Improving Patient and Caregiver New Medication Education Using an Innovative Teach-back Toolkit

CE 1.0 Contact Hour

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ABSTRACT

Background: Patients and caregivers are often not adequately informed about new medications. Nurses can lead innovations that improve new medication education.

Local Problem: Healthcare Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores on medication questions trailed state and national levels in one Midwestern hospital.

Methods: This quality improvement project, guided by the Ottawa Model of Research Use and the *Always Use Teach-back!* innovative toolkit, used a 1-group pre- and posteducation design with RNs, patients, and caregivers.

Intervention: RNs (n = 25) were observed in patient/caregiver education and surveyed in confidence/conviction in the teach-back method before and after education. Patients' (n = 74) and caregivers' (n = 33) knowledge was assessed.

Results: RNs reported significant increases in conviction in the importance of ($P < .0001$), confidence in using ($P < .0001$), and frequency in using ($P < .0001$) teach-back. With teach-back, both patients and caregivers recalled the purpose and side effects of new medications. Specific HCAHPS scores increased from 6% to 10%.

Conclusion: The teach-back method strengthened safe nursing practice and enhanced quality in new medication education.

Keywords: medication education, Ottawa Model of Research Use, patient education, quality improvement teach-back

The Centers for Medicare & Medicaid Services report that only 65% of patients in hospitals "always" receive education about their medications.[1] Patients have a right to information about their health in a way that they understand so that they can participate in the decision-making process for their care.[2,3] Currently, patients are not adequately informed about their medications,[1,4] and this can lead to confusion and possible misuse,[5,6] as well as decreased satisfaction with care[4-6] and possible readmission.[4]

In a study reported by the Agency for Healthcare Research and Quality,[7] approximately 1 in 5 patients experienced an adverse event within 3 weeks of discharge, and adverse drug events were the most common postdischarge complication. The American Hospital Association[8] cites limited patient education on medications as a common source of patient self-management errors.

Research shows that patients understand and retain less than half of what their care providers explain to them.[9] Education is often reserved until discharge, but this may be too late for patients to comprehend information about medications all at once.[10] Several factors affect a patient's ability to receive and retain knowledge such as a cognitive deficit from a head trauma that led to hospitalization,[4] which suggests the importance of including caregivers in patient education.

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Patients and caregivers are also speaking up about their new medication education through the Healthcare Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys. The HCAHPS survey is a standardized method to gather data on patient and caregiver perceptions and satisfaction with their hospital experience.[11] The need for improved patient and caregiver medication education is evident, yet challenges exist in providing education that prepares patients and caregivers for success with medication management after discharge.

LOCAL PROBLEM

The site for this quality improvement (QI) project has experienced lower than national and state average scores on 3 HCAHPS questions[12] related to patient education on new medications: "During this hospital stay, how often did RNs explain things in a way you could understand?" (question 3); "Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?" (question 16); and "Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?" (question 17). Table 1 lists the preproject HCAHPS scores.

Purpose

The purpose of this project was to improve patient outcomes using a tailored, evidence-based intervention to develop, encourage, and support RNs' abilities to educate and monitor patient and caregiver knowledge of new medications early in and throughout the patient's hospitalization. The intervention used the teach-back method.

METHODS

The site for this project was a level I trauma center in a large Midwestern teaching hospital. The hospital has 454 licensed beds and employs more than 1400 RNs. The initial setting for the project was a medicine unit that served as the demonstration and outcomes testing unit. This was an 18-bed unit with 29 RNs. The average length of stay was 4.5 days, and the average daily census was 16 patients. Upon initial success, the project was diffused to 2 additional medical-surgical nursing units. The 2 additional units have 36 beds with 60 to 65 RNs on each unit. No agency RNs were used in this project.

RNs were educated on use of the teach-back method on all 3 units, but only the RNs on the demonstration unit participated in the pre- and posteducation, training observations, and self-reported outcome assessments and evaluations. Patients and family caregivers were enrolled in the study from all 3 units. The caregiver sample included English-speaking patients and caregivers, 18 years and older, who were discharged home with at least 1 new medication. Seventy-four patients and 33 family caregivers were enrolled in the study. The project was approved by the institutional review boards of both the project site and the project lead's university.

Design

This project used a prospective approach with a 1-group pre- and posteducation design with RNs, patients, and caregivers. The Ottawa Model of Research Use (OMRU) was used to guide implementation of this project.[13] The model has 6 key elements that include assessment of the practice environment, evidence, and potential adopters; articulation of the

Table 1. HCAHPS Scores Pre- and Postproject Implementation[a]

	National Average, %		State Average, %		Facility Average, %		Med/Surg Units, %	
Questions[b]	Pre	Post	Pre	Post	Pre	Post	Pre	Post
3	79	80	81	83	77	80	74	80
16 and 17	65	65	67	68	60	63	61	71

Abbreviation: HCAHPS, Healthcare Consumer Assessment of Healthcare Providers and Systems.

[a] 16 and 17 are reported as combined scores on the Medicare Hospital Compare Web site. Data retrieved from the Hospital Compare Web site[1] and the project facility's Best Care Best Experience department.

[b] 3: How often RNs explained things in way you could understand? 16: Before giving new medicine, how often hospital staff told you what medicine was for?. 17: Before giving new medicine, how often hospital staff described possible side effects you could understand?

evidence-based project; identification of transfer methodologies; project design and adoption; and measurement of outcomes.

Step 1: Assessment of practice environment

Many organizational factors can hinder or contribute to the success of QI projects. A thorough assessment was done of the project environment, and results were summarized and presented to facility leadership for their consideration before project implementation. Assessment categories included the presence of supportive leadership, nursing unit infrastructure to support change, alignment with strategic goals, communication and relational strategies, incentives, benefits, and risks of project implementation.

Step 2: Assessment of evidence and articulation of project

After the assessment of the practice setting, an integrative literature review was done that allowed the project lead to consider evidence-based innovations that matched the clinical problem, setting, and clinical questions. A rigorous literature search and analysis concluded with 14 articles (9 level I or II[14]) related to effective patient and family educational methodologies. The literature revealed that the teach-back method is the preferred, comprehensive, standardized best practice that engages patients and caregivers by asking them to explain back, in their own words, what they have learned.[4,5,9,15,16] However, the goal was for nurses to evaluate their ability to explain and teach content in a way that patients and caregivers could understand.

The *Always Use Teach-back!*[17] training toolkit was found in the search for innovative tools that could be used in this project (available at: http://www.teachbacktraining.org/). Specific instruments from the toolkit used in this project are reported in the Supplemental Digital Content, Table 1 (available at: http://links.lww.com/JNCQ/A458). Permission to use the materials from the toolkit in this project was authorized by a member of the toolkit development team.

Step 3: Assessment of potential adopters

Potential adopters in this project were the RNs on the identified units. The project lead met with 32 attendees in 3 separate regularly scheduled Unit Practice Council meetings on each unit to discuss current patient and caregiver education practices from admission to discharge to assess potential adopters' awareness, attitudes, knowledge, skills, concerns, and current practice. Additional assessments of potential adopters included using the Observation Tool[18] with 29 RNs from the demonstration unit in a teaching session before receiving education and training on teach-back.

The project lead completed observations on all shifts, establishing baseline knowledge of RN performance in teaching skills and abilities. The Observation Tool[18] scored RNs with a yes, no, or N/A on the presence or absence of the elements of effective teach-back.[19] Following the observations, RNs completed the Confidence and Conviction Scale[20] as a baseline self-report survey of their conviction in the importance of using teach-back and their confidence in and frequency of using teach-back.

Step 4: Implementation of intervention strategies and adoption into practice

On the basis of the assessments, potential adopters, and the practice environment, a specific, evidence-based research transfer intervention was tailored for the RNs on the demonstration medicine unit. Project timeline and activities were posted on reminder cards attached to computers throughout the unit. RNs received e-mail updates about the project leading up to and throughout the project.

Ten- to 20-minute education and training sessions occurred during each RN's scheduled shift during which other RNs supervised patient care. This education approach was found in another similar study.[15] Sessions included a reminder of the problem and purpose of the project, an overview of the RN's Observation Tool results, a handout and discussion on the "10 Elements of Competence for Using Teach-back Effectively,"[19] a 2-minute video about teach-back by the Institute of Healthcare Improvement,[21] and role-playing between the RN and the project lead with practice on scripting.

After all the RNs on the demonstration unit received education and training on teach-back, the project lead started enrolling patients and caregivers who met the criteria for the study. Patients and caregivers were approached and educated on the key points of the study. Those who chose to participate and signed the consent were contacted 2 to 12 days after discharge and asked to recall and state the purpose and at least 1 side

effect of their new medication(s). One hundred nineteen patients and caregivers signed consents to participate, but only 74 patients and 33 caregivers participated in follow-up phone calls, resulting in an 89.9% postconsent participation rate. The average age of patients in the study was 57.1 years. Forty-two patients (57%) were discharged with more than 1 new medication. No demographic data were collected on caregivers.

During the follow-up phone call, if patients or caregivers were unable to describe either the purpose or side effects of their new medication(s), additional teaching was done and teach-back was used again to ensure the RN or project lead was clear in providing the information. Follow-up phone calls were documented in the patient's electronic health record as part of usual care.

RESULTS

Step 5: Patient and caregiver outcomes

Caregivers and patients were asked whether they could remember the purpose(s) and side effect(s) of the medication(s). Of the 123 total medications, patients could remember the purposes of 119 (97%) medications and the side effects of 81 (66%). There were 33 caregivers who were asked about 56 different medications. All caregivers could remember the purpose of each new medication. They could remember 84% of the medication side effects.

Step 6: RN outcomes

RNs in this project demonstrated significant growth in many of the elements of effective teach-back. Three months posteducation and training, 25 of the 29 RNs on the pilot unit were again observed in a patient and caregiver teaching session using the Observation Tool.[18] Four of the RNs observed before education were unable to be observed at the 3-month follow-up and were omitted from the data analysis. McNemar's test was used to analyze the data. Significant increases were seen in RN use of the effective elements of teach-back from pre- to posteducation (see Supplemental Digital Content, Table 2, available at: http://links.lww.com/JNCQ/A459).

RNs also self-reported their conviction in the importance of using teach-back and their confidence and frequency in using it. A paired *t* test indicated significantly higher scores 3 months after the education than preproject levels (Table 2).

Step 7: System outcomes

After project implementation, HCAHPS scores for the 3 questions increased, indicating improved patient satisfaction (Table 1). Increases in patient satisfaction with teach-back education about medications were seen in similar studies.[4,5,15,16]

EVALUATING AND SUSTAINING THE PROCESS

In evaluating the OMRU implementation process, RNs were asked to complete a survey on the relevance of teach-back in their practice and satisfaction with education and training on teach-back. Of the 29 RNs who received education, 22 (76%) responded to the survey. All of RNs believed that teach-back was very or somewhat relevant to their practice. Twenty nurses reported that they were extremely or very satisfied with the education and training by the project lead.

Ongoing coaching and motivation were provided following the Coaching Tips[22] guide from the toolkit. Tips and tricks to building motivation and momentum came through honoring the attempts of building new habits in using teach-back, using active and reflective listening in what worries RNs about using this educational method, and asking how they feel when

Table 2. RN Pre- and Postproject Results on the CCS

CCS Item (n = 25)	Preeducation, Mean	3-mo Follow-up, Mean	*P*
1. Conviction in importance of using teach-back	5.0	9.5	<.0001
2. Confidence in using teach-back	2.2	8.6	<.0001
3. Frequency in use of teach-back during teaching sessions	2.6	4.2	<.0001

Abbreviation: CCS, Conviction and Confidence Scale.[20]

they use it.[1] Setting goals with individual RNs to use teach-back in a designated number of teaching encounters each workday provided a realistic transition from old to new habits.

Teach-back has now been built into the annual performance reviews, which creates a focus on continuous improvement. Teach-back was also added to policies, procedures, and new RN orientation. In addition, a teach-back option, or check-box, was created in the electronic health record in the patient education area under the teaching methods category for easier documentation of teach-back in patient and caregiver education encounters.

DISCUSSION

Teach-back is not a new teaching strategy, but many nurses have not been educated on how to use teach-back effectively.[9] Using the *Always Use Teach-back!* training toolkit provided a structured resource in one place that was evidence-based and supported the use of teach-back in the project setting. The tools can be modified easily to meet the needs of the project and setting. Many RNs embraced teach-back in this project as a self-directed activity to help meet their professional and unit goals.

Strengths and limitations

As is the custom in a 1-group, pre- and postimplementation study, there is little control and can be subject to threats to internal and external validity. Although all patients and caregivers received the teach-back method in new medication education, there was no control group to compare effectiveness. However, this can also be a strength in that all patients and caregivers received the same intervention (high-quality education) about their new medications. The project also experienced attrition of RNs and patients/caregivers for various reasons, which lowered the sample size, already small in numbers. Finally, it is difficult to conclude that findings were a direct result of the project intervention. Despite the limitations, positive, significant changes were seen from the use of the toolkit among all 3 outcomes measured.

CONCLUSION

Health care organizations have an obligation to patients and caregivers in providing ongoing improvements in models of care. Evidence-based QI projects can facilitate movement away from stagnating practices that worsen quality. Increases in HCAHPS scores and other outcomes from this project confirm that teach-back is an effective method to educate patients and caregivers about new medications. It is also important to note that since caregivers recalled medication purposes and side effects more often than patients, caregivers or family members should be included in patient education.

Using a model such as the OMRU guides the translation of evidence into practice and was key to explaining what this project should accomplish, whereas the *Always Use Teach-back!* training toolkit explained how to achieve specific practice goals. This article provides ideas for implementing the *Always Use Teach-back!* innovation toolkit in other health care settings and provides creative evaluation techniques that may help measure success. As shown through this project, teach-back is a proven teaching and learning strategy that improves the quality of care. Teach-back also ensures that health care professionals are educating patients and caregivers in a way they understand to improve efficacy with new medications.

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