After hospitalization, patients need to understand how to care for themselves at home. One of the most important things nurses can do to improve outcomes is to educate patients about their self-care needs before discharge (London, 2016). Nurse educators must prepare clinical nurses through continuing education, in-service programs, and staff development to improve and maintain their teaching abilities (Bastable, 2014). According to Lau-Walker, Landy, and Murrells (2016), as patient-centered education becomes more widespread, the need increases to support healthcare staff in confidence and satisfaction with delivery of patient education. Bastable (2014) suggested nurses must be equipped to provide effective education that meets the needs of individuals and groups from diverse backgrounds with different needs. Reiter (2014) further noted the patient’s preconceived views are influenced by age, culture, learning ability, and language, which need to be considered when individualizing education. Additionally, nurses who assess patient education requirements swiftly and modify educational efforts to the patient are invaluable members of the healthcare team.

**Literature Review**

A literature search for 2011-2016 was performed using CINAHL, Ovid, and PubMed databases. Key search words included patient education, nurse and patient education, self-care, teaching modalities, and learner assessment. Because the nursing literature had little information on methods for improving patient education or outcomes of patient education, an interprofessional search was conducted to determine if educating healthcare personnel about a structured teaching approach would improve education delivery as well as patient outcomes.

Wilhelm and Petrovitch (2011) developed a structured anticoagulation teaching program to improve education services to inpatients before discharge with anticoagulation therapy. The setting included three facilities as part of an eight-hospital system: a large teaching hospital, a women’s hospital, and a rehabilitation center. This educational program, which included a didactic presentation, focused on standardized counseling for oral and injectable anticoagulants. It was provided to pharmacy students and residents. The rationale behind developing such an educational program was a lack of patient education regarding anticoagulation therapy by pharmacists. After pharmacy students and residents were educated, they were placed on a teaching service responsible for anticoagulation patient education.

Using a retrospective review of 387 inpatient charts, authors examined the impact of the anticoagulation education teaching service on the rate of education being delivered and rate of readmission (Wilhelm & Petrovitch, 2011). Patients had been discharged home with a prescription for warfarin (Coumadin®) or low molecular weight heparin during a 5-month period before and after implementation of the teaching service. Authors found significant improvement in anticoagulation education rates after implementation of the program ($p<0.0001$). Prior to implementation of the educational program, 169 patients received education; 218 patients received education after the program began. No significant difference was found in anticoagulant-related 30-day readmission rates of patients who received education versus those who did not. However, a significant difference was found in the 60-day readmission rate for patients who did not receive the teaching service anticoagulation education (50.5% vs. 37.9%, $p=0.0141$). This study concluded initiatives in which healthcare personnel are provided education on methods to deliver patient education can result in positive outcomes.

Warden, Freels, Furono, and Mackay (2014) also developed a structured educational approach.

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Lau-Walker and co-authors (2016) evaluated the impact of integration of a Personalized Patient Education Protocol (PPEP) into an existing post-myocardial infarction care pathway. Nurses received training on use of the PPEP along with a workbook for patients. During a 2-month pilot, they practiced using the PPEP tool during patient discharge and were debriefed by the researcher on its use. Nurses also provided feedback to researchers on more effective use of the tool. Patients with a confirmed diagnosis of myocardial infarction in a London hospital were invited to participate in a longitudinal patient survey. They were asked to complete questionnaires before discharge and 3 months after discharge. Based on information about patients’ illness beliefs and expectations from the first questionnaire, nurses discussed and assisted patients to make connections between their individual illness perceptions and specific recommended health promotion behavior to manage illness better. A PPEP workbook also was provided to the patients, with its purpose explained.

Authors found a significant change at 3 months ($p=0.021$), suggesting patients had a better understanding of their illness (Lau-Walker et al., 2016). Patients also reported significant improvement in their general health ($p=0.041$), and 59% indicated the PPEP workbook was useful. In addition, nurses integrating PPEP into the discharge process were interviewed. They identified their initial reluctance to incorporate the PPEP into their practice. However, use of the PPEP allowed unique insight into patients’ perceptions of their own health.

These studies suggested nurses and other healthcare personnel may need further instruction on providing structured, effective patient education. They also supported the premise that delivery of patient education increases and outcomes improve when providers receive this education. A need exists for the patient education curriculum developed for this project to improve clinical nurses’ ability as educators.

**Improvement Needs**

The site for this quality improvement project was an academic medical center in New England. The organization had no practice standard for patient education. Central and unit-based nurse educators were responsible for educating nursing staff rather than patients. The hospital also did not employ specialty nurses dedicated to implementing patient education, which was the responsibility of clinical nurses. The purpose of this project was to provide nurses with a structured approach to effective, efficient patient education.

Participants were clinical nurses from two inpatient medical-surgical units. The chosen inpatient nursing units were selected as the first two units to schedule their clinical nursing staff annual education days in 2013.

**Quality Indicators and Data Collection**

The clinical question for this project was as follows: Will clinical nurses demonstrate improvement in knowledge as well as performance during a simulated patient scenario after completing a curriculum designed to promote effective and efficient patient education through the use of key steps to education?

The Plan Do Study Act (PDSA) cycle was used to guide this quality improvement project (Harris, Roussel, Walters, & Dearman, 2011). Assessment tools included a pretest-posttest (see Table 1) and pre-post simulation performance checklist (see Table 2). These tools were used to determine if an increase in baseline knowledge and performance occurred after RNs completed the patient education curriculum. They were developed by the project leader to connect directly with learner curriculum objectives. Content validity was established by experts in nursing, nursing education, and nursing simulation. Tools were edited based on expert recom-

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**TABLE 1. Pretest-Posttest Questions**

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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<tr>
<td>1. The purpose of assessing a patient’s learning needs is to:</td>
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<tr>
<td>2. All are a correct example of setting mutual goals/objectives for the educational lesson with your patient except:</td>
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<tr>
<td>3. You have assessed your patient’s learning needs and determined goals/objectives of the lesson. Your patient would like to know more about drain care and is a “hands-on” (kinesthetic) learner. What teaching method would be most appropriate to use with your patient?</td>
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<td>4. “Teach-back” is a form of:</td>
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<td>5. How do you know the patient has gained the necessary knowledge to perform self-care safely at home?</td>
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<td>6. If a patient has demonstrated or explained a detail from your educational lesson incorrectly, you would first:</td>
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<td>7. Health literacy means:</td>
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<td>8. Effective patient discharge education provides the patient with:</td>
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<td>9. You have determined your patient is an auditory learner. What would be the best teaching tool to explain Lovenox® administration?</td>
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<tr>
<td>10. Patient education is:</td>
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</tbody>
</table>
mendations and returned for review until all experts indicated the tools represented a connection to the learner curriculum objectives. The pretest-posttest consisted of 10 multiple-choice questions. The simulation performance checklist included six performance objectives (meets to does not meet). Reliability of the tools could not be established during data analysis because participants were not matched to themselves for activities before and after education.

The patient education curriculum was reviewed, edited, and enhanced. Test questions that did not demonstrate improvement were evaluated and modified for future use. Nursing specialty simulation scenarios also were designed and added to the curriculum. The revised, enhanced patient education curriculum was given to the organization's Director of Nursing Education and Research for distribution to all nurse educators. The nurse educators integrated the patient education curriculum into professional development for clinical nurses throughout the organization, spreading and sustaining a standardized approach to patient education.

**Action Plan and Evaluation**

This project used a one-group pre-post design, with the designed patient education curriculum as the intervention. The curriculum focused on providing nurses with key steps to standardize delivery of patient education and allow increased, improved patient education delivery. These key steps focused on assessing the learner, setting mutual learning goals and objectives, using appropriate teaching modalities, and evaluating with teach-back. The 15-20 minute presentation also offered ways to implement the key steps.

The project occurred during eight annual RN education days January-May 2013, with 85 nurses invited to participate. Before implementation, the project leader explained what could be expected in the pretest-posttest and pre-post simulation. Signed consent included agreement to maintain confidentiality of the exercises and to be video recorded. RNs who were participating in new graduate orientation were excluded from participation.

Participating RNs first completed the pre-test, after which they reviewed the simulation scenario and then entered the simulation. The scenario addressed a patient who was ready for discharge and needed education on a topic specific to the participating RN's unit (e.g., wound care, neutropenia). The simulation scenario used a standardized patient (SP) and was ended automatically if the participant reached 15 minutes. After the simulation, RNs received instruction in the patient education curriculum from one of two nurse educators trained by the project leader. RNs who chose not to participate in the project also received the patient education content. Immediately after the presentation, participants completed the posttest. RNs were allowed to review the same simulation scenario but complete it with a different SP. Again, simulation was ended for anyone reaching 15 minutes in the scenario. After completion of the final simulation, the SP stepped out of character to debrief the RN. The entire participant group then reconvened for a group debriefing by a certified healthcare simulation educator.

No identifying information was collected during the pretest-posttest. To maintain anonymity, simulations were recorded and viewed by two additional nurse educators who did not have direct contact with the participating nursing units. Nurse educators viewed each simulation using the simulation performance checklist. All tests, recordings, and simulation performance checklists were secured in a locked office.

All participant answers were entered into an Excel (Microsoft, Inc.; Redmond, WA) document. Pretest and posttest averages were compared by participating unit and as a group. Individual test scores and simulation performance checklists were compared as an overall test average. SPSS Statistics 21 software (IBM Corp.; Armonk, NY) was used to determine results of the Pearson Chi-Square test, Levene’s Test for Equality of Variance, and a t-Test for Equality of Means. The Pearson Chi-Square test also was completed on the pre-post simulation performance checklist data, with a Kappa statistic to determine inter-rater reliability.

**Results**

The author collected 66 pretests and 66 posttests. Comparison of participating units from pretest to posttest demonstrated an improvement in knowledge (pretest average 83%, posttest average 89%). All but three questions demonstrated improvement between tests; they focused on assessing learners with use of appropriate teaching modalities, clarifying incorrect teach-back, and defining health literacy. The range of improvement was 2%-16%. Three questions demonstrated statistical significance (p=0.001, 0.026, and 0.032) with the Pearson Chi-Square test: assessment of the learner (question #1), validation of patient learning (#5), and a definition of patient education (#10). Levene’s Test for Equality of Variance result (p=0.010) illustrated statistically significant variability between the two tests. A t-Test for Equality of Means result (p=0.003)
demonstrated a significant difference between the two tests that was likely a result of the intervention (Burns & Grove, 2012). Forty simulations were viewed. The difference in participant numbers between the test and simulation is multifaceted. One group of RNs was incapable of completing the simulation portion of the project on their education day due to room scheduling conflicts. A few participants decided not to complete the second simulation, but did complete both tests. Finally, the project leader omitted some simulation data provided by the nurse educators who viewed and collected data on the simulations because they were unclear.

Each simulation performance checklist objective demonstrated improvement (pretest to posttest range 16%-31%). Three objectives demonstrated statistical significance (p=0.010, 0.005, 0.005) on a Pearson Chi-Square test. The small sample and the unifocal project setting were limitations of the project. Reliability of the tools was not determined statistically because tools were not matched to participants; in other words, a participant’s pretest or pre-simulation was not compared to his or her posttest or post-simulation. Another limitation was completion of the pretest-posttest by one group of nurses who were unable to complete the simulations due to a scheduling conflict within the simulation department. Finally, inter-rater reliability between the two nurse educator observers was poor. Only two objectives demonstrated inter-rater reliability when a Kappa statistic was completed: educators demonstrated inter-rater reliability focused on setting mutual learning goals/objectives, and continual reassessment of learning using teach-back until learner comprehension occurred.

Learning Outcome
After completing this learning activity, the learner will be able to recognize how a structured approach improves patient education practices.
Conclusion

To promote better patient health outcomes, clinical nurses need to be involved increasingly with patient education. However, they require support and resources in their role as patient educators to be successful (Lau-Walker et al., 2016). Organizational support, such as the curriculum used in this project, promotes increased knowledge and confidence in clinical nurses as they contribute to improved health outcomes through patient education.

REFERENCES


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