

CHAPTER 2

Overview of Evidence

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CHAPTER OBJECTIVES

On completing this chapter, the learner will be able to:

1. Explain the importance of evidence-based practice (EBP) in the provision of quality nursing care.
2. Identify different qualities for classification of information as evidence.
3. Describe EBP competencies used to translate evidence into daily nursing practice.
4. Discuss various methods for grading evidence.

KEY TERMS

Case-controlled
Case report
Case series
Clinical decision making
Consensus
Editorials
Evidence
Evidence-based practice (EBP)
EBP competencies
Expert opinion
Forensic science
Ideas
Observation
Opinions
Qualitative research
Quality improvement
Quantitative research
Research

Introduction

The **evidence-based practice (EBP)** process is used globally by a network of world leaders and healthcare professionals to sustain high standards of health care through research. In these unprecedented times of the COVID-19 pandemic, interdisciplinary teams have had to swiftly develop research protocols for twofold priority outcomes—treatments to relieve symptoms and manage respiratory and other organ failure, and vaccinations to move humankind toward herd immunity (Centers for Disease Control and Prevention, n.d.). Nurses have risen to the challenge as frontline caregivers crossing borders to provide up-to-date, high-quality, cost-effective care founded on **evidence** throughout

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multiple healthcare settings, and community immunization clinics (Turale et al., 2020). "The politics of the pandemic requires nurses to leverage what we know best and respect science, nature, and each other as we navigate the politics of the pandemic. …If nurses use our collective political will, we can combat the coronavirus and its effects, including the epidemiology, economy, and equity, to better influence social ethics and justice that affect global and individual health" (Nickitas, 2020, p. 1).

Notably, as a result of the pandemic and the changing context of an interdisciplinary clinical practice, the IOM Future of Nursing 2020–2030 (n.d.) report positions nursing as taking the lead in the emerging "culture of health" to promote effective, efficient, and accessible care (**Table 2-1**). The newfound collaborative practice models echo the voices of individuals, families, and communities and engage coalitions and stakeholders both within and outside nursing to launch evidence-based quality initiatives for redesigning care impacting health equity.

The American Nurses Association (ANA, n.d.) and the Nursing Alliance for Quality Care (n.d.) posit that healthcare system leaders, practitioners, and individual nurses critically examine emerging evidence with direct relevance to their practice (Rilinger et al., 2020). The safety and well-being of individuals, families, and communities is paramount in today's healthcare environment. Competence in critiquing research studies and determining the level of empirical evidence is essential to tackle the novel questions generated from the COVID-19 pandemic, as well

Table 2-1 Key Elements for the Future of Nursing 2020–3030

1. The role of nurses in improving the health of individuals, families, and communities by addressing social determinants of health and providing effective, efficient, equitable, and accessible care for all across the care continuum, as well as identifying the system facilitators and barriers to achieving this goal.
2. The current and future deployment of all levels of nurses across the care continuum, including in collaborative practice models, to address the challenges of building a culture of health.
3. System facilitators and barriers to achieving a workforce that is diverse, including gender, race, and ethnicity, across all levels of nursing education.
4. The role of the nursing profession in assuring that the voice of individuals, families, and communities are incorporated into design and operations of clinical and community health systems.
5. The training and competency-development needed to prepare nurses, including advanced practice nurses, to work outside of acute care settings and to lead efforts to build a culture of health and health equity, and the extent to which the current curriculum meets these needs.
6. The ability of nurses to serve as change agents in creating systems that bridge the delivery of health care and social needs care in the community.
7. The research needed to identify or develop effective nursing practices for eliminating gaps and disparities in health care.
8. The importance of nurse well-being and resilience in ensuring the delivery of high-quality care and improving community health.
9. The role of nurses in response to emergencies that arise due to natural and man-made disasters and the impact on health equity.

National Academy of Sciences. (2021). *The future of nursing 2020–2030: Charting a path to achieve health equity*. https://nam.edu/publications/the-future-of-nursing-2020-2030/

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as the ongoing changes in clinical nursing practice. No longer can the lack of nurses' knowledge and research skills be barriers associated with issues that limit the use of EBP due to insufficient and nonstandardized nursing curricula (Skela-Savič et al., 2020); uncertainty over how to keep up with evidence and lack of clarity over using clinical tools; and lack of structured supervision. The ability of nurses to carry out EBP is strongly inhibited in clinical practice by aspects such as nurses being unable to consistently implement evidence-based best practices, and resistance from colleagues, nurse leaders, and managers. Turning the academic and practice barriers around and building innovative strategies to facilitate and support better problem solving and implementation of EBP requires appraised research-focused goals, organization policies, and procedures that promote autonomy among nurses. Throughout current literature, the evidence suggests that EBP courses can increase self-reported EBP behaviors in the clinical setting (Moore et al., 2019). "Evidence-based practice (EBP) is an ideal problem-solving approach based on the application of the best research in making health care decisions and is proven to be able to improve relationships between academe and clinical nursing entities" (Rahmayanti et al., 2020, p. 1).

Additional strategies to promote EBP are having dedicated supervision sessions, assigning a local champion to oversee the practice, and supporting changes to nursing practice (Gallagher-Ford et al., 2020). The availability of EBP mentors is needed to support trends and affirm the EBP process for a more collaborative approach to EBP implementation. When the steps of the EBP competencies are divided between clinical nurses and EBP mentors, the best evidence will be integrated into daily practice settings (Abu-Baker et al., 2021). Administrator, mentor, and educator support is essential to encourage nurses to perceive EBP as a gratifying nursing role in turning evidence-based actions into increased competence in order to better navigate the growing complexities of nursing practice. This type of collaboration between EBP mentors and clinical nurses is a more pragmatic approach for nurses to think critically about reallocating limited resources in order to translate and integrate the best evidence into their daily practice. These actions make healthcare delivery more effective and cost-efficient because nurses will be freed to focus on other primary roles and job functions (Harper et al., 2017; Lam, 2019). Through these efforts, nurses will promote the health of individuals, families, and communities in preferential nursing care. Nursing and other healthcare providers will be able to put forward trustworthy, responsible, and reliable information in compliance with a plan of care that is supported by evidence (Crable et al., 2020).

The emerging culture of health and health equity (The IOM Future of Nursing 2020–2030, n.d.) requires considerable energy and effort to be invested by nurses along with other healthcare providers. Importantly, nurses have the power of collective numbers through professional associations, technology, education, and other remote professional colleagues to advance health care with a renewed focus on prevention of disease/disability, health promotion, and health policy development. In practice, "nurses can directly influence the development of policies that affect the image of nursing as well as structures and processes within health care systems" (Acheampong, 2021, p. 2). Also, building nursing coalitions and networking among nursing organizations can lead to an increased potential for the best possible outcomes for individuals, families, and communities (Dulko, 2020). The vast network of national, state, and international nursing organizations that serves

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to synergize the impact of nursing via its collective numbers can be accessed at the following website: List of Professional Nursing Organizations (n.d.). https://nurse.org/orgs.shtml

Originally, the Affordable Care Act (ACA) of 2010 (Public Law 111-148) was about publicly funded health care and privately purchased insurance. More recently, a political debate ensues with federal and state governments balancing regulations and budgets that directly impact programs such as Advocates of the Children's Health Insurance Program (CHIP), Maternal Infant and Early Childhood Home Visiting (MIECHV), Elder Justice Act of 2010 (Public Law 111-148), as well as immigrants, refugees, and community health centers (CHCs). Healthcare outcomes and reform are evolving due to the fundamental supposition that every citizen deserves the right to a healthy and productive life in the United States. Although many studies have examined the impact of the ACA, Gai and Jones (2020) pose that the ACA "had positive effects on health insurance coverage and health care usage". . . However, "research on insurance instability is underrepresented, even though it could significantly impact health outcomes" (p. 1). Also, Cho et al. (2019) assert that policies addressing health coverage for patients within vulnerable social strata such as those having a lower socioeconomic status are important to be able to improve health outcomes.

The ACA will continue to be both a political and research focus over the next several years with nurses managing and leading on the frontlines. Shenoy (2021, p. 3) reflects on "The Institute of Healthcare Improvement's Triple Aim" that focuses on the three aspects of care, cost, and health—effective, patient-centered, and equitable:

- Effective—providing services based on scientific knowledge to all those who could benefit.
- Patient-centered—providing care that is respectful of and responsive to the patient's needs, preferences, and values. Delivery of care is considered to be patient-centered when the patient can choose certain aspects of care.
- Equitable—providing care that is consistent and does not vary in quality based on personal aspects such as gender, ethnicity, geographic location, and socioeconomic status.

As the ACA has promoted the development and dissemination of evidence-based standards throughout the United States, the practice roles and responsibilities of nursing are expanding. Healthcare professionals need to exercise their clinical judgment, political acumen, and leadership skills to make important and much needed changes that further increase access to and improve the quality and affordability of health care (Nickitas, 2020). Questions continue to be raised regarding Medicare and Medicaid reimbursements impacting patient-related expenses and nursing services. Some of the questions raised about Medicare include: "What are the different parts and options for Medicare coverage?" "What are my Medicare rights?" "What if I need help paying Medicare healthcare costs?" "How does Medicare determine payment levels?" "What will be the current guidelines for payment levels of healthcare professionals?" "Will payment be related to productivity and quality outcomes?" "Which supplement is best to help mitigate Medicare costs?" Answers to these and other pertinent questions may be found at the following website: Medicare.gov (n.d.). Prior to the ACA, Medicare served all eligible beneficiaries through Medicare Part A (Hospital Insurance Programs), Medicare Part B (Supplementary Medical

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Insurance), Medicare Part C (Medicare Advantage), and Medicare Part D (a voluntary program for outpatient prescription drugs). The scope of government collaboration with healthcare professionals is yet to be determined because many factors are difficult to identify and control in the implementation of quality improvement activities and in ensuring continuity of health care within the complex issues of both Medicare and healthcare reform (Medicare Reform & Center for Medicare Advocacy [n.d.]). Today, the ACA affects Medicare beneficiaries and requires that all Americans have health insurance, including minimum essential coverage standards. Nurses and other healthcare professionals will join together to advocate for public policy based on the evidence to enforce healthcare management that is responsible and accountable as Medicare enrollment grows and expenditures rise. The relevance of evidence-based management requires current healthcare principal actors/stakeholders to look outside existing information found in standard resources and investigate the most recent peer-reviewed research articles on healthcare administration (U.S. Department of Health & Human Services, n.d.). Using the most up-to-date evidence is critical for ensuring that the care provided represents the best practices across all available resources.

Nurses access and differentiate external evidence from rigorous research or internal evidence from practice initiatives, and consistently implement EBP for optimal quality of care and patient-centered outcomes. "Evidence-based practice (EBP) is a systematic problem-solving approach to the delivery of health care that improves quality and population health outcomes as well as reduces costs and empowers clinicians to fully engage in their role, otherwise known as the quadruple aim in health care" (Gallagher-Ford et al., 2020, p. 1). EBP is well documented as an integral part of all local, regional, national, and global healthcare environments. Through the consistent implementation of EBP, the quality of patient-centered care will be improved worldwide. Nurses from all areas of practice must embrace the different aspects for turning evidence into action throughout the healthcare environment. Nursing, as an evidence-based profession, requires members to be able to understand, synthesize, and critique research. The expanding development of EBP competencies and the incorporation of the competencies throughout healthcare systems provide up-to-date high-quality, safe, and cost-effective care.

The universal principles of EBP competencies guide nurses in their problem-solving efforts (Abu-Baker, 2021). Albarqouni et al. (2018) conducted a Delphi survey of 234 participants representing a range of health professionals (physicians, nurses, and allied health professionals). A consensus was reached on 68 EBP core competencies grouped into five EBP domains: Ask (transform clinical questions into answerable clinical questions using PICO, Acquire (construct a search strategy that reflects the purpose of the clinical question), Appraise (interpret the integrity, reliability, and applicability of health-related research), Apply (engage patients in the decision-making process including explaining the evidence and integrating their preferences), and Evaluate (the process of reflective clinical practice in facilitating EBP). Each of these five areas direct the healthcare provider to conduct the process of EBP in a logical and organized manner.

These **EBP competencies** must be embedded in a variety of ways such as in mission statements, in job descriptions, in the development of EBP mentors, in ladder programs, and in policy and procedure committees that affect every practicing nurse in healthcare organizations. Nurses flourish in an environment that promotes EBP, clinical inquiry, and clinical expertise, and focuses on the patients' voice (Melnyk et al., 2017).

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Saunders et al. (2019) affirmed the EBP competencies through a Delphi study to identify the EBP competencies of both registered and advanced practice nurses. Strategies that aid the practical implementation of EBP competencies include:

- Facilitating all levels of nursing professionals to engage in shared governance to empower the provision of health care.
- Providing educational opportunities to facilitate the use of EBP principles by frontline healthcare providers.
- Cultivating mentors to aid in the development of an energized culture committed to EBP.
- Utilizing all the educational resources to devise and furnish EBP programs of learning.
- Seeking online EBP resources such as project databases to support new projects while ensuring trust and established foundations for EBP.
- Allowing healthcare providers to use dedicated time for advancing EBP.
- Ensuring that all job descriptions and annual evaluations include components of EBP to demonstrate the importance of this aspect to safe patient care.

Foundations for EBP

Nurses are building a firm foundation with an appreciation for the interconnectedness of the essential aspects within EBP, research, and quality improvement projects. Each of these aspects has unique characteristics, but all serve to advance the quality of care provided within the healthcare setting. Understanding the consistencies and differences among these concepts is important to establish a foundation to use the best evidence to improve healthcare delivery. In answering the question "what is evidence?" it is important that we differentiate external evidence that is generated through rigorous **research** methodologies and is intended to be used in other settings from internal evidence generated through practice initiatives of **quality improvement** projects. Sharp et al. (2019) pose that "nursing shift-to-shift handovers are important as they impact the care quality indicators such as safety, patient satisfaction and continuity" (p. 1). Importantly, clinical information exchange such as shift-to-shift handovers, which is essential data from quality improvement projects, serves to enhance quality, continuity, safety, and teamwork and is focused on patient-centeredness to improve clinical care.

The distinction between **quantitative research**, which uses the positivist paradigm, and **qualitative research**, which uses the constructivist paradigm, needs to be established. Quantitative researchers use a deductive process, a scientific method that moves in a systematic series of steps according to a prescribed plan beginning with the definition of a problem to the solution of the problem. By gathering empirical evidence (data) that is rooted in objective reality, a control of the research situation in terms of minimizing bias, maximizing validity, and generalizing the research findings beyond the study is possible. Using an inductive process, qualitative researchers emphasize the dynamic, holistic, and individual aspects of human life within the context of those who are experiencing them to integrate information to develop a theory or a description of the phenomenon under observation. The evolving social and cultural challenges facing the nursing profession necessitates using both types of research paradigms and the emerging diversity of research mixed methods. The quest is to ensure that nurses establish

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an EBP and interventions that lead to optimal patient outcomes through education and caring throughout the healthcare environment (Burcin et al., 2020; Salehi et al., 2021).

Notably, inquisitive thinking is required for each aspect of both research paradigms to lay the foundations for an EBP. Sari and Ayse (2019) affirm that **intuition** has a direct influence on the quality of patient care and outcomes in nursing practice. By taking the time and energy to effectively envision research findings, quality improvement outcomes, and EBP activities, nurses can integrate the critical components for safe and high-quality health care (Doody et al., 2019). EBP and/or its processes are the preferred mechanism to integrate the best available evidence to guide nursing care and improve patient outcomes (Kean & Milner, 2020; Randall et al., 2019).

According to Melnyk and Fineout-Overholt (2009), evidence-based **clinical decision making** includes critical components of evidence identified from research, evidence-based theories and projects, opinion leaders, expert panels, clinical expertise, and quality improvement evidence along with thorough patient assessment, utilization of available resources, and patient preferences/values. EBP works on the concept of clinical decision making, and processing information rather than conclusions being used to guide the process for implementing practice change that leads to improved practice. EBP is many-sided and involves more than critical appraisals of research because clinicians need to apply the findings from all evidence pertaining to individual circumstances as part of their clinical decision-making process. In addition, Speroni et al. (2020) support the notion that nurses recognize the need to apply and integrate the best **evidence** into busy clinical practice settings.

Healthcare professionals, nurse advocates, leaders, educators, clinicians, and stakeholders must collaborate to create policies. These policies need to be integrated into an interprofessional education (IPE) to provide learning opportunities throughout an interdisciplinary healthcare practice for an expanding "culture of health" (IOM 2020–2030, n.d.). EBP resonates across nursing practice, education, and research to upgrade and redesign the art and science of nursing across expanding practice environments. The legacy of nursing's valuable contributions will be highlighted for what nurses have made, can make, and will make as worldwide frontline practitioners for the provision of safe and effective health care. Rapidly changing initiatives include practice adoption, education and curricular realignment, model and theory development, scientific engagement in new fields of research, policy change, and the development of a national research network to study improvements that will lead in change and advance health. "Ideally, engaged and educated nurses who enculturate, support, and sustain EBP will facilitate advancing nursing practice to improve patient and work environment–related outcomes" (Speroni et al., 2020, p. 1).

Setting EBP goals throughout healthcare services is a challenging, yet doable, goal wherein implementing up-to-date research, research utilization, and quality improvements is a pivotal cornerstone for the future of nursing practice. To better understand the interconnectedness of EBP and research, review **Figure 2-1**. It provides a visualization of the flow for research as it relates to EBP.

Clinical inquiry generated in the work environment leads to pertinent clinical questions because what works for one patient may not work for other patients, even within the same setting (Melnyk & Fineout-Overholt, 2021). Whether

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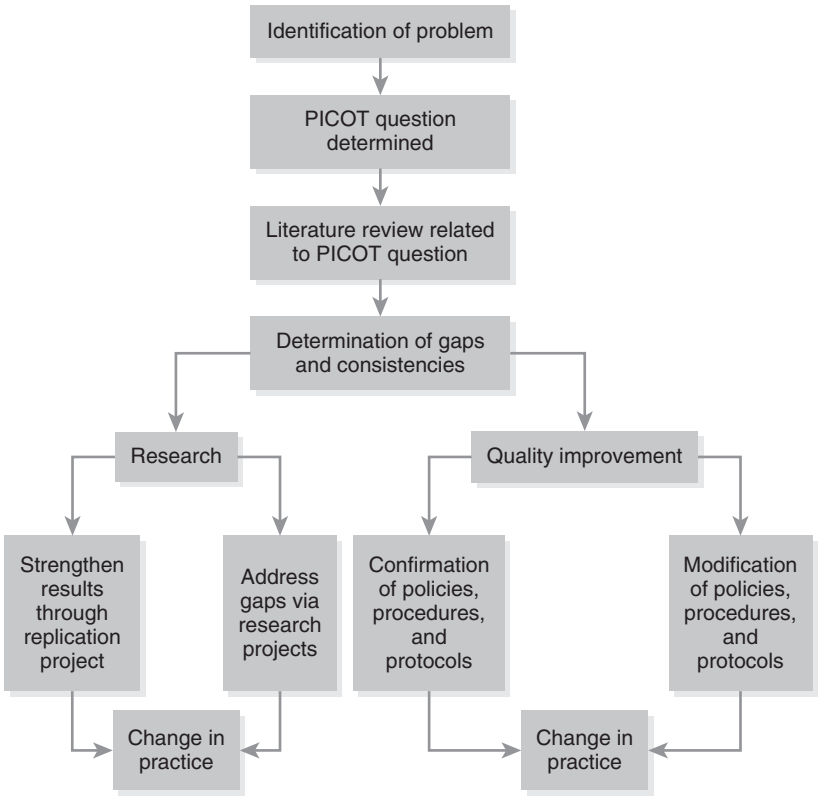


Figure 2-1 Flowchart for research related to evidence-based practice.

research or quality improvement activities are needed, the initial step is always the identification of the clinical question and the problem to be addressed. The clinical question is generated from practice and focuses on a specific population (P), an independent variable or intervention (I), comparison of intervention to current practice (C), and dependent variable or outcome (O) within a projected time frame (T) (if applicable). As a problem is identified, a PICOT (population, intervention, comparison, outcome, time) statement is formed. The PICOT statement is an organized, effective framework for structuring the problem into a manageable format. This PICOT statement drives the review of the literature, with each part of the PICOT statement providing key words and subject headings to narrow the search for relevant articles during the literature review. This attention to the statement allows for a truly in-depth evaluation of the accessible evidence relevant to the problem topic under investigation. While most of the evidence will be available through the literature, other forms of evidence can be accessed and included in this part of the process. All evidence pertinent to the problem topic should be included within the review. Once the literature has been collected and reviewed, both gaps and consistencies within the literature can be determined. Based on these gaps or consistencies, the next step can be taken toward establishing a thorough foundation constructed on the *best* evidence. These gaps and consistencies can either lead

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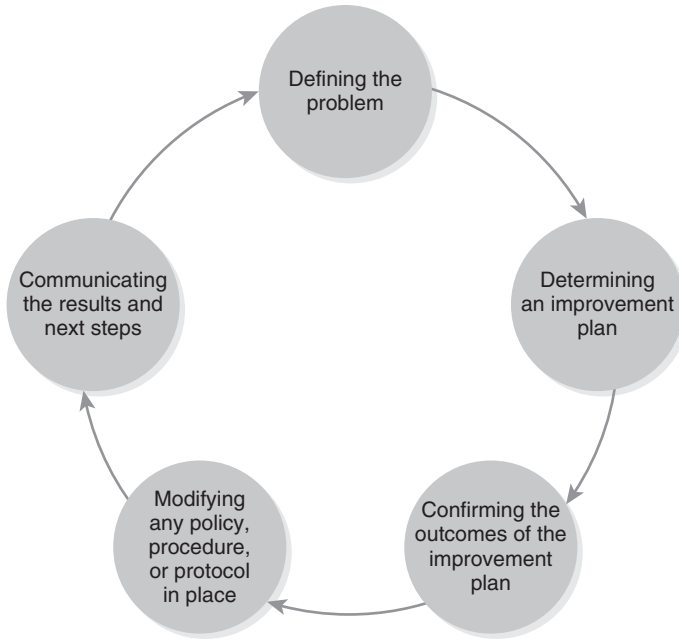


Figure 2-2 Quality improvement flowchart.

to a research study (quantitative or qualitative design) or a quality improvement project. (See **Figure 2-2**.)

Quality improvement is the process of bringing standards of practice to the actual bedside or expanding practice arena. Within this process, the functionality of the standard within a variety of settings is addressed. In bringing forth a quality improvement change resulting from EBP analysis, new standards are developed for the bedside setting. When the evidence found in a literature review and the evidence analysis reflect that a problem exists, the application of a higher standard of practice at the bedside setting is the quality improvement action required. As seen in Figure 2-1, the quality improvement can either confirm a policy, procedure, and/or protocol already in place, or it can drive their modification. Either way, the change resulting from the EBP analysis is a local change and/or modification rather than a more global alteration.

Quality improvement works to validate the current practices while ensuring that continuity of quality health care is achieved. The process of quality improvement can be visualized in Figure 2-2. Many quality improvement plans are available in the literature. The basic process is for the question to be asked, current structures to be examined, changes made accordingly, and those changes within the local venue to be evaluated, followed by communication of the next steps related to the process. Claytor et al. (2020) conducted a randomized control study for a quality improvement project involving patient mobility in a 26-bed cardiovascular surgery unit comprised of 18 medical-surgical and 8 progressive care beds in a midwestern facility. The study objectives were planned to decrease patient length of stay (LOS), reduce the number of previous falls by two episodes, reduce

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unit respiratory nosocomial infection marker rate by 5%, and enhance nursing satisfaction by one tier level. The project titled Mobility Matters focused on communication, staff motivation and recognition, patient engagement, and interprofessional collaboration. A comparison of unit outcomes from 2016 to 2019 indicated a decrease in respiratory nosocomial rate from 18% to 13%, LOS mean 1.02 to 0.98, Falls 29 to 9, and a Tier 2 nursing satisfaction rate. The quality improvement of patient mobility "has been accepted as the unit expectation, put into practice, and enculturated" (Claytor et al., 2020, p. 4). On the other side of the flowchart in Figure 2-1, the gaps and consistencies may identify the need for further evidence to provide a foundation for the clinical question and the problem to be addressed. If the gaps and consistencies suggest that further research is required to arrive at an answer to the identified problem, a full research project should be planned and implemented. When the evidence is not strong enough to denote the best practice for a problem topic under investigation, additional research projects are required to provide that foundation for the management of the identified challenge. Both aspects of the process are focused on changing and/or improving the practice provided at the bedside or in other similar community healthcare settings. If research is the direction in which the nurse should proceed, the best process for arriving at a sound conclusion should be determined (see **Figure 2-3**). As a research endeavor is planned, the methodology for best addressing the problem must be selected. The flowchart in Figure 2-3 identifies the steps commonly followed when conducting quantitative or qualitative research. The steps are similar for both types of research, but they do reflect the uniqueness of the research approaches. At this point, the general flow within the process is strategic for understanding how and why the levels and strengths of evidence are assigned to these types of decision-making processes. Due to the systematic decision-making activities incorporated into the different research methodologies, the assignment of degrees of strength for the resulting evidence and/or findings has been made through evidence grading methods.

The beginning component in research or quality improvement projects is the assessment of the current body of nursing knowledge before moving forward to determine whether it is effective or should be discontinued. Upvall et al. (2019) pose: "Clinical practice must be based on evidence… The complex process of discontinuing or reducing the use of tradition-based practices is known as de-implementation. Recognizing the importance of de-implementation is necessary to fully understand evidence-based practice" (p. 134). Nurses who are directly responsible and accountable for the safety and efficacy of quality care for individuals, families, and communities must embrace the entire process of EBP for it to be considered foundational to the provision of health care. Importantly, understanding what evidence is and determining how to evaluate the evidence are necessary competency skills for the process. "What evidence is available?" "What is the level of the evidence?" "How valid and reliable is the evidence deemed to be continued or de-implemented given the clinical context?" These questions about the evidence supporting the different procedures used in the advancement of health care, along with questioning the validity and reliability of that evidence, must be foremost and fundamental for each and every interdisciplinary healthcare provider.

Since the time when early discussions were had concerning EBP, many different models have been suggested within various professional disciplines. The nursing

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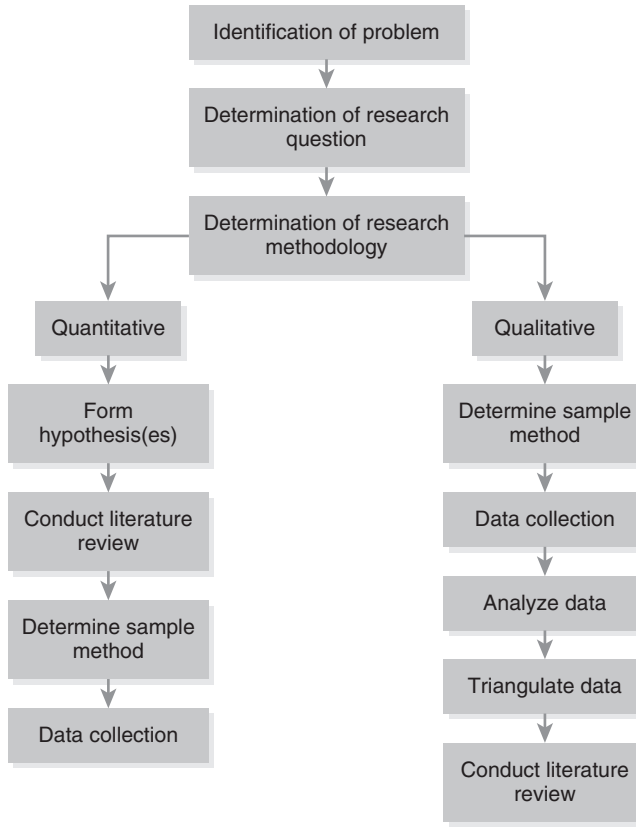


Figure 2-3 Research methods flowchart.

profession has numerous EBP models available to help nurses understand and implement effective EBP within the practical delivery of health care (see **Table 2-2**). When considering any EBP model, nurses should consider the foundational principles and steps used within the EBP process. These principles and steps help to direct the process and ensure that the EBP is practical and functional within the designated work environment.

Qualities of Evidence

Upshaw-Owens (2019) acknowledges that standardization is a term often used when discussing evidence-based practice. The process is aimed at achieving an optimum degree of order or uniformity in a given context, discipline, or field:

> Standardization is key to achieving the best outcomes and should be based on the best available evidence. Educating nursing students and practicing nurses on the role of standardization in nursing practice is important if adherence to use of standardized tools (e.g., guidelines, protocols, clinical pathways) is to impact outcomes and cost. Nurses also should realize standardization not based on research evidence may not be effective. (Upshaw-Owens, 2019, p. 134)

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Table 2-2 Comparison of Six EBP Models

	ARCC (Advancing Research and Clinical Practice Through Close Collaboration) Model	Clinical Scholar Model	IOWA Model	Johns Hopkins EBP Model (PET Process)	Larrabee's Model for EBP Change	Promotion Action on Research Implementation in Health Services (PARiHS) Framework
Foundational focus	Unify research and clinical practice to advance EBP within an academic medical center	Promote the spirit of inquiry, education for direct care providers, and guide a mentorship program	Pragmatic multiphase change process with feedback loops; applicable and easy to use by multidisciplinary healthcare teams	Strategic goal to build a culture of nursing practice based on evidence	Integrated principles of quality improvement, teamwork tools, and EBP strategies	Untested conceptual framework; useful for research implementation
Date of original planning	Conceptualized in 1999	Published in 1999	Originated in 1994; updated in 2015	Originated in 2002	Revised version of Rosswurm and Larrabee (1999)	Developed over time
Theoretical bases	Cognitive behavioral theory	Diffusion of innovation theory; four central goals	Problem-solving steps in the scientific process	Mentored linear process	One-time philosophical decision to pursue EBP	Four different types of evidence (research, clinical experience, and patients' and caregivers' experiences) and local context information. Successful implementation (SI) used in context of culture, leadership, and evaluation

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Steps/stages used in EBP	0 = Cultivate spirit of inquiry 1 = Ask the burning question using PICOT format 2 = Search/collect most relevant evidence 3 = Critically appraise the evidence 4 = Integrate best evidence with clinical expertise and patient preferences 5 = Evaluate outcomes 6 = Disseminate outcomes	Assess Ask Acquire Appraise Apply Audit	1 = Select a priority topic based on triggers 2 = Form a team 3 = Assemble evidence 4 = Critique and synthesize evidence 5 = Set forth the EBP recommendations 6 = Decide if findings support a practice change 7 = Develop and pilot the practice change 8 = Determine if the change is appropriate for adoption 9 = Monitor structure, processes, and outcomes 10 = Disseminate findings	Phase 1 Practice question Recruit team Develop/refine EBP question Define question scope Assign responsibility Schedule meetings Phase 2 Evidence Conduct search Appraise level and quality of individual evidence Summarize individual evidence Synthesize body of evidence Develop practice recommendations Phase 3 Translation Determine fit, feasibility, appropriateness Create action plan Secure support Implement plan Evaluate outcomes Report outcomes to stakeholders Identify future steps Disseminate findings	Step 1: Assess the need for change in practice Step 2: Locate the best evidence Step 3: Critically analyze the evidence Step 4: Design practice changes Step 5: Implement and evaluate change in practice Step 6: Integrate and maintain change in practice	Uses elements and sub-elements on a continuum from high to low

Data from Kitson, A. L., Rycroft-Malone, J., Harvey, G., McCormack, B., Seers, K., & Titchen, A. (2008). Evaluating the successful implementation of evidence into practice using the PARiHS framework: Theoretical and practical challenges. *Implementation Science, 3*(1). doi: 10.0086 /1748-5908-3-1; Melnyk, B. M. & Fineout-Overholt, E. (2015). *Evidence-based practice in nursing & healthcare: A guide to best practice* (3rd ed.). Wolters Kluwer; Thompson, C. J. (2017). *Use the 6A's to remember the evidence-based practice process,* https://nursingeducationexpert.com/evidence-based-practice-process/

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The standardization of information being considered for care delivery must be evaluated carefully and critically due to the many varying forms and strengths of the levels of evidence. Nurses are uniquely positioned to evaluate and apply the best evidence within their daily practice to improve patient outcomes in an expanding healthcare environment worldwide. Moosavi et al. (2020) conducted a multi-method study using the framework of the National Institute for Health and Care Excellence (NICE) guidelines. Stages of the process included determining the scope of the study, developing guidelines (conducting a qualitative study and a systematic review, triangulating the data, and producing a preliminary draft), and having a consultation stage (validation of the guidelines in three rounds of the Delphi study). The research process led to the standardization of spiritual care clinical guidelines in Iran. The 84 evidence-based recommendations from the study cover three main areas: human resources, care settings, and the process of spiritual care for cancer patients.

Within the field of **forensic science**, the idea of evidence is dominant. Evidence is viewed as the data based on which judgments and decisions are made. According to Aromataris and Lockwood (2020), the optimal way to conduct a quality assessment requires the maintenance of a knowledge foundation related to methodology synthesis that is constantly changing, resulting in new ways for thoughtful consideration. To be beneficial, evidence has to be established by scrutiny and contemplation of the materials and results from scientific testing from multiple vantage points. Many accrediting bodies and regulatory agencies are paying increased attention to the use of evidence to make decisions, as well as benchmarking the evidence of compliance with standards (Marcus, 2020). Sound evidence is more than just simple decisions set forth by one or two individuals; it is based on hard and fast particulars, details, and specifics that can be confirmed from different views of the same materials. The forensic science discussion of evidence classifies its characteristics as class and individual characteristics. Class characteristics are established on the physical qualities that are shared by a group of like items. Individual characteristics are those qualities that are unique to the specialized entity. By using the factors and concepts from the field of forensic science concerning evidence, greater latitude with regard to accepting and utilizing other beneficial forms can be exercised.

When discussing evidence, several factors need to be carefully considered. Affan and associates (2019), Huang and Liu (2019), and Kievisiene and associates (2020) support EBP on diverse pain management resources that are not the same. Analgesia therapies and protocols and art and music therapies are different clinical practice areas. However, clinical expertise, other sources, and patient's assessment, preferences, and values are the same for both. In essence, research cannot and will not answer all the questions concerning health care; evidence must be considered carefully and thoughtfully to ensure that the optimal level of health care is being provided in diverse clinical settings.

da Silva Lima and associates (2021) accessed the best available evidence for a review of literature to answer a respiratory pandemic-care clinical question. The review included World Health Organization (WHO) documents and taxonomies applied to the Nursing Process, North American Nursing Diagnosis Association, Nursing Interventions Classification and Nursing Outcomes Classification (NANDA). Results of the review supported "the importance of the nursing process to recognize the respiratory clinical aspects of COVID-19; act directly on them; identifying those that are priority and fortifying the scientific nature of the

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profession; standardizing its own language; and facilitating communication among nurses worldwide" (da Silva Lima et al., 2021, p. 1). Notably, critical appraisals from research and review results must be conducted for the best evidence to improve patient outcomes (Davis, 2021).

The emerging evidence on nursing care for COVID-19 patients worldwide seeks to establish another important aspect of the frequency with which the results are seen. When the same results are observed without regard to person, place, or situation, the results are viewed with increased confidence. When multiple sources in various venues are found to come to the same conclusions about a topic, the reliability of the findings is strengthened. This aspect can also be viewed as persistence in the result. *Persistence* and *consistency* within the results add support and strength to the quality of the evidence.

Other relevant sources of evidential material are case studies that may provide information that is not reported in the results of clinical trials. Case studies can have several different dimensions. A case scrutinizes the lives of individuals, dealings, resolutions, episodes, phases, projects, and/or other systems to determine the uniqueness of the situation. Case studies do not follow rigid sets of rules, and the greatest strength of case studies is the depth of the investigation that is possible when using small numbers. Ojo et al. (2021) conducted **case studies** of **evidence-based** resource-generating health interventions in low- and middle-income countries (LMICs). The case or situation drives the consideration of specific aspects identified in the case. Randall et al. (2019) contributed evidence to nursing practice through a case study focused on lower leg ulcer care. Also, Brennan and Parsons (2017) conducted a prospective audit to develop an improved recovery program for patients undergoing hip or knee arthroplasty to improve outcomes in orthopedic nursing care. Both studies provided aspects identified for improving nursing care in specific populations. Case series and case reports can be intermeshed with case studies. Each type of case scenario adds additional depth to the evidence. A **case series** incorporates several case studies that have resulted in similar outcomes. Thus, the findings can be combined to provide additional strength to the results documented. A **case report** is the documentation of the aspects identified within a situation. The strength of this evidence is based on the clarity of the report provided. In addition to the outcomes, the situation and environment where the case occurred lend depth to and influence the resulting materials. A useful resource for case reports on some of the most common medical diagnoses is the "evidence-based care sheets" at the Cumulative Index of Nursing and Allied Health (CINAHL, 2018) library database. These care sheets organize "what we know" and "what we can do" using a coding matrix of the references listed in order of strength.

Another form of evidence that can be considered is **expert opinion**. Expert opinion is the furnishing and/or contributing of applicable and significant information by an individual who is viewed as an authority based on a set of criteria. Different rules can be utilized to identify the expert based on the materials being sought. While biases are possible due to the nature of the evidence provided by the expert, the expectation is for the expert to qualify any opinion based on what is known about the topic under investigation.

When speaking of expert opinion, the definitions of ideas, editorials, and opinions must be clarified. An idea encompasses thoughts, convictions, and/or principles. An idea can be based on potentially or actually existing foundations. **Ideas** are considered to be individual work; thus, their influence can be minimal.

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Brainstorming ideas and critically thinking about those ideas have merit because they may lead to innovations for patient-centered care initiatives.

Editorials are statements of opinions of an owner, manager, or similar individual. Again, the weight of this type of evidence is based on the perceived biases associated with the thoughts and statements. Finally, **opinions** represent a person's beliefs, judgments, and/or values about a designated subject. Opinions can be viewed as evidence, but these have the same caveats as noted with ideas and editorials. Opinions are attitudes and viewpoints that do not rest on adequate foundations to be viewed as completely unbiased because they reflect an individual's worldview "that lies deep in the inner recesses of the human self" (Sire, 2020, p. 6).

A third type of evidence that can be considered is **observation**. Observations begin with the individual striving to attentively perceive and/or scrutinize a situation. Following the inspection and surveillance, the observer documents those aspects pertinent to the topic or activity being observed. This process can have biases associated with the observations. To minimize this concern, the context, including when, where, and how the observations were gathered, is often part of the evidence. Documentation of the observation requires the clear determination of what constitutes an observed activity. For example, multiple nonverbal behaviors can be recorded as evidence of noncompliance when in fact they can be attributed to lack of understanding or a mental health issue. By designating which behaviors will be counted and which will not, the quality of the evidence can be increased.

A final example of alternate forms of evidence is a **consensus**. A consensus occurs when individuals involved in the process come to a mutual understanding. A consensus usually is understood to mean that the majority has reached an agreed resolution. Because the evidence (consensus) is based on a majority and not the complete agreement, the strength of the results is questionable. As with the other forms of evidence, attention to factors and types of evidence must be integrated into the classification of the data. Each and every type and piece of evidence, whether provided by research or via some other avenue, must be scrutinized thoroughly and unconditionally to ensure the validity of the claims being made.

The inclusion of alternative forms of evidence must yield valid and reliable results in order to support expectations for an EBP in today's postpandemic healthcare environment. Interestingly, Raynaud and associates (2021) state that "since the beginning of the COVID-19 pandemic, the majority of research is composed by publications without original data. Peer-reviewed original articles with data showed a high risk of bias and included a limited number of patients. Together, these findings underscore the urgent need to strike a balance between the velocity and quality" (p. 1).

In providing care, a nurse may use four generally accepted patterns of knowledge—empirical, aesthetic, ethical, and personal—and synthesize, or mesh, the four types of knowledge together. These types of knowledge provide various vantage points from which to consider the material put forth as evidence to better understand patients for higher quality care.

Empirical knowledge is knowledge gained from experiment and observation rather than from theory (APA Organization, n.d.). Using the levels of evidence to help guide the use of the information discovered is vital for effective and competent management of patient-centered care and/or management of patient care and resources. *Aesthetic* knowledge embraces those facts and information that reflect emotion and awareness of the beauty and art around us. This term includes the

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idea that data must be interpreted within the environment in which it was formed or discovered. Removing the information from that setting can and does modify the application of the findings.

The third form of knowing is *ethical*. The incorporation of ethical knowledge within the venue of evidence brings in the ideas of right and wrong. Ethical knowing focuses on a person's moral values—on what *should* be done. Nursing can relate this knowing to the professional Code of Ethics for Nurses (ANA, 2015) (https://www.nursingworld.org/practice-policy/nursing-excellence/ethics/code-of-ethics-for-nurses/).

The American Nurses Association (ANA) Code of Ethics for Nurses (2015) was developed by the ANA in a manner consistent with quality in nursing care and the ethical obligations of the profession. The Code outlines the accountability and responsibility for today's nursing practice and sets the ethical agenda of nursing research. The nine provisions of the ANA Code of Ethics delineate nursing's ethical practice in every clinical and community setting.

The final type of knowing is *personal* knowledge. Personal knowledge and clinical expertise are critical components within EBP. Personal knowing allows participants in the process of healthy living to be actively engaged and involved. These individuals are not passive members but enthusiastic contributors to the consideration of the evidence and the plan of care. The clinical question becomes the key within this process of accessing the evidence. Background questions (asking about general information) are foundational and broader in scope than foreground questions (asking about specific knowledge) (Melnyk & Fineout-Overholt, 2017). A well-prepared question with clinical relevance focuses the search for evidence on these types of questions. Notably, the type of question facilitates the types of evidence to be sought. It also promotes the evaluation of that evidence using these different forms of understanding the knowledge bases. For some questions, empirical knowing would be important. For other queries, the ethical and/or aesthetic component could be the driving force toward the level of evidence needed.

As the concept of evidence becomes understandable and transparent, attention must be directed toward classifying the different levels of evidence to allow for consistency within the discussion. Without a uniform means of evaluating the evidence, communication of the nature of the evidence will be confusing and disoriented.

Nurses must become increasingly aware of their current practice—what is and is not known through evidence—and support it with research conclusions appropriate to the distinctive interventions that can be utilized in a global practice environment. Nurses need to embrace a standardized objective approach for use when evaluating evidence of all types—research, quality improvement, expert opinion, or case studies—to ensure that nursing care is delivered with the best available evidence.

Evidence Grading Methods

The Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) is currently emerging as the "dominant method for appraising controlled studies and making recommendations for systematic reviews and guidelines" (Long, 2002). The GRADE system aims to separate the quality of evidence from the strength of the recommendations. GRADE provides explicit criteria for rating the

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quality of evidence (including study design). Key aspects of the criteria include risk of bias, inconsistency of the evidence across studies, potential indirectness of the evidence, imprecision and magnitude of the intervention effect, probability of publication bias, dose–response in relation to intervention and outcome, and potential for residual confounding. To build evidence and show the regional GRADE impact on developing clinical practice guidelines Cabrera and Pardo (2019) conducted a systematic literature review. The search accessed websites, health ministries, repositories, and gray literature. Also, data from the Global Burden of Disease was used to highlight relevant health conditions. Results indicated that 9776 documents were retrieved. Ninety-eight guidelines were identified. Eighty-one percent of the guidelines were developed within the last 4 years, of which 68% are from Colombia, 13% from Peru, 9% from Chile, 3% from Argentina and Costa Rica and Brazil, Honduras, and 1% from the Dominican Republic. Of the guidelines, 67% were developed for noncommunicable diseases, 10% for communicable diseases, 9% for neonatal pathologies and 5% for maternal problems, 1% for injuries, and 7% other topics (nutrition, oral health). Findings support a prioritizing strategy for relevant regional health topics and the use of robust methodological approaches must be in the political agenda.

The World Health Organization (WHO) and a growing number of other organizations have adopted the GRADE system in order to both assess the quality of research evidence and develop clinical practice guidelines. Devasenapathy and associates (2020) affirm support of the GRADE system in assessing the quality of evidence in a high-level research study: "We conducted a meta-analysis using random effects models and assessed the quality of evidence using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE)" (p. 1). In addition, Sattar et al. (2020) conducted a qualitative meta-ethnographic study synthesizing the literature from 15 patients and healthcare professionals studies on the disclosure of adverse events (HCPs) studies. The research team made use of the Critical Appraisal Skills Programme (CASP) tool in evaluating the study quality. The GRADE approach provides explicit criteria for rating the quality of evidence (including study design), risk of bias, inconsistency of the evidence across studies, potential indirectness of the evidence, imprecision and magnitude of the intervention effect, probability of publication bias, dose–response in relation to intervention and outcome, and potential for residual confounding. Purssell et al. (2020) voiced concerns about the challenges encountered when using the CASP program in nursing education and practice. This format utilizes a unique vocabulary. Through a process of incorporating the two tools into a functional instrument, nursing education and practice could benefit from the components.

The levels of evidence are closely considered when critiquing a research study to ensure that the evidence is credible (e.g., reliable and valid) and appropriate for inclusion into practice. Ryan and Hill (2016) provide a downloadable resource on methods to grade the quality of the evidence. Notably, other resources for clinicians, including practice alerts and a hierarchal rating system for levels of evidence, serve to determine the strength of research studies, assess the findings, and evaluate the evidence for potential implementation into best practice.

Commonly, the highest to the lower ranges of levels of evidence have a spectrum of publications. The higher range study designs are meta-analysis, systematic or integrative literature reviews, and randomized controlled trials (RCT). Other study designs with varying level of evidence include nonrandomized controlled

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trials, qualitative studies, histories, case studies, guidelines, reviews of the literature, research utilization reports, quality improvement reports, legislation, policies, procedures, protocols, practice exemplars, and expert opinions. Clinical questions, diagnoses, prevention strategies, and quality improvement designs use a combination of levels of evidence from systematic reviews, meta-analyses, and RCTs to qualitative studies, and cohort and case-control studies. Nurses and healthcare practitioners are developing rationales for selecting scales to establish the quality and level of evidence for optimal patient outcomes until standardization occurs. Currently, numerous scales for levels of evidence are available for consideration with some using three levels and some as many as seven. Different criteria are used to determine the quality of the evidence. ANA has selected these key resources as examples of different scales and grading criteria: Johns Hopkins Nursing Evidence-Based Practice, University of Illinois at Chicago University Library, Centre for Evidence-Based Medicine, University of Virginia Health Sciences Library (Information Mastery: Navigating the Maze: The Pyramid), University of Washington Health Sciences Library, U.S. Preventive Services Task Force Levels of Certainty Regarding Net Benefit, Cochrane Consumer Network Levels of Evidence, the Joanna Briggs Institute, and the University of Minnesota Bio-Medical Library.

The Kim et al. (2020) quantitative research study and Cox Dzurec's (2020) qualitative study methodologies demonstrate the varying levels of evidence that range from level 1 to level 3 to level 4 (see **Figure 2-4**). The higher a methodology ranks, the more "the results accurately represent the actual situation and the more confidence

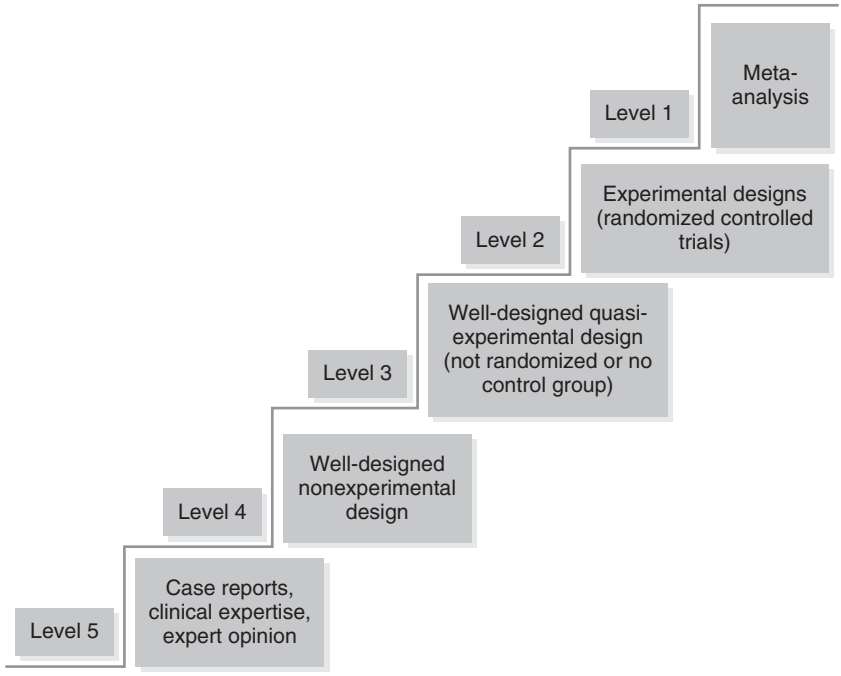


Figure 2-4 Hierarchy of levels of evidence.

Data from United States Prevention Service Task Force (USPSTF). (2009). *Slide presentation from the AHRQ 2008 annual conference*. http://www.ahrq.gov/about/annualmtg08/090808slides/Lin2.htm

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clinicians can have that the intervention will produce the same health outcomes in similar patients from whom they care" (Melnyk & Fineout-Overholt, 2015, p. 92).

Current sites and research studies provide ongoing efforts and resources to ensure that the evidence is credible and appropriate for inclusion into practice. The Association of periOperative Registered Nurses (AORN) provides updated and revised tools for a new evidence rating model, hierarchy of evidence, and expanded appraisal tools (https://www.aorn.org/aorn-org/guidelines/about-aorn-guidelines/evidence-rating) (AORN, n.d.). The three domains of evidence of the Agency for Healthcare Research and Quality (AHRQ)—quality, quantity, and consistency—provide research resources here: www.ahrq.gov/research/index.html (AHRQ, n.d.). Other current resources include *What's Best: The Evidence Hierarchy* (n.d.) https://libguides.mssm.edu/ebm/hierarchy, *Levels of Evidence—Evidence-Based Practice for Health Professionals* https://libguides.nvcc.edu/c.php?g=361218&p=2439383 (Levels of Evidence, n.d.).

Kievisiene et al. (2020) and Rha et al. (2020) conducted research studies using different methodologies with the aim of cancer care; they conducted a randomized controlled trial and a systematic review on the management of cancer patients using the "putting evidence into practice" (PEP) schema weight of evidence classification schema. The aims of the studies differed in reviewing cancer patient concerns such as new or worsening sleep–wake disturbance (SWD), risk assessment and **evidence-based** interventions for the prevention and treatment of infection, and symptom management with patients starting adjuvant or palliative chemotherapy. However, the PEP served a united purpose to ensure that the evidence is credible and appropriate for inclusion into oncology nursing practice. Attention must be given to the use of the above resources to gain a better understanding of the evidence and be able to defend the rationales used for providing care through varying interventions based on the individual setting in question.

To score/grade the article by Donelan et al. (2020), the research methodology would need to be established. The study states that it is a secondary analysis of a cross-sectional national survey of clinicians. The original study was conducted using a survey developed by a research team. The survey was distributed using a mail-out process. A randomly selected stratified sample was utilized. As no intervention or control group was used, it seemed to reflect a well-designed nonexperimental design. According to Figure 2-4, a nonexperimental design would be at level 4 on this hierarchy tool. In contrast, the article written by Cox Dzurec (2020) states that it is a qualitative research design using a critical hermeneutic method nested within an integrative review. Thus, it would classify as level 5 using the tool in Figure 2-4. To determine the strength of the evidence in both of the articles using **Figure 2-5**, each could be placed at either level A or B depending on the health care provided in the local area.

Each grouping has unique characteristics based on the agency or organization responsible for the determination of the categories. Numerous organizations, such as the AHRQ, Joanna Briggs Institute, and Cochrane Collaboration, among others, have developed "levels of evidence" hierarchies in an effort to help reviewers categorize the strengths and weaknesses of various studies. One such hierarchy developed by the U.S. Preventive Services Task Force (USPSTF) is shown in Figure 2-4. Within this ladder, quantitative and qualitative types of research design are designated as a specific level within the hierarchy of research study designs. One drawback with this ranking is the lack of classification of mixed method studies. Reviewers must

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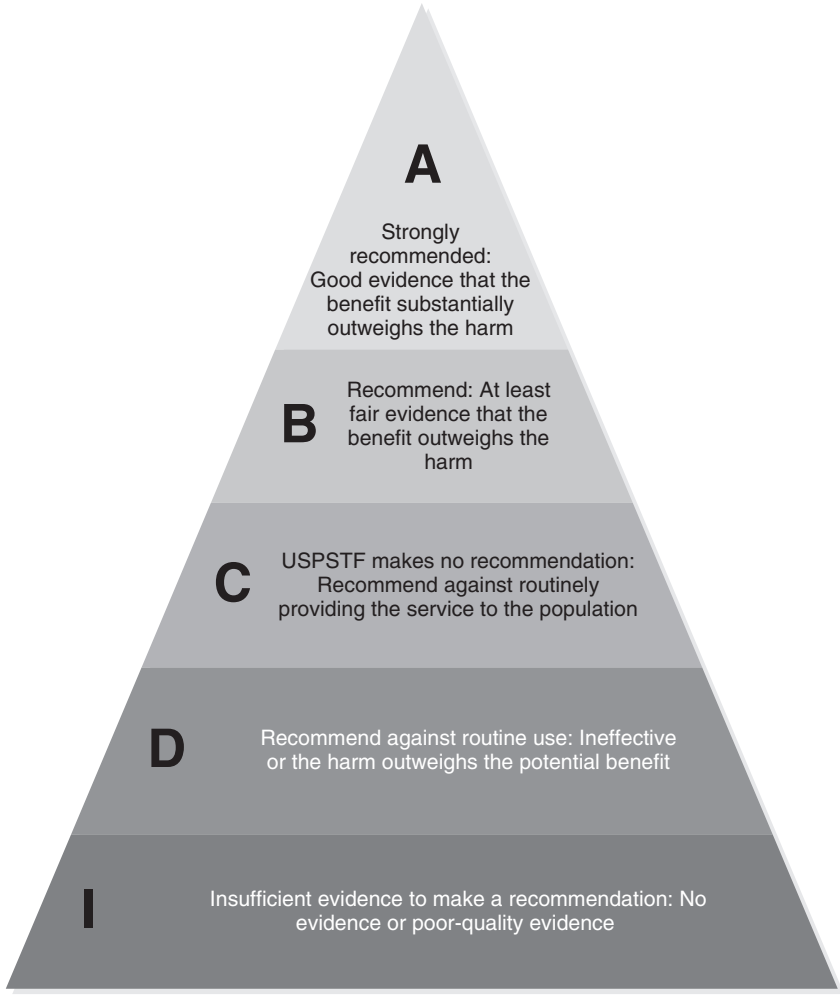


Figure 2-5 Tools for evaluating evidence.

Data from U.S. Prevention Service Task Force (USPSTF). (2007). *Slide presentation from the AHRQ 2007 annual conference.* http://archive.ahrq.gov/about/annualmtg07/0927slides/finch/Finch-28.html

make their own decisions about classifying such studies as quantitative or qualitative because no level for mixed method studies has been established. Another concern raised with this hierarchy relates to the four levels assigned to research results and the classifying of all other types of evidence as level 5. The message from the ordinal ranking of this hierarchy is that research is the only valid evidence mechanism.

The American Association of Critical-Care Nurses (AACN) evidence rating system's updated change clarifies the distinction between experimental and nonexperimental studies in the hierarchy and makes the AACN system consistent with other published hierarchies used to rate evidence.

Each type of scoring tool for evidence has its strengths and challenges. Each agency and/or nurse must carefully consider which format works best in which

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setting. Another type of classification for evidence comes from the Trip (formerly Turning Research into Practice) database. This leveling of evidence provides three basic divisions. Evidence falls into one of three global categories—filtered information, unfiltered information, or background information/expert opinion (Harvey Cushing/John Hay Whitney Medical Library, n.d.). While this process appears to address different levels, the hierarchy shows that six out of the seven levels speak to research endeavors. Again, all other types of evidence are placed into the lowest level within the structure. This hierarchy does provide an additional designation for the levels of filtered information that addresses the critical analysis and meta-analysis levels. The Joanna Briggs Institute (JBI, 2012a, 2012b) has moved toward the use of the Feasibility, Appropriateness, Meaningfulness, Effectiveness (FAME) level of evidence and the Appraisal of Guidelines Research and Evaluation (AGREE) collaboration. Within the JBI approach to levels of evidence, evidence documents are scored based on four criteria—feasibility, appropriateness, meaningfulness, and effectiveness. Effectiveness relates to whether an intervention performs as expected. Appropriateness considers the psychosocial aspects of the intervention. It is concerned with the impact that the activity will have on the consumer and whether it will be accepted by the individual. Meaningfulness considers the effect of the intervention on the individual. Within each of these areas, a document would be scored from 1 to 4. Level 1 is the strongest level of evidence. In addition to these four components, each document is also assessed for economic evidence. The majority of this ranking focuses on meta-synthesis of research. On examining the AGREE tool and the FAME grid, aspects such as **case-controlled**, observations, expert opinion, and consensus can be found only in the lowest levels of the document. In conjunction with the level of evidence ranking, JBI developed a practice focus ranking document that accompanies the AGREE collaboration. This document grades the evidence used within the guideline from levels A to C based on the appropriateness of application to a practice setting. By having this document alongside the levels of evidence (FAME) document, individuals can look toward the application within the practice setting.

AHRQ has also developed a "tool for evaluating the strength of the evidence" (USPSTF, 2009); see Figure 2-5. With this tool, the evidence is assigned a level of strength based on the anticipated benefit and/or harm to the patient. The process used with this rating schedule looks at the application of any evidence into the practice arena. None of the five levels speak to the idea of research. Each level clarifies a different amount of benefit or harm for the patient from the use of the service. Differences in classifications using this tool continue to be a problem because individual opinions have to be used to rank or assign the levels.

SUNY Downstate Medical Center (2014) provides an evidence pyramid as a means of classifying and/or ranking evidence that has nine levels. Within these levels, the ranking progresses from systematic reviews and meta-analyses at the top to *in vitro* ("test tube") research at the base. Within the middle range on the pyramid, the levels of case series, case reports, and ideas, editorials, and opinions are listed. While the framework is interesting, the placement of research at both the top and bottom of the pyramid is confusing. Animal research and *in vitro* research tend to be quantitative research that is held to be strong evidence by other ranking groups. No rationale was provided as to why the pyramid develops from quantitative research to expert sources and finally comes back with quantitative research designs.

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With the integration of evidence-based practice into the research critique process, the classification of research projects in terms of the level of evidence and the strength of the evidence using instruments such as the AHRQ tool seeks to improve the clarity of the information available for making clinical decisions about the modification of policies, procedures, and clinical guidelines.

Think Outside the Box

- Look at the different types of evidence. List the strengths and weaknesses of each type of evidence. Can you identify any other types of evidence that should be considered when establishing healthcare practice?
- Select one or two research articles. Use at least two of the different rating tools to evaluate the evidence and classify it based on each tool. Which tool was the easiest to use? Which provided the best review of the evidence? Which tool was difficult to use and why?
- Debate the use of a rating tool. Do healthcare professionals need to rate all of the evidence they use? Is the rating of evidence just added work that does not meet the needs of the clinical workplace?

Conclusion

EBP is the foremost process for addressing clinical problems to improve the quality of health care. The global impact of an EBP continues to be echoed across nursing practice, education, and research. Nurses have risen to the challenge of the COVID-19 pandemic challenge as frontline caregivers crossing borders to provide up-to-date high-quality cost-effective care. Currently, the ACA of 2010 (Public Law 111-148) is the primary focus of a political debate stemming from the supposition that every citizen deserves the right to a healthy and productive life. Whether nurses are accessing external evidence from rigorous research or internal evidence from practice, an EBP leads to optimal quality of care and patient-centered outcomes. Nurses believe in evidence-based care, but barriers remain due to educational standards, resistance from colleagues, nurse leaders, and managers. Turning barriers around and building innovative strategies to facilitate and support better implementation of EBP is a doable goal. Up-to-date research, research utilization, and quality improvement projects are pivotal cornerstones for the future of nursing practice. Quality improvement brings higher standards of practice to the actual bedside and serves to validate current practices while ensuring that continuity of quality health care is achieved. The standardization of EBP competencies and levels of evidence continue to emerge in studies; numerous scales or levels of evidence are currently available to use when scoring/grading the evidence. Levels of evidence are highly considered when critiquing a research study to ensure that the evidence is credible (e.g., reliable and valid) and appropriate for inclusion into practice and research, and they magnify the role of nursing for redesigning care that includes multiple decision-making efforts for the optimal provision of safe and effective health care in any venue (National Academy of Medicine, n.d.).

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In providing care, a nurse may use some of these methods of knowing from four generally accepted patterns of knowledge—empirical, ethical, personal, and aesthetic, plus synthesizing (pulling the four types of knowledge together)—to provide an EBP. Nurses use evidence of levels schema to determine the strength of research studies, assess the findings, and evaluate the evidence for potential implementation into the best practices. Each nurse must accept the challenge of investigating the evidence that is available to support and advance the practice of nursing care and health care in the local setting. Health care can no longer be provided based on the "way we have always done it." Each nurse must recognize and acknowledge the responsibility for advancing the evidence of how and why the interventions are done. Only when this process is done will health care be able to provide quality health management. The careful consideration of evidence quality is based on logical steps and criteria. Agencies must consider the different formats available to determine which one works best in each setting. Nurses must be willing to evaluate and implement the best evidence-based practices to ensure that quality care is provided.

Summary Points

1. Evidence includes that which can be proven and/or disproven. It is an indication or sign related to a topic.
2. Taking the time and energy to consider the evidence thoroughly is imperative.
3. The proof and/or indications that can be gathered to determine the best line of action, instead of the amount of research that may have been done, should become the driving force behind implementing an EBP.
4. A grading process allows one to carefully and cautiously consider the evidence presented in light of a unique clinical environment.
5. A firm appreciation for the interconnectedness of the different aspects within EBP, research, and quality improvement is paramount.
6. A critical appraisal of EBP must consider more than just the available research.
7. Whether an individual is considering research activities or quality improvement efforts, the initial step is always the identification of the problem to be addressed.
8. Each piece of information must be carefully and thoroughly considered with regard to the foundation on which the outcome is established.
9. Persistence and consistency of results add support and strength to the quality of the evidence.

Red Flags

- All evidence must be carefully and thoroughly questioned prior to the acceptance of the validity of the information.
- Sources of evidence should provide enough information concerning the development of the materials along with the outcomes or de-implementation for optimal nursing care.

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Multiple-Choice Questions

1. What does the COVID-19 pandemic require of nurses in a global healthcare environment?
   A. Reallocating the provision of patient-centered care in acute care settings
   B. Leveraging nursing's collective acumen to influence justice in practice
   C. Reviewing patient's vaccination history records in the medical plan of care
   D. Relinquishing quality of care until herd immunity is reached in the public
2. Which of these aspects of *The IOM Future of Nursing 2020–2030* most impacts nursing's EBP?
   A. Joining an interdisciplinary team to provide a culture of care in practice
   B. Practicing the nurse's disaster planning role for both natural and manmade emergencies
   C. Researching nursing's best practices to eliminate health disparities in the community
   D. Collaborating with an interdisciplinary team to build a "culture of health"
3. What strategy best supports the consistent implementation of an EBP?
   A. Foundational nursing education clinicals and acute care experiences
   B. Empowering nurse mentors in a single-unit healthcare setting
   C. Monitoring nursing students' journal club entries to compare
   D. EBP coursework that increases EBP behaviors in clinical practice
4. What EBP competency verifies the results to be considered for nursing practice?
   A. Appraising the validity, reliability, strengths, and weakness of the evidence
   B. Developing sound clinical questions using the PICOT format for readmissions
   C. De-implementing the outcome if there is no benefit to patient-centered care
   D. Integrating the evidence with the nurse's clinical expertise for optimal outcomes
5. What type of methodology best serves a nurse in a PhD program with a clinical question related to the stories of older adults who survived the COVID-19 virus post respirator care?
   A. Mixed-methodology study
   B. Quantitative study
   C. Qualitative study
   D. Quality improvement project
6. Which action best supports an interdisciplinary team in achieving quality improvement benchmarks?
   A. Dedicated supervision sessions by a range of clinical and ancillary staff
   B. Affirming a collaborative approach to dividing the workload based on expertise
   C. Setting up a journal club after hours to engage all interested healthcare providers
   D. Conducting an interview with applicants from a variety of clinical areas
7. What source of evidential material would a nurse scrutinize to determine how a self-governed nursing unit can have less absenteeism and increased nurse resilience in providing patient-centered care?
   A. Staffing patterns for shorter shifts within employee and ancillary health services
   B. A case study determining the uniqueness of the nursing staff situation

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C. Quality improvement project reports conducted on the same unit 8 years earlier
D. Questionnaires with items on accountability and responsibility for staff members

8. What is the nurse's best response to a peer who asks, "Why do we have so many nurses who don't understand an evidence-based practice?"
   A. "Let's problem-solve the associated barriers to EBP to make needed changes."
   B. "There are graduates with insufficient coursework on EBP in many schools."
   C. "We simply cannot implement evidence-based practices with our everyday workloads."
   D. "The nursing management here will not get behind an EBP due to time constraints."
9. What does the GRADE system provide when critiquing the level of evidence for inclusion into practice?
   A. The tool has several classifications for levels of mixed method studies.
   B. Clinicians easily level their discipline-specific theories for practice initiatives.
   C. The system relates to many tools applicable to diverse clinical settings.
   D. The quality of the research evidence is ensured to develop clinical practice guidelines.
10. What is the up-to-date quality of evidence practice that serves to impact the outcomes and costs for guideline, protocols, and clinical pathways?
    A. Forensic science pathways on judgments and decisions making evidence dominant
    B. The use of the standardization process based on the highest level of evidence
    C. Documents from regulatory agencies that relate to a diversity of healthcare practices
    D. Expert opinions from three well-published, significant, politically astute nurse leaders

Discussion Questions

1. *The IOM Future of Nursing 2020–2030* report identified acting now to improve the health and well-being of the nation; lifting barriers to expand the contributions of nursing; designing better payment models, and valuing community and public health nursing (National Academy of Sciences, 2021). Carefully and thoughtfully consider these four recommendations in light of the use of EBP. How can the nursing profession best address these "culture of heath" recommendations for practice?
2. The Association of periOperative Registered Nurses (AORN) provides a new rating model, hierarchy of evidence and expanded appraisal tools (see www.aorn.org/aorn-org/guidelines/about-aorn-guidelines/evidence-rating). Based on these resources, what guidelines would you develop to be used in your setting to select and incorporate a rating system for evidence review?

Suggested Readings

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