Implementing Nursing Teach Back for Medication Side Effects to Improve Patient Safety

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Abstract

Problem: On a medical-surgical unit, Hospital Consumer Assessment of Healthcare Providers and Systems Survey (HCAHPS) data from March 2023 revealed that only 66.7% of patients understood the purpose, usage, and potential side-effects of their medications upon discharge, below the goal of 80%. **Purpose:** Implement the *Always Use Teachback!* Toolkit to enhance patient safety by increasing the use of teach-back during patient medication education. **Methods:** At the beginning of implementation, the Project Lead (PL) reviewed strategies to integrate the teach-back method into work patterns with nurses. Nurses completed the *Conviction and Confidence Scale* the first week of implementation and then monthly afterwards to track their usage of the teach-back method. 1st dose EMR documentation was pulled from EMR reports weekly to validate nurses' compliance. The *Nurse Assessment* measured the patient's engagement with the intervention. The *Patient Comprehension Survey* measured patients' understanding of the purpose, usage and side-effect(s) of their medication after medication education. These surveys were distributed as QR code to staff and patients. Project data was analyzed weekly by the PL with aggregate reporting to site stakeholders for monitoring, feedback, reinforcement, and discussion. To protect patient confidentiality, identifiers were not collected. **Results:** A run chart was used to track how confident nurses were in their ability to use the teach-back method in their patients encounter during implementation. Of the 23 respondents, 91% are "using" teach-back during medication education. 1st dose EMR documentation and patient data unavailable due to organizational workflow issues. **Conclusion:** The teach-back method has been implemented in this organization and is being used during patient medication education encounters.

Keywords: medication side effects, patient education, nursing communication, medication teach-back, patient satisfaction.

Implementing Nursing Teach-Back for Medication Side Effects to Improve Patient Safety

Research showed that approximately 78% of patients are discharged with comprehension deficits, which can negatively impact patient outcomes and satisfaction by increasing length of stay, medication nonadherence, and readmissions (Mahajan et al., 2020). In America, the cost of "low health literacy and insufficient patient education" can reach $240 billion annually (Mahadevan, 2021). On a medical-surgical unit of a 208-bed mid-sized community hospital, Hospital Consumer Assessment of Healthcare Providers and Systems Survey (HCAHPS) from March 2023 revealed that 66.7% of patients (in the 5th percentile) understood the purpose, usage, and potential side-effects of their medications upon discharge. Data report showed this consistently remained below the hospital's goal of 80% from as far back as fiscal year 2020 to as recently as March 2023, making this a priority for improvement by administration. This gap in knowledge placed patients at increased risk for non-compliance, potential adverse drug events, medication administration errors, and worsening health outcomes.

Patients, nursing staff, pharmacists, directors, and the chief nursing officer (CNO) were interviewed by the Project Lead (PL) to identify the contributing factors to the issue. The PL worked with the CNO and the Director of Nursing Resource and Optimization to identify the individuals who have influence over nursing clinical practice and performance improvement. Interviews with multidisciplinary staff revealed that the main barriers for a lack of first dose medication education were limited organizational policy regarding patient education, lack of documentation of patient education by nurses, patient health literacy, nursing confidence in carrying out medication education, and a gap in nurses' knowledge of accessing patient educational aids on the EMR.

The unit consisted of 25-beds with patient-to-nurse ratio of 5-6:1. The leading causes for hospitalizations were circulatory (15.9%), digestive (14%), respiratory (11%), and infectious issues (9.5%). Patients varied in race, ethnicity and in socioeconomic indicators including poverty, education, and employment. The population served also had a high social service need based on socioeconomic factors. The average length of stay was 3-5 days and there were upwards of 12 discharges daily, per the unit director. Refer to Table 2 for site team chart and Figure 1 for the root-cause analysis diagram.

The purpose of this quality improvement (QI) project was to implement the *Always Use Teachback!* Toolkit to enhance patient safety by increasing the use of teach-back during patient education. The outcome measured the rate of staff using teach-back method in >80% of their patient encounters as evidenced by *Conviction and Confidence Scale.*

Available Knowledge

The QI-PL performed a literature search for evidence-based solutions to the problem. Searches were conducted in PubMed, CINAHL, EBSCOhost, MasterFILE Premier, and MEDLINE databases with date range 2015 to 2023 using the terms “teach-back method” AND “patient education” AND “medication”. Eligible studies were published in English, peer reviewed and dealt with the adult population. A literature appraisal was performed using The Johns Hopkins Evidence-Based Practice Model (Dang et al., 2022). Two level II evidence and grade A systematic reviews, Ha Dinh et al (2016) and Yen & Leasure (2019) concluded that the teach-back method was effective in reinforcing or confirming patient education and showed positive effects in a wide range of health care outcomes, adherence, and self-efficacy.

Marks et al (2022) conducted a level I evidence and grade A randomized controlled trial (RCT) in which the results showed that the teach-back method was successful in improving

HCAHPs top box scores, increasing patient knowledge about newly prescribed medications, and their experience and satisfaction with nurses' medication education. Gillam et al. (2016) conducted a level II evidence and grade B quasi-experimental study and concluded that, in addition to teach-back, intuitive medication reminders and medication information sheets used in tandem are significantly more effective than when used independently. Additionally, a level II, grade B systematic review supported the effectiveness of the teach-back method across a wide range of settings and populations, and the results showed that training and educating clinicians improve the sustainability of teach-back beyond the implementation period (Talevski et al., 2020).

The *Always Use Teachback!* Toolkit assists nurses in carrying out first dose medication education by providing a template for them to follow. The toolkit promotes the use of plain language, teach-back to confirm understanding with behavior change principles of coaching to form new habits, and adapting systems to promote consistent use of key practices. The toolkit was developed by the Institute for Healthcare Improvement and supported by grants from The Picker Institute and Des Moines University and was tested by a multidisciplinary team across four different health systems before release (Institute for Healthcare Advancement, 2023). Refer to Table 1 for evidence review and synthesis table.

Rationale

The Promoting Action on Research Implementation in Health Services (PARiHS) Framework states that change is a multidimensional process consisting of three interdependent elements which are key to successful implementation of research into practice (Rycroft-Malone, 2004). These elements are: evidence (sources of knowledge); context (setting where the evidence is being introduced); and facilitation (how the evidence is introduced). This framework was chosen because it emphasized obtaining a strong base of evidence for practice change, supported the need to gauge both organization and individual readiness for change, while challenging the user to determine the most appropriate implementation method that can best be sustained past the implementation period.

The setting for the QI project was the medical-surgical unit of a small community hospital. During conceptualization, the PL had to consider both the financial and human resources of the organization, administrative support, the available technology, and nursing workload in order to choose an evidence-based intervention that would not be a burden on staff or impossible to implement at the site. Taking these elements into account increased the chance of a successful implementation and reduced the risk of implementing an intervention doomed to failure. The *Always Use Teachback!* Toolkit was cost-effective, worked within the process already in place at the site, and did not increase nurses' workload, thereby increasing the chances of adherence by the nurses. Refer to Figure 2 for the framework.

Methods

Context

A cultural assessment of the site was performed using the Alberta Context Tool to 1) evaluate the organization's readiness to change, 2) its ability to reduce barriers and 3) ensure the sustainability of the project past the implementation phase. The leadership at the site were emotionally intelligent, consistently seeking feedback and using evidence-based practice to improve clinical practice. The med-surg unit had a director, nurse manager, as well as lead nurses who function similarly to charge nurses. Nurses were encouraged to communicate issues, concerns, and successes with their lead nurses as well as to leadership. The site had several quality improvement projects ongoing and actively sought ways to improve the quality of nursing practice and care using evidence-based practice. There were weekly leadership and administrative meetings. The site had nurse educators and a dedicated nurse on the unit who oversaw patient discharges and could act as a nursing champion to disseminate information to staff. Near the end of the implementation, the site began a pilot utilizing virtual nursing to facilitate discharge teaching for the patients.

The process for medication education at the site before the QI was as follows: when patients were admitted, the provider ordered their medication. The nurse acknowledged the order, and EMR 1st dose medication activity populated. There was no policy regarding medication education during the hospital stay. Once a patient had been cleared for discharge, the discharge order was placed. The nurse acknowledged the order. The discharge nurse printed out the After Visit Summary (AVS), carried out the discharge education with the patient and the patient was discharged. Although discharge education should include medication review, nurses were not held accountable for medication education when a patient was discharged. Refer to Figure 3 and 4 respectively for the process map for both current and desired processes.

Intervention

The PL implemented the *Always Use Teachback! Toolkit*, a multi-step approach to improve patient health literacy, over the course of 15 weeks in the Fall of 2023. At the beginning of the implementation, the PL reviewed a PowerPoint about the teach-back method and strategies to integrate the new habit into work patterns with the CSR, the unit director, the nurse manager, the nurse educator, and over twenty nurses. The presentation incorporated the toolkit's Coaching Tips—strategies to build staff confidence to integrate the new habit into work patterns, build reliability by creating reminders around the unit, and recognize staff successes. Training attendance validated via sign-in sheets. After attending the presentation, staff completed the

Conviction and Confidence Scale at the beginning of the implementation and then monthly during the intervention. The QI-PL observed staff's use of teach-back with another patient using the Observation Tool at the beginning of implementation, at week 4 to gauge the need for reinforcement of teaching strategies, and at week 10 to confirm retention of knowledge. During implementation, nurses used a script with patients that incorporated the "Ask3/Teach3" approach to gauge patient's understanding (Cleveland Clinic, 2013). The QI-PL provided staff feedback, using the Coaching Tips. During weekly meetings with unit leadership, the QI-PL shared the project's results, identifying gaps in implementation and barriers to success, and developed strategies to integrate making teach-back an always event. The QI-PL was on site weekly to ensure staff were sustaining interventions.

Strategies to achieve the project aims included collaborating with CSR, nurse educator, and unit director to obtain staff and patient buy-in, provide data reports at weekly meetings, and provide ongoing education and feedback to nurses. During implementation, the nurse lead and nurse educator informed patients and families that teach-back was being used and its importance in improving optimal outcomes. Originally, the plan was for the QI-PL to collaborate with the CSR and unit managerial personnel to recruit two nurse champions (Champions) to work with the QI-PL to promote the intervention. However, there were no volunteers for the role. Instead, the QI-PL worked closely with the unit director and nurse lead to ensure staff compliance and overcome any resistance that intervention provoked at the side. Refer to Table 3 for the timeline of the project.

Measurement

Data recorded for the project included all adult patients over the age of 18 who were cognitively competent with new medications ordered during their admission. Paper data collection tools were not used for reasons of ethical data protection. All surveys were distributed as QR code, created via RedCap, a HIPAA compliant, password protected server. 1st dose EMR documentation—a function unique to EPIC systems—was pulled from EMR reports weekly to validate nurses' compliance. The *Conviction and Confidence Scale* was recognized by AHRQ as an evidence-based, four question self-assessment survey for nurses conducted the first week of intervention and monthly during implementation to track their usage of the teach-back method (AHRQ, 2020). It acted as an indicator of program engagement and the sustainability of the project. On the survey, question three responses 1-2 tracked as a proxy for "using" teach-back during medication education vs. 3-5 as a proxy for "not using".

The *Nurse Assessment Survey* (adapted from the toolkit's *Observation Tool* and incorporating questions from AHRQ's *Health Literacy Patient Survey*) measured patient's engagement, experience, and satisfaction with the use of teach-back during medication education. For question 1, responses of "yes" tracked whether patients had new medication(s) ordered during their current admission. Questions 2 and 3 tracked whether staff explained the purpose and side effect of the medication(s). Question 4 tracked whether staff used plain language during medication education. Question 5 and 6 tracked whether staff gauged patient understanding and clarified misunderstandings. Question 7 tracked how helpful patients view the use of teach-back during medication education while Question 8 tracked their satisfaction with the use of teach-back during the medication education session. This survey was important to assess the effectiveness of the toolkit concepts and identify areas that would require further staff training. According to AHRQ, *Health Literacy Patient Survey* was constructed to test the *AHRQ Health Literacy Universal Precautions Toolkit, 2nd edition* and was useful in conducting small tests of change as part of quality improvement activities. Some questions were taken or adapted from a set of validated surveys of patients' experience of care while other questions were developed specifically to measure implementation of tools in the Toolkit (AHRQ, 2023).

The *Patient Comprehension Survey* measured patient's understanding of the purpose, usage and side-effect(s) of their medication after medication education by having them answer three questions in their own words: *What is the name of your medicine? What is the purpose of this medicine? What is the side-effect of this medicine?* If a patient was unable to describe, clearly and in their own words, the purpose, usage, and side effect of their medication(s), staff carried out medication education again. Project data was analyzed weekly by the QI-PL with aggregate reporting to site stakeholders for monitoring, feedback, reinforcement, and discussion of the quality improvement effort. Refer to Appendix A, B, and C for the surveys.

Ethical Considerations

The project did not have any potential conflicts of interest and ethical implications. The project was conducted under a Non-human Subject's Research determination from the Human Research Protections Office (HRPO) of the UMSOM Institutional Review Board (IRB) and received approval from the Internal Review Board (IRB) at the site. The risk to patients participating in this project was no different from the risks of patients receiving standard education regarding their plan of care. All participants were protected by HIPAA. This project followed the standards of care for practice at the site and adhered to the hospital's policies and procedures. All information collected did not include potential patient identifiers (refer to Appendix D for the *Codebook*). Project data risks mitigated by one individual electronically entering all data in a secure room on site into REDCap, a HIPAA compliant, password protected server, accessible only to the QI-PL and project faculty; no other hardware device(s) or program(s) used for data storage. No paper data collection tools used. This project was designed to address a specific problem in the context of the project, involving the site workflow, resources, and populations served in this setting, making findings from this project non-generalizable to any setting or population outside of the project site.

Results

Data was trended from September to November 2023. Compliance of staff teach-back training was measured by calculating the proportional ratio of nurses who completed the teach-back training compared to the total number of eligible nurses. 100% of staff nurses (20/20) were able to participate in the training. 74% (17/23) of nurses are confident in their ability to use the teach-back method in their patients' encounter during implementation; one did not respond. Of the 23 respondents, 91% are "using" teach-back during medication education (Appendix E). The *Conviction and Confidence Scale* revealed the top five elements of teach-back used by the nurses in patient encounters. 95.7% (22/23) used a caring tone of voice and attitude while 91.3% (21/23) used plain language during medication education session. 87.0% of nurses (20/23) asked the patient to explain, in their own words, what they were taught while 73.9% (17/23) explained and checked again if the patient was unable to teach back. 78.3% (18/23) included family members/caregivers if they were present during the education session (Appendix F).

Discussion

Research has shown that increasing patient comprehension regarding their condition and medication has a positive effect on patients' disease self-management and health outcomes by increasing patient satisfaction while decreasing medication non-compliance and readmissions (Yen & Leasure, 2019). Quality patient education can save the hospital almost $700 in lost revenue per patient and lead to an 11% reduction in overall healthcare costs (Greene et al., 2019).

The teach-back method could also translate to general patient education regarding procedures and patient care equipment, such as drains or urinary catheters, that patients care for at home.

The *Conviction and Confidence Scale* also revealed that nurses were underutilizing supplementary materials to improve patient's comprehension as well as documenting that they carried out patient education. Only half of the nurses, 52.2% (12/23), used reader-friendly print materials to support learning; 69.6% (16/23) used non-shaming, open-ended questions; and 69.6% (16/23) documented the use of and patient's response to teach-back.

An important limitation to note is the reach and time constraint of the initiative. Per the unit's director, there were an additional twenty (20) nurses who floated between units that could have benefitted from the training. The QI initiative took place over a limited period (over the course of 15 weeks in the Fall of 2023) where the unit underwent organizational, staff, and workflow restructuring. Patient data and 1st dose documentation is not available due to ineffective organizational workflow processes. There were additional issues with distribution of QR surveys to staff and patients, restricting the QI-PL's ability to interview patients and follow-through on measuring patient's comprehension as well as their engagement, experience, and satisfaction with the education process, which limited the efficacy of the implementation.

Conclusion

Effective communication builds trust between the healthcare team and patients. For communication between nurses and patients to be effective, nursing communication must be modeled in a supportive and patient-centered way rather than focused on the concept of getting the task done. The more patients are satisfied with the communication between themselves and their healthcare team, the more they can actively participate in their care. Patients have diverse socioeconomic and educational backgrounds which influence their understanding of health issues, their development of health literacy, and have a substantial impact on treatment outcomes. To improve communication between nurses and patients regarding medication side effects, nurses must be trained to recognize signs of health literacy problems and coordinate care with the remainder of the care team.

Published evidence demonstrates the effectiveness of the teach-back method in increasing and reinforcing patient comprehension about newly prescribed medications and showed positive effects in health care outcomes. Nurses must use plain language when explaining medications to patients and provide written information to complement verbal instructions about medication. The teach-back method assists nurses in gauging how much information patients have retained and the need for reeducation by providing a judgment-free assessment of patient comprehension. Teach-back is cost effective because it uses the resources already available at the organization, such as nurses/nurse educators and medication handouts available via the organization's EMR. Verifying that patients understand the purpose, administration, and side-effects of their medication(s) decreases the risk of nonadherence and potential adverse health outcomes when patients take their medication in a manner contrary to how it was prescribed.

The teach-back method has been implemented in this organization and is being used during patient medication education encounters. Future indications for this organization include the possibility of improved discharge planning and the development of a transitional care coordinator who assists patients transitioning out of the hospital setting to home. This care coordinator can follow up with patients within 48-72hrs after discharge to ensure patients are scheduled for follow-up with their providers, identify gaps in care coverage, and ensure patients are promptly linked with the resources and the supplies needed for their continued care. Future QI initiatives include a program whereby a virtual nurse does medication teaching with patients.

This session can occur at the convenience of the patient while hospitalized—some patients focus better at night when staff usually might not have the time—and the care coordinator can follow-up and reinforce once the patient is discharged. The organization can continue to promote patient-centered care, decrease healthcare costs, increase patient engagement and satisfaction, and build trust with their patients by leveraging teach-back as a core component in patient education.

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Table 1
Evidence review and synthesis table

Citation: Gillam, S. W., Gillam, A. R., Casler, T. L., & Curcio, K. (2016). Education for medications and side effects: A two part mechanism for improving the patient experience. *Applied Nursing Research*, *31*, 72–78. https://doi.org/10.1016/j.apnr.2015.11.017					**Level and Quality II-B**
Purpose/ Hypothesis	**Design**	**Sample**	**Intervention**	**Outcomes**	**Results**
A nursing study aimed to increase patient understanding of new medications and their side effects, and positively impact Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey scores for medications communication.	quasi-experimental study	**Sampling Technique:** Convenience **Setting:** a 34-bed medical/surgical nursing unit at an Austin, Texas-based 328-bed tertiary care hospital **Eligibility:** Patients with new medications on the med-surg unit **Exclusion:** No information provided **Accepted:** No information provided **Power Analysis:** No power analysis conducted.	**Control:** no control group identified **Intervention:** teach-back mechanisms (standard medications information sheet (SMIS) and mug shots)	**Dependent Variable:** pre- and post-education evaluations. **Measurements:** HCAHPS scores	**Statistical Results:** HCAHPS unit quarterly scores for medications communication improved from 55% ($n = 55$) to 79% ($n = 207$). Mann–Whitney U confirmed the change was significant ($U = 4370.0$, $p = 0.001$). The change has persisted over three calendar quarters. **Conclusions:** Intuitive medications reminders and medication information sheets used in tandem are

					significantly more effective than when used independently.
Citation: Ha Dinh, T. T., Bonner, A., Clark, R., Ramsbotham, J., & Hines, S. (2016). The effectiveness of the teach-back method on adherence and self-management in health education for people with chronic disease: A systematic review. *JBI Database of Systematic Reviews and Implementation Reports*, *14*(1), 210–247. https://doi.org/10.11124/jbisrir-2016-2296					**Level and Quality II-A**
Purpose/ Hypothesis	**Design**	**Sample**	**Intervention**	**Outcomes**	**Results**
To identify the effectiveness of teach-back education on disease-specific knowledge, medication and care adherence, and specific self-management skills in adult patients with chronic diseases.	Systematic Review	**Search Strategy:** Searches were conducted in CINAHL, MEDLINE, EMBASE, Cochrane CENTRAL, Web of Science, ProQuest Nursing and Allied Health Source, and Google Scholar databases. Search terms were combined by AND or OR in search strings. Reference lists of included articles were also searched for further potential references. **Eligibility:** All types of interventions which included the teach-back method in an education program for people with chronic diseases. **Inclusion:** Adults aged ≥ 18 with one or more than one chronic disease; Randomized and non-randomized controlled trials, cohort studies,	**Control:** chronic disease education programs that did not involve the teach-back method **Intervention:** teach-back method **Fidelity:** Not applicable to SR critique	**Dependent Variable:** disease-specific knowledge, medication and care adherence, and specific self-management skills **Measure:** patient self-report scales, nursing observation or hospital records	**Statistical Results:** Four studies confirmed improved disease-specific knowledge in intervention participants. One study showed a statistically significant improvement in adherence to medication and diet among type 2 diabetics patients in the intervention group compared to the control group ($p < 0.001$). Two studies found statistically significant

		before-after studies and case-control studies; The outcomes of interest were adherence, self-management, disease-specific knowledge, readmission, knowledge retention, self-efficacy and quality of life. **Accepted:** 10 studies consisting of eight non-randomized/randomized controlled trials, one cohort study and one before-after study, involving a total of 1285 patients (487 males and 738 females) **Exclusion:** Studies that included seriously ill patients, and/or those with impairments in verbal communication and cognitive function were excluded. **Power analysis:** Not applicable to SR critique			improvements in self-efficacy ($p = 0.0026$ and $p < 0.001$) in the intervention groups. **Conclusion:** The teach-back method showed positive effects in a wide range of health care outcomes, improved outcomes in disease-specific knowledge, adherence, self-efficacy, and reduction of hospital readmission rates.
Citation: Marks, L., O'Sullivan, L., Pytel, K., & Parkosewich, J. A. (2022). Using a teach-back intervention significantly improves knowledge, perceptions, and satisfaction of patients with nurses' discharge medication education. *Worldviews on Evidence-Based Nursing*, *19*(6), 458–466. https://doi.org/10.1111/wvn.12612					**Level and Quality** **I-A**
Purpose/ Hypothesis	**Design**	**Sample**	**Intervention**	**Outcomes**	
This study examined effects of a nurse-led Teach-Back intervention, Teaching	RCT	**Sampling technique:** randomization **Eligible participants:** med-surg patients on new Rx	**Control:** 52 patients were randomized to the “Usual Care” group	**Dependent Variable:** new medication knowledge before and after discharge; post-	**Statistical Results:** Usual care (n = 52) and TIME (n = 55) groups' characteristics were equivalent.

Important Medication Effects (TIME), compared with usual care on patients' knowledge, experiences, and satisfaction with medication education before and after discharge. The aims were to examine patients' priority learning needs, group differences in new medication knowledge before and after discharge, and post-discharge experience and satisfaction with medication instruction.		**Setting:** a 24-bed medical-surgical unit of a large Magnet® hospital **Inclusion:** patients who had at least one new medication, were 18 years of age or older, able to read and speak English or Spanish, admitted from home with at least one overnight visit, and had plans to return home after discharge **Excluded:** cognitively impaired patients, those assigned to a resource pool nurse who did not receive TIME training, and those having a research team member assigned to them **Accepted:** 107 patients **Power Analysis**: No power analysis conducted	**Intervention:** 55 patients were randomized to the teach-back method (TIME)	discharge experience; patient satisfaction with medication instruction. **DV Measure:** Post-discharge medication recall survey; experience survey	Medication side effect knowledge was better in TIME versus usual care groups at discharge (94.3% vs. 72.5%, p = .003) and follow-up (93.9% vs.75.8%, p = .04). TIME positively influenced patients' medication education experiences; specifically, nurses always explained why a new medication was needed and its side effects. TIME was associated with patients being very satisfied with nurses' education versus usual care (97% vs. 46.9%, p < .001). **Conclusions:** TIME had a significant and positive association with patients' knowledge of new

					medication side effects over time, as well as experience and satisfaction with nurses' medication education.
Citation: Talevski, J., Shee, A. W., Rasmussen, B., Kemp, G., & Beauchamp, A. (2020, April 14). *Teach-back: A systematic review of implementation and impacts*. PLOS ONE. Retrieved February 21, 2023, from https://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0231350					**Level and Quality II-A**
Purpose/ Hypothesis	**Design**	**Sample**	**Intervention**	**Outcomes**	**Results**
The purpose of this project was to synthesize evidence about the translation of teach-back into practice including mode of delivery, use of implementation strategies and effectiveness.	Systematic review	**Search Strategy:** A search was conducted using 4 databases (Ovid Medline, CINAHL, Embase and The Cochrane Central Register of Controlled Trials) for studies reporting the use of teach-back as an educational intervention, published up to July 2019. A sensitive search strategy was developed using the following search terms: "Teach-Back Communication" or "Teach-back" or "Show-me" or "Closing the loop" or "Closing the cycle" or "Ask-tell-ask" or "Repeat back" or "Verbal exchange" or "Patient-provider communication". Reference lists from eligible studies, systematic reviews and grey literature were also reviewed for further relevant studies.	**Control:** not implementing a teach-back method. **Intervention:** teach-back method **Fidelity:** Not applicable to SR critique	**Dependent Variable:** implementation strategies; support for clinicians; use of audits and provider feedback **Measurements:** Surveys; pre- and post-tests	**Statistical Results:** In most studies (n = 15), teach-back was delivered as part of a simple and structured educational approach. Implementation strategies were infrequently reported (n = 10 studies). The most used implementation strategies were training and education of stakeholders (n = 8), support for

		Inclusion: The electronic search identified 2,738 studies for screening of eligibility after duplicate studies were removed. Of these, 2,563 studies were excluded based on title and abstract and full text was obtained for the remaining 175 studies. **Eligibility:** Studies were included if they were conducted as a randomized controlled trial (RCT), non-randomized trial, quasi-experimental study, case-control study, analytic cohort study or before and after study that implemented a teach-back intervention. This review included participants of all ages who were patients, clients or consumers with any health condition. Eligible studies included at least one group that participated in a teach-back intervention. **Exclusion:** studies with full text unavailable; studies in other language other than English; studies that did not use the teach-back method as an intervention; studies that used the teach-back method and another method as an intervention; review articles; studies that are thesis			clinicians (n = 6) and use of audits and provider feedback (n = 4). Use of teach-back proved effective in 19 of the 20 studies, ranging from learning-related outcomes (e.g. knowledge recall and retention) to objective health-related outcomes (e.g. hospital re-admissions, quality of life). **Conclusions:** Teach-back is effective across a wide range of settings, populations and outcome measures, although implementation techniques are not well described. Use of recognized implementation strategies such as training and

		Included: Based on the Project Leads' decisions, 20 studies met the eligibility criteria and were included in this review. **PRISMA:** Included detailing decision making criteria for retaining/omitting studies from the SR **Power Analysis:** Not applicable			education of stakeholders (e.g. educational materials, training modules) and supporting clinicians to apply the intervention (e.g. clinical reminders/prompts) may support the uptake and sustainability of teach-back.
Citation: Yen, P., & Leasure, R. (2019). Use and Effectiveness of the Teach-Back Method in Patient Education and Health Outcomes. *FEDERAL PRACTITIONER*, *36*(6), 284–289. Retrieved from https://www-ncbi-nlm-nih-gov.proxy-hs.researchport.umd.edu/pmc/articles/PMC6590951/pdf/fp-36-06-284.pdf					**Level and Quality** **II-A**
Purpose/ Hypothesis	**Design**	**Sample**	**Intervention**	**Outcomes**	**Results**
The purpose of the research was to examine the effectiveness of using the teach-back method to understand health education as well as the impact of this method on patients' disease self-management	Systematic Review	**Search Strategy:** A search was conducted using 4 databases (Ovid Medline, PubMed, EBSCO, CINAHL and ProQuest) for English-language articles published in peer-reviewed journals including the keyword "*teach-back*" and terms from the structured PICO statement. Reasons for inclusion and exclusion documented. The methodologic quality of papers retrieved for review was determined with Critical Appraisals Skills Programme (CASP)	**Control:** The control was not implementing a teach-back method. **Intervention:** Intervention was the teach-back method. **Fidelity:** Not applicable to SR	**Dependent Variable:** The common outcome measures used in the 26 studies fall into 5 categories: patient satisfaction; post-discharge readmission; patient perception of teach-back method	**Statistical:** The teach-back group had significantly higher scores on comprehension of post-ED self-care ($P < .02$), follow-up ($P < .0001$), and medication ($P = .054$).

and health outcomes.		guidelines. The Project Leads assessed the full texts for eligibility. Disagreements were resolved through discussion. **Inclusion:** studies in which the teach-back method was an educational intervention for patients aged ≥ 18 years; articles which reported the process and outcomes of using the method alone or in combination with other educational strategies. Studies conducted in a variety of settings, including primary care, inpatient, outpatient, emergency department (ED), and community, in any time frame. **Eligible:** Randomized controlled Trials, cohort studies, and quasi-experimental **Exclusion:** (1)Studies that used the teach-back method as an outcome measurement but not an intervention; (2) those that used the method to examine HCP training or to measure HCP outcomes (i.e., studies that did not use the method for patient education or outcomes).	critique	effectiveness; disease knowledge and disease management improvements; and intervention effects on health-related quality of life (HR-QOL). **Measure:** Surveys; pre- and post-tests	**Conclusion:** Findings support use of the teach-back method as effective in reinforcing or confirming patient education. Additional studies needed to determine ways to preserve the long-term effects of teach-back.

		Included: 26 studies consisting of 15 cohort studies, 5 case–control studies, 5 RCTs, and 1 qualitative interview. **PRISMA:** Included detailing decision making criteria for retaining/omitting studies from the SR **Power analysis:** Not applicable			

Project Title: Implementing Nursing Teach Back for Medication Side Effects to Improve Patient Safety			
JHNEBP Model Level	**Total Number of Sources**	**Project Lead and Quality Rating of each study**	**Synthesis of Findings**
Level 1 Experimental study · Randomized Controlled Trial (RCT) · Systematic review of RCTs with or without meta-analysis	1	Marks et al., 2022; A.	This study concluded that the teach-back method was successful in improving HCAHPs top box scores, increasing patient knowledge about newly prescribed medications, their experience and satisfaction with nurses' medication education (Marks et al., 2022).
Level II Quasi-experimental studies · Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis	4	Gillam et al., 2016; B Ha Dinh et al., 2016; A. Talevski et al., 2020; A Yen & Leasure, 2019; A.	Ha Dinh et al (2016) and Yen, & Leasure, (2019) concluded that the teach-back method was effective in reinforcing or confirming patient education and showed positive effects in a wide range of health care outcomes, adherence, and self-efficacy. Gillam et al., (2016) concluded that, in addition to teach-back, intuitive medications reminders and medication information sheets used in tandem are significantly more effective than when used independently. In addition to supporting the effectiveness of teach-back across a wide range of settings and populations, Talevski et al (2020) concluded that training and educating clinicals improve the sustainability of teach-back beyond the implementation period.
Level III Non-experimental study · Systematic review of a combination of RCTs, quasi-experimental, and non-experimental studies, or non-experimental studies only, with or without meta-analysis · Qualitative study or	0		

systematic review of qualitative studies with or without meta-synthesis			
Level IV Opinion of respected Project Leadities and/or reports of nationally recognized expert committees/consensus panels based on scientific evidence	0		
Level V Evidence obtained from literature reviews, quality improvement, program evaluation, financial evaluation, or case reports · Opinion of nationally recognized expert(s) based on experiential evidence	0		
Overall Quality Rating w/rational and Recommendation:			
Recommendations Based on Evidence Synthesis • Good and consistent evidence – practice change			

Table 2.
Site Team Chart

Team Member Name/Credentials/Title	Contact Information	Responsibilities
1. Folake Adurota, BSN RN DNP Student		Project Lead; communicates with stakeholders and other individuals at the site to discuss the DNP project, and develop consensus on the initiative
2. CSR		CSR; supports and collaborates with student to develop consensus on the initiative; guides and support the project from concept to completion within the context of the project site; Serve as a project/student advocate, assisting in problem solving, barrier management Advise student on matters of feasibility, resources, system navigation, and sustainability Provide guidance, required approvals, and constructive feedback throughout the project
3. CNO and VP of Patient Care Services		Sponsor; Secure resources or remove barriers that will affect the DNP project's implementation effectiveness; Collaborates with Project Team members to support/advance the project
4. Renee Franquiz DNP, RN, CNE, Project Course Co-Director	University of Maryland Baltimore School of Nursing 655 W. Lombard Street, 465A Baltimore, MD 21201	Approves project proposals Collaborate with the Registrar for site placement, contracts, agreements Serve as an initial liaison with project sites and resource for problem-solving
5. Karen Yarbrough, DNP, ACNP-BC, CRNP Project Faculty Advisor		Teaches NDNP 810, 811, 812, 813 to provide guidance and oversight during the entire project from concept to completion Monitors project progress to ensure timely completion of all requirements

		Collaborates with Project Team members to support/advance the project Evaluates student performance in accordance with course/project requirements Assumes second position Project Leadership on dissemination products
6. Healthcare Consultant, Quality and Research		DNP Capstone Project Contact Collaborates with Project Team members to support/advance the project
7. Clinical Nurse Education Specialist		Clinical Education Department Assist in disseminating education to staff
8. Nurse Educator		Education Department Assist in disseminating education to staff
9. Pharmacy		Consult with team for medication management and help create educational pamphlet regarding medications for nurses and patients
10. IT		Has in-depth knowledge of site’s EMR; provides prompt technical support and troubleshoot problems

Table 3.

Gantt Chart: Project Implementation and Evaluation Timeline

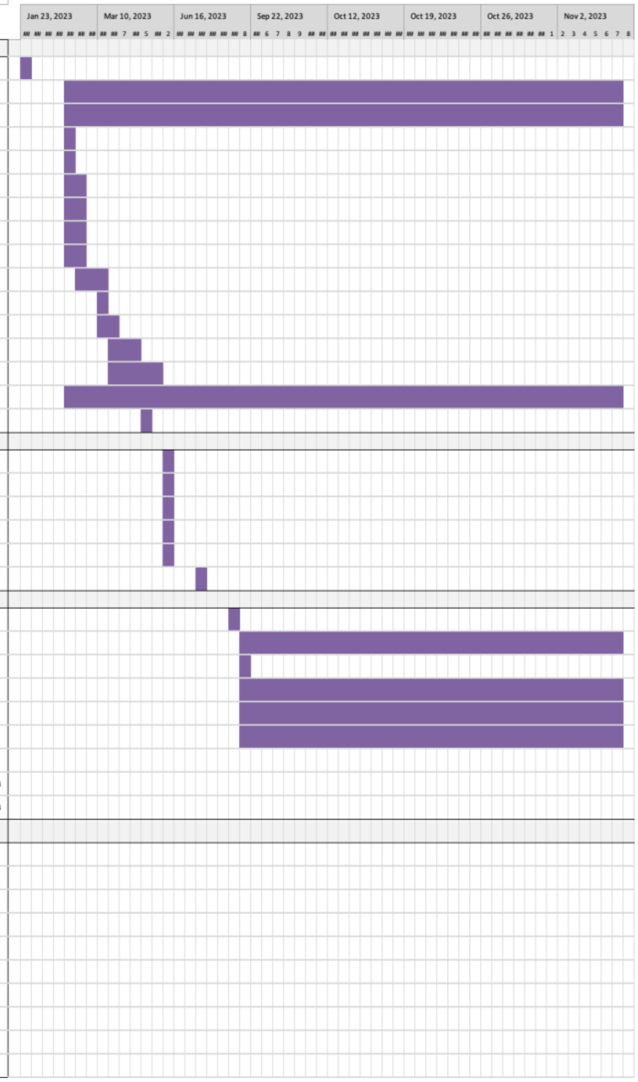
DNP Project Title: Implementing Nursing Teach Back for Medication Side Effects to Improve Patient Safety

Student: Folake Adurota

Project Start: Mon, 1/23/2023

Project Site:

Display Week: 1



Project Identification (NDNP810)	Responsible	START	END
Start of Spring Term		1/23/23	1/23/23
CITI (enter renewal date as end)	Folake Adurota	1/30/23	1/30/26
HIPAA (enter renewal date as end)	Folake Adurota	1/30/23	1/30/25
Identify stakeholders/team	Adurota, Beatrice Mille	1/27/23	1/30/23
Identify roles/responsibilities	Folake Adurota	1/27/23	1/30/23
Identify practice problem/root cause	Folake Adurota	1/27/23	2/13/23
Context Assessment	Folake Adurota	1/27/23	2/13/23
Identify scope/goals	Folake Adurota	1/27/23	2/13/23
Synthesize Evidence	Folake Adurota	1/30/23	2/13/23
Development project plans	Folake Adurota	2/13/23	3/13/23
MILESTONE: Submit Project Charter	Folake Adurota	3/13/23	3/13/23
MILESTONE: Submit project proposal	Folake Adurota	3/13/23	4/3/23
Site IRB Inquiry	Folake Adurota	4/3/23	4/24/23
MILESTONE: Submit to IRB Net	Folake Adurota	4/3/23	5/24/23
REDcap	Folake Adurota	1/30/23	5/15/24
End of Spring Term		5/17/23	5/17/23
Project Development (NDNP811)			
Start of Summer Term		6/5/23	6/5/23
Develop implemenation plans	Folake Adurota	6/5/23	6/7/23
Develop teaching plan	Folake Adurota	6/7/23	6/9/23
MILESTONE: Site Presentation and Approval	Folake Adurota	6/12/23	6/15/23
MILESTONE: IRB Determination	Folake Adurota	6/8/23	6/15/23
End of Summer Term		7/21/23	7/21/23
Project Implementation (NDNP812)			
Start of Fall Term		8/28/23	8/28/23
MILESTONE: Project go-live (implement)	Folake Adurota	9/10/23	12/1/23
Educaton/Training	Folake Adurota	9/10/23	9/16/23
Monitor tactics and progress	Folake Adurota	9/10/23	12/8/23
Communicate with stakeholders	Folake Adurota	9/10/23	12/8/23
Data Collection	Folake Adurota	9/17/23	12/8/23
Dissemination Plan	Folake Adurota	12/1/23	12/8/23
MILESTONE: Manuscript	Folake Adurota	11/10/23	11/10/23
End of Fall Term		12/22/23	12/22/23
Project Evaluation and Dissemination (NDNP813)			
Start of Spring Term		1/22/24	1/22/24
Analyze, synthesize & evaluate results	Folake Adurota	1/22/24	1/26/24
Sustainability Plan	Folake Adurota	1/29/24	2/2/24
MILESTONE: Develop Poster	Folake Adurota	1/22/24	3/8/24
MILESTONE: Site Presentation	Folake Adurota	4/30/24	4/30/24
MILESTONE: External Dissemination	Folake Adurota	4/19/24	5/2/24
MILESTONE: Final Manuscript	Folake Adurota	4/1/24	5/6/24
MILESTONE: UMSON Poster Day	Folake Adurota	5/10/24	5/10/24
Project Closure w/site	Folake Adurota	1/22/24	4/30/24
End of Spring Term		5/15/24	5/15/24

Table 4.
Measurement plan

Measures		
Project Goals	Measure Pre-Implementation	Measure During Implementation
Structure		
1. By September 16, 2023, ≥90% of nursing staff on the unit will receive training on the Always Use Teachback! Toolkit as well as eligibility criteria for patients.	The Project Lead will review an informative PowerPoint about the teach-back method with staff. Staff will complete the Conviction and Confidence Scale, a four question self-assessment survey for nurses conducted pre- and during implementation to gauge their understanding and track their usage of the teach-back method	Staff will complete the Conviction and Confidence Scale, a four question self-assessment survey, during the 1st week of intervention and monthly during implementation to track their usage of the teach-back method.
2. By September 16, 2023, ≥90% of nursing staff on the unit will demonstrate use of teach-back method during training and with patients.	The project lead or nurse champions will observe staff use of teach-back using the Observation Tool	Teach-back training will be validated via sign-in sheets. Observation Tool at the beginning of implementation, at week 4 to gauge the need for reinforcement of teaching strategies, and at week 10 to confirm retention of knowledge.
Process		
1. 100% of patients will receive first dose education within 24hrs of medication order using the teach-back method	**Numerator:** Total # of patients with medications ordered during this admission with first dose medication documented within 24 hours **Denominator:** total # of patients with medication ordered	**Numerator:** Total # of patients with new medications ordered during this admission with documented first dose medication using teach back method **Denominator:** total # of patients with new medication ordered during this admission
Outcome		
1. Increase in patient comprehension after medication education session by December 8th, 2023	**Numerator:** total # of patients who are able to state the purpose, usage and side-effect(s) of their	**Numerator:** total # of patients who are able to state the purpose, usage and side-effect(s) of their

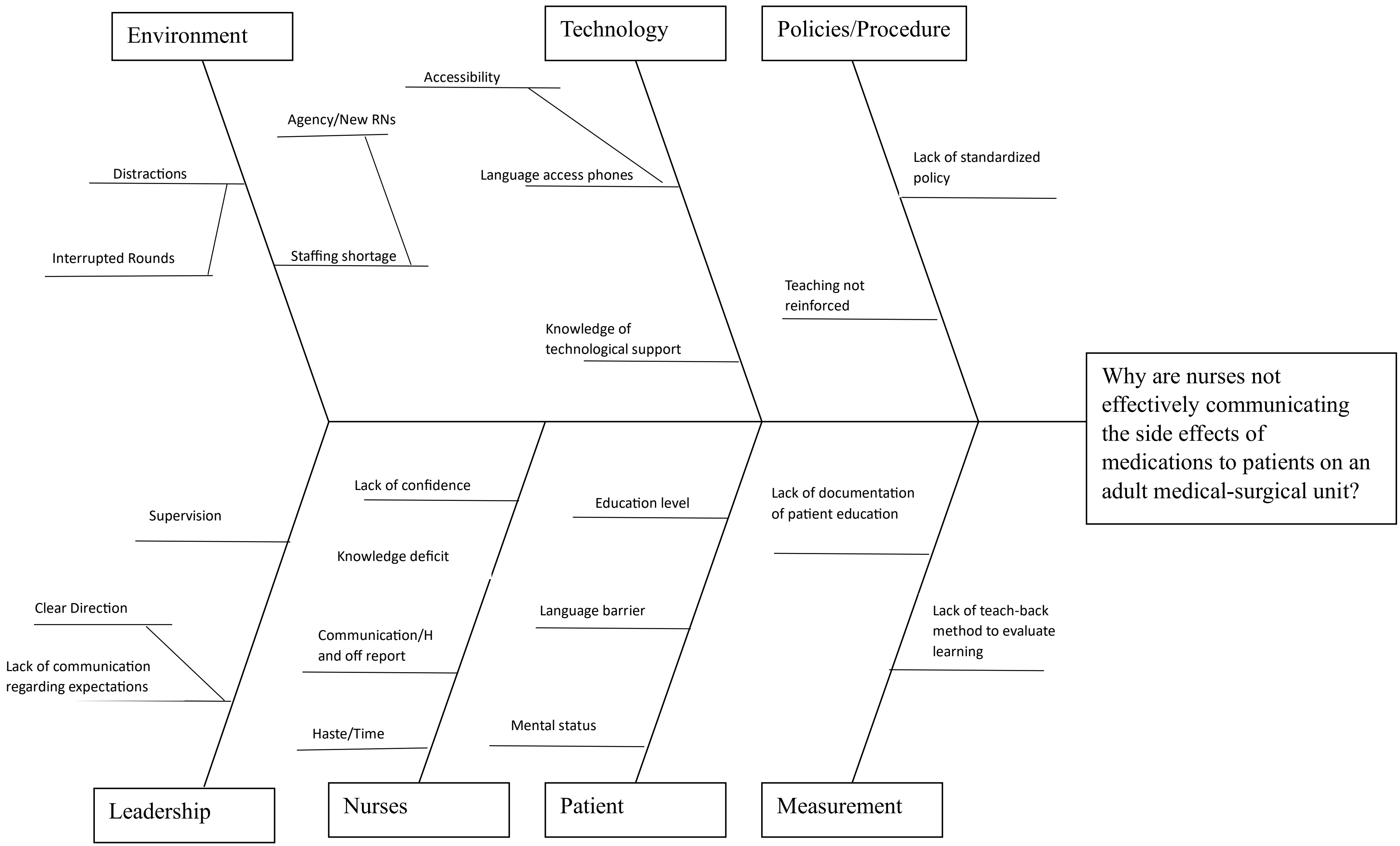
	medicine as evidenced by the *Patient Comprehension Survey*. **Denominator:** total # of eligible patients surveyed	medicine as evidenced by the *Patient Comprehension Survey*. **Denominator:** total # of eligible patients surveyed
2. >80% of staff who are confident in their ability to use teach-back as evidenced by *Conviction and Confidence* Scale	**Numerator:** Total # of staff who fill out *Conviction and Confidence Scale* and choose scores of >6 on question two **Denominator:** total # of eligible staff surveyed	**Numerator:** Total # of staff who fill out *Conviction and Confidence Scale* and choose scores of 8, 9, and 10 on question two **Denominator:** total # of eligible staff surveyed
3. >80% of patient satisfied with intervention.	**Numerator:** # of patients who choose "satisfied" on *Nurse Assessment* Survey **Denominator:** total # of eligible patients surveyed	**Numerator:** # of patients who choose "satisfied" on *Nurse Assessment* survey **Denominator:** total # of eligible patients surveyed

Measurement Plan

Project Goals	Data Collection Procedures (who, how, when)	Name of Data Collection Tool
100% of patients will receive 1st dose education within 24hrs of medication order.	Who: nursing staff, nursing champions How: chart audit - review of EPIC 1st dose documentation When: Within 24hrs of medication order	EMR (EPIC) reports
Increase in Patient Comprehension Survey	Who: Nursing champions/educator; Project Lead How: *Patient Comprehension Survey* tool When: Once, during patient's admission after teach-back completed	REDCap audit tool (Appendix B)
Increase nurses' use of teach-back method in >80% of their patient encounters.	Who: nursing staff; nursing champions/educator; Project Lead How: *Conviction and Confidence Scale* When: 1st week of intervention and monthly	REDCap audit tool (see Appendix A)

Figure 1

Fishbone Diagram



Framework Figure 2.
Framework

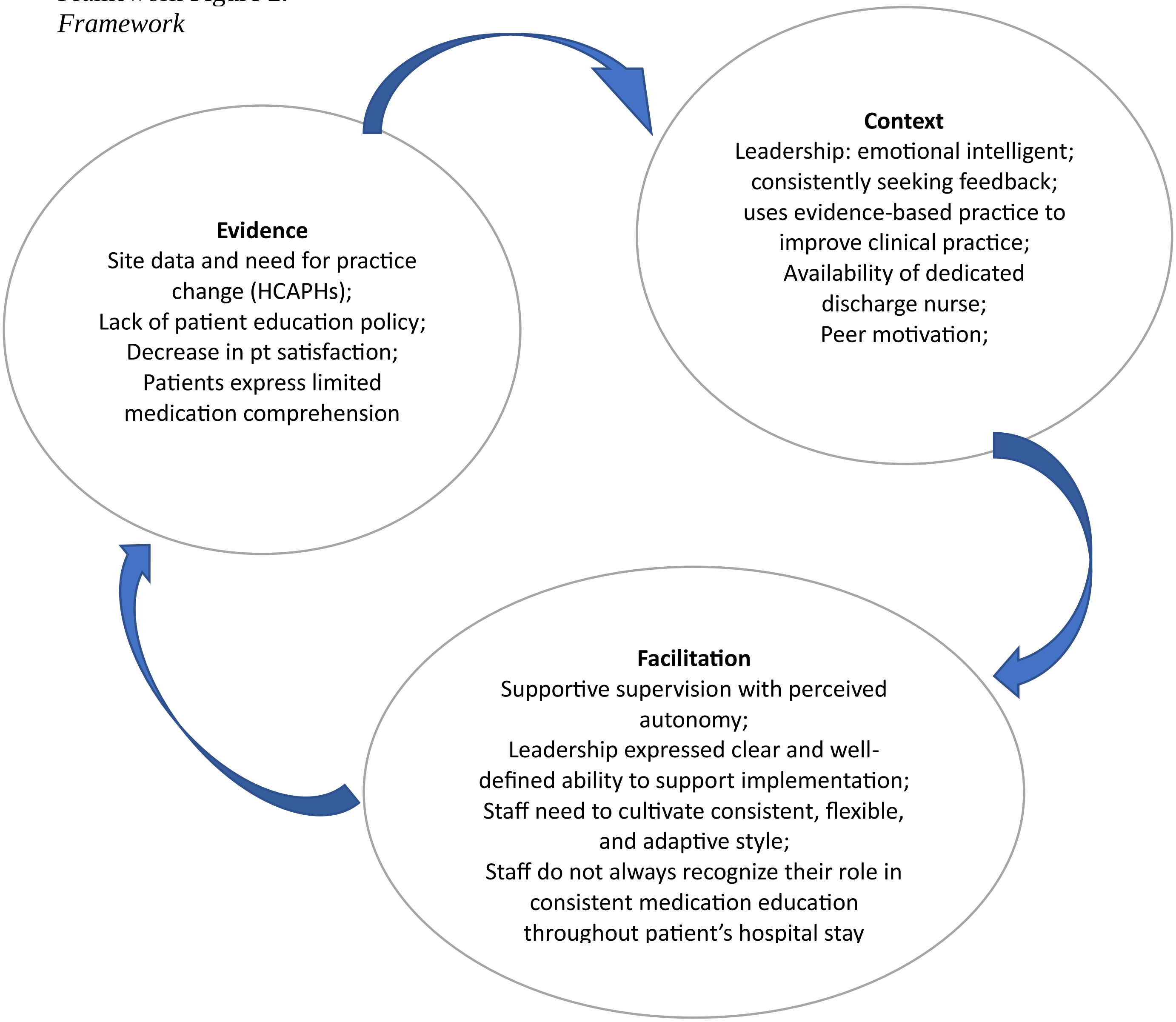


Figure 3.
Current Process Map

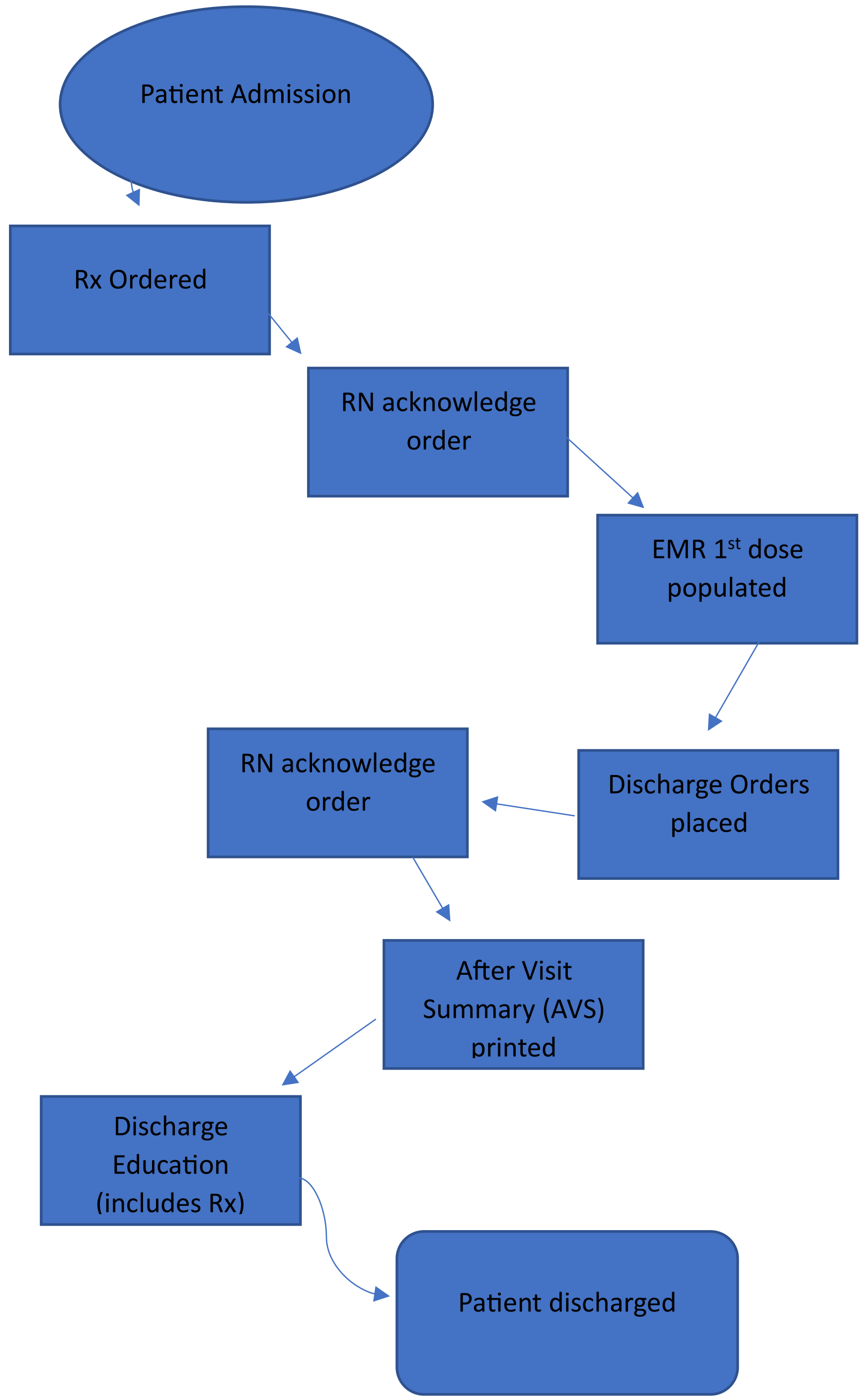
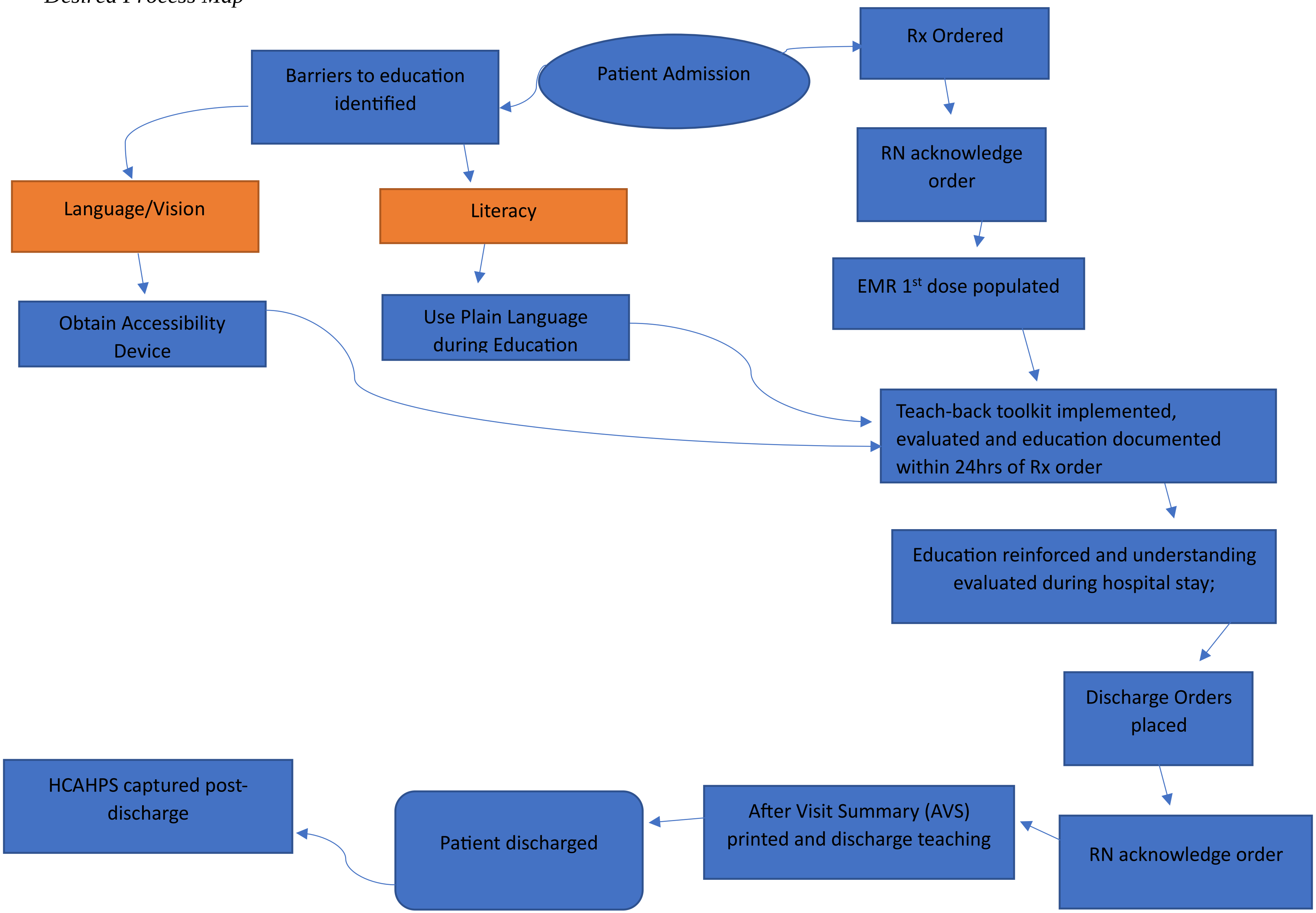


Figure 4.
Desired Process Map



Appendix A

Conviction and Confidence Scale

Page 1

Conviction And Confidence Scale

Please complete the survey below.

Thank you!

1) Are you the nurse?
- ◯ Yes
- ◯ No

2) Check one:
- ☐ Before - Date: ______
- ☐ Month 1 - Date: ______
- ☐ Month 2 - Date: ______
- ☐ Final Evaluation - Date: ________________

This is a four question self-assessment survey for nurses conducted pre- and during implementation to track their usage of the teach-back method. It is not for patients. Only nurses working on this unit should complete.

3) On a scale from 1 to 10, how convinced are you that it is important to use teach-back (ask patients to explain key information back in their own words)?

Not at all important — Very Important

(Place a mark on the scale above)

4) On a scale from 1 to 10, how confident are you in your ability to use teach-back (ask patients to explain key information back in their own words)?

Not at all confident — Very confident

(Place a mark on the scale above)

5) How often do you ask patients to explain back, in their own words, what they need to know or do to take care of themselves?
- ☐ I have been doing this for 6 months or more.
- ☐ I have been doing this for less than 6 months.
- ☐ I do not do it now, but plan to do this in the next month.
- ☐ I do not do it now, but plan to do this in the next 2 to 6 months.
- ☐ I do not do it now and do not plan to do this.

6) Check all the elements of effective teach-back you have used more than half the time in the past work week.
- ☐ Use a caring tone of voice and attitude.
- ☐ Display comfortable body language, make eye contact, and sit down.
- ☐ Use plain language.
- ☐ Ask the patient to explain, in their own words, what they were told.
- ☐ Use non-shaming, open-ended questions.
- ☐ Avoid asking questions that can be answered with a yes or no.
- ☐ Take responsibility for making sure you were clear.
- ☐ Explain and check again if the patient is unable to teach back.
- ☐ Use reader-friendly print materials to support learning.
- ☐ Document use of and patient's response to teach-back.
- ☐ Include family members/caregivers if they were present.

Appendix B

Nurse Assessment Survey

Page 1

Nurse Assessment

Please complete the survey below.

Thank you!

Please, answer the questions in this survey about your current stay at the hospital. Do not include any other hospital stays in your answers. This does not replace any official survey about your stay that you may receive after discharge.

1)	Are you the patient (or family member/caregiver completing this survey on behalf of the patient)?	◯ Yes ◯ No
2)	Do you have any questions about your new medications?	◯ Yes ◯ No
3)	Are you able to repeat back the name, dosage purpose, and side effects of any new medications?	◯ Yes ◯ No
4)	Did your nurse address any communication barriers regarding information about your medications?	◯ Yes ◯ No
5)	Did the nurse ask you to explain, in your own words, what you were told about your medicine?	◯ Yes ◯ No
6)	If you were unable to explain, did the nurse go over the information again?	◯ Yes ◯ No
7)	Please, rate your experience with the medication education session using the teach-back method.	☐ Helpful ☐ Somewhat helpful ☐ Not helpful
8)	Please, rate your satisfaction with the medication education session using the teach-back method.	☐ Satisfied ☐ Somewhat satisfied ☐ Not satisfied
9)	Please, use the space below to write any comments about the medication education session using teach-back.	__________________________

Appendix C

Patient Comprehension Survey

Page 1

Patient Comprehension Survey

Please complete the survey below.

Thank you!

1) Are you the patient (or family member/caregiver completing this survey on behalf of the patient)?
   ◯ Yes
   ◯ No

2) What is the name of your medicine?

   ____

3) What is the purpose of this medicine?

   ____

4) What is the side-effect of this medicine?

   ____

09/14/2023 8:43am projectredcap.org REDCap

Appendix D

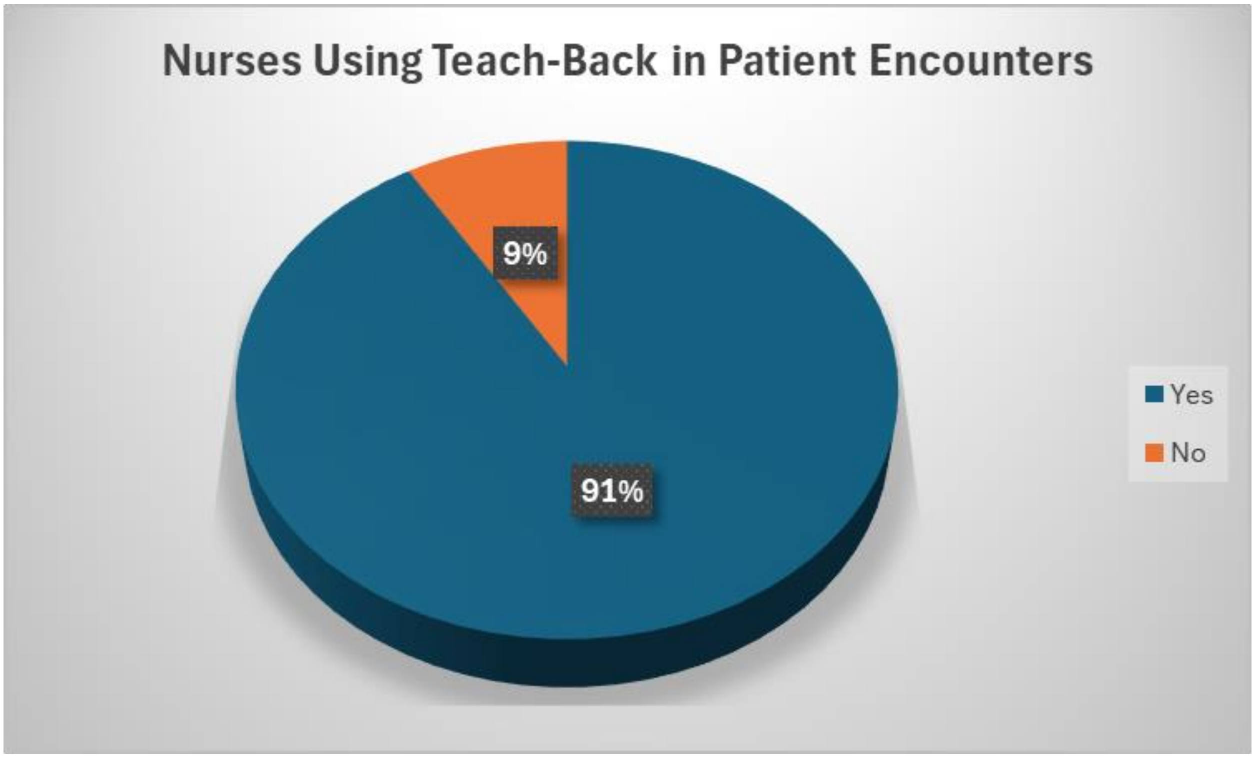
Code Book

Data Dictionary Codebook 11/14/2023 12:28am

#	Variable / Field Name	Field Label *Field Note*	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
Instrument: **Conviction And Confidence Scale** (conviction_and_confidence_scale) Enabled as survey			
1	[record_id]	Date	text
2	[nurse]	Are you the nurse?	yesno, Required 1 Yes 0 No Stop actions on 0
3	[check_one]	Check one:	checkbox 1 check_one___1 Before - September 2 check_one___2 Month 1 - October 3 check_one___3 Month 2 - November 4 check_one___4 Final Evaluation - December
4	[one]	Section Header: *This is a four question self-assessment survey for nurses conducted pre- and during implementation to track their usage of the teach-back method. It is not for patients. Only nurses working on this unit should complete. It should be completed monthly before the 8th of each month (Oct, Nov, Dec). Thanks.* On a scale from 1 to 10, how convinced are you that it is important to use teach-back (ask patients to explain key information back in their own words)?	slider (number, Min: 1, Max: 10), Required Slider labels: Not at all important, , Very important Custom alignment: RH
5	[one_2]	On a scale from 1 to 10, how confident are you in your ability to use teach-back (ask patients to explain key information back in their own words)?	slider (number, Min: 1, Max: 10), Required Slider labels: Not at all confident, , Very confident Custom alignment: RH
6	[three]	How often do you ask patients to explain back, in their own words, what they need to know or do to take care of themselves?	checkbox, Required 1 three___1 I have been doing this for 6 months or more. 2 three___2 I have been doing this for less than 6 months. 3 three___3 I do not do it now, but plan to do this in the next month. 4 three___4 I do not do it now, but plan to do this in the next 2 to 6 months. 5 three___5 I do not do it now and do not plan to do this.
7	[four]	Check all the elements of effective teach-back you have used more than half the time in the past work week.	checkbox, Required 6 four___6 Use a caring tone of voice and attitude. 7 four___7 Display comfortable body language, make eye contact, and sit down. 8 four___8 Use plain language. 9 four___9 Ask the patient to explain, in their own words, what they were told. 10 four___10 Use non-shaming, open-ended questions. 11 four___11 Avoid asking questions that can be answered with a yes or no. 12 four___12 Take responsibility for making sure you were clear. 13 four___13 Explain and check again if the patient is unable to teach back. 14 four___14 Use reader-friendly print materials to support learning. 15 four___15 Document use of and patient's response to teach-back. 16 four___16 Include family members/caregivers if they were present.
8	[comments]	Comments	notes
9	[conviction_and_confidence_scale_complete]	Section Header: Form Status Complete?	dropdown 0 Incomplete 1 Unverified 2 Complete
Instrument: **Nurse Assessment** (nurse_assessment) Enabled as survey			
10	[explain_hist_v2]	Section Header: *Please, answer the questions in this survey about your current stay at the hospital. Do not include any other hospital stays in your answers. This does not replace any official survey about your stay that you may receive after discharge.* Are you the patient (or family member/caregiver completing this survey on behalf of the patient)?	yesno, Required 1 Yes 0 No Stop actions on 0
11	[explain_hist_v3]	Do you have any questions about your new medications?	yesno, Required 1 Yes 0 No
12	[rx_v2]	Are you able to repeat back the name, dosage purpose, and side effects of any new medications?	radio, Required 1 Yes 0 No
13	[rx_1_v2]	Did your nurse address any communication barriers regarding information about your medications?	yesno, Required 1 Yes 0 No Field Annotation: @NONEOFTHEABOVE='0'
14	[rx_3_v2]	Did the nurse ask you to explain, in your own words, what you were told about your medicine?	yesno, Required 1 Yes 0 No
15	[info]	If you were unable to explain, did the nurse go over the information again?	yesno, Required 1 Yes 0 No
16	[experience]	Please, rate your experience with the medication education session using the teach-back method.	checkbox, Required 1 experience___1 Helpful 2 experience___2 Somewhat helpful 3 experience___3 Not helpful
17	[satisfaction_v2]	Please, rate your satisfaction with the medication education session using the teach-back method.	checkbox, Required 1 satisfaction_v2___1 Satisfied 2 satisfaction_v2___2 Somewhat satisfied 3 satisfaction_v2___3 Not satisfied
18	[pt_comment]	Please, use the space below to write any comments about the medication education session using teach-back.	notes, Required
19	[nurse_assessment_complete]	Section Header: Form Status Complete?	dropdown 0 Incomplete 1 Unverified 2 Complete
Instrument: **Patient Comprehension Survey** (patient_comprehension_survey) Enabled as survey			
20	[patient]	Are you the patient (or family member/caregiver completing this survey on behalf of the patient)?	yesno, Required 1 Yes 0 No Stop actions on 0
21	[rx_name]	What is the name of your medicine?	notes, Required
22	[rx_purpose]	What is the purpose of this medicine?	notes, Required
23	[rx_s_e]	What is the side-effect of this medicine?	notes, Required
24	[patient_comprehension_survey_complete]	Section Header: Form Status Complete?	dropdown 0 Incomplete 1 Unverified 2 Complete

Appendix E

Nurses Using Teach-back



Appendix F

Elements of Teach-back