Translating Evidence into Clinical Practice

Adding to the Evidence Base: Quality Improvement Projects

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With the increasing focus in health care on quality and safety of care, reports of quality improvement (QI) projects that offer sustained change are an important contribution to the nursing literature as is the importance of the specific topic being considered (Gotelli et al., 2008). While this column is usually about critiquing research studies, this reviewer has chosen to review this study so that the distinctions between QI projects and research reports can be stated. QI studies may be referred to by other names, such as performance improvement (PI) (Compas, Hopkins, & Townsley, 2008). PI actually suggests that the system being changed relates to a completed project, whereas QI suggests a system that is seeking the change. Typically, this type of project is for internal use only, not subject to Institutional Review Board processes, and is usually examining a current standard of care (Wiseman & Kaprielian, 2005).

Not only are there numerous improvement studies related to the use of urinary catheters reported in the literature (Apisarnthanarak et al., 2007; Cassel, Parkers, Poon, & Rae, 2008; Huang et al., 2004; McLaughlin & Sciuto, 1996), but there are also QI studies on many other topics, such as reducing prevalence or pressure ulcers (Elliott, McKinley, & Fox, 2008). Interestingly, McLaughlin and Sciuto (1996) proposed guidelines in their continuing education module for the continuation or removal of urinary catheters. Cassel et al. (2008) offered criteria for continuation of urinary catheters.

Much information is also available on the Internet about QI. One site found to be valuable and quite user friendly by this reviewer is an educational Web site on QI related to safety in health care institutions published by the Duke University Medical Center’s Department of Community and Family Medicine. Several methods of QI are noted on their Web site, and QI literature, terminology, and comparisons of different QI models can be found on their Web site (http://patientsafety.duhs.duke.edu/module_a/methods/comparison_model.html).

This review will examine the QI study based on a set of recommended standards for QI projects (Wiseman & Kaprielian, 2005), along with the commonalities discovered in a synthesis of QI projects (Compas et al., 2008). The content of the QI report being reviewed (Gotelli et al., 2008) is very important and has the potential to inform practice and improve patient outcomes (for example, infections are reduced and the quality of life and health of the patient are improved).

Review

In a synthesis of the QI literature for nursing home quality, Compas and colleagues (2008) found commonalities in their review of QI projects, including goal statements, use of multidisciplinary teams, educational needs, use of incentives to participate, identification of project champions, and feedback. Although not promoted as such, their findings suggest a model for evaluation of projects such as these. Gotelli et al. (2008) demonstrate these attributes in their study, including a clear mission statement to eliminate unnecessary urinary catheters among patients; multidisciplinary involvement of staff nurses, nurse managers, nurse practitioners, and physicians who implemented a nursing protocol for determining continued need for urinary catheters; identification of staff and patients as stakeholders; and the feedback and outcome measures that demonstrated a reduced prevalence of urinary catheter use.

Quality improvement models noted in the literature include the FADE model, PDSA, and Six Sigma (Wiseman & Kaprielian, 2005). While comparable in their component parts, they are not identical and may, in fact, not be useful for every kind of QI project that is implemented. For ease of reading and future use of the results of the study, those conducting the study are urged to state the model that was applied to their particular project.

For the purpose of this review, the four-step FADE model (Wiseman & Kaprielian, 2005) will be applied, since it seems most comparable to the model used for this survey. The first step, Focus, asks for a definition of the process that needs to be
improved. Gotelli et al. (2008) were very clear about the focus. Following the support through their review of the literature regarding complications of indwelling urinary catheters, the authors state their goal of reducing urinary tract infections related to prolonged or unnecessary placement of urinary catheters. Further, their intent to do this through a multidisciplinary nurse-driven protocol was stated. Many different nurses from point of care to managers to nurse practitioners worked with medical staff to conduct this project, as is often the case in QI studies (Compass et al., 2008).

In the second step, Analysis, the authors established baseline data for one year during which they discovered, as part of a root cause, few reasons for use of an indwelling urinary catheter. This led them to a potential solution or pilot intervention that moved their study into the third and fourth phases of Development and Execution, when plans for improvement were determined and implemented. After the pilot intervention, data were again collected to examine prevalence of placement of urinary catheters and the indications for use – the Evaluation phase of the project. It was not clear how frequently evaluation to maintain the success of the intervention was undertaken. This should be stated by the authors. However, one follow-up evaluation occurred at approximately a one-year period and showed similar findings to the pilot intervention.

The nursing protocol to determine whether urinary catheters should remain or be removed was the plan for improvement that was implemented on nursing units. The authors (Gotelli et al., 2008) found success with the protocol, thus improving practice related to prevalence of urinary catheter use on a specific nursing unit. Although they were successful in their application of a QI model to a need for improvement in patient care, they did not determine a reduction in the number of infections. As the authors suggest, their infection rate was already low.

When reading the report, criteria for continuing or removing a catheter were mentioned more than once in different sections. The authors indicated that criteria were derived from literature but did not connect these statements about criteria to the literature or to the figure containing the protocol until the end of the report. An earlier connection of this information within the report would have added clarity to the reading. However, the protocol is presented very clearly in the figure.

Application to Evidence Base

The authors have stated that their QI project is at level VI in the hierarchy of evidence. It is the opinion of this reviewer that their information is extremely useful in practice. However, neither Melnyk and Fineout-Overholt (2005) nor Polit and Beck (2008) place QI projects within their levels of evidence. Polit and Beck are very clear that the “best evidence refers generally to findings from research that are methodologically appropriate, rigorous, and clinically relevant for answering pressing questions...” (p. 32).

Descriptive in nature, the current report is clearly a QI study, and as such, is useful to the acute care units in the institution where data were collected. The authors have solved a practice problem. They have given nursing and medical practice essential information about the use of indwelling urinary catheters, suggesting that health care providers need to be more aware of their use to avoid potential infection problems. As noted by Gotelli et al. (2008), future studies to determine other outcomes of the use of the protocol in this report are needed and should be done. The current QI study is a beginning effort to demonstrate success with a specified nursing protocol and to share the results of that information. It is important work and should be further evaluated to ensure that its place on the evidence hierarchy is clear.

References


