

EDUCATING NURSING STAFF IN EVIDENCE-BASED PRACTICE: A PROCESS
IMPROVEMENT, DEVELOPMENT, AND IMPLEMENTATION OF A PREADMISSION
CLINIC

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ABSTRACT

An evidence-based practice (EBP) education project was developed and implemented to create a preadmission clinic in the surgical services department of a small rural hospital. The project objectives were to (a) improve patient satisfaction, (b) reduce overtime hours in the same-day surgical area, and (c) increase the use of EBP. A literature review was first used to support the need for EBP education and to identify best practices. Next, an educational presentation on the development and implementation of a preadmission clinic was created for volunteer nurse participants. At the time of the presentation, 20 participants were surveyed for the presentation's effectiveness pre- and post- presentation. In addition, 938 patients were surveyed to gauge the satisfaction of the preadmission process for three months before and three months after implementation of the preadmission clinic. In addition, data concerning overtime hours were obtained pre- and post- intervention. The results showed a 100% increase in the use of EBP, a 64% increase in patient satisfaction with the preadmission process, and an 88% reduction in overtime hours in the same day surgery area.

Key Words: Process improvement, quality improvement, evidence-based practice.

INTRODUCTION

Evidence-based practice (EBP) is the process of “combining the best evidence available with nursing expertise and patient and family preferences to determine optimum care.”¹ It uses research that has already been completed to develop programs to help improve patient care and incorporate new technologies into hospitals. The American Nurses Association is now placing an emphasis on using evidence-based interventions in planning the care of patients.¹

However, even though (EBP) is the standard of care in hospitals today, many nurses do not understand that it is used to improve nursing practice; neither do they understand how to use EBP.² Furthermore, rural hospitals tend to lag behind in using evidence-based practice due to reasons such as fear of the unknown, complacency, and unwillingness to change. For example, in the small rural hospital examined in this process improvement project, many of the nurses did not know what EBP was, some of the nurses felt the processes already in place were working just fine, and other nurses with longevity were unwilling to make changes.

DESCRIPTION OF THE PROBLEM

The nursing staff in the rural hospital faced two major challenges: (a) low patient satisfaction with the preadmission process and (b) a large amount of staff overtime occurring in the same-day surgery area. The three-month average of patient satisfaction scores regarding the surgical services preadmission process was 48%; and the three-month total of overtime hours in the same-day surgery area was 275 hours. These numbers are indicative of the trend observed throughout the hospital.

A brainstorming session with the leadership team identified the occurrence of several patient complaints relating to service and procedure cancellation in the same-day surgery area. The chief financial officer (CFO) of this small rural hospital indicated that the staff in the same-day surgery area used an excessive amount of overtime. A process review showed that the same-

day surgery area might be the source of the problem, because the same-day surgery nurses had been conducting preoperative interviews at the end of the regular workday. They contacted each patient and completed a history questionnaire and a systems review with him or her over the phone. If the patient fell within the anesthesia protocol, labs and electrocardiograms (EKGs) were completed on the day of surgery. However, because these tests were done on the day of surgery, the anesthesiologist did not see the patient or the patient's results until just prior to the patient's procedure. If further evaluation was required, the procedure was postponed or canceled until the evaluation was completed.

The preoperative interview and the lack of an anesthesiologist for consultation, prior to the day of surgery, had a negative impact on patient satisfaction with the preadmission process and same-day surgery experience. The preoperative process from the phone interview to the experience after laboratory testing and the EKG also had a negative effect on the hospital's budget, because the staff were using a large amount of overtime to complete their tasks. In addition to these areas of concern, there was a concern about the number of cases being canceled on the day of surgery and the lack of EBP being used.

The hospital leadership wanted to increase the institution's caseload. However, before this could occur, the surgical services department needed to control overtime costs, examine patient satisfaction with the preadmission process, and improve patient care with best practices by using EBP within the department. Thus, in this process improvement project, the same-day surgery area was the focus.

ASSESSMENT OF EVIDENCE-BASED PRACTICE KNOWLEDGE

To assess EBP training needs at this small rural hospital, both nursing managers and nursing staff were interviewed. The nursing managers were interviewed regarding their knowledge of EBP processes. The managers indicated that the processes already in place were

EBP processes; however, none of them could explain what EBP was or how to develop an EBP process.

After interviewing the managers, the floor nurses were interviewed about their knowledge of and experience with EBP processes. The nurses who responded were from the medical-surgical floor, the intensive care unit, and the surgical services department. Their exposure to EBP processes varied. Some had no exposure to EBP and simply relied on procedures that they had always followed, some had heard of EBP but had no concept of how to apply it, and some recent graduates had knowledge of EBP but had not had the chance to apply what they had learned. The meetings and interviews with the nursing staff indicated that EBP training was needed. The set of challenges faced by the surgical services department also presented a scenario in which an EBP quality improvement project could be implemented.

PROJECT GOALS

The goals and intended outcomes for this process improvement project were to (a) increase patient satisfaction scores in the surgical services area (particularly the preoperative admission process); (b) increase the use of EBP within the organization; and (c) decrease the use of overtime in the surgical services department. These areas were identified to be the highest priority targets for the organization and the surgical services department.

PROJECT SETTING

The process improvement project was completed in a small rural hospital which has 22 available medical-surgical beds; four intensive care unit (ICU) beds; two operating rooms; an endoscopy suite; six preoperative beds; and three post-anesthesia care unit (PACU) beds.

The surgical services department saw up to 15 patients a day, which amounted to approximately 100 to 150 procedures a month depending on the surgeon's block time and

caseload. Most of the procedures were endoscopies; followed by eye surgeries, orthopedic surgeries, general surgeries, and ear, nose, and throat (ENT) surgeries.

The staff in the surgical services department consisted of two preoperative/PACU nurses, two circulators, four surgical technologists, and a director of surgical services who was expected to work in and run the unit. The target population for the process improvement was composed of the nursing staff and surgical technologists in the surgical services department and the leadership team in the facility.

METHODS

PICOT Standard

The PICOT standard was used to identify the answerable question to examine.³ The PICOT question used for this project was: will educating staff in EBP in a small rural hospital improve the use of EBP, decrease overtime, and improve patient satisfaction; development and implementation of a preadmission clinic: a quality improvement project?

- P: Lack of knowledge in EBP in the surgical services department as evidenced by large amounts of staff overtime and decreased patient satisfaction with the admission process.
- I: Education on EBP and the development and implementation of a preadmission clinic.
- C: Compared to no EBP processes being developed and implemented, no improvement in patient satisfaction scores, and no improvement in overtime use.
- O: Staff will have the ability and knowledge to use and understand EBP; patient satisfaction scores will improve; and overtime use will decrease.
- T: The timeframe to develop and complete this quality improvement project is nine months to one year.

Literature Review

The literature review process is a process that is commonplace in the nursing setting and can help to strengthen and answer the PICOT question.⁴ On the basis of the question, studies were identified that offered data on the development of an education program and the development and implementation of a preadmission clinic in a surgical services department. A total of 250 studies and articles were reviewed. Out of these, 41 studies were selected for a more in-depth review. During the in-depth review, eight studies were rejected because of the age of the studies and lack of information about how data was collected. An additional seven studies were rejected because there was no indication of their validity; and two more studies were rejected because the information provided did not fit the project. Therefore, a total of 24 studies and articles were selected for use in support of this process improvement project.

During the in-depth review, trustworthiness, reliability, and validity were a focus. In qualitative studies, trustworthiness is an indicator of strength; while in quantitative studies, validity and reliability are indicators of strength.⁵

The results of the extensive literature search showed strong support for the need for EBP in rural healthcare organizations. The literature review also indicated that the development and implementation of a preadmission clinic would help to address the issues identified in the surgical services department. In addition to the literature search, one hundred directors of surgical services and operating room (OR) managers were interviewed across the United States over a span of 30 to 40 hours to identify the best practices being employed in healthcare organizations throughout the country.

Overall Design and Approach

After receiving approval from the university's Institutional Review Board (IRB) for this project as a quality improvement project (designated as an exempt, nonhuman research project),

a team was developed to assist with the literature review, data collection, and project development. The team consisted of the chief nursing officer (CNO), the CFO, the patient care advocate, two community representatives, and three nurses. The team was presented with education regarding how to complete the literature review; however, several of them already knew how to do one. The training included the following topics: determining the trustworthiness, validity, and reliability of the studies identified; identifying the strengths and weaknesses regarding support for EBP training; and identifying information on the development of a preadmission clinic.

The project kickoff meeting was held, lines of communication were established, and assignments were made for each team member. The assignments were based on the strength of each team member. Some team members had experience in conducting a literature review; others had experience in developing quality improvement projects; while others were leaders on the units and out in the community.

The Johns Hopkins Nursing Process for Evidence-Based Practice (JHNEBP) model was used as a framework for the development of the quality improvement project. The JHNEBP is broken into several steps that are self-explanatory and give step-by-step instructions. This framework was selected to enable the nursing staff to follow the education presentation on EBP and the development and implementation of the preadmission clinic easily.

Based on the information obtained from the literature search, an educational presentation was created using PowerPoint. This presentation provided education for the nursing staff on how to use EBP to develop and implement processes. Included in the education was a walkthrough of the development and implementation of the preadmission clinic in the surgical services department using all of the steps presented in the educational presentation.

The education was provided to the nursing staff in the surgical services department and the leadership team. This group of people became the change agents in the organization. Participation in the EBP education presentation was voluntary. The staff attending were given the opportunity to leave if they did not wish to participate. Those who attended the EBP education presentation received a questionnaire to assess their comfort level and their perceived knowledge level regarding EBP. The participants were given the same questionnaire after the education presentation. The questionnaires were completed anonymously: no identifying information was included. The questionnaires were numbered 1 through 25 and each participant received corresponding questionnaires pre-intervention and post-intervention so that a comparison could be made.

Data Collection

The project leader verified that the data collected were accurate and handled by only three people. This tight control protected the validity of the data and prevented corruption by outside sources. All participants remained anonymous throughout the process improvement project and the EBP education sessions. The sample size was small, as the rural hospital was small. The sample consisted of the nursing staff in the surgical services department, the nursing leadership team, and several nurses from the nursing unit who requested to attend because they were interested in learning about EBP. The total sample size for attending the EBP education was 20.

During the data collection period (approximately 30 days post-education), questionnaires were handed out to the nursing staff in the medical-surgical unit, the intensive care unit, and the surgical services department to ascertain the perception of staff regarding whether the education provided to certain staff members had made any impact on the units. Completion of the questionnaires was voluntary. Once they were filled out, they were placed in a locked collection

box provided by the patient care advocate. The patient care advocate then collected the questionnaires and examined them for any identifying information. If any such information was found, it was removed before the data were provided to the team leader for analysis.

The CFO collected the overtime hours for the same-day surgery area. The total overtime hours were collected in this way to prevent any identifying information from being attached to the numbers. The overtime hours covered a three-month period before implementation of the intervention and a three-month period after implementation of the intervention.

Patients were informed of the quality improvement project and were asked whether they would be interested in completing a questionnaire. The patients were informed their participation would be anonymous. This phase of the study took place three months prior to implementation of the preadmission clinic and continued for three months after implementation of the preadmission clinic. The questionnaires were mailed by the patient directly to the patient care advocate, who examined each questionnaire for any identifying information. If any such information was found, it was removed from the questionnaires before the data was handed over to the team leader for analysis. The data represented the overall patient satisfaction with the preadmission process before and after implementation of the preadmission clinic. The data were presented as a percentage for each month before and after implementation of the preadmission clinic.

RESULTS AND DATA ANALYSIS

The results in all areas of data collection were positive. During the education presentation, 20 questionnaires were handed out to the staff who participated. All 20 were returned; however, two were not filled out. The 18 that were filled out indicated the participants had a limited knowledge and understanding of EBP. After the education presentation, 20 questionnaires were handed out again to correspond with the previous questionnaire. All 20 were returned. Fifteen of the respondents indicated that the education helped them gain a better

understanding of what EBP is and how to use it to improve processes and nursing practice. The other five indicated they had a better understanding of EBP but would not use it because they felt the processes were fine just as they were.

Approximately three months post intervention, 30 questionnaires were handed out to staff on the nursing floor. These nurses did not attend the education on EBP, but their leaders and a few of their co-workers did. The questionnaire asked if they were being encouraged to use EBP and if they were receiving help from the leadership team to develop and implement process improvement projects based in EBP. Since completion of the questionnaires was voluntary and the nurses were asked to drop their completed questionnaire in a locked box, the respondents remained anonymous.

Twenty-seven of the 30 questionnaires were returned. Fifteen of the respondents indicated that they were encouraged by their leadership to use EBP and that members of the leadership team had assisted in the development and implementation of a process improvement project. The other 12 respondents indicated there was no encouragement and no assistance concerning trying to develop and implement an EBP process improvement project. These 12 respondents indicated that, when they tried to inquire about EBP, the leadership team member they asked said it was not a top priority for them, and if they wanted to use EBP, they needed to seek a team member who would participate. Although 12 respondents indicated a lack of leadership regarding the use of EBP, two EBP process improvement projects were started in the surgical services department and one process improvement project was started in the medical-surgical unit.

Three months before the education presentation and implementation of the preadmission clinic, a total of 275 overtime hours were accumulated in the same-day area. Three months after implementation of the preadmission clinic, this number had been reduced to a total of 32

overtime hours. Therefore, there was an 88% drop in the number of overtime hours accrued after implementation of the preadmission clinic.

Overall, patient satisfaction scores were collected and submitted for analysis. The scores before implementation of the preadmission clinic were 55% for the first month, 42% for the second month, and 48% for the third month. After implementation of the preadmission clinic, the scores improved to 60% for the first month, 78% for the second month, and 89% for the third month. A comparison of these scores indicates a 64% overall improvement of patients satisfied with the surgical services preadmission process.

Before implementation of the preadmission clinic, 413 surveys were handed out to patients after their procedure. Of the 413 surveys, 343 were returned (an 83% return rate). Some (148 surveys) indicated the patients were very satisfied with their preadmission experience; 40 surveys indicated the patients were positive about their preadmission experience but also included some negative comments; and 158 indicated the patients were negative about their experience and that they would go somewhere else for care and services.

After implementation of the preadmission clinic, 525 surveys were handed out to patients after their procedure. Of these, 315 were returned (a 60% return rate). Some (250 surveys) indicated the patients were very satisfied with their preadmission process and would recommend the facility to family and friends. Others (45 surveys) indicated the patients were positive about the process but had recommendations for improvement in the process; while the remainder (20 surveys) contained negative comments regarding intravenous (IV) starts and wait times. The respondents' recommendations and negative comments were used to implement two new projects in the surgical services department.

DISCUSSION

Overall, the data indicates that EBP training and training on how to use it resulted in improved practice and patient care. The intervention is an example of the potential for the positive effect of EBP training on overtime use by decreasing it and positively affecting the hospital's financial bottom line. The data also show that, when a patient's needs are being met, he or she experiences less anxiety. This makes the admission process a more pleasant experience and increases the satisfaction of the patient.

Unfortunately, at the time of writing, the preadmission clinic is not functioning in the way it was developed to function, and the organization has reverted to receiving poor patient satisfaction scores and large amounts of overtime. Many of the individuals who were charged with ensuring the process stayed in place are no longer a part of the organization. For example, new staff members have assumed the following positions: CEO, CNO, CFO, patient care advocate, nurse manager on the medical-surgical unit, and surgical services director. In particular, the surgical services director has changed three times since the project took place. A project like this that has an impact on many areas of an organization must have change agents in place to ensure stability and longevity of the process. Without those people, any new process risks abandonment.

CONCLUSION

Evidence-based practice is an important part of nursing practice in hospitals and is now considered the standard of practice. However, evidence shows that rural hospitals often fall behind and are lacking in the use of EBP. In the rural hospital that was the site of this project, a team was formed to develop and implement an EBP process improvement project that included an education presentation about EBP and implementation of a preadmission clinic.

The goals of these two processes were to address patient satisfaction, the use of a large amount of overtime in the same-day surgery area, and the lack of use of EBP on the nursing units. Once the processes were implemented, there was an increase in the use of EBP, a decrease in the use of overtime, and an increase in patient satisfaction scores.

These outcomes indicate that, once the staff gained an understanding of EBP and saw how it worked to improve nursing practice and processes, they were not afraid to move forward with using EBP. The data also indicate positive results as evidenced by three new EBP processes that were developed and implemented within the organization even though the veteran staff who feared change wanted processes to stay the same. For the more senior nurses, it may take more time and effort to persuade them to move forward with the implementation of new policies and procedures because they are more comfortable remaining in their comfort zone. Throughout the entire process of development, implementation, and follow-up, the nurses with the most experience were the most resistant to implementing new processes (including some of the nurses on the leadership team).

The process improvement project met the goals outlined in the PICOT question and the objectives set for the project. By focusing on the staff, it improved patient satisfaction and patient care within the department, and it had a positive effect in the community as word spread regarding improvements. However, follow-up is just as important as implementing the project itself. This organization experienced major changes in its top leadership team, and thus nobody was left to maintain the project. The organization hoped to increase its caseload with implementation of the preadmission clinic; however, due to the major changes in leadership, this goal was not achieved. Although the project was successful in meeting its objectives, the difficulty in maintaining EBP and the achieved gains shows how important it is to sustain

follow-up to ensure the process remains intact and continues to meet the needs of the organization, the patients, the staff, and the community.

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ADDENDUM

STATEMENT OF ORIGINAL WORK

Academic Honesty Policy

Capella University's Academic Honesty Policy (3.01.01) holds learners accountable for the integrity of work they submit, which includes but is not limited to discussion postings, assignments, comprehensive exams, and the dissertation or capstone project.

Established in the Policy are the expectations for original work, rationale for the policy, definition of terms that pertain to academic honesty and original work, and disciplinary consequences of academic dishonesty. Also stated in the Policy is the expectation that learner will follow APA rules for citing another person's ideas or works.

The following standards for original work and definition of plagiarism are discussed in the Policy:

Learners are expected to be the sole authors of their work and to acknowledge the authorship of others' work through proper citation and reference. Use of another person's ideas, including another learner's, without proper reference or citation constitutes plagiarism and academic dishonesty and is prohibited conduct. (p. 1)

Plagiarism is one example of dishonesty. Plagiarism is presenting some else's ideas or work as your own. Plagiarism also includes copying verbatim or rephrasing ideas without properly acknowledging the source by author, date, and publication medium. (p. 2)

Capella University's Research Misconduct Policy (3.03.06) holds learners accountable for research integrity. What constitutes research misconduct is discussed in the Policy:

Research misconduct includes but is not limited to falsification, fabrication, plagiarism, misappropriation, or other practices that seriously deviate from those that are commonly accepted within the academic community for proposing, conducting, or reviewing research, or in reporting research results. (p. 1)

Learners failing to abide by these policies are subject to consequences, including but not limited to dismissal or revocation of the degree.

Statement of Original Work and Signature

I have read, and understood, and abided by Capella University’s Academic Honesty Policy (3.01.01) and Research Misconduct Policy (3.03.06), including the Policy Statements, Rationale, and Definitions.

I attest that this dissertation or capstone project is my own work. Where I have used the ideas of words of others, I have paraphrased, summarized, or used direct quotes following the guidelines set forth in the *APA Publication Manual*.

Learner name

and date Dawn Bailey February 21, 2016 (electronically signed)

Mentor name

and school Lydia Forsythe, PhD Mentor