIC; Adelson et al., 2021), and the Evidence-Based Practice Knowledge Assessment in Nursing (EKAN; Nick et al., 2020). Melnik has developed multiple robust EBP instruments, which include the EBP Beliefs Scale, the EBP Implementation Scale, and the EBP Organization Culture and Readiness Scale (Melnik, Hsieh, et al., 2021). The 2005 Nursing Evidence-Based Practice Survey developed by Titler (1998) examines three major EBP readiness components of individual factors, work unit factors, and organizational factors together in a 29-item Likert-type scale (Thiel & Ghosh, 2008), which fit this study's particular design. Additional information regarding this survey tool can be found in the article describing the psychometric testing of this measurement instrument (Crawford et al., 2020).

The main purpose of this sub-analysis of the larger psychometric study was to describe the degree of EBP readiness of inpatient registered nurses (RN) employed in an integrated healthcare system in Southern California. At the time of the study launch, this system was embarking on the Magnet© designation journey. A secondary aim was to examine RNs' self-reported barriers and facilitators related to EBP actualization within the organization. For this study, readiness was defined as the ability of organizations and nurses to actively participate in EBP (Thiel & Ghosh, 2008). The investigators' goal was to offer recommendations to leadership and patient care stakeholders and frontline clinicians for capacity building of EBP competencies and knowledge, and to improve infrastructure to successfully implement EBP for our registered nurses.

METHODOLOGY**Study design and EBP measurement**

The study used a cross-sectional descriptive survey design. Approval was obtained to use the 2005 Nursing EBP Survey as the selected tool, as designed by the Department of Nursing Service and Patient Care at the University of Iowa Hospital and Clinic. Psychometric testing of the 2005 Nursing EBP survey (Crawford et al., 2020) yielded fifteen questions with five key factors in EBP readiness for nurses: (1) Practice Climate, (2) Data Collection, (3) Evidence Appraisal, (4) Implementation, and (5) Access to Evidence. These questions were used to gather quantitative data for the study. Participants were asked to report demographics and questions related to the subscales on a 5-point Likert scale, from 1 reflecting *strongly disagree* to 5 as *strongly agree*. The Cronbach's alpha for the five subscales were 0.92, 0.90, 0.90, 0.85, and 0.79, respectively. Further subscale and total score measurement and validity are narrated in the psychometric testing article by Crawford et al. (2020). Respondents were additionally asked to answer open-ended questions on EBP barriers and facilitators. The qualitative data were examined using thematic content analysis.

Setting, sample, and data collection

This study targeted the 10,200 RNs employed in the acute care inpatient setting within the 14 medical centers of the integrated

healthcare system. Any RN (e.g., new graduate RN, experienced RN, charge nurse, clinical nurse specialist, nurse educator, nurse manager, chief nurse executive, etc.) employed full-time, part-time, or per diem was eligible to participate.

After receiving institutional review board approval, inpatient RN recruitment and participation were facilitated by email messaging, invitational flyers, and discussion at multiple staff meetings. The electronic survey distribution was conducted through a web-based system (SurveyMonkey, 2019). Following the first email inviting participation, repeat emails were sent in months 2 to 4, with a final reminder email sent at the end of month 4. Website access began in November 2016 and closed after 23 weeks (Crawford et al., 2020).

Data analysis

Data were analyzed using descriptive statistics for demographics and EBP scores (total and subscale scores). Inferential statistics (Pearson correlation and chi-square) were used to test for associations between demographic characteristics and EBP scores. ANOVA with Tukey post-hoc tests was used to examine differences between EBP scores and educational level and specialty/service lines and for years of employment and education level (SPSS Version 26; IBM Corp.). Subscales for each participant were evaluated and removed for any missing data, also reducing the sample size for total scores. The demographic questions participants chose to answer remained in the analyses. Qualitative data from open-ended questions regarding barriers and facilitators were analyzed using an inductive thematic content analysis approach. Specifically, the free-text answers were grouped into concepts and codes, which were then categorized and synthesized into specific themes (Krippendorff, 2019; Lizarondo et al., 2019; Neuendorf, 2017).

RESULTS

Quantitative results

A total of 724 inpatient nurses completed the survey questions, with a mean age of 43.72 (SD 10.28), with an average of 10.51 years (SD 8.49) employed at the organization. Although several distinct roles were reflected in this sample, 79% were frontline clinical nurses, 59.5% reported full-time work hours, 49.4% identified as working within maternal child health specialty, and 58.4% reported having their Bachelor of Science in Nursing (BSN; Table 1).

After addressing missing data, there were 645 respondents with all subscale means and ability to measure the total score. The total EBP score was $M = 3.72$ ($SD = 0.61$) and the Cronbach's alpha was 0.748. The Practice Climate subscale score was highest with $M = 4.27$ ($SD = 0.68$), and the Data Collection subscale was lowest with $M = 3.11$ ($SD = 1.06$). Associations between years of experience at the organization and EBP scores were low and nonsignificant with Pearson correlations (r) ranging from $-.002$ to $.102$. Total and all

TABLE 1 Study demographics

Participants (N = 724)	Value ^a
Age (n = 595)	43.72 (SD = 10.28)
Years Employed with Organization (n = 595)	10.51 (SD = 8.50)
Gender (n = 699)	
Female	615 (84.9)
Male	77 (10.6)
Transgender	7 (1.0)
Race (n = 671)	
Filipino	198 (27.3)
White/Caucasian	194 (26.8)
Asian	125 (17.3)
Hispanic/Latinx	93 (12.8)
Black/African American	29 (4.0)
Other/Preferred not to report	19 (2.6)
Multiracial	13 (1.8)
Highest Education (n = 568)	
BS/BSN	423 (58.4)
Graduate Level (MS/MSN, DNP, PhD)	86 (11.9)
ADN	59 (8.1)
Inpatient Specialty/Service Line (n = 701)	
MCH (maternal/child health)	358 (49.4)
Critical Care	129 (17.8)
Medical/Surgical	108 (14.9)
Peri-Operative	52 (7.2)
Other ^b	49 (6.8)
Mental Health	5 (0.7)
Role Categories (n = 711)	
Staff RN	580 (80.1)
Management—Care Delivery	37 (5.1)
RN First Assistant	33 (4.6)
Nursing Education	20 (2.8)
Charge Nurse	13 (1.8)
Certified RN Anesthetist	10 (1.4)
Clinical Nurse Specialist	5 (0.7)
Nursing Coordinator	5 (0.7)
Management—Noncare delivery	4 (0.6)
Utilization Nurse	2 (0.3)
Relief Charge Nurse	2 (0.3)

^aValue expressed as mean and standard deviation or frequency and percentage.

^bOther examples include Hemodialysis, Infusion Center, Administration, and Education.

subscale EBP scores differed significantly by educational level with graduate nurses scoring the highest (Table 2). Conversely, subscale and total EBP scores did not differ significantly by specialty/service line. Significant differences were found for years of employment and educational level, with significantly higher years of experience

TABLE 2 EBP survey total and factor scores by education ANOVA for inpatient nurses

Factors and Total score mean (SD) (95% confidence interval)	Education mean (SD) (95% confidence interval)			F	p	Tukey post-hoc
	ADN	BSN	Graduate*			
Factor 1: Practice Climate 4.27 (0.68) (4.21, 4.33)	4.18 (0.58) (4.03, 4.34)	4.24 (0.69) (4.18, 4.31)	4.47 (0.61) (4.33, 4.61)	(2543) 4.37	.013	ADN < Graduate
Factor 2: Data Collection 3.11 (1.06) (3.02, 3.20)	2.72 (1.01) (2.45, 2.99)	3.01(1.04) (2.99, 3.20)	3.47(1.08) (3.24, 3.71)	(2549) 9.01	<.001	ADN < BSN, Graduate
Factor 3: Evidence Appraisal 3.82 (0.76) (3.76, 3.88)	3.72 (0.75) (3.52, 3.92)	3.76 (0.74) (3.69, 3.83)	4.19 (0.75) (4.03, 4.36)	(2, 548) 12.41	<.001	ADN < Graduate
Factor 4: Implementation 3.66 (0.86) (3.59, 3.73)	3.42 (0.85) (3.91, 3.64)	3.65 (0.86) (3.57, 3.73)	3.86 (0.87) (3.67, 4.05)	(2, 554) 4.51	.011	ADN < Graduate
Factor 5: Access to Evidence 3.77 (0.92) (3.69, 3.85)	3.47 (0.93) (3.22, 3.71)	3.70 (0.88) (3.62, 3.79)	4.29 (0.96) (4.08, 4.50)	(2558) 18.69	<.001	ADN, BSN < Graduate
EBP Total Score 3.72 (0.61) (3.66, 3.77)	3.47 (0.51) (3.33, 3.61)	3.68 (0.59) (3.62, 3.74)	4.07 (0.63) (3.93, 4.22)	(2503) 19.19	<.001	ADN < BSN, MSN

Note: Graduate* = master's and doctoral degrees combined due to low count of doctoral degrees.

Abbreviations: ADN, associate degree in nursing; BSN, bachelor of science in nursing.

($M = 14.96$, $SD = 10.09$) for ADN versus both MSN and graduate nurse participants $F(2, 5390) = 10.45$, $p < .001$ (Table 3).

Qualitative results: Themes & Exemplars

An inductive thematic content analysis revealed both expected and new themes related to barriers and facilitators to EBP. One open-ended question asked respondents about what facilitates EBP and was answered by 491 subjects, while the second open-ended question regarding barriers yielded responses from 508 subjects. Answers were downloaded from SurveyMonkey into SPSS, then exported into an Excel file for organization; software applications were not used in the qualitative analyses. Responses were independently coded manually and grouped into concepts and categories by two investigators (CLC, JLR) who met regularly to compare and achieve consensus. Similar codes and categories were manually clustered into themes within the Excel file and narrative codes to support each theme were identified. The two investigators met to achieve a final consensus on the themes and related codes resulting in seven themes: (1) Everyone Involved in EBP Implementation, (2) Fear and Resistance to Change, (3) Protected Release Time, (4) Knowing EBP Culture Outside of Current Organization, (5) Organizational Communication and Education, (6) Management/Leadership Support, (7) Pragmatic Solutions to Facilitate EBP. An investigator who is a point of care inpatient RN (LTP) reviewed the final themes for fit between code exemplars and themes. The themes are discussed below, with 3 additional exemplars in Table 4.

Everyone involved in EBP implementation

This may be a new theme in the EBP literature. Facilitators of EBP included having “everyone” involved, educated, part of practice implementation, and centered on teamwork, which was viewed as a partnership and not isolated to nursing. As one nurse reported, “Team approach so that all those in the healthcare team are aware of the EBP and be able to support EBP for quality patient care outcomes.” Another stated, “Evidence based nursing practices are done by RN in collaboration with Nursing Educators and MD...” Clearly, nurses perceived that the involvement of all team members was needed for successful EBP activities.

A major barrier noted by nurses was the lack of team and inter-professional involvement in EBP. One nurse sadly commented, “No one cares about scientific research and evidence-based nursing.” Sometimes the work was blocked by simple to more complex observations like “MD orders that conflict” and “Conflicting evidence,” respectively. There may be a generational divide, seen by statements of “...longevity also creates a very insular environment,” contributing to “that's the way we have always done it.”

Fear and resistance to change

Many statements about facilitation described critical EBP components, such as “enthusiasm, awareness, and data/information, as well as journal, library, and/or internet access.” One nurse commented on where the change in their unit was supported, “We are

TABLE 3 Differences in years of employment by education

Years employed at the organization						
Educational Degree	M	SD	95% CI	F (2,539)	p	Post-hoc
ADN	14.96	10.09	(12.23, 17.69)	10.45	<.001	ADN > BSN, Graduate
BSN	9.71	7.79	(8.95,10.47)			
Graduate level (MSN, DNP, PhD, EdD)	11.01	8.00	(9.26,12.75)			

Abbreviations: ADN, associate degree in nursing; BSN, bachelor’s degree in nursing; DNP, doctorate in nursing practice; EdD, doctorate in education; MSN, master’s degree in nursing; PhD, doctorate in philosophy of nursing.

TABLE 4 Seven qualitative themes of nurses perceptions of EBP readiness: Barriers and facilitators

Theme 1: Everyone involved in EBP implementation	Theme 2: Fear and resistance to change	Theme 3: Protected release time	Theme 4: Knowing EBP culture outside of current organization	Theme 5: Organizational communication and education
Exemplar <ul style="list-style-type: none"> • *"true partnership" • *"Evidence based nursing practices are done by RN in collaboration with Nursing Educators and MD, it must be implemented carefully in order to improve quality and patient safety." • #"...older staff only want to practice out of 20-year-old textbooks." • #“MD orders that conflict” 	Exemplar <ul style="list-style-type: none"> • *"...the older nurses on our unit trust the younger nurses and seek their clinical expertise on what the newest EB practices are." • *"enthusiasm, awareness, and data/information..." • #“Not held accountable to the expectations that based on new evidence..." • #People stuck in their ways • #“unwilling to learn or accept new studies” 	Exemplar <ul style="list-style-type: none"> • *"...our manager has had more opportunity to train on the new EBP." • #“Time is a huge barrier to evidence-based practice..." • #“We do not have enough time to research and at home we have families to take care of..." 	Exemplar <ul style="list-style-type: none"> • *"...had a journal club and I learned a lot about evidence-based practices." • *"I have worked at another hospital that had a journal club and I learned a lot about evidence-based practices." • # ...when I mention it, they say this is how we always done things" 	Exemplar <ul style="list-style-type: none"> • *"If nurses have a better understanding of ‘why’, there is a greater likelihood of achieving commitment." • *"We have an educator that keeps us up to date." • *"Education with reinforcement has been successful in implementing a practice while maintaining an open communication..." • #“There is a huge disconnect between staff RN’s and current updates." • #“Material not being presented to staff. They are just told."
Theme 6: Management/leadership support		Theme 7: Pragmatic solutions to facilitate EBP		
Exemplar <ul style="list-style-type: none"> • *"when upper management makes, it a priority" • *"Getting nurses involves one way or the other on unit base team where we can discuss EBP and the importance of implementing EBP." • *"Also it would be helpful if leadership promoted and encouraged staff to go to evidence-based conferences." • #“Unwillingness for the facility to change." • #“no leadership to guide in making the change happen..." • #“Red tape in getting buy in from administration, changing policies, taking time to educate staff 		Exemplar <ul style="list-style-type: none"> • *"Journal clubs" "Nursing research committees" "yearly skills fairs" "participate on unit-based team" • *"Nurse scientist/expert support" • *"Showing the data that change in practice could improve patient care outcomes" • *"thus illustrating that nurses are requesting a simple <i>Show Me The Data</i> request of leaders." • *"When the researchers actively involve nurses without discrimination." 		

Note: *Facilitator; #Barrier.

also fortunate that the older nurses on our unit trust the younger nurses and seek their clinical expertise on what the newest EB practices are." Nonetheless, the facilitator messages were outnumbered by the perceptions of "Fear of EBP becoming more difficult for nursing workflow."

Most barriers in this theme were organizational in context rather than individual barriers. However, one major personal theme was resistance to change. This was expressed as "Resistance to

introduction of something new..." and reveals that change may not be enough and could be a broader issue of "...not understanding that they own their practice." There was a concern about "increased workflow" that would add more tasks. Some comments indicated a more general group scale or a cultural collective seen in examples of "a resistant culture." This culture leads to not adapting the latest practices, policies, or procedures that other organizations have adopted to improve patient care. Examples included "Policies and

procedures/protocol in place that are not updated per current EBP.” Unsurprising comments like “Why change” and “Not my job” perpetuate this unfortunate cycle.

Protected release time

Not having dedicated time away from the bedside or protected time was deemed a major barrier. A nurse reported “Increasingly, our responsibilities are mounting, but our support is decreasing. It gives us less time to go through evidence and find ways to improve practice.” Time is a critical issue for nurses who wish to examine and explore the evidence to change practice. The intrusion of work issues into nurses’ personal lives came to light with “We do not have enough time to research and at home we have families to take care of...” Another comment included opportunities for involvement “Not giving staff the time to attend committees and participate in research.” The one statement about facilitation was expressed regarding the time element was “Our unit is fortunate.... because of this, our manager has had more opportunity to train on the new EBP and quality improvement projects.”

Knowing EBP culture outside of current organization

This theme also seemed to be a new addition to the EBP discussion. Newly hired nurses brought their EBP and research knowledge and processes either from academia or another hospital, as articulated by “I came from [another organization] and everyone on my unit knew and talked about EBP...here when I mention it, they say this is how we always done things” and “We don’t have much exposure to the latest research...I have worked at another hospital that had a journal club and I learned a lot about evidence-based practices.” The use of their knowledge and strategies could be a welcome facilitator for any new organization.

Organizational communication and education

This theme is defined as the need for organizational knowledge and communication as to the *why* for evidence-based practice change. Statements about facilitation focused on education. One nurse commented that when completed well education can be a facilitator, “An evidence-based nursing practice has been successful in the unit and at the bedside due to frequent education by management including frequent auditing at least once in a shift.” Another reflected “We have an educator that keeps us up to date on recent articles.” The overall message was “If nurses have a better understanding of ‘why’, there is a greater likelihood of achieving commitment.”

One barrier expressed was the organization not providing enough EBP education when a new practice or workflow was introduced. Examples included, “Difficult to implement if there is a lack of education about why...” Another nurse eloquently stated

EBP experts are needed, “we lack a much-needed CNS/clinical nurse specialist, someone who is familiar and comfortable with providing EBP and teachings.” This lack of education could promote resistance to change and push the nurse to lean to the familiar, “Also, a lack of education about why we are doing things a new way...” A nurse this drilled down to a simple statement of “...not having enough knowledge to critique an article.” Breaks in the information loop were articulated as “Committee members not taking it back to their groups.”

Management/leadership support

Nurses noted that EBP was facilitated “when upper management makes it a priority.” One form of visible organizational support is ensuring that everyone has access to the data and information needed to create evidence-based policies, procedures, and unit or facility projects, “it would be helpful if leadership shared what evidenced-based information they have learned at national conferences via poster, email, or implementing change on the unit. Also, it would be helpful if leadership promoted and encouraged staff to go to evidence-based conferences.” Lastly, managers could promote EBP by “Getting nurses involved one way or the other on unit-based teams where we can discuss EBP and the importance of implementing EBP.”

Barriers were seen as nurses noted that EBP may not occur without vital leadership support, whether financial, dedicated time, or mentoring involvement of staff. However, these efforts and people cost money, which nurses expressed as “...it is difficult to implement new practice unless it is financially beneficial” and “...there is little financial support...” Another stated that “nurse leaders are not up to date with evidence-based nursing practices and cannot set example for floor nurses.” The lack of data and related issues were expressed as “Inability to retrieve information” and “inaccurate data.” Ultimately, the staff may think there is “no leadership to guide in making the change happen. Instead, it always reaches a dead end.” Some nurses stated that they see “too much lip service to how important EBP is” and “EB seems to be the buzzword...” which may lead to a “us versus them” dynamic seen in a comment about EBP: “Do not ask the frontline staff if you do not want the truth.”

Bureaucratic processes were highlighted by “Red tape in getting buy in from administration, changing policies, taking time to educate staff,” which if eliminated could assist in resolving perceptions of “Don’t feel the organization is really interested in making changes.” Leadership addressing bureaucratic processes could then influence comments of “We’ve done things one way for many...years...and refuse to change.”

Pragmatic solutions to facilitate

This major theme illustrated nurse expectations and opportunities versus the current reality. Nurses gave specific ideas to promote

EBP such as journal clubs, participating in nursing research committees, and reviewing journals available on the unit, which aligns with current literature (Cornelison, 2019; Smith-Miller, 2022). Other suggestions were participating in unit-based teams or service councils, EBP training time on units, and yearly skills fairs. One person clearly expressed "Nurse Scientist/Expert support" as a facilitator. Data remain important, as "...nurses are requesting a simple *Show Me the Data*" because "Showing the data, that change in practice could improve patient care outcomes."

DISCUSSION

Results from this study, aggregated across 14 medical centers within one integrated healthcare system, provide an organizational-level view of clinical nurse EBP readiness in addition to perspectives about facilitators and barriers to EBP. Overall, the scores of inpatient RNs were good regarding EBP processes, with the highest scores for Practice Climate, suggesting that the health system fosters a climate conducive to EBP. Scores were relatively high for Access to Evidence and Evidence Appraisal (>3.7). By contrast, scores were lowest for Data Collection and Implementation, suggesting these are areas for improvement. These findings suggest that personal skills and some EBP infrastructure are good, but opportunities exist for capacity building to support clinical nurses in EBP work. This aligns with qualitative findings of perceived expectations for organizational support. Both the need for continued EBP education beyond nursing programs and organizational infrastructure align with comparable results seen in the literature (Melnyk et al., 2018; Wang et al., 2021; Yoo et al., 2019) and expert editorials such as McNett et al. (2021).

The Melnyk et al. (2020) results demonstrated the influence of an organizational supportive culture on EBP competency and mentoring along with direct effects on job satisfaction and indirect effects on intent to stay. Several research studies have found that EBP mentors are critical for embedding and sustaining organizational EBP efforts (Cullen et al., 2020; Melnyk et al., 2022; Wang et al., 2021). Melnyk et al. (2022) recently developed an instrument to measure nurses' perception of the availability of EBP mentorship and support, a valuable addition to the assessment of institutional EBP culture (Melnyk et al., 2022). EBP mentors have the in-depth knowledge, skills, and competencies needed to nurture the structures and cultures necessary for EBP to flourish (Melnyk et al., 2022). EBP mentors and change champions are but one strategy supporting these efforts (Cullen et al., 2020). Nurses may need to increase their political acumen to navigate and rebuild outdated organizational structures (Montalvo & Byrne, 2016). However, it must be noted that nurse interest in EBP is not commitment. The conundrum of nurse engagement must be addressed, with one possible link being initiative or change fatigue (Smith-Miller, 2022).

Qualitative themes reflect a continued need for organizational EBP support structures and resources in the work setting. This

study's themes of Fear and Resistant to Change, Communication and Education, Protected Release Time, and Management/Leadership Support align with previous qualitative work (Clavijo-Chamorro et al., 2020; Geerligts et al., 2018). However, the themes Everybody Involved in EBP and Knowing EBP Culture Outside Of Current Organization are new and expand the knowledge base regarding EBP barriers and facilitators. These themes and exemplars brought rich data to this discussion and allowed a collective nurse voice to be heard in an anonymous manner. Although some responses may be difficult to read, they were the data and themes of concerns and realities of integrating evidence into daily practice. Ultimately, nurses in this sample wanted to "do the right thing right" (Crawford & Scott, 2011, p. 136). Respondents offered ideas and suggestions captured in the pragmatic solutions to facilitate EBP.

Fear and Resistance to Change cut across all themes. Nurses perceived that the healthcare system was mostly responsible for EBP climate, resources, practice, and development rather than frontline nurses. Nurses also perceived an organizational need to fully embrace the tenants of supportive infrastructure and capacity building for successful EBP implementation. From this evidence, nurse leaders of health systems are called to address capacity building at the organizational level and make EBP an integral part of nursing care delivery. Post-COVID restructuring has dramatically altered the healthcare landscape and represents an ideal opportunity for an enhanced culture of EBP to be injected into organizational mission/vision statements and operations.

Limitations

One limitation is the convenience sample, and that quantitative and qualitative perspectives may not be similar to those who did not complete the survey, as well as survey bias and conducting the study within one healthcare organization (Crawford et al., 2020). However, the sample size ($n = 724$) was adequate for quantitative analysis and comparison between groups. The responses for facilitators ($n = 491$) and barriers ($n = 508$) were sufficient for qualitative analysis. Conducting this study in the pre-COVID-19 era also limits results. The lack of evidence for new rapidly implemented COVID-related protocols, procedures, and treatments could potentially have impacted nurses' responses. Since data collection, EBP initiatives have occurred and several medical centers within this integrated system have achieved Magnet© designation. These limitations, in addition to the COVID-19 pandemic, may elicit different responses.

Implications and recommendations

The investigators' next steps are to use this evidence as a guide for organizational infrastructure to support the culture and implementation of EBP amongst RNs. The post-COVID reorganization has significantly altered the healthcare environment and represents an ideal opportunity for the culture of EBP to be injected into organizational

mission and vision statements and operations. System-level co-design by leadership and frontline nurses could change EBP education, workshops, and communication strategies and share best practices from successful EBP implementation. Journal clubs, librarian support, EBP change champions, online EBP courses, and gaming classes such as escape rooms are current strategies (Cornelison, 2019; Crawford et al., 2020; Cullen et al., 2020; Nadelson & Nadelson, 2020; Warren et al., 2016). These tactics can be tailored to fit organizational norms and could prove valuable during this time of limited resources, with particular use of virtual web-based strategies. Protected time programs for frontline RNs, such as EBP or research residencies and fellowships, could be tested for feasibility, as well as onboarding methods to incorporate EBP concepts and attitudes.

One way to track the progress of these recommendations is to redeploy the EBP Readiness Survey and include an EBP competency scale, such as those developed by Melnyk et al. (2018), and an EBP scale for managers and leaders. The last instrument examines EBP leadership behaviors and nurse manager EBP competencies, as these leaders directly influence unit EBP climates and implementation (Shuman et al., 2019). Caramanica et al. (2022) developed a valid set of 22 nurse manager competencies for effective EBP support. Armed with this information, organizational leaders can incorporate interdisciplinary groups of librarians, academics, and physicians to leverage existing EBP education and interprofessional programs to address “*Everyone Involved in EBP Implementation*.” Additional team members include educators, CNS, managers, executives, and most importantly EBP mentors and frontline nurses. A key umbrella component is an organizational education and communication for practice and policy changes.

All frontline staff nurses should be accountable for embracing and advancing evidence in professional practice and patient care (Crawford & Scott, 2011; Speroni et al., 2020; Whitehorn et al., 2021). While past recommendations frequently focus on senior management and executive leaders creating and supporting EBP (Berthelsen & Hølge-Hazelton, 2021; McNett et al., 2021; Shuman et al., 2019), professional nurse engagement must also be emphasized, along with science-based strategies to enhance professionalism and continued growth of system-wide EBP culture. All three elements are needed to close the loop between organizational commitment, leadership support, and frontline nurse engagement (McNett et al., 2021; Speroni et al., 2020).

A shift in thinking is needed as EBP concepts and processes are now 40 years old (Lal, 2022). Nursing practice and its evidence have been molded by many factors, including shared governance, accountability, and nurse-driven decision-making. One outgrowth of this movement is the Magnet® Model (Speroni et al., 2020), which provides the infrastructure needed to support evidence in practice and related resources (Brokob, 2022; Lal, 2022; Melnyk et al., 2020; Smith-Miller, 2022). Evidence generated by these results and future studies can assist organizations in achieving and sustaining Magnet® status while ensuring the practice climate remains science-based through organizational leadership and stakeholder support.

Linking evidence to action

- Nurses at all organizational levels can utilize the presented evidence and create program evaluation strategies to determine the education, time, teams, leadership support, and communication required for EBP readiness, including EBP mentors to guide knowledge uptake activities.
- Professional frontline nurse accountability and engagement must be emphasized in addition to organizational support and leadership involvement in the creation and continued growth of a system-wide EBP culture.
- Pragmatic solutions for EBP capacity building and successful sustainability within a service organization require frontline nurse feedback, commitment, and partnership with nursing leaders.
- The Magnet® Model can provide the professional excellence infrastructure needed to ensure nurse-led EBP practice environments are science-driven and fiscally supported by organizational leaders and key stakeholders.

CONCLUSION

The EBP Readiness Survey study sought to identify, quantify, and elicit answers regarding the importance of EBP, how it is implemented, and the evaluation of its outcomes. Knowing the level of acute care nurses' EBP levels can in turn determine their ability to implement and evaluate the evidence needed to structure continued organizational innovation and culture (Brokob, 2022; Smith-Miller, 2022; Speroni et al., 2020). Additionally, key barriers and facilitators were collected that articulated the supports and resources necessary to advance nurses' implementation and data collection competencies. This information reinforced the need for EBP mentors with MSN and doctoral education to guide them in these knowledge uptake efforts (Melnyk et al., 2020; Smith-Miller, 2022; Speroni et al., 2020). By moving beyond isolated pockets of EBP excellence, organizations can then truly embrace a science-grounded culture with frontline nurse engagement to become a bright beacon for evidence and patient care.

CONFLICT OF INTEREST

The authors declare they have no conflicts of interest, including financial, consultant, institutional, and other relationships that might lead to bias or a conflict of interest related to this manuscript.

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