



Evidence-Based Practice Implementation

Dependent on Capacity and Capabilities

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OBJECTIVE: This study was conducted to determine the benefits, facilitators, and barriers of implementing evidence-based practice (EBP) into organizational culture.

BACKGROUND: Implementing EBP leads to higher quality of patient outcome care, improved patient outcomes, and decreased healthcare costs. Nurse leader (NL) influence is essential for successful EBP implementation.

METHODS: Data were collected using a descriptive qualitative approach with focus group interviews using 2 open-ended questions. Participants included NL attendees at the 2022 Association of California Nurse Leaders Annual Program/Conference. Data were analyzed and themes were identified using Sandelowski's method.

RESULTS: Two overarching themes emerged: *capacity* (the amount something can produce) and *capabilities* (the power or ability to do something).

CONCLUSIONS: Healthcare organizations need to invest in building NLs' capacity to implement EBP and allocate resources to strengthen the organization's capabilities in supporting EBP.

Adopting evidence-based practice (EBP) is imperative in today's healthcare culture due to its role in improving patient care. Exemplified in Magnet[®]-designated organizations, EBP implementation can lead to numerous benefits including enhanced patient safety.¹ Although

not the sole factor required for EBP execution, the nurse leaders' (NLs') individual readiness is a major contributor to its success.² Evidence-based practice implementation is challenging and requires the alignment of multiple factors. Evidence-based practice facilitators are often scarce, and organizations face many common barriers to EBP implementation that are shared globally.

Background

Evidence-based practice is considered the criterion standard for patient care. Evidence indicates that implementation of EBP leads to higher quality of care, improved patient outcomes, and decreased healthcare costs.³ This problem-solving approach to clinical decision making is often stymied at the implementation step. The Institute of Medicine recommends EBP as 1 of 5 competencies for all healthcare organizations.⁴ Moreover, EBP is considered essential in meeting the 6 national priorities and goals developed by the National Priorities Partnership.⁵

It is well established that EBP improves healthcare quality and patient outcomes and reduces morbidities, mortality, medical errors, costs, and healthcare service disparities.⁶⁻⁸ Although it is standard practice in major healthcare systems, it is still inconsistently implemented or enculturated across healthcare systems in the United States.⁸ The importance of NL influence on EBP integration has emerged as critically important. There is a paucity of information about the NLs' own EBP beliefs toward supporting implementation. Multiple barriers also exist that influence critical outcomes such as nurse executive performance and nursing departments' metrics, or the context of the clinical work environments where the transition to EBP occurs.⁹

Historically, the major barriers related to EBP implementation in healthcare organizations include lack of clinician knowledge/skills, time-intensive perceptions, burdensome beliefs, and organizational cultures that are

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not supportive.⁹⁻¹¹ Resistance among NLs to EBP has also been identified as a significant barrier.^{4,9,12} Many healthcare professionals continue to deliver care to patients based upon tradition, outdated policies and procedures, inherited information and education due to lack of knowledge, and inconsistent supervisory support and resources, including time.^{9,12} Evidence-based practice implementation is less dependent on individual nurse characteristics including education, EBP/research awareness, skills, and practices, with culture having a stronger impact on sustained implementation.¹² Challenges and barriers to NL support of EBP include staffing shortages, time limitations, competing work priorities, lack of EBP awareness, and lack of resources including expertise, database access, and capital, and organizational sponsorship.¹³⁻¹⁵

Magnet designation moved organizations toward nursing excellence by supporting organizational EBP implementation as a scholarly activity, as well as a core requirement for designation.¹⁶ In a precursor to this qualitative study, investigators conducted a quantitative study aimed at describing EBP attributes among Association of California Nurse Leaders (ACNL) members, representing multiple organizations throughout California (CA).¹⁷ This study found that CA NLs scored higher on all aspects of EBP beliefs, knowledge, and competencies scales compared with a national sample yet were challenged in advancing cultures that embrace EBP.¹⁷ To achieve higher quality and safe cost-effective care, study findings indicated that NLs need to invest in providing resources to support an EBP culture.^{14,17}

The current study was designed, informed, and recommended by the Galuska et al¹⁷ study to further describe the perspectives and challenges NLs encounter. The purpose of this study was to determine the benefits, facilitators, and barriers of implementing an organizational EBP culture targeting CA NLs who represent different organizations also ACNL members. Findings might help set an agenda that advances EBP implementation at the organizational level.

Methods

Design and Setting

A descriptive qualitative approach with focus group interviews was used to collect data. After obtaining Kaiser Permanente Southern California Institutional Review Board (IRB) approval, the investigators secured ACNL Board of Directors permission to conduct focus group interviews during the 2022 ACNL Annual Program/Conference held in Anaheim, California.

Participants

During the conference, participants were recruited on-site via either letters, personal invitations, or calls from the

podium to voluntarily participate in the focus group study. Two interview sessions were conducted on 2 consecutive days of the conference. Twelve NLs participated, with a mean age of 53 years, 28 years of nursing experience, and 17 years of NL history. Most participants (58%) had a master's degree (MSN), >50% worked at healthcare organizations with Magnet designation, and 91% had exposure to EBP via a formal course or continuing education module.

Data Collection

Interviews were conducted in a private room at the conference hotel. Each focus group consisted of a convenience sample (group 1, N = 4; group 2, N = 8). Before the interviews, participants consented verbally and completed a short IRB-approved demographic sheet. Two trained investigators facilitated the focus group discussions that lasted 50 to 60 minutes. Participants responded to the following 2 open-ended questions, 1 question at a time: What are the perceived benefits, facilitators, and barriers to organizational EBP implementation? What do you think are the next steps in implementing EBP in your organization?

Verbal responses were audio recorded, and then 2 certified transcriptionists transcribed verbatim. To maintain confidentiality, data were stored in a password-protected cloud storage file, accessible to the study investigators only who also prepared the deidentified aggregate report.

Data Analysis

The Sandelowski method that uses qualitative meta-summary to synthesize qualitative and quantitative descriptive findings was used to analyze the narratives. Investigators reviewed the transcripts repeatedly, interpreted the participants' experiences, identified common themes, discussed and compared findings, and then used consensus to identify themes and subthemes.

Results

The analysis yielded 2 overarching themes, namely, *capacity* and *capabilities*, with subthemes of transformational leadership, organizational culture and structure, EBP knowledge, and professional nursing practice focused on patient outcomes under the theme *capacity* and adequate staffing, staff support, and EBP expertise under the theme *capabilities* (Table 1).

Capacity

Participants felt they lacked a common understanding of EBP, which impeded implementation. In addition, they felt introducing EBP to students early in their academic programs is beneficial to newly licensed nurses (NLNs) beginning their professional careers, allowing them to add to capacity early. Participants also

Table 1. Themes and Subthemes to EBP Implementation

Theme	Subtheme
1. Capacity	<ul style="list-style-type: none"> • Transformational leadership • Organizational culture and structure • EBP knowledge • Professional nursing practice
2. Capabilities	<ul style="list-style-type: none"> • Adequate staffing • Staff support • EBP expertise

acknowledged that transformational leadership is essential in promoting EBP within healthcare organizations. Nurse leaders are integral in promoting an organizational culture that encourages, mentors, and supports nurses to develop professionally and to participate in activities that promote optimum patient outcomes through EBP. One participant noted, “Understanding the politics and the political landscape of (organizational) culture is so important, and it can be a barrier, or it can be a facilitator to good EBP implementation....” Participants noted that Magnet designation fostered that type of culture.

Other quotes that explicated the capacity theme include: “...you need leadership buy-in as well as clinical nurses (CNs) approving the implementation of EBP...”; “I think first and foremost it has to be the organizational support, financially, resources.”; “...the first question I ask is: is it evidence-based?”; and “(EBP) starts giving nurses the tactical ways and structure. (If) you do that, you will get some better outcomes. It’s giving structure to help people expand their professional practice.”

Capabilities

The organizational stakeholders' ability to provide necessary financial and human resources for EBP implementation begins with the organization's mission and vision. Adequate staffing fosters positive collaborative relationships among peers and allows for new staff mentoring, including adoption of EBP competencies. Participants revealed that nursing staff must be supported with the resource of time to conduct EBP activities and education to enhance their EBP expertise, such as the process for finding and appraising the literature for the best evidence, which can then be used to create innovative best practices. Access to data was deemed essential to identify issues or problems and to develop researchable clinical or leadership questions. Data monitoring should be used post-EBP implementation to determine the effect on patient outcomes.

Participants revealed that technology is essential in both data collection and dissemination to stakeholders,

including nursing staff. Participants acknowledged that the COVID-19 pandemic did influence the EBP implementation activities, because many resources had to be reallocated for staffing needs. In addition, participants shared that technology including clinical decision support tools, best practice alerts, virtual patient/family visits and education, telehealth assessments and diagnosis by providers, and virtual patient therapy became paramount in delivering patient care during that time.

Additional quotes that best explicated the capabilities theme include: “Do the staff have protected time to do this?”, “(EBP) enables us as leaders to maintain the consistency and standardization across the organizations.”, and “Building (EBP competencies) into career ladders for nurses going from Levels 1–4, (it) becomes part of the journey; ...if they want to progress in their professional practice....”

Discussion

This is an important study that discusses NLS' perspectives on benefits, facilitators, and organizational barriers to EBP implementation. The study participants were highly informative, and data saturation was reached verifying 2 main emerging themes (*capacity* and *capabilities*). The pivotal role played by the NLS in EBP implementation is well supported in the literature.¹⁸ Nurse leaders help create an organizational culture conducive to EBP implementation given adequate resources to grow their *capacity* and harness their *capabilities* as described in the Results section of the article. The NLS' perceptions of facilitators and barriers informed the 2 major themes and were consistent with other studies.

The 1st subtheme under capacity is the lack of clarity around EBP, in either having a consistent definition or knowledge of EBP. This finding aligns with a barrier identified in a study exploring the perceived facilitators and barriers to EBP practice among senior nurses.¹⁹ More than half of participants (58%) have an MSN and worked at Magnet-designated organizations (>50%). Their education and affiliations may have exposed them to the elements required to implement EBP. Regarding perceived barriers, a participant suggested it would be beneficial to partner with faculty to introduce EBP implementation into nursing curricula. This formative exposure would help prepare NLNs to actively and quickly participate in their organization's EBP initiatives, thus expanding the organization's EBP capacity.

In the Magnet standards, transformational leadership, a subtheme under capacity, describes individuals who can lead staff and the organization to meet future challenges.¹⁶ Transformational leaders possess qualities such as having a compelling vision, influence, clinical knowledge, and strong professional nursing expertise.

In this study, more than half of the participants work for a Magnet-designated organization.

An interesting response highlighted that NLs need to be politically savvy in navigating their organizational culture and become facilitators of rather than barriers to EBP implementation. The Magnet standards address this aspect stating, "Transformation may create turbulence and involve atypical approaches to solutions.... They [NLs] must listen, challenge, influence, and affirm as the organization makes its way into the future."¹⁶ This statement confirms the finding of this study that NLs are instrumental in fostering an organizational culture and structure based on EBP implementation. Additional strategies helpful to transformational leadership include building trust and integrity, creating a shared vision, finding new ideas, and valuing individualism.²⁰

A recent study called upon healthcare leaders to build EBP's capacity at the organizational level through integrating EBP as the foundation for nursing care delivery.²¹ Using such strategies at the unit and organizational levels may help NLs create and develop a solid foundation for EBP implementation capacity and emphasize the professional nursing practice subtheme.

The 2nd major theme, capabilities, refers to the tools and resources provided to NLs and clinical staff to effectively implement EBP projects. Study participants noted that adequate staffing, NLN/staff mentorship, time to conduct EBP activities, and the provision to resources as technology are essential for sustaining a successful EBP implementation culture. The use of EBP to support practice excellence in nursing must align with the organization's mission and vision. Evidence-based practice initiatives' alignment with organizational priorities is supported by a study that identified 1 determinant of an EBP environment as being dependent on culture and encouragement from leadership.²² Other capabilities subthemes include NLs granting staff time to conduct EBP, aligning with other evidence.^{21,23} Opportunities to participate in EBP implementation were felt to enhance nurses' confidence and prepare future EBP mentors.

The next subtheme, which is dependent on a level of technology, revealed the competencies involved in actual EBP implementation included developing research questions, locating scholarly evidence, appraising the evidence, planning and conducting the project, and evaluating the outcomes.²⁴

The current study findings further support the available evidence. This study substantiated that EBP implementation is challenged in CA healthcare organizations. Hurdles to EBP implementation exist even when nurses and NLs support the value of EBP.²⁵ In alignment with other studies,^{23,26} this current study demonstrates that capacity and capabilities are essential for building, maintaining, and sustaining a strong culture necessary for EBP implementation. One participant stressed the need for

building EBP competencies into nursing career ladders as part of professional development. This is an area for further research.

Implications

The intent of these focus groups was to explore the perspectives of CA NLs regarding the benefits, facilitators, and barriers to organizational EBP implementation. Organizations must continue to invest in building the capacity of NLs to implement EBP initiatives in their respective units and departments. Resource allocation to strengthen an organization's capabilities to support EBP initiatives is also an imperative.

Nurse leaders' capacity-building may include opportunities to obtain advanced degrees to acquire a more global understanding of EBP implementation processes and gain skills to help CNs operationalize EBP. Access to educational forums outside a formal degree (eg, seminars, conferences, workshops, and trainings) contributes to the EBP knowledge of NLs. Finally, NLs should participate in decision making to champion EBP initiatives that link the organization's overarching goal of quality nursing care to the individual unit contribution. Adequate resources, both financial and human, should be allocated to strengthen the organization's capabilities to support EBP initiatives. Nurse leaders may also facilitate the connection and expertise available between CNs and librarians who can provide guidance on locating scholarly evidence for practice inquiries. They must also collaborate with professional development specialists to assist in educating and developing CNs' EBP competencies. For these roles to be realized, NLs must have the capacity, capabilities, and support to move EBP initiatives forward.

Limitations

The purposive/convenience sample of mostly middle-level managers from 1 state used in this study is limiting. It is possible that the investigators recruited NLs who were interested in this topic. Volunteer participants might have favored applying EBP in their respective facilities, omitting those with negative perceptions. Thus, the perspectives of other NLs are not able to be generalized from these findings. Social desirability bias might have occurred. The nature of the group discussion in this research method may have hindered some participants from voicing their perspectives. Some participants may have been more engaged than others, causing a potential obstacle for those individuals who were not as articulate. Thus, caution is vital in interpreting the findings of this small sample, which might not be representative of the target population.

Findings support replication of the study among NLs in other geographical areas and organizations. There is a need to explore the views of higher level nurse

executives regarding EBP implementation due to their organizational ability to support resource allocation.

Conclusions

Evidence-based practice implementation leads to a higher quality of care, improved patient outcomes, and decreased healthcare costs. Yet, there are challenges and barriers with EBP implementation. Major barriers reported to EBP implementation include the lack of EBP knowledge, lack of resources, time limitations,

inadequate staffing, and competing work priorities. Many organizational cultures do not support EBP. The findings of this study add context to previous findings as they further describe the challenges NLs encounter in implementing EBP within their organizations.¹⁷ Study findings do substantiate the need for stakeholders to invest in building NL capacity in the implementation of EBP and allocate resources to strengthen the organization's capabilities in supporting EBP implementation culture.

References

1. Speroni KG, McLaughlin MK, Friesen MA. Use of evidence-based practice models and research findings in Magnet-designated hospitals across the United States: national survey results. *Worldviews Evid Based Nurs.* 2020;17(2):98-107. doi:10.1111/wvn.12428.
2. Melnyk BM, Zellefrow C, Tan A, Hsieh AP. Differences between Magnet and non-Magnet-designated hospitals in nurses' evidence-based practice knowledge, competencies, mentoring, and culture. *Worldviews Evid Based Nurs.* 2020;17(5):337-347. <https://doi.org/10.1111/wvn.12467>. Accessed September 2, 2023.
3. Kawar LN, Aquino-Maneja EM, Failla KR, Flores SL, Squier VR. Research, evidence-based practice, and quality improvement simplified. *J Contin Educ Nurs.* 2023;54(1):40-48. doi:10.3928/00220124-20221207-09.
4. Institute of Medicine. Roundtable on evidence-based medicine workshop. 2009. <https://www.ncbi.nlm.nih.gov/books/NBK52847/>. Accessed September 12, 2023.
5. National Priorities Partnership. *National Priorities and Goals: Aligning Our Efforts to Transform America's Healthcare.* Washington, DC: National Quality Forum; 2008.
6. Gallagher-Ford L, Connor L. Transforming healthcare to evidence-based healthcare: a failure of leadership. *J Nurs Adm.* 2020;50(5):248-250. doi:10.1097/NNA.0000000000000878.
7. Tucker SJ, Gallagher-Ford L. EBP 2.0: from strategy to implementation. *Am J Nurs.* 2019;119(4):50-52. doi:10.1097/01.NAJ.0000554549.01028.af.
8. Warren JL, McLaughlin M, Bardsley J, et al. The strengths and challenges of implementing EBP in healthcare systems. *Worldviews Evid Based Nurs.* 2016;13(1):15-24. doi:10.1111/wvn.12149.
9. Paci M, Faedda G, Ugolini A, Pellicciari L. Barriers to evidence-based practice implementation in physiotherapy: a systematic review and meta-analysis. *Int J Qual Health Care.* 2021;33(2):mzab093. <https://doi.org/10.1093/intqhc/mzab093>. Accessed September 23, 2023.
10. Beckett M, Quiter E, Ryan G, et al. Bridging the gap between basic science and clinical practice: the role of organizations in addressing clinician barriers. *Implement Sci.* 2011;6:35. doi:10.1186/1748-5908-6-35.
11. Melnyk BM, Gallagher-Ford L, Thomas BK, Troseth M, Wyingarden K, Szalacha L. A study of chief nurse executives indicates low prioritization of evidence-based practice and shortcomings in hospital performance metrics across the United States. *Worldviews Evid Based Nurs.* 2016;13(1):6-14. doi:10.1111/wvn.12133.
12. Melnyk BM, Fineout-Overholt E, Gallagher-Ford L, Kaplan L. The state of evidence-based practice in US nurses: critical implications for nurse leaders and educators. *J Nurs Adm.* 2012;42(9):410-417. doi:10.1097/NNA.0b013e3182664e0a.
13. Crawford CL, Rondinelli J, Zuniga S, Valdez RM, Tze-Polo L, Titler MG. Barriers and facilitators influencing EBP readiness: building organizational and nurse capacity. *Worldviews Evid Based Nurs.* 2023;20(1):27-36. doi:10.1111/wvn.12618.
14. Melnyk BM, Gallagher-Ford L, Zellefrow C, et al. The first U.S. study on nurses' evidence-based practice competencies indicates major deficits that threaten healthcare quality, safety, and patient outcomes. *Worldviews Evid Based Nurs.* 2018;15(1):16-25. doi:10.1111/wvn.12269.
15. Wang M, Zhang YP, Guo M. Development of a cadre of evidence-based practice mentors for nurses: what works? *Worldviews Evid Based Nurs.* 2021;18(1):8-14. doi:10.1111/wvn.12482.
16. American Nurses Credentialing Center. *2023 Magnet Application Manual.* Silver Spring, MD: American Nurses Credentialing Center; 2021.
17. Galuska L, Loos N, Kawar LN, Thomas B, Gallagher-Ford L. Equipping nurses to lead evidence-based practice: an opportunity for professional nursing associations. *J Nurs Adm.* 2022;52(10):554-559. doi:10.1097/NNA.0000000000001198.
18. Bianchi M, Bagnasco A, Bressan V, et al. A review of the role of nurse leadership in promoting and sustaining evidence-based practice. *J Nurs Manag.* 2018;26(8):918-932. doi:10.1111/jonm.12638.
19. Malik G, McKenna L, Plummer V. Facilitators and barriers to evidence-based practice: perceptions of nurse educators, clinical coaches and nurse specialists from a descriptive study. *Contemp Nurse.* 2016;52(5):544-554. doi:10.1080/10376178.2016.1188017.
20. Reichenpfader U, Carlford S, Nilsen P. Leadership in evidence-based practice: a systematic review. *Leadersh Health Serv.* 2015;28(4):298-316. doi:10.1108/LHS-08-2014-0061.
21. Crawford CL, Rondinelli J, Zuniga S, et al. Testing of the nursing evidence-based practice survey. *Worldviews Evid Based Nurs.* 2020;17(2):118-128. doi:10.1111/wvn.12432.
22. Duff J, Cullen L, Hanrahan K, Steelman V. Determinants of an evidence-based practice environment: an interpretive description. *Implement Sci Commun.* 2020;1:85. doi:10.1186/s43058-020-00070-0.
23. Melnyk BM, Tan A, Hsieh AP, Gallagher-Ford L. Evidence-based practice culture and mentorship predict EBP implementation, nurse job satisfaction, and intent to stay: support for the ARCC[®] model. *Worldviews Evid Based Nurs.* 2021;18(4):272-281. doi:10.1111/wvn.12524.
24. Walker PD, Ivory CH. Using technology to facilitate evidence-based practice during the COVID-19 pandemic. *Nurs Clin North Am.* 2023;58(1):97-106. doi:10.1016/j.cnur.2022.10.009.
25. Fineout-Overholt E. A guide to critical appraisal of evidence. *Nurs Crit Care.* 2019;14(3):24-30. doi:10.1097/01.CCN.0000554830.12833.2f.
26. McNett M, Tucker S, Melnyk BM. Evidence-based practice requires evidence-based implementation. *Worldviews Evid Based Nurs.* 2021;18(2):74-75. doi:10.1111/wvn.12494.