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Decreasing Hospital Readmission Rates of Heart Failure Patients: An Evidence-based Quality Improvement Project

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Sacred Heart University Davis & Henley College of Nursing

May 2023

Project Submitted in Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Signature Page

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Abstract

BACKGROUND: Teach back is an evidence-based health literacy intervention that encourages patient engagement in own treatment, adherence to treatment, medications, and quality of care. Implementation of teach back method could positively impact readmissions to the hospital in patients experiencing heart failure and any other chronic diseases and it could improve patient's outcomes.

OBJECTIVE: The objective of this project was to implement teach back method in a home care agency in the Hartford area in patients with HF to prevent readmission to the hospital.

METHODS: The IOWA model was used and PSDA as tools to support EBP project.

RESULTS: Pre and post data obtained from Strategic Healthcare Program (SHP) was compared after introduction of teach-back method to the nurses providing care to patient experiencing a chronic condition including HF, Categories were summarized and compare pre and prost project. Transfers to the hospital were reduced in a 6.35% total of patients 7, with an estimated saving of total cost for the home care agency (HCA) from $75,159- $124,810.

Key words: Heart Failure, teach back method, patient education, readmission

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Decreasing Hospital Readmission Rates of Heart Failure Patients: An Evidence-based Quality Improvement Project

Phase 1: Problem Identification, Development of Clinical Question, and Evidence Review

Introduction

Teach-back is an evidence-based health literacy intervention that encourages patient engagement, patient safety, adherence to medications and treatment, and quality of care. Implementing the teach-back method could positively impact readmission to the hospital in patients experiencing Heart Failure (HF), improving patients' outcomes (Peter et al., 2015). The teach-back method is not only cost efficient to be implemented, but also an evidence-based strategy identified as a cornerstone intervention with patients and families to improve the understanding of disease and self-management. Research supports the impact of teach-back and its effects on the readmission rate for patients.

Description of Problem & Significance & Organizational priority

According to Home Health Compare (Medicare.gov, 2019), twenty seven percent of home health care patients are readmitted to the hospital, while some of these rehospitalizations are unavoidable, many rehospitalizations can be prevented. Currently the rehospitalization rate of patients with chronic conditions such as Heart Failure (HF), are significantly higher in this HCA in CT compared to the state and national standards for the center of Medicare and Medicaid. In the months of January to August of 2022, 30-day readmission to the hospital with any chronic condition, was 16.9% compared to the Connecticut state average of 12.4% and nationally 9.6%. Of the seventy-five patients requiring home health services 1.3% were readmitted to the hospital due to dyspnea. The state average of hospital readmissions for HF is

0.8% and national average is 0.4%. Readmissions cause an increased in health costs, patient deterioration, and lack of satisfaction with the care provided. Readmission rates for chronic care patients including HF continues to be a challenge for the health system. HF remains to be the leading cause of hospital admissions in patients older than 65 years old associated with high costs of care soaring significantly above all other diagnoses. As stated by Vecchione (2022), the annual cost of caring for a patient with HF in the United States is almost $30,000. Most HF costs are related to the increased percentage of hospital readmissions (Bilchick, 2018). It is estimated that by 2030, HF costs in the United States are expected to be at least $70 billion per year and approximately $160 billion in the total cost of caring for HF patients (Heidenreich, 2022; Vecchione, 2022). The implementation of the teach back method to patients will promote engagement, safety, adherence, and quality. The Agency for Health Care Research and Quality (AHRQ) encourages teach-back as an evidence-based health literacy intervention, with low cost, low technology intervention, and it can be the entryway to better communication, better understanding and ultimately shared decision making (AHRQ, 2017).Teach-back method is proven to be an important intervention in patients experiencing Heart Failure (HF) and readmission to the hospital. As stated by Almkuist (2017), the teach- back method or technique confirms that patients have received medical information in a language that is easy to comprehend and easy to evaluate by observing return information and restating instructions to the health care provider. Teach-back not only will decrease the readmission rate, but it will also improve patients' management of their own disease process.

Focused Search Question

In nurses working in homecare (P) does the implementation of teach back method (I) compared to current practice (C) affect HF patient's hospital readmission rates?

Evidence Review

A search was conducted in the following databases: CINAHL, MEDLINE, COCHRANE Database of Systemic Review. Key works use for search were Heart Failure, teach back method, patient education, readmission. When added search words together heart failure, patient education and teach back methods search narrowed. Limiters and filters used were peer reviewed, language only English and articles published between January 2014 to September 2020. Inclusion criteria to select articles were adults (ages 60 years old to 80 years old) with heart failure requiring inpatient admission, education to patient or caregivers or both, home visits. Comparators used were usual care, teach back method use. The Cochrane database was searched but results using the same terms and Boolean was zero hit.

Evidence Appraisal, Summary, and Recommendations

The articles that met the criteria were recorded on multiple tables. Appendix A displays the Evidence Table for Systematic Review which contains pertinent information from each article selected. Appendix B Table 7 shows the level of evidence for the seven studies selected and it was a mix of level I, III, IV, V according to the Melnyk Level of Evidence Hierarchy. There was one level I: Systemic reviews or meta-analysis, three level III: Controlled trial without randomization, two level IV: Case-control or cohort study and one level V: Systematic review of qualitative or descriptive studies. Appendix B Table 8 is an outcome synthesis of the seven selected articles on HF, teach back method, patient education, and HF hospital readmissions. With the supportive evidence in the articles teach back method has shown to be successful in decreasing hospital readmissions and healthcare cost.

Phase 2 Project Planning

Project goals

1. To implement teach-back method to patients with HF admitted to homecare.
2. To reduce rehospitalization rate in patient with HF admitted to homecare.
3. Standardize the use of patient guide for managing HF booklet by nurses during homecare admissions and reinforced during further visits.

Framework

The implementation of the teach-back method will promote patient engagement, safety, adherence, and quality. The Agency for Health Care Research and Quality encourages teach-back as an evidence-based health literacy intervention, with low cost, low technology intervention, and it can be the entryway to better communication, better understanding and ultimately shared decision making (Peter et al., 2015). Teach-back method is proven to be an important intervention in patients experiencing Heart Failure (HF) and readmission to the hospital. The phases that will be identified in this implementation plan following the Iowa Implementation for Sustainability Framework and includes creating awareness and interest, building knowledge and commitment, promoting action and adoption, and pursuing integration and sustained use (Cullen et al., 2022) See Appendix G.

Create Awareness and Interest.

To create awareness and interest in medical settings, there needs to be an introductory summary of the teach-back method and evidence-based practice research articles that support the teach-back method. It should be shared how research has made it clear that the teach-back

method not only improved patient outcomes, but also improved patient satisfaction and decreased hospital readmissions. This information will be distributed and reviewed during medical supervisors' meetings and shared with staff by posting information in bulletin boards about the teach-back method, creating some awareness and interest in this topic and how it can potentially change some outcomes in patients. Simple questions such as:

- Do you know what the teach-back method is?
- Would you like to improve patients' outcomes?
- Is readmission to the hospital a concern?
- What can we do to improve HF readmissions? Emails to staff will be communicated with the same questions and sharing research that is short and concise with data about teach-back methods and HF. Announcements will be provided by supervisors to nurses introducing the teach-back method to them in daily conversations or opportunities, as well as during staff meetings.

Build Knowledge and Commitment.

After introducing some awareness and creating an atmosphere of curiosity, staff meetings were used to introduce the teach-back method. Education for the staff during meetings will be planned with medical supervisors. In this implementation process the Agency for Healthcare Research and Quality's (AHRQ) toolkit will be used. See Appendix H. This toolkit describes principles of plain language, teach-back, coaching and system changes necessary to promote consistency use of teach-back (AHRQ, 2017). The length is only 45 minutes. Interactive Teach-Back learning modules and videos of clinicians using teach-back will also be available for the staff. These learning modules can be done by nurses at their own pace and level of understanding and knowledge of teach-back. It can also be used as a self-directed tutorial.

The modules are completed on staff's personal time and review and discussed during the following staff meetings. A short power point for participants reviewing teach back, rehospitalizations rates and steps to follow during implementation will be presented by project manager. See Appendix I. Handout with quick teach back references and heart failure (HF) educational booklet already available for the clients, HF teaching tools will be reviewed with nurses participating . Involvement of medical supervisors and staff's full engagement will be essential to initiate this part of the implementation process. Conviction and confidence scale an evaluation tool to evaluate how comfortable nurses are using teach back before, month one and three months after implementation will be done with all nurses participating in the project. Appendix F.

Promote Action and Adoption.

Quick reminder in how to use the teach-back method will be provided during every staff meeting. The clinician should keep in mind that the teach-back method is not a test for the patient, it is a test of the patient's knowledge and how well the clinician explained the concept. Steps for the clinician to follow and organize visits in simple steps are as follows: 1. Keep it simple short educational information to patient 2. Teach and check, do not wait until the end of the home visit to initiate the teach-back, small segments are more conducive to learning. 3. It is important to have heart failure booklet during the home visit to use information available to help patients remember the instructions at home. Review with the staff where the process breaks down. Project manager will review documentation of teach-back and rapid feedback to be provided to the clinician and support them through the new implementation. Resources are available for all clinicians such as HF handouts and prompts for teach-back for clinicians when a referral for HF client is received.

Pursue Integration & Sustained Use.

Data collection will be provided by the project manager during report reviews performed pre and post project. Monthly reports with patient readmission rates will be collected and compare monthly . Teach-back will be part of a clinician visit and part of daily practice, it is important to establish credibility with the clinicians and to provide significant credible data by project manager in monthly staff meeting to encourage sustainability. Managers will identify clinicians with good outcomes and share with other nurses during monthly meetings. Clinician recognition is an important part in promoting integration and sustainability with changes. It is important to improve team morale if they are feeling overwhelmed with the changes and review obstacles they are having and pair them with a team member that is having a better experience with the change. Patient readmission rate will be used as key indicators and data results are clear and easy to interpret. Data collection will start after the first month of project implementation.

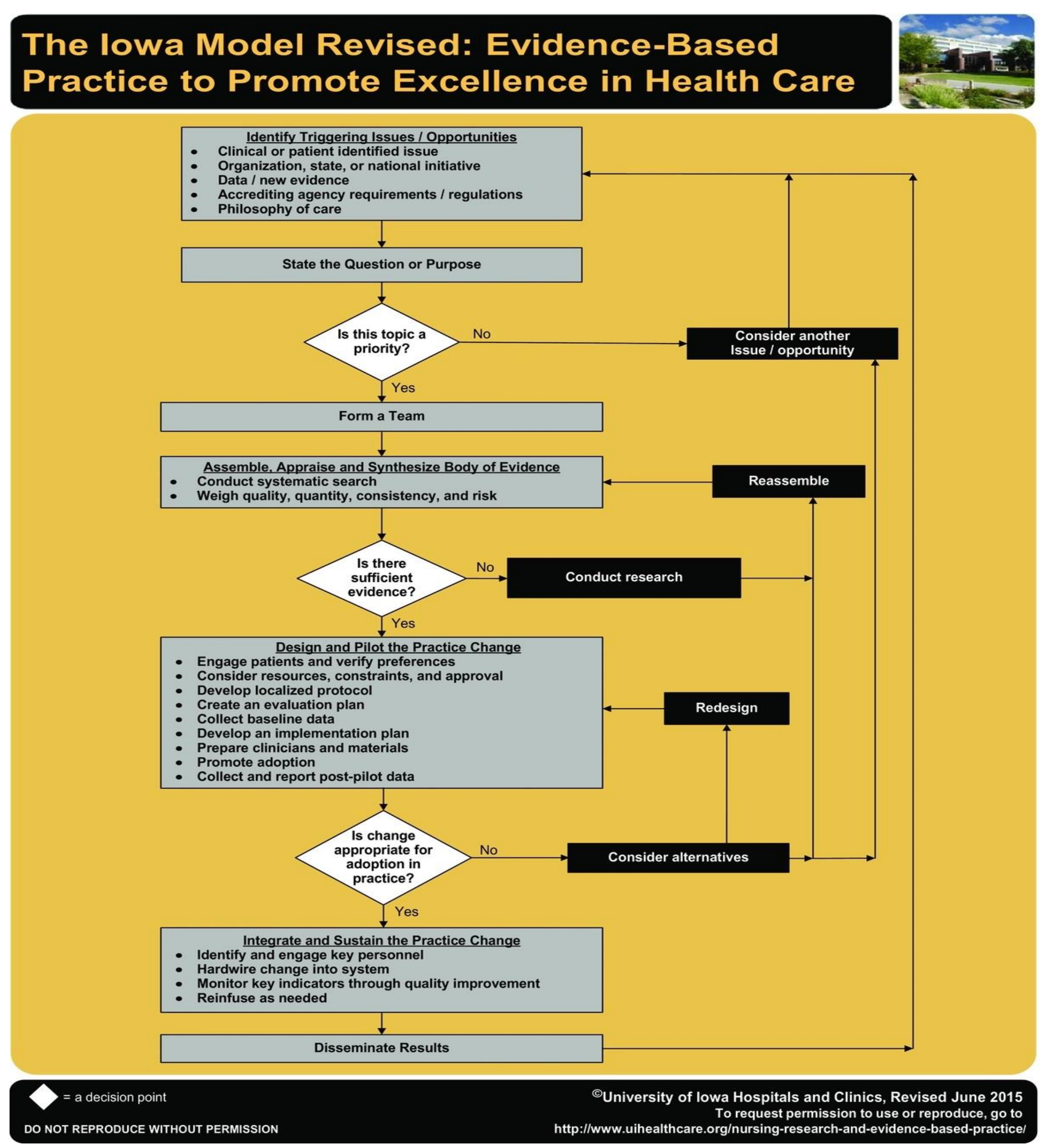

Table 1: IOWA Model

Context

This project took place in a HCA in Connecticut (CT) who provide care to persons with medical or behavioral care needs. Nationally this HCA serves 16,308 patients. One of the branch locations serves 214 medical patients and Connecticut's total medical patients is 932. The insurance status varies from Medicare: 106 patients, Medicaid: 43, Medicare Advantage:

22, Medicare PPS replacement:41 and other private insurances: 2. A multifaceted team of clinicians cover the state in different branches. The implementation was performed in one of the largest branches in CT. This branch had a high readmission rate to the hospital.

Intervention/practice change

Teach-back is an evidence-based health literacy intervention that encourages patient engagement, patient safety, adherence to medications and treatment, and quality of care. Implementing the teach-back method could positively impact readmission to the hospital in patients experiencing Heart Failure (HF), improving patients' outcomes and satisfaction. The teach-back method is not only cost efficient to be implemented, but also an evidence-based strategy identified as a cornerstone intervention with patients and families to improve the understanding of disease and self-management. Research supports the impact of teach-back and its effects on the readmission rate for patients with heart failure.

To achieve sustainability, staff and the organization need to be involved. The staff involvement and training to sustain teach-back and to embrace as a good clinical practice is important from the beginning of the project. To educate staff about Teach-back and its effectiveness of decreasing hospital readmission in patients with HF will be reviewed based on research findings and implications.

Key Personnel and Stakeholders

The stakeholders that encompass this project are the project director, VP of Northeast area, medical supervisors, Branch Directors, nursing staff, insurance companies including Medicare and Medicaid services, patients and their families.

Evaluation plan

Evidence of the benefits of teach-back are supported by research and believed by stakeholders and decreasing readmission rate is part of the company goals. Staff behaviors and concerns will be addressed and constant feedback to support and to evaluate barriers and to address them. An anticipated barrier is staff resistance to participate in this project. The staff will embrace teach-back if they see their job is easier and outcomes are improved. Teach-back will benefit beyond helping patients, the change will improve efficiency and make jobs easier by reducing the amount of paperwork nurses need to produce after every readmission to the hospital. The leadership and accountability to improve readmission rates is a goal of the HC company, making teach-back part of the orientation by supervisors, maintaining, and providing nurses with tools already available to use during visits will make sustainability easier. Supervisors are consistently engaged in taking responsibility and effort to sustain changes. Data collection will be performed during phase I of the project, EMR will be reviewed and rehospitalization rate numbers at the beginning of the project and after the implementation of teach-back will be compared. A summary of categories was used to compare start of care (SOCs), resumption of care (ROCs), transfers of care (TRFs), discharges (DCs), and length of stay (LOS) prior to project implementation for the months of June 2022 to August 2022. Post project implementation data was collected for the months of October 2022 to December 2022.

Timeline

Phase I Data collection	Readmissions for HF patients.	Medication adherence	Nurses education	Patients Outcomes	June - August 2022
Phase II Staff training	Introduction of Teach-Back staff meetings, posters, emails	Nurses survey about Teach-Back barriers, benefits and own perception	Training modules: 2 videos, dates and nurses who finished modules data collection	Identify barriers to finish modules. Offer more dates for training.	September 2022
Phase III Implementation	Applying teach back method by using HF tool currently use by nurses.	Nurses survey using the conviction and confidence scale.(1st time). 2nd will be done by end of project	pre project implementation	Collect and analyze data. Data will be analyzed, and changes will be done.	October-December 2022
Phase IV Data Analysis	Comparison of readmission rate before and after using teach back method	Comparison of readmission rate post project implementation audit tool	Comparison of conviction and confidence scale after use of teach-back	Reports review	January-March 2023

Resources.

Estimated Post- Implementation Expenses

Personnel		Estimated cost
DNP Student	$35/hour x 100 hours Data review: 50 hours Synthesizing data: 16 hours Total hours: 166 hours	$5,810.00
Practice Coordinator	$50/hour x 10 hours	$500.00
Registered Nurses	$30/hour x 1 hour	$30
White Paper 8.5” x 11”	48 sheets ($0.25)	$12.00
Educational HF Booklet	Provided by Company	$0
Total Estimated Cost		$6,403.00

Table 2: Estimated Post- Implementation Expenses

Anticipated resources for this project include:

Nursing Supervisors (2)

Registered Nurses (12)

Vice President of Northeast region (1)

Regional Vice President of Therapy Northeast and Mid-West (1)

Branch Medical Director (1)

Manager of Clinical Services (1)

Ethical Merit

Table 3 contains the responses to differentiate if the DNP project was a quality improvement or research project. If yes was the response to the first l0 questions, and no to the remaining four questions (11-14), it indicated that this project met the criteria for a quality improvement project. It also indicated that the project did not qualify as human subjects' research and did not have to go through the IRB at Sacred Heart University. Approval to conduct this project was obtained from Vice President of the Northeast region, of homecare agency.

Table 3:*Differentiating Quality Improvement and Research Activities Tool*

Question	Yes	No
1. Is the project designed to bring about immediate improvement in patient care?	**X**	
2. Is the purpose of the project to bring new knowledge to daily practice?	**X**	
3. Is the project designed to sustain the improvement?	**X**	
4. Is the purpose to measure the effect of a process change on delivery of care?	**X**	
5. Are findings specific to this hospital? In outpatient office	**X**	
6. Are all patients who participate in the project expected to benefit?	**X**	
7. Is the intervention at least as safe as routine care?	**X**	
8. Will all participants receive at least usual care?	**X**	
9. Do you intend to gather just enough data to learn and complete the cycle?	**X**	
10. Do you intend to limit the time for data collection in order to accelerate the rate of improvement?	**X**	
11. Is the project intended to test a novel hypothesis or replicate one?		**X**
12. Does the project involve withholding any usual care?		**X**
13. Does the project involve testing interventions/practices that are not usual or standard of care?		**X**
14. Will any of the 18 identifiers according to the HIPAA Privacy Rule be included?		**X**

Adapted from Foster, J. (2013). Differentiating quality improvement and research activities. Clinical Nurse Specialist, 27(1), 10–3. https://doi.org/10.1097/NUR.0b013e3182776db5Data Collection Plan

Data Analysis

Phase 3: Implementation

In addition to the IOWA Model of Sustainability this project implementation was supported by the Plan Do Study Act (PDSA) methodology for practice change (AHRQ, 2020).

Plan – During planning phase, several meetings were scheduled to engage supervisors, directors, and VPs. A short review of EBP project goals and teach-back method was reviewed to nurses. During this period the project manager designed a short power point with essential information about teach-back. A handout was created with implementation quick start guide, teach back tips, and conviction and confident scale to be administer to nurses before implementation, first and third month during project implementation. See Appendix J and K. This scale evaluates nurses' confidence level and conviction in teach back as an educational technique that will benefit patients. Project manager reviewed and discussed with agency supervisors the use of agency booklet: Patient Guide for Managing Heart Failure Booklet . This booklet is an educational reference guide for patients, families, nurses, and caregiver. This booklet is not used by nurses consistently this resource is beneficial to nursing staff when applying teach-back method. A Strategic Healthcare Programs (SHP clinical scorecard) is a tool with real time analytics that helps homecare agencies reduce hospitalizations amongst other clinical significant data. This web-based data analytics and benchmarking solution give home health organization the power to efficiently manage performance, stay compliance, and follow

best practices. SHP reports that the selected agency branch for this project has a score of 17.6% for overall hospital 30-day readmissions including HF patients. While the state percentage is 12.4 % and nationally is 9.6%. The agency score is high enough to affect revenues as well patient care outcomes, and perception of the homecare agency.

Do – Staff meetings were schedule monthly for three months during project implementation During this meeting project updates were provided, barriers assessed, findings share with nurses and supervisors. Some nurses were not present in project presentation first meeting, and during first month meetings these new nurses were provided with information and quick catch up of project, supervisors were involved in updating nurses and sending material shared during prior meeting and using conviction and confidence scale to assess how comfortable they were with teach-back method. From initial meeting nurses' participation of 9 nurses increased the first month to 12 nurses.

Study – SHP scorecard was reviewed with nurses during meetings and the meaning of having a high rehospitalization rate affecting company revenues, patient outcomes, and nurses' performance base in patient's outcomes. Barriers that were identified were resistance to change by the older nurses in the agency verses new nurses embracing resources as helpful. Unchangeable barriers identified for the implementation of project are nurse commute time and quota that needs to be met weekly.

Act – Full implementation is in progress. Data from 3 months prior to the implementation of project was reviewed and shared with all stakeholders. The initial data will be compared with post implementation data. Feedback received from supervisors during the implementation process was that nurses were using teach-back especially with new DM and HF clients. Nurses report that by using this method it allows them to have an idea of the patient's ability to learn,

retain information, and apply the knowledge learned . The HF booklet has been used with ease primarily by the newer staff, as a guide for education and the topics to be taught to the patients using teach-back during homecare visits. Older staff have more difficulty with adapting to new changes but have admitted that with the use of the HF booklet it has aided in reinforcing HF education.

Phase 4: Evaluation Plan

The Home Health agency that was used for this project uses Strategic Healthcare Programs (SHP) to process and collect real time analytics. Data for the Home Health outcome measures was derived from (1) data collected in the Outcome and Assessment Information Set (OASIS) submitted by home health agencies. Also say for HHA say that Rehospitalization During the First 30 Days of Home Health is one of the many outcome measures to assess quality of care provision.

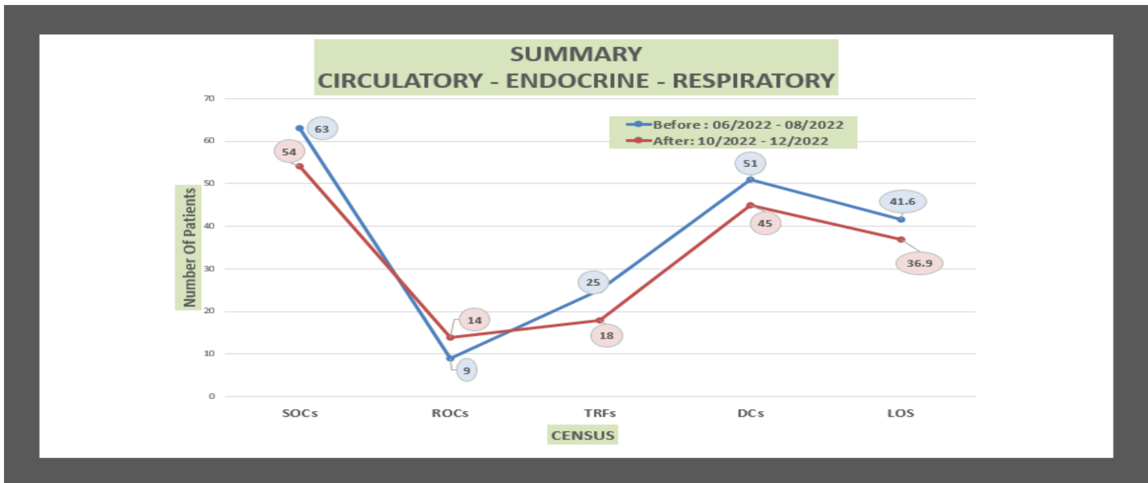

***Figure 1*. Summary of Circulatory-Endocrine-Respiratory**

Primary Dx Category		Census Before 06/2022 - 08/2022					Census After 10/2022 - 12/2022				
	High/Low Better (+/-)	SOCs	ROCs	TRFs	DCs	LOS	SOCs	ROCs	TRFs	DCs	LOS
	SHP National					45.5					38.6
	SHP State (CT)					41.0					35.6
	Your organization	**241**	**48**	**79**	**210**	**43.3**	**187**	**43**	**67**	**161**	**43.0**
AMI	Circulatory: Heart Attack (AMI)	1	1	2	1	59.0	2	1	0	3	37.5
HF	Circulatory: Heart Failure (HF)	7	1	1	10	29.0	7	1	2	4	35.7
HTN	Circulatory: Hypertension (HTN)	2	1	1	3	35.0	1	0	1	2	30.0
Other	Circulatory: Other (not AMI, HF, HTN, PVD / PAD)	26	1	5	26	45.6	15	5	5	12	47.4
PVD/PAD	Circulatory: PVD / PAD	0	0	1	0	-	1	0	0	0	-
DM	Endocrine: Diabetes Mellitus (DM)	6	2	2	3	46.5	12	2	5	10	54.6
NDM	Endocrine: Other (not DM)	2	0	4	1	11.0	1	0	0	1	22.0
COPD	Respiratory: COPD	13	1	6	5	47.2	6	3	4	7	40.0
NCOPD	Respiratory: Other (not COPD)	6	2	3	2	59.7	9	2	1	6	28.0
		63	9	25	51	41.6	54	14	18	45	36.9

Table. 4 Primary Dx Category

A summary of categories were used to compare start of care (SOCs), resumption of care (ROCs), Transfers of care (TRFs), discharges (DCs), and length of stay (LOS) prior to project implementation for the months of June 2022 to August 2022. Post project implementation data was collected for the months of October 2022 to December 2022. See table 4. As depicted in figure 1 the number of transfers to the hospital decreased post implementation of the teach back method.

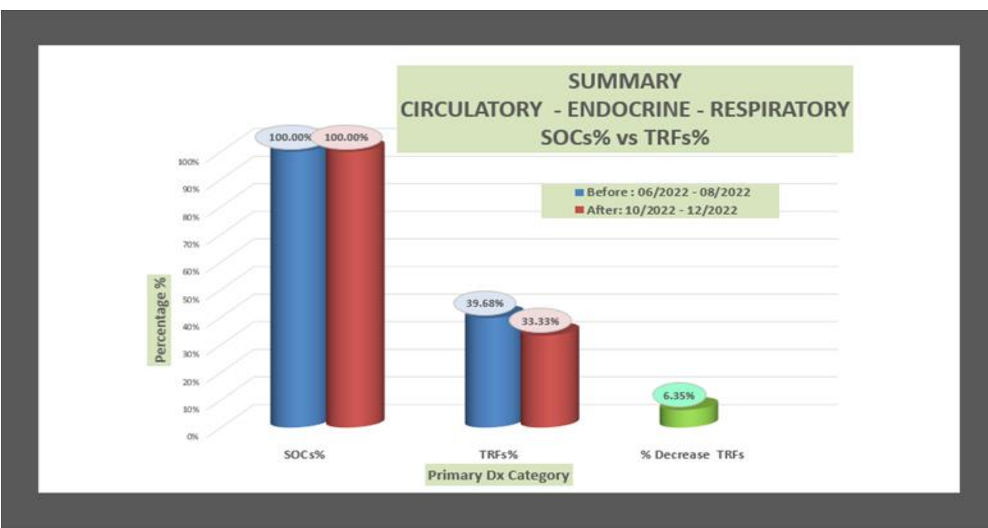

Figure 2. **Summary Circulatory, Endocrine, Respiratory SOC% vs TRFs%**

Primary Dx Categories	CENSUS					
Circulatory / Endocrine / Respiratory	SOCs	SOCs%	TRFs	TRFs%	Decrease TRFs	% Decrease TRFs
Before: 06/2022 - 08/2022	63	100.00%	25	39.68%	7	6.35%
After: 10/2022 - 12/2022	54	100.00%	18	33.33%		

Table 5. Primary Dx Categories Census

The SOCs in correlation to TRFs pre project initiation was a rate of 39.68% . Post project the data for TRFs was 33.33% which displayed that the teach back method helped decrease the home care agency TRFs by 6.35%. See figure 2.

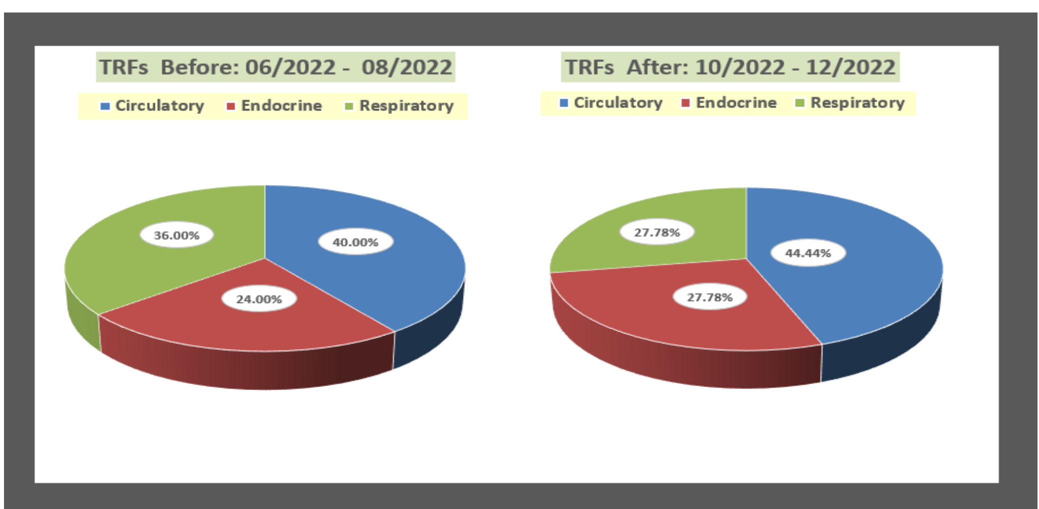

Figure 3. **TRFs Before and TRFs After Implementation**

By using the primary diagnosis categories, the TFRs focused on circulatory, endocrine, and respiratory systems. There were twenty-five TFRs prior to project implementation and eighteen patients post project implementation. When compared the pre-project implementation TFRs for circulatory were 40.00%, endocrine 24.00%, and respiratory 36.00%. Post TFRs for circulatory 44.44%, endocrine 27.78%, and respiratory was 27.78%. As seen in figure 3.

Summary and Information

Estimate of Savings for the Home Care Agency (HCA)			
		Mean Cost of Hospitalization for Heart Failure (MC-HHF) per patient for an average of (4 – 7 days)	Total Cost of Hospitalization for Heart Failure
Number of Patients not Hospitalized	7	$10,737 – $17,830	$75,159 – $124,810

Table 6. Estimated Cost Savings

As stated by Oseneko et al, (2022) the economic burden of HF is substantial and hospitalizations for HF are the largest component of associated direct medical costs. As demonstrated in table 4, the estimated total cost for HF patients post implementation contributed to a potential saving to the healthcare system by $75,159 to $124, 810. Post implementation there were a total of seven patients who were not readmitted to the hospital. The length of stay in the hospital is affected by the patients age, sex, and comorbidities. The mean cost for hospitalizations associated to HF for an average stay for 4-7 days is approximately $10, 737 to $17,830 (Oseneko et al., 2022)

Phase V Dissemination Plan

To initiate dissemination pre and post project data was collected. Results revealed expected improvements in readmission rates to the hospital. The organizational leaders for the home care agency in the state of Connecticut and Massachusetts were invited to participate via zoom to review the project findings. A staff meeting was held for all stakeholders at the participating office where the project was conducted, and results were reviewed. The project poster presentation was presented at Sacred Heart University Davis & Henley College of

Nursing and at the participating home care agency. Abstract submission to be made for a podium presentation at the Hospice and Home care Conference Expo (NAHC) in Tampa in October 2024.

Key Lessons Learned

Identifying the need to comprehend the organizations monthly, quarterly, and annual reports is essential to improving future outcomes. It was also found that nurses' educational resources were not being utilized fully. When educational booklets for HF were utilized during a homecare visit nurses reported it gave their visits more structure and allowed them to utilize the teach back method with ease. While reviewing the nurses score cards it helped identify each nurse's performance in their areas of strength and weaknesses. This comprehensive review indicated that the high-performance nurses helped maintain the company outcomes. This is important because pay for performance in the healthcare industry, also known as value base purchasing, contributes to holding healthcare workers accountable for both the cost and quality of care that is provided. HF is one of the highest cost diseases to the healthcare system at 31 billion dollars (Wang et al., 2021). Teach back method has proven to be an inexpensive educational tool to help nurses provide better patient outcomes. More areas of focus should include teach back for patients readmitted for endocrine and respiratory diagnoses.

Sustainability Plan

To best maintain sustainability the teach back method needs to be part of the nurses onboarding orientation as a tool that can be used continuously for patient education. Supervisors need to enforce the use of existing tools that help embrace the teach back method. Each member of the team needs to hold themselves accountable in developing their personal skills.

Conclusion

Overall, we all know of the economic burden that hospitalization of HF patients can create in the healthcare system and its association with direct cost. As providers it is necessary to work together to contain costs by providing different approaches to prevent rehospitalizations. Teach back is proven to be low in cost and an effective teaching model. If teach back is consistently used sustainability will help decrease rehospitalizations of patients with chronic conditions including HF clients. Value Based Purchasing needs to be emphasized as the payment for homecare. This payment model links agencies performance and provide incentives and rewards for quality of care provided.

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Appendix A

CINAHL Search Terms and Search Results

Search Terms	Number of hits	Number of Articles reviewed	Duplicates	Number of Articles selected
Heart failure	65,616			
Heart failure and teach back	35	5		2
Heart failure and teach back and patient education	32	5	2	2
Heart failure readmission	417	5	1	1

Appendix B

Medline Search Terms and Search Results

Search terms	Number of hits	Number of articles reviewed	Duplicates	Number of Articles selected
Heart failure and teach back	18	2	1	1
Heart failure and teach back and patient education	10	2		2
Teach back and nurses	68	2	1	2
Heart failure readmission and patient education	329	5		2

Appendix C

Cochrane Database of Systemic Reviews Search Terms and Search Results.

Search terms	Number of hits	Number of Articles reviewed	Duplicates	Number of Articles selected
Heart failure and teach back	0 should this be 3 – as reference in your next table			
Heart failure and readmission	0			
Teach back	0			
Heart failure and teach back and readmission	0			

Appendix D

Levels of Evidence Synthesis Table

X (copy symbol as needed)	1	2	3	4	5	6	7	8
Level I: Systematic review or meta-analysis	X	X	X					X
Level II: Randomized controlled trial								
Level III: Controlled trial without randomization						X		
Level IV: Case-control or cohort study				X				
Level V: Systematic review of qualitative or descriptive studies								
Level VI: Qualitative or descriptive study, CPG, Lit Review, QI or EBP project					X			
Level VII: Expert opinion							X	

LEGEND

1= Almkuist, 2017. **2**= Salahodinkolah et al. 2020. **3**= Peter et al. 2015. **4**= Rice et al., 2018.

5=Fidyk et al., 2014. **6**=Awoke et al., 2019. **7**=Karami et al., 2020. **8**=Rice et al., 2017

Appendix E

Evidence Table for Systematic Review

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major variable study and their definition	How major variables where measured	Findings that help answer question	Worth to practice/ project Quality of evidence
1	Ha 2019	Self-management intervention using the teach-back method for people with HF	Cluster randomized controlled trial. Level 1	Vietnam National Heart institute, tertiary cardiac hospital, six cardiac wards. Two study arm, control and intervention group, 140 participants	Self-management, the ability to monitor symptoms, adherence to medication, diet, exercise, recognize changes and symptoms and react to those changes and symptoms. All caused hospitalizations, a hospitalization was defined as at least one-night stay at hospital	Version of the 15 items Dutch Heart Failure Knowledge Scale (DHFKS). 22 items Self-care for Heart failure index version 6.2 (SHFI). Scores for DHFKS vary bet. 0-15 with a score >11 considered as having adequate HF knowledge. SHFI consist of 3 different scales 10 items for self-care maintenance,6 items for self-care management and 6 items for self-care confidence. The highest score is a 100 with >70 deemed as having self-care adequacy.	Positive impact of teach-back in promoting self-care for HF	Yes, RCT

2	Kimberly 2017	Using teach-back to prevent 30-days readmissions with HF	Literature systemic review Level 1	Systemic review of articles published 2011-2016 using PubMed, CINAHL and Scopus	Teach-back, hospital readmission, HF, and patient education	Varied from study to study	Nurses should learn more about teach-back to improve patients' outcome in HF. All reviewed articles showed positive patients' outcomes by using teach-back	Yes. Literature review Level 1
3	Debra 2015	Reducing readmissions using teach-back	Literature review Level 1	Author used literature reviewed to support project Settings were hospitals and EBP was a 951-bed magnet facility	Knowledge attitude and behaviors questionaries' or lifestyle changes Done in 3 days	By measuring patient's engagement, developing their own strategies to adhere to the prescribed treatment plan	Readmission rates were impacted over the following 3 months of the pilot study In a year period date supported a decreased in readmissions from 28.2% to 14% and another finding was the reduction of length of stay for the 2nd hospitalization and improved readmission rates thereafter among the teach back patient group.	Yes Level 1
4	Mathew 2013	Association between teach-back knowledge retention and readmission to	Prospective Cohort Level IV	Sample were hospitalized patients with HF 65 or older admitted to cardiology and	Patient were educated during hospitalization for HF, education intervention for 34 minutes but ranged	Patients recall of the teach back questions was then assessed via follow up telephone call within 7 days after discharge.	Time spend by the nurse educating the patient is related to correct answers giving by patients. 145 that answered	Yes. even though cohort is level IV

		hospital in HF patients		medical services at the University of California, San Francisco Medical Center	from 15-20 minutes. After patients were asked to teach back the information. 4 teach back questions.		correctly education times mean was 14.78, and the 42 who answered incorrectly the mean was 9.69 minutes. Probably I will need to take this into consideration during EBP implementation.	
5	Lisa 2014	Teaching nurses how to teach using teach-back	Development of training course for nurses using teach back Level 6	Pilot course with 15 clinical nurses of a 40-bed medical unit (20%, nursing staff from a surgical unit (15%),	Adult learning theory. Andragogy principles, learning need to know, self-concept of learner, prior experience of learner, readiness to learn, orientation to learning and motivation to learn.	Multiple discrepancies between nurse's perception of education provided to patient's perception of education received	Need to take into consideration patients' perception about nurses' education and nurses perception about what they taught. Literature reviewed shows that patients reported they need more information while the nurse's perception reported patients were better educated than they perceived themselves.	Worth to keep as back info
6	Martha S Awoke 2017	To evaluate the impact of nurse led HF patient education on knowledge,	Quasi Experimental pre-test and post- test Level 3	Two cardiac units at a large urban facility in the North East region.	Heart failure Self-care behaviors Patient readmission Knowledge Nurse led education	Dutch Heart failure Knowledge Scale (DHFKS) and Self-care Heart Failure Index (SHFI).	The importance of developing education programs that put emphasis in improving patient's knowledge.	It has a very small sample size n=29 but a significant difference was found in knowledge

		self-care behaviors		Sample size small only 29		Nurses self-confidence and conviction scale.	Nurses place to effect health behaviors by engaging patients in care. The use of teach-back method by nurses reported they were comfortable asking open ended questions and comfortable with patient engagement.	at 7 days and 30 days in self-care management and maintenance
7	Maryam Karami 2020	Educational intervention to improve self-care in patients with HF	A narrative review Level VII	71 articles	Heart failure Self-care behaviors Education Training	Study was organized in 4 categories 1 face to face teach back 2.home visitation by follow up phone calls 3. group training 4. E learning training	Face to face teach back education finding suggest this type of education promotes self-care behaviors, studies had supported that teach back has increased awareness about HF and how to care of themselves at home and it has been effective in sustaining health behaviors	Quality is good but by been a narrative review of research probably not the best, but findings are still good and comparable to other research articles.
8	Helena Rice 2018	Purpose was to highlight the effect of nurse led 1:1 patient education session and impact in	Systematic review. Level 1	Analysis of RCTs focused on nurse led 1:1 patient education of adults living in the community.	Education Nurse Heart failure Readmissions Rehospitalization Economic burden Cost	Included studied followed up patients at 6 and 12 weeks up to 4 years in duration. Phone calls were used in 5 studies while home visits were done in 3 studies.	This systematic review identified 7 articles examining the effect of 1:1 nurse led patient education and the results suggest that	Strong recommendation Systemic review concluded that nurse-led education can produce positive

		quality of life, readmission rate and health care cost in adults with HF.		Studies that included comparators such as usual or standard care. Assessed before inclusion for methodological quality. Assessment tool used was th Clinical Appraisal Skills Programme (CASP) tool for RCTs. Check list with 11 questions relating to the validity of a study risk for bias. 7 RCT's were included in this reviewed. Studied were in USA 5, Argentina 1 and Canada 1.	Expenditure Quality of life Readmission rates	Once study conducted telecare visits, outpatient clinic intervention was used only in one study. Results were categorized. Education intervention led by nurses and adherence to treatment increased with knowledge. Participants were classied as 1-IV using the New York Heart Association(NYHA) functional classification for HF severity. Comparators "usual care" medical supervision received from outpatient clinic. Outcomes endpoint of readmission, hospitalization. Readmissions was the endpoint in three of the included studies. A total of 317 patients participated in the three studies examining readmission, the three studies reported a reduction in hospital readmissions compared to control group.	nurse-led education can improve cost, reduce hospitalization and readmission. In two of the articles reviewed concluded this type of education intervention is cost effective.	outcomes, preventing readmission, hospitalizations, cost and improve quality of life. Nurse led educational intervention could be teach back among other different approaches.

Appendix F

Conviction and Confidence Scale

Always Use Teach-back!

Conviction and Confidence Scale

Fill this out before you start using teach-back, and 1 and 3 months later.

Name: ______________________________

Check one: Before - Date: ________

1 month - Date: ________

3 months - Date: ________

1. 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

1 2 3 4 5 6 7 8 9 10

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)?

Not at all confident — Very Confident

1 2 3 4 5 6 7 8 9 10

3. 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.

1

IOWA HEALTH SYSTEM DES MOINES UNIVERSITY

Conviction and Confidence Scale continued

4. 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.

Notes: ______________________________

2

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Appendix G

Permission for Use of IOWA model

Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

Kimberly Jordan - University of Iowa Hospitals and Clinics <survey-bounce@surve

To: Rodriguez, Elizabeth M.

Tue 2/21/2023 11:41 AM

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Appendix H

AHRQ Teach back Toolkit

https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2_tool5.pdf

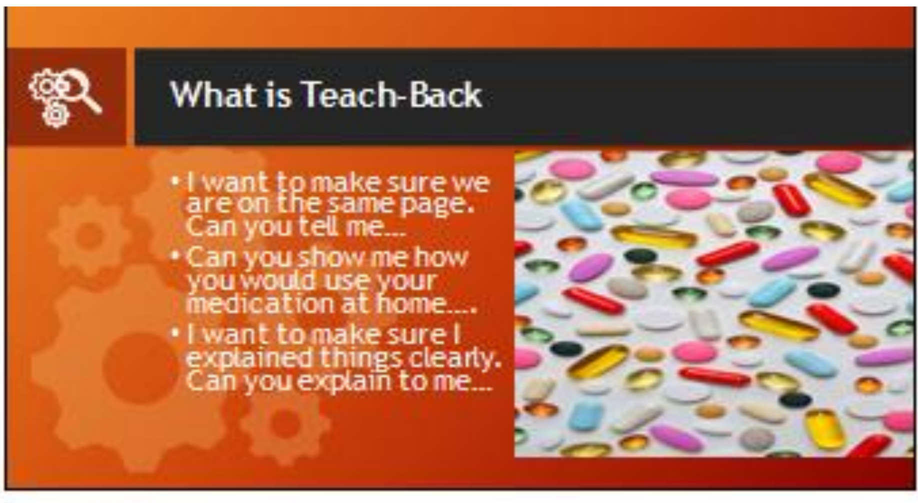
Appendix I

PowerPoint

1

2

1



3

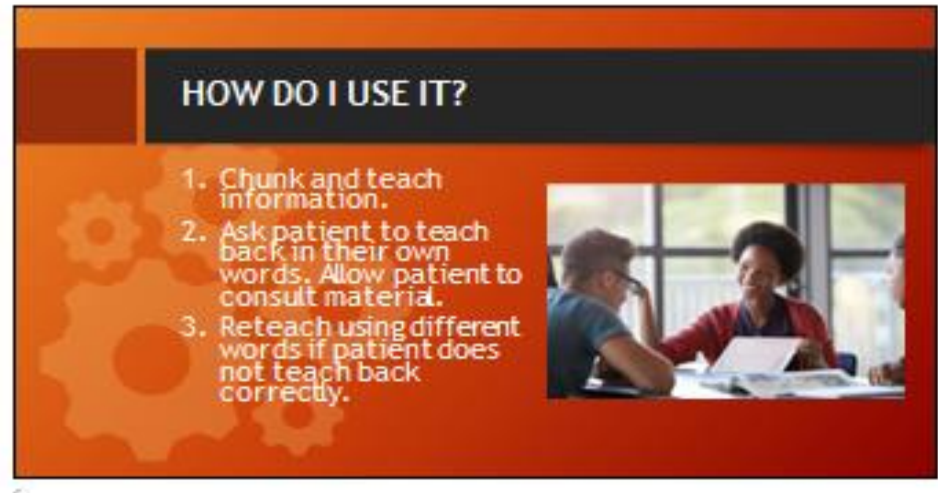
HOW CAN IT HELP ME?

- Confirm that your patient have a clear understanding of what you have told them.
- Prevent misunderstandings that would affect treatment adherence
- Minimize post visit clarifying phone calls and email.

4

2

5



6

3

7

8

4

9

10

5

Appendix J

Review the 10 key elements of using teach-back effectively:

- Use a caring tone of voice and attitude.

-Display comfortable body language and make eye contact.

- Use plain language.

- Ask the patient to explain back, using their own words.

- Use non-shaming, open-ended questions.

-Avoid questions that can be answered with a simple yes or no.

- Emphasize that the responsibility to explain clearly is on you, the provider.

- If the patient is not able to teach-back correctly, explain again and re-check.

- Use reader-friendly print materials to support learning

- Document use of, and the patient response to, teach-back.

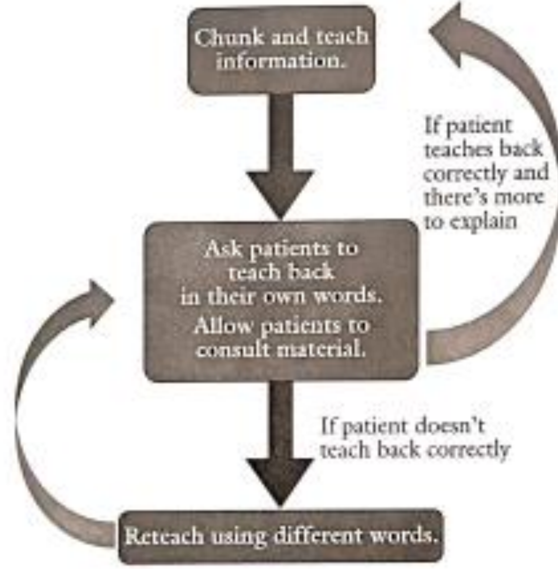
Appendix K

Teach- Back Tips

Teach-Back Tips

All patients can benefit from teach-back.

- Ask patients to teach information back to you in their own words, not just repeat your words.
- Use plain language (blood thinner for anticoagulant, heart doctor for cardiologist).
- Rephrase your message until the patient understands.



Examples of Teach-Back Starters

- "I want to make sure we are on the same page. Can you tell me…"
- "I want to make sure that I explained things clearly. Can you explain to me…"
- "Can you show me how you would use your inhaler at home?"