



# The State of Evidence-Based Practice in US Nurses

## *Critical Implications for Nurse Leaders and Educators*

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This descriptive survey assessed the perception of evidence-based practice (EBP) among nurses in the United States. Although evidence-based healthcare results in improved patient outcomes and reduced costs, nurses do not consistently implement evidence-based best practices. A descriptive survey was conducted with a random sample of 1015 RNs who are members of the American Nurses Association. Although nurses believe in evidence-based care, barriers remain prevalent, including resistance from colleagues, nurse leaders, and managers. Differences existed in responses of nurses from Magnet® versus non-Magnet institutions as well as nurses with master's versus nonmaster's degrees. Nurse leaders and educators must provide learning opportunities regarding EBP and facilitate supportive cultures to achieve the Institute of Medicine's 2020 goal that 90% of clinical decisions be evidence-based.

Evidence-based practice (EBP) is a problem-solving approach to clinical decision making in healthcare that integrates the best evidence from well-designed studies with a clinician's expertise, which includes internal evidence from patient assessments and practice data, and a patient's preferences and values.<sup>1,2</sup> Findings from research support that the implementation of EBP leads to a higher quality of care, improved patient outcomes, and decreased healthcare costs.<sup>3-5</sup> Most importantly, EBP assists organizations in attaining high reliability (ie, safety).<sup>6</sup> Because of the multiple benefits, hospitals and healthcare providers are being incentivized by insurers to implement best EBPs through such mechanisms as pay for performance.

Anecdotal reports from nurses support that engaging in EBP renews the professional spirit of the nurse, a key variable in professional satisfaction.<sup>7</sup> Nurses comment that "EBP gives us a voice" and allows them to "reclaim their authentic self as a 'real nurse' as well as supports them to 'become strong patient advocates, focused on improving the quality of the care given to patients.'"<sup>8(p39)</sup>

In the landmark summit sponsored by the Institute of Medicine (IOM) on health professions education, it was recommended that all health professional educational programs include 5 competencies, including (a) providing patient-centered care, (b) applying quality improvement principles, (c) working in interprofessional teams, (d) using EBPs, and (e) using health information technologies.<sup>9</sup> EBP is an essential criterion for obtaining Magnet® status, a designation awarded to organizations by the American Nurses Credentialing Center for excellence in nursing.<sup>10</sup> EBP has become the driver of transformation for the 6 priorities and goals developed

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by the national priorities partnership, a group of 48 organizations that play a key role in identifying strategies for achieving better care, affordable care, and healthy people and communities.<sup>11</sup>

Although it is widely recognized that EBP reduces morbidities, mortality, medical errors, and the geographic variation of healthcare, it is not implemented consistently by nurses and other clinicians in healthcare systems across the United States.<sup>3,4,12,13</sup>

Many educational programs throughout the United States continue to emphasize the rigorous process of how to conduct research in their curricula for nursing students at the bachelor's and master's levels instead of how to translate research and clinical data into an evidence-based approach supporting care. As a result, negative attitudes toward utilizing research in practice exist, and care is often based on content that was learned in academic programs years ago as well as outdated policies and procedures.

Historically, the major barriers reported blocking the implementation of EBP in healthcare institutions are a lack of EBP knowledge and skills in clinicians, a perception that EBP is timely, a belief that EBP is burdensome and organizational cultures that do not support EBP.<sup>14-16</sup> Conversely, key factors facilitating EBP adoption include strong beliefs that EBP improves patient care and outcomes, a solid foundation of knowledge and skills, access to EBP mentors, and organizational cultures that support evidence-based care.<sup>2,17,18</sup> If strategies to improve EBP knowledge and skills of nurses and other clinicians as well as organizational cultures to support EBP are not implemented and sustained, the IOM's goal that 90% of healthcare decisions will be evidence-based by 2020 is not likely to be realized.<sup>19</sup>

This survey was undertaken to obtain a contemporary assessment of the needs and state of EBP of US nurses.<sup>12</sup> The aims were to

1. assess the state of EBP as reported by US nurses who are members of the American Nurses Association (ANA),
2. assess the needs of US nurses regarding EBP,
3. determine whether the needs and reported state of EBP differ between master's degree- and non-master's degree-prepared nurses, and
4. determine whether the needs and reported state of EBP differ between nurses from Magnet versus non-Magnet institutions.

## About the Study

### Methods

A descriptive survey was conducted to assess the needs and current state of EBP implementation in nurses across the United States. The survey was granted

exempt status from the institutional review board at the primary author's university.

### Sample

The sample of 20 000 nurses was randomly drawn using a computer program from an electronic database of nurses who belong to the ANA.

### The Survey

The survey was composed of demographic questions (eg, age, level of education) along with 18 5-point Likert-scale items, ranging from 1 (strongly disagree) to 5 (strongly agree), capturing the state of EBP from a clinician's perspective and his/her current needs regarding evidence-based care. Examples of items on the survey included (a) It is important for me to gain more knowledge and skills in EBP, and (b) I consistently implement EBP with my patients. Ten of the 18 items were taken directly from the Evidence-Based Practice Beliefs Scale<sup>20</sup> and the Evidence-Based Practice Implementation Scale (EBPIS),<sup>21</sup> which have well-established construct validity and excellent internal consistency reliability.<sup>22</sup> Examples of these questions included (a) I am clear about the steps in EBP, and (b) EBP is consistently implemented in my healthcare system.

Content validity of the survey was supported by 3 EBP experts. Cronbach's  $\alpha$  for the 18 Likert-scale items was .88. Seven additional items assessed the respondents' needs regarding EBP on a 5-point Likert scale from 1 (not needed) to 5 (greatly needed). Examples of these needs included on-site education and skills building in EBP and consistent access to an EBP mentor in the clinician's clinical setting. Lastly, the following open-ended questions were included on the survey: (1) "What one thing most prevents you from implementing EBP in your daily clinical practice?" and (2) "What one thing would help you the most to implement EBP in your daily clinical practice?"

### Procedure

An e-mail was sent to the randomly selected ANA members. In the context of the e-mail, a link to the SurveyMonkey survey was provided. Completion of the survey indicated the member's consent to participate in the study. A total of 1015 ANA members responded to the survey for a response rate of 5%.

### Findings

Respondents' ages ranged from 21 to 79 years (mean, 51.2 years). Ninety-three percent ( $n = 936$ ) of respondents were female; 7% ( $n = 72$ ) were male. Nearly

56% (n = 561) of the respondents held master's degrees or higher, with 44% (n = 449) holding a baccalaureate degree, associate degree, or diploma. Years of clinical practice ranged from 0 to 52 years (mean, 24 years). Approximately 37% (n = 344) of the respondents described themselves as staff nurses, and nearly 25% (n = 216) described themselves as nurse educators, with 16.3% (n = 140) of these nurse educators reporting working in an educational organization. Nearly 47% (n = 400) of the respondents practiced in community hospitals, and approximately 23% (n = 195) practiced in academic medical centers. The remainder of respondents reported practicing either in a primary care or community health setting. Twenty-five percent (n = 251) of the nurses practiced in Magnet-designated institutions.

Five hundred forty-four of the survey respondents (53.6%) agreed or strongly agreed that EBP was consistently implemented in their organization, and only 350 (34.5%) agreed or strongly agreed that their colleagues consistently implement EBP with their patients. Only 329 (32.5%) agreed or strongly agreed that EBP mentors were available in their healthcare systems to assist them with EBP, and 471 (46.4%) agreed or strongly agreed that findings from research studies are routinely implemented to improve patient outcomes in their institution. Seven hundred seventy-three respondents (76.2%) agreed or strongly agreed that it was important for them to receive more education and skills building in EBP. Six hundred twenty-four respondents (61.5%) reported that they would be

interested in participating in Web seminars with EBP experts to learn more about EBP. Table 1 reports the mean scores for each of the 18 items from the survey.

The following data represent the number and percentage of respondents who responded that they either needed or strongly needed the following:

- an online resource center where best EBPs for patients are housed and experts are available for consultation (n = 776, 77.5%)
- tools that can help implement EBP with patients (n = 764, 75.3%)
- online education and skills building modules in EBP (n = 740, 72.9%)
- an online distance continuing education EBP fellowship program with expert EBP mentors (n = 699, 69.0%)
- access to an EBP mentor (n = 690, 68.0%)
- regular Web seminars conducted by experts in EBP (n = 651, 64.1%)

Significantly more non-master's degree-prepared nurses versus master's degree nurses indicated that (a) it is important to gain more knowledge and skills in EBP ( $P < .001$ ); (b) they are interested in participating in an online distance continuing education fellowship program with EBP experts to enhance their knowledge and skills in EBP ( $P = .001$ ); (c) they are interested in receiving more education and skills building in EBP ( $P < .001$ ); and (d) they are interested in participating in Web seminars with EBP experts to learn more about EBP ( $P < .05$ ). Significantly more

**Table 1.** Mean Scores for Each of the 18 Items From the Survey (N = 876)

	Mean	SD
EBP1: My educational program prepared me well to consistently implement EBP.	3.67	1.138
EBP2: I believe that EBP results in the best clinical care for patients.	4.39	0.746
EBP3: I am clear about the steps of EBP.	3.90	0.968
EBP4: It is important for me to gain more knowledge and skills in EBP.	4.19	0.834
EBP5: I am interested in participating in an online distance continuing education fellowship program with EBP experts to enhance my knowledge and skills in EBP.	3.58	1.170
EBP6: I consistently implement EBP with my patients.	3.82	0.883
EBP7: EBP is consistently implemented in my healthcare system or clinical setting.	3.51	1.021
EBP8: I am interested in receiving more education and skills building in EBP.	3.97	0.952
EBP9: EBP experts are routinely available in my healthcare system to mentor me in EBP.	2.94	1.167
EBP10: I am interested in participating in Web seminars with EBP experts to learn more about EBP.	3.65	1.104
EBP11: My colleagues consistently implement EBP with their patients.	3.12	0.965
EBP12: There are many barriers that exist in my clinical setting that make it difficult to implement EBP. (Reversed)	3.03	1.053
EBP13: I believe that the findings from research studies are routinely implemented to improve patient outcomes in my institution.	3.30	1.035
EBP14: My organizational culture encourages and supports EBP.	3.65	1.062
EBP15: My nurse leaders/managers consistently make evidence-based decisions.	3.24	1.008
EBP16: I am confident in routinely implementing EBP with my patients.	3.69	0.907
EBP17: My organization has routine educational offerings or an ongoing EBP program to enhance EBP in nurses and other clinicians.	3.03	1.176
EBP18: My organization routinely recognizes EBP efforts by nurses and other clinicians.	3.14	1.172

master's degree nurses than non-master's degree nurses indicated that they were clear about the steps in EBP ( $P < .001$ ) and were more confident in implementing EBP ( $P < .001$ ).

Nurses in Magnet-designated versus non-Magnet-designated organizations reported differences in their needs and state of EBP. These included that nurses in Magnet institutions reported higher levels of (a) more consistent implementation of EBP by their healthcare systems, (b) availability of EBP experts, (c) organizational cultures supporting EBP, (d) routine educational offerings in EBP, and (e) routine recognition of

EBP efforts. Furthermore, there were no significant differences in 8 of the 18 items related to needs and access to support for EBP, including (a) being clear about the steps of EBP, (b) interest in participating in continuing education to enhance knowledge and skills in EBP, (c) on-site education and skills building in EBP, and (d) consistent access to an EBP mentor (Table 2).

Negative correlations existed between number of years in clinical practice and (a) importance of gaining more knowledge and skills in EBP ( $r = -0.12$ ;  $P < .01$ ) and (b) interest in receiving more education and skills building in EBP ( $r = -0.10$ ;  $P < .01$ ). In other words,

**Table 2.** Differences Between Magnet Designated and Non-Magnet Designated Institutions

	Do You Work in a Magnet-Designated Institution?	n	Mean	SD	P
EBP scale total score	No	727	62.1575	10.27187	<.001 <sup>a</sup>
	Yes	249	67.6217	10.34857	
EBP1: My educational program prepared me well to consistently implement EBP.	No	740	3.71	1.132	.164
	Yes	251	3.59	1.154	
EBP2: I believe that EBP results in the best clinical care for patients.	No	744	4.36	0.775	.124
	Yes	249	4.45	0.712	
EBP3: I am clear about the steps of EBP.	No	738	3.86	0.965	.325
	Yes	250	3.93	1.006	
EBP4: It is important for me to gain more knowledge and skills in EBP.	No	728	4.19	0.834	.340
	Yes	248	4.13	0.872	
EBP5: I am interested in participating in an online distance continuing education fellowship program with EBP experts to enhance my knowledge and skills in EBP.	No	740	3.59	1.181	.438
	Yes	250	3.53	1.152	
EBP6: I consistently implement EBP with my patients.	No	731	3.78	0.862	.073
	Yes	249	3.90	0.970	
EBP7: EBP is consistently implemented in my healthcare system or clinical setting.	No	727	3.37	1.012	<.001 <sup>a</sup>
	Yes	248	3.88	0.947	
EBP8: I am interested in receiving more education and skills building in EBP.	No	737	3.98	0.964	.322
	Yes	248	3.91	0.941	
EBP9: EBP experts are routinely available in my healthcare system to mentor me in EBP.	No	728	2.73	1.148	<.001 <sup>a</sup>
	Yes	246	3.51	1.037	
EBP10: I am interested in participating in Web seminars with EBP experts to learn more about EBP.	No	735	3.65	1.119	.467
	Yes	248	3.59	1.049	
EBP11: My colleagues consistently implement EBP with their patients.	No	725	3.01	0.962	<.001 <sup>a</sup>
	Yes	248	3.42	0.928	
EBP12: There are many barriers that exist in my clinical setting that make it difficult to implement EBP.	No	729	3.06	1.041	.001 <sup>a</sup>
	Yes	246	2.79	1.066	
EBP13: I believe that the findings from research studies are routinely implemented to improve patient outcomes in my institution.	No	727	3.14	1.041	<.001 <sup>a</sup>
	Yes	249	3.65	0.947	
EBP14: My organizational culture encourages and supports EBP.	No	731	3.48	1.072	<.001 <sup>a</sup>
	Yes	247	4.11	0.895	
EBP15: My nurse leaders/managers consistently make evidence-based decisions.	No	721	3.11	1.013	<.001 <sup>a</sup>
	Yes	247	3.60	0.923	
EBP16: I am confident in routinely implementing EBP with my patients.	No	723	3.61	0.926	.001 <sup>a</sup>
	Yes	244	3.84	0.884	
EBP17: My organization has routine educational offerings or an ongoing EBP program to enhance EBP in nurses and other clinicians.	No	725	2.81	1.147	<.001 <sup>a</sup>
	Yes	247	3.63	1.066	
EBP18: My organization routinely recognizes EBP efforts by nurses and other clinicians.	No	725	2.89	1.158	<.001 <sup>a</sup>
	Yes	248	3.73	1.036	

<sup>a</sup>Items with significant differences.

the greater the number of years in practice, the less nurses were interested in and felt it was important to gain more knowledge and skills in EBP. Levels of education were positively correlated with being clear about the steps in EBP ( $r = 0.26$ ;  $P < .01$ ) and reporting more confidence in implementing EBP ( $r = 0.13$ ;  $P < .01$ ). Specifically, more highly educated nurses reported being more clear about the steps in EBP and having more confidence implementing evidence-based care.

Study participants also responded to 2 open-ended questions, which were categorized and tallied (Table 3). The 5 most frequently reported responses to the question that asked participants about the one thing that prevents them from implementing EBP were (a) time, (b) organizational culture, (c) lack of EBP knowledge/skills, (d) lack of access to information/evidence, and (e) leader/manager resistance. Conversely, the top 5 responses to the question regarding what one thing would help the most in daily implementation of EBP were (a) education, (b) access to information, (c) time, (d) an online clearinghouse of evidence-based information, and (e) organizational support/awareness (Table 4).

## Discussion

In 2005, Pravikoff et al<sup>12</sup> conducted a descriptive exploratory study with 1097 randomly selected RNs from across the United States to determine their readiness for EBP. Findings from the survey of Pravikoff

**Table 3. Respondents' Answers Regarding the One Thing That Prevents Them From Implementing EBP in Their Daily Practice<sup>a</sup>**

	Total Responses
1. Time	151
2. Organizational culture, including policies and procedures, politics, and a philosophy of "that is the way we have always done it here"	123
3. Lack of EBP knowledge/education	61
4. Lack of access to evidence/information	55
5. Manager/leader resistance	51
6. Workload/staffing, including patient ratios	48
7. Nursing (staff) resistance	46
8. Physician resistance	34
9. Budget/payors	24
10. Lack of resources	20
11. Lack of available evidence	15
12. Patient resistance/noncompliance	11

<sup>a</sup>Other barriers reported (>2 but <10): inability to change practice, lack of communication, lack of value for EBP, lack of EBP mentors.

**Table 4. Respondents' Answers Regarding the One Thing That Would Help Them Implement EBP in Their Daily Practice<sup>a</sup>**

The "One Thing" That Would Help You Implement EBP in Your Daily Practice	Total Responses
1. Education	114
2. Access to information	100
3. Time	66
4. Clearinghouse of evidence-based information (online)	63
5. Organizational support/awareness	60
6. Manager support	55
7. Mentors available on unit	45
8. Knowledge	29
9. Written EBP standards of practice	25
10. Resources	24
11. Staffing on clinical unit	22
12. Peer support	18
13. MD support	17
14. Tools	14
15. Money to support EBP initiatives	13
16. Increased awareness of the importance of EBP	11

<sup>a</sup>Other items reported (>2 but <10): networking and teamwork.

et al<sup>12</sup> indicated that the nurses were not ready to implement or embrace EBP. The individual barrier to EBP that nurses reported most often was lack of value for EBP, with the greatest organizational barrier to EBP identified most often was time to do EBP. In contrast to the research by Pravikoff and colleagues,<sup>12</sup> this study indicates that nurses surveyed across the country are ready for and do value EBP. The participants reported wanting to gain more knowledge and skills in order to deliver evidence-based care in their institutions. However, many of the barriers to implementing EBP cited by the participants in this survey are the same ones that have been cited by nurses for over 2 decades, including lack of time, knowledge, mentors, and organizational support.<sup>12,15,23,24</sup> Lack of an organizational culture that supports EBP, a major factor noted in other prior studies, also was cited by the participants in this study as a major barrier for implementing EBP.

Barriers not frequently cited in previous literature that were noted by this sample of nurses included the lack of available information (55 respondents, 8%) and evidence (15 respondents, 2%) to support EBP efforts. This finding was reinforced in the free-text comments of the participants where a clearinghouse of evidence/information was the most commonly noted identified need. In addition, the respondents in this survey repeatedly reported resistance toward EBP from work colleagues including physicians (34 respondents, 5%) and fellow nurses (46 respondents,

7%) as well as resistance from nurse leaders and managers (51 respondents, 8%). These findings may reflect that, as more nurses are integrating evidence into their practices, pockets of resistance are being experienced that make EBP implementation challenging. Resistance to EBP from colleagues/peers is not a new phenomenon, but resistance from nurse leaders and managers is a newly identified barrier that requires attention as their support is critical for point-of-care staff to implement EBP. Although a recent study found that nurse executives report that they strongly believe in and value EBP, findings indicated that they themselves engaged little in EBP.<sup>25</sup> If nurse executives/leaders are not engaging in EBP, serving as role models, and facilitating evidence-based care, it follows that their staff will not engage in evidence-based care as the behaviors of nurse executives and managers influence staff behaviors.<sup>25</sup>

Nurses need an organizational culture that supports EBP. The results from this survey suggest that Magnet hospitals promote this culture, provide EBP experts and education, facilitate routine implementation of EBP, and recognize nurses for their EBP efforts more so than non-Magnet facilities. As part of the Magnet recognition program, hospitals must describe and demonstrate programs related to EBP, including an infrastructure and resources to support the advancement of EBP.<sup>26</sup> Efforts to establish EBP at Magnet facilities include establishment of research and EBP councils, EBP-focused grand rounds, educational sessions, and use of outcome measures to evaluate evidence-based initiatives.<sup>27</sup> Nurses working in hospitals applying for or having attained Magnet designation generally report having a better work environment compared with nurses working in hospitals without Magnet designation.<sup>28</sup> However, findings from this survey indicated that nurses in both Magnet and non-Magnet institutions believe in the value of EBP and feel it is important for them to gain more knowledge and skills in EBP as well as to have access to EBP mentors.

### Implications for Nurse Leaders and Educators

These findings have important implications for nurse executives, leaders, managers, and educators who are in key positions to build a supportive culture for EBP and to provide the time, educational skills building sessions, and resources necessary for staff nurses to implement evidence-based care. Nurse leaders and educators are responsible for designing and supporting clinical environments that support best practices for optimal patient outcomes and play a key role in creating the contextual milieu necessary for implementation. The American Organization of Nurse Executives Guiding Principles

for Future Patient Care Delivery<sup>29</sup> reflects the critical role of nurse leaders, who will need to "...participate in the design and management of delivery systems focusing on coordinated care along the continuum," which may include elements such as "...incorporate use of evidence-based care processes across disciplines and continuum."<sup>29(p1)</sup> Since organizational culture for EBP has been significantly and positively related to EBP beliefs and EBP implementation by nurses and other clinicians,<sup>18</sup> it is imperative for nurse executives and leaders to invest in creating EBP cultures. Without a culture that supports EBP, evidence-based care is not likely to be sustained.<sup>2</sup> A key factor in sustaining EBP is the availability of mentors within a healthcare system.<sup>4</sup> EBP mentors are typically advanced practice nurses with not only excellent knowledge and skills in EBP, but also skills in individual and organizational behavior change strategies.<sup>2</sup>

As 1st proposed in the Advancing Research and Clinical practice through close Collaboration model,<sup>18</sup> EBP mentors work directly with point-of-care staff and other clinicians to consistently implement and sustain EBP in order to ultimately improve quality of care and patient outcomes. Other recent studies have supported the positive outcomes achieved by having EBP mentors in healthcare systems.<sup>30,31</sup>

Findings from this study have important implications for nurse leaders and educators in both academic and clinical settings. In the recent IOM report, *The Future of Nursing: Leading Change, Advancing Health*, it is acknowledged that EBP is a necessary competency for nurses and that increasing the proportion of the workforce with a BSN from the current 50% to 80% by 2020 will help to prepare nurses who are competent in areas such as EBP.<sup>32</sup> Many members of the faculty in nursing colleges continue to teach EBP in a single course or teach BSN students the rigorous process of how to do research instead of how to use research to take an evidence-based approach to care. Consequently, graduates continue to leave their educational experience with negative attitudes toward research along with perceptions that EBP takes too much time and cannot be realistically implemented in real-world clinical practice settings. Teaching the rigorous process of research instead of how to use research to promote an evidence-based approach to care is also prevalent in master's degree programs and creates the same negative attitudes toward research in graduate students. Correcting this situation in academia will not be an easy fix; however, recognizing that nursing faculty cannot teach what they themselves do not know is a critical place to begin. Faculty must be equipped with excellent EBP

knowledge and skills so that they can teach it to their students as well as integrate EBP throughout entire academic programs in order to produce graduates who are competent in evidence-based care. Graduates from academic programs and practicing nurses also must be equipped to work effectively with physicians, nurse leaders, and fellow nurses who resist implementation of EBP. Often, EBP mentors help to achieve this goal.

### Limitations of the Study

One limitation of this study is its low response rate, which may not have captured the entire view of the members of the ANA. It also is not possible to know how the characteristics of the responders compared with those of the nonresponders or how the characteristics of ANA members compare with RNs in general. Therefore, caution should be used in generalizing these findings to all nurses across the United States.

### Conclusions

Evidence-based practice improves the quality and costs of healthcare along with patient outcomes as well as reduces unnecessary variation of care. Although nurses across the United States believe that EBP results in the best patient outcomes and have a desire to gain more knowledge and skills in EBP, barriers continue to exist in healthcare systems that prevent consistent implementation of evidence-based care. This recent survey reflects the persistence of major barriers in healthcare systems as well as brings forward some new and emerging concerns regarding EBP. The study reinforces the tremendous need for nurse executives/leaders to build organizational cultures that support EBP, implement strategies to enhance nurses' EBP knowledge and skills, and provide environments where EBP can thrive and be sustained. Only with urgent acceleration of and investment in EBP strategies and cultures will there be realization of the IOM's 2020 goal<sup>33</sup> that 90% of clinical decisions be evidence based, achieving the best patient outcomes.

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