

Differences between Quality Improvement (QI), Evidence-Based Practice (EBP),  
and Original Research Evidence in Global Health

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### Abstract

Care can be improved using different forms of scientific inquiry. Either at the clinical practice level, using scientific knowledge as guidance to clinical decision making; utilizing a more formal and systematic approach, applying quality improvement, and evidence-based practice; or participating in original nursing research. Clinical nurses, nurse practitioners, researchers, and the whole healthcare team should participate in activities that aim to a better practice, facilitating positive patient outcomes. Such activities work independently but are interrelated, since they aim for a common result which is the best possible practices that yield to successful patient outcomes in a holistic manner. In this paper a brief review of the definitions of Quality Improvement (QI), Evidence Based Practice (EBP), and Research Evidence are presented as well as their differences and similarities.

*Keywords:* Evidence-based, practice, quality, improvement, original, nursing research, client care, patient outcomes, scientific base, clinical expertise.


### Significance and Background

Issues in clinical practice such as the high rate of Catheter Associated Urinary Tract Infections (CAUTIs), postoperative Deep Vein Thrombosis (DVT), development of pressure ulcers and/or atelectasis on immobilized patients, etc., should awaken a spirit of inquiry in all healthcare personnel, especially nurses. In the article “~~Clarifying the Conundrum: Evidence-Based Practice, Quality Improvement, or Research?~~” by ~~Eileen J. Carter, Kari Mastro, Courtney Vose, Reynaldo Rivera and Elaine L. Larson~~, nurses’ dynamic participation in clinical scholarship is required to strengthen the nursing career and improve patient care (Carter et al., 2017, ~~p.267~~). Nurses play a critical role in patient care and are consistently applying clinical judgement to meet clients’ needs in a holistic way; Therefore, nurses’ input is fundamental for the development of **QI, EBP**, and original research. These terms serve the same purpose: better patient care and cost-efficient practices. They do possess some differences; however, they are interrelated not independent (Carter et al., 2017, ~~p.267~~).

### Quality Improvement

A definition from the **U.S. Department of Health and Human Services (2011)** stipulates that quality improvement entails organized and ongoing activities that lead to measurable development in healthcare services and the health status of targeted health communities (**as cited in Connelly, 2018, p.125**). Monitoring and improving quality care are ongoing processes that all healthcare professionals, including nurses, should participate in. The intend of quality improvement is to offer the best possible care to patients, therefore, improving healthcare outcomes. Unlike large research studies, quality improvement work targets smaller populations utilizing data for a specific organization, such as patients of a certain healthcare facility or agency. According to the **Quality and Safety Education for Nurses (QSEN)**, nurses are expected

to utilize data to trace results of care activities and use enhancement techniques to design and test changes to constantly improve the quality and safety of healthcare systems (~~as cited in~~ Connelly, 2018, ~~p.125~~).

One example of quality improvement could be the application of an ground-breaking statewide quality improvement initiative in Colorado. The Colorado Stroke Alliance (CSA) demonstrated a tremendous improvement in stroke care through statewide quality endeavors containing advising, data reporting, and nursing participation (Smith et al., 2009, ~~p.112~~). One of the ~~quality improvement~~ outcomes was reported by participating CSA hospitals, indicating that when using the American Heart Association's (AHA) Get With the Guideline's Stroke Patient Management tool (GWTG-Stroke),  in grouping with their hospital's comprehensive quality efforts, developments in performance can be perceived. Participating hospitals in the Colorado Stroke Registry have registered nurses as stroke program managers and/or data coordinators (Smith et al., 2009, ~~p.112~~). This suggests that nursing involvement is fundamental for the success of quality improvement programs.

### **Evidence Based Practice**

~~Evidence Based Practice~~ is a method of utilizing established evidence (research and quality improvement), resolution, and nursing proficiency to lead the conveyance of holistic patient care (Boswell & Cannon, 2018). The examination of a vast compilation of research studies concludes that EBP enhances the quality and safety of healthcare, increases better health results, diminishes geographic disparities in care, and decreases expenses (Mazurek, 2016). EBP is viewed as an analytic approach to clinical decision making, that encompasses the most efficient and current evidence, clinical proficiency, clinical assessment, and consideration of patient predilections and values within a context of caring (Boswell & Cannon, 2018). In the

United States, EBP is vital in meeting the Triple Aim in healthcare, which involves the enhancement of patient experience in care, the improvement of health populations, and a decrease of the per capita cost of healthcare (Mazurek, 2016).

A key aspect in the development of EBP is to follow seven important steps which lead to a successful search, implementation, and evaluation of the EBP process. Starting with posing the problem that is negatively affecting patient care (step 0); formulating the clinical question using the Patient or Population, Intervention or Interest area, Comparison intervention or group, Outcome, and Time format (PICOT) (Step 1); conducting an evidence search to answer the clinical question (Step 2); followed by a quick critical appraisal of a few studies (Step 3); incorporating the evidence with clinical competence and client predilections and values (Step 4), employing and assessing change in practice (Step 5); and lastly, consolidating change in practice, and disseminating the outcomes (Step 6) (Mazurek, Fineout-Overholt, Stillwell, Williamson, 2010, p.51-53).

### **Original Research Evidence**

When clinical or practice situations are not supported by strong evidence that can lead to a standard, original nursing research comes into play. Original research utilizes statistical methods to calculate the combination of variables that could yield to better patient care outcomes (Baker et al., 2014, p.196). Following the scientific method, all research starts by formulating a hypothesis. In original research, a relationship is hypothesized between variables; nevertheless, their correlation is unknown. The objective of nursing research is to determine the connection between these variables and the significance of it. For instance, the need to provide a successful suicidal risk screening tool in the emergency department can be addressed by performing research leading to the implementation of a tool that works efficiently in providing a thorough

suicidal risk assessment. In this case, a relationship between certain patient criteria (subjective and objective), and the risk for suicide can be found (Baker et al., 2014, p.197).

There are two basic groups that encompass the methods used for directing nursing research: quantitative and qualitative research. In quantitative research, data is collected objectively in an ordered, systematic, controlled manner so that the results can be applied to other circumstances and/or populations (Boswell & Cannon, 2018). Quantitative research utilizes statistical analysis to validate a hypothesized association among two variables; it includes use of mathematical models and expresses the connection between variables in a numerical form. On the other hand, qualitative research generally focuses for an in-depth discernment of the experiences of others (as cited in Boswell & Cannon, 2018). The researcher reproduces the socially built nature of reality, the association amid the research and the subject of the research, and the situational aspects that outline inquiry (Boswell & Cannon, 2018). Groups of qualitative research comprise phenomenology, grounded theory, ethnography, and case studies. Types of data gathering include semi-structured and structured interviews, and observation. The results are then summarized to describe the phenomenon (Baker et al., 2014, p.197).


### **Discussion**

Acknowledging the differences between the three concepts previously presented, allows nurses to develop a spirit of inquiry. The appropriate application and implementation of these methodologies maximizes favorable outcomes (Baker et al, 2014, p.195). For example, QI projects would be suitable when determining whether the appropriate standards of care are practiced in a specific clinical setting. The purpose of QI projects is to regulate the execution and establishment of standards while monitoring the department's continuous process (Baker et al, 2014, p.195). EBP is used when enough research is available to guide the development of a

clinical or practice standard, but the research has not been fully adopted in the practice environment. For instance, EBP can be useful to explore enhanced screening for domestic violence in an Emergency Department (ED). There is available research on the topic and its implementation if of significant importance in the ED setting, but still there is some learning to do when it comes to its practice in this area (Baker et al, 2014, p.196). Lastly, research incorporates activities aimed to the exploration of new findings. An example of research would be a study done by Provonost et al., in which a set of evidence-based strategies such as hand hygiene before central line insertion, and use of optimal catheter insertion site, were used to prevent central line infections. The incorporation of these initiatives decreased the rate of central line infections and has been implemented nationally with great success. In this scenario, the work of researchers established new findings by determining the influence of a new intervention on rates of central line infection, leading to higher quality care and outcomes (as cited in Carter et al., 2017, p.267).

### Conclusion

Today's healthcare environment demands the application of several methodologies in order to offer high quality care. The application of these methodologies is to be carried out by members of the healthcare team, particularly nurses. Nurses' clinical judgement, knowledge of standard practices in the healthcare setting, and their research inquiry are essential qualities for QI, EBP, and research. The definition of these activities is not completely clear, and therefore could be subject to interpretation. For this reason, they may be viewed as separate entities rather than being interrelated. ~~Quality Improvement~~ aims to reach an improved clinical practice in healthcare. In order to do so, it compares the current performance through data analysis to meet the desired standard. The EBP process starts with an inquiry; the inquiry is converted into a well

formulated question that facilitates research; a few works of research on the topic are selected and examined; followed by the integration of clinical experience and patient preference; and finally, the evaluation of outcomes in practice, and dissemination of the established change. Original Research Evidence presents a more scientific approach, it basically aims to find a correlation between two hypothesized variables. It utilizes quantitative measurement and qualitative measurement; the latter focusing on the association between the research and the subject of the research, and the situational aspects that outline inquiry. Even though noticeable differences exist, QI, EBP and research aim to a sole purpose: better patient outcomes in clinical practice. 



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