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Structured Discharge Education: A Benchmark Study

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<http://hdl.handle.net/10950/2656>

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Structured Discharge Education Benchmark Study
A Paper Submitted in Partial Fulfillment of the Requirements
For NURS 5382: Capstone
In the School of Nursing
The University of Texas at Tyler
by
Michaela Place
August 9, 2020

Acknowledgements

I would like to thank the many people that have supported me thus far in my master's program. First, I would like to thank the multitude of university faculty and instructors that are so diligent and available. I am grateful for their expertise and the time they take to share it with their students. I want to thank my parents for always giving me every opportunity to achieve my goals and for their unwavering support and love. To my friends and family, thank you for your patience and understanding through this difficult time. And finally, I would like to thank God for the many blessings I have received.

Executive Summary

Patient satisfaction is a topic of interest in many clinical settings. There are many ways healthcare providers can attempt to promote patient satisfaction. One of the most important is to ensure comprehensive discharge instructions are given to patients, especially in the emergency department (ED). One particular study found that in patients discharged from the emergency department, approximately one-fifth experience negative health-related issues that result in readmission or return visits to the ED in the month post-discharge (Campione, Smith & Mardon, 2017). "To reduce the readmission rate, various discharge planning and patient education programs have been provided to the patients preparing to go home, and many studies have reported that these efforts would reduce the unplanned readmission rate" (Oh, Lee, Yang, & Kim, 2019). Nurse practitioners are leaders in the healthcare field and should work to improve upon basic practices such as delivery of inadequate education. This notion led to the development of this benchmark study to present the need for improved discharge education in the ED.

Structured Discharge Education Benchmark Study

1. Rationale for the Project

From professional experience, it is difficult to provide thorough and complete discharge instructions in the emergency department (ED) setting, due to time constraints. However, poor discharge education can lead to unnecessary recurrent visits and patient dissatisfaction. When patients lack the proper teaching and direction, it leads to unsafe discharge situations and patient frustration. Typically, when patients are updated on plan of care, they feel more control over their own healthcare decisions. Improvement upon discharge teaching and the implementation of thorough instruction could help patients to accept greater control and to feel more involved and at ease with healthcare decisions. According to the nurse care management team at the chosen facility, patient relations reports associated with patient satisfaction suggest that the current discharge process is inadequate. Through informal interviews, nurse navigators reported that many patients called the hospital on multiple occasions with questions that should have been covered during the discharge process. Investigating the patient's opinions further will allow the team to evaluate the current discharge process and focus on the areas that need improvement. It is important for the nursing staff and healthcare providers to augment their practice and ensure patients have the necessary information to transition to a satisfactory level of home care.

1.1 Project Goals

The goal of this benchmark study is to present facility management with the need for structured discharge education which will provide patients with the most up to date information regarding their disease management and plan of care. Improvement upon discharge teaching and the implementation of thorough instruction could help patients to accept greater autonomy and to feel more involved and at ease with their healthcare decisions. Increase in patient understanding

can ultimately lead to a decrease in emergency visits which is beneficial for the patient, as well as the facility stakeholders. The ultimate goal for this quality improvement project is to improve patient satisfaction and post-discharge outcomes.

2. Literature Discussion to Support Project

While conducting a thorough review of current literature, the effect of discharge instructions on patient outcomes was analyzed and examined. For this paper, the following databases were searched: CINAHL Complete, PubMed, and MEDLINE. The search criteria included English language studies with access to full-text links. Keywords included in the search were “discharge instructions” and “patient satisfaction.” Ultimately, the twelve studies described in the following paragraphs were chosen and used as evidence.

According to Ackermann, et al. (2016) “In an emergency department (ED), discharge communication represents a crucial step in medical care. In theory, it fosters patient satisfaction and adherence to medication, reduces anxiety, and ultimately promotes better outcomes” (p. 557). This cross-sectional study focused on re-structuring the discharge teaching into categories, assisting physicians in providing effective education to patients in the ED with chest pain (Ackermann, et al., 2016). In the end, the authors found that enhanced discharge instructions could lead to increased patient satisfaction, especially when patients are involved in the education process and that further research is necessary (Ackermann, et al., 2016).

In the next study, the authors concluded that an education tool for both nurses and physicians can improve communication with patients (Waniga, Gerke, Shoemaker, Bourgoine, & Eamranond, 2016). “Patient satisfaction scores obtained from the Press Ganey database were compared from 1 year before to 1 year after implementation of the revised discharge

instructions” (Waniga et al., 2016, p. 65). According to Waniga et al. (2016) overall patient satisfaction was increased by the revised discharge instructions.

Lindpainter et al. (2013) evaluated the effectiveness of follow-up after discharge. Using the RCT method, nurse managers called patients in the intervention group five days after discharge and then again at 30 days. The control group received no follow-up. The results of this study showed that reiteration of provider instructions and allowing for questions after the initial discharge teaching, increased patient and caregiver satisfaction.

“Call-back programs have been found to be an effective way of improving patient satisfaction and comfort at home while reducing reattendance rates” (Mäkinen et al., 2019, p. 40). Similar to the study discussed above, a nurse leader called patients to follow-up after discharge from the ED. Patients enrolled in this study were called within 24 to 48 hours of discharge. The results indicated that a majority of patients were satisfied with the education they received in the ED and at the time of discharge.

Sheele, Bhangu, Wilson, and Mandac, (2019) experimented with delivering instructions and information regarding certain disease processes via video at the time of discharge. A post-intervention survey was conducted regarding patient preferences on delivery of discharge instructions; video instructions, written instructions or both. Most patients in this study preferred the video method or a combination of the video and written education and were also given home access to the videos online after discharge. “Video instructions, supplemented with written instructions, may be the optimal way to improve patient comprehension upon ED discharge” (Sheele et al., 2019, p. 521).

In another evaluation of patient preference, Shuen et al. (2018) investigated the effects of certain communication methods on patient satisfaction and return ED visits. The patients were randomized into three groups; phone call follow-up, text message follow-up and the control group. According to their findings, there was no variation in patient satisfaction. However, “the phone and text groups had similar and lower proportions of patients re-visiting the ED (>50% reduction) ... than the control group” (Shuen et al., 2018, p. 1).

In a systematic review conducted by Newnham et al. (2016) multiple studies and literature were reviewed to evaluate the effect of various discharge teaching methods on patient and caregiver satisfaction. Provider and patient preferences regarding the information included, were also taken into account. “Overall, findings suggest utilizing technology to deliver information to patients and their caregivers improves their understanding of the patient’s condition and discharge instructions” (Newnham et al., 2016, p. 766).

Griffey et al. (2015) used the teach-back approach to discharge teaching. In this RCT study, the authors separated participants into a control group and an intervention group. The intervention group received teach-back method instructions and patient comprehension and satisfaction were evaluated. The results of the study showed an increase in patient comprehension, but no significant change was noted in patient satisfaction.

“The teach-back methodology asks patients to recall and restate information in their own words so that inaccuracies can be corrected prior to discharge” (Slater, Huang, & Dalawari, 2017, p. 63). In this control trial, patients were systematically called post-discharge and asked questions regarding their plan of care and home instructions. Ultimately patient retention of discharge education was higher when the teach-back method was utilized.

In a systematic review conducted by Oh et al. (2019), the authors suggested that implementation of the teach-back method would improve patient retention of discharge instructions. “Teach-back techniques are reported to improve patient outcomes by encouraging patient understanding and participation in education and are increasingly being used in various clinical settings” (Oh et al., 2019, p.2). Ultimately, this study found sufficient evidence that hospital readmissions and return ED-visits were reduced in the month post-discharge by implementing the teach-back method.

In a specific quasi-experimental study, the authors targeted improving the healthcare team’s communication as a whole. “The idea of focusing daily rounding on joint communication between patients, nurses, and the physician team about progression and preparation for discharge reshapes goals for daily team rounds, setting the stage for the desired outcome of timely, coordinated discharge and subsequent readmission avoidance” (Opper, Beiler, Yakusheva, & Weiss, p.126). They found that improving bedside report and patient education showed strong potential in enhancing patient experience (Opper et al., 2019).

Yen and Leasure (2019) indicated that the “teach-back is an effective method for helping patients understand self-care and disease self-management at home” (p. 288). However, in this systematic review, there was inadequate research collected to show significant increase in patient satisfaction or outcomes. “Many studies have found that teach-back improves disease knowledge and self-management, though their results are not always statistically significant” (Yen & Leasure, 2019, p. 287). Therefore, further research and studies will need to be explored.

3. Project Stakeholders

Developing a solid team to carry out this change project will be vital. Strong nurse leaders with a variety of leadership styles will be essential to this process. Therefore, careful

selection of team members and involvement of all stakeholders will be necessary. For this benchmark study, the list of stakeholders will include ED service management, ED Directors and Chief Nursing Officer (CNO). For actual project implementation, selected staff registered nurses (RNs), nurse educators, nurse navigators/care management team, patient relations department staff, ED assistant managers, ED service managers, and ED directors, will make up the project team. Clearance from the director of emergency services and the CNO will be obtained for this quality improvement project. A sub-committee will be formed on the unit-based council and will meet biweekly to discuss the project. The team will need to “feel inspired and empowered to innovate and change, resulting in positive outcomes for the organization” (Gallagher-Ford & Melnyk, 2019, p. 334). The team will need to be resourceful and adaptable to get the job done. Nurse leaders and other stakeholders will play a critical part in this change project

4. Proposed Outcomes

Throughout this change project journey, extensive research has been conducted regarding how the delivery of discharge instructions affects patient satisfaction and outcomes. “Ineffective and inadequate discharge education can lead to failure of self-care after discharge, which increases the likelihood of readmission and secondary health problems” (Oh et al., 2019, p. 2). Significant studies were found that show positive correlation between improved discharge teaching and better patient outcomes. While the literature reviewed does not overwhelmingly point to one specific intervention, the overall results of restructured discharge education can improve not only patient satisfaction, but also increase patient comprehension of home care instructions. In a few studies, post-discharge follow-up by nurse management also showed strong potential in improving patient outcomes. The proposed project outcomes are as follows: Evaluate the level of team communication between healthcare professionals; Evaluate patient

and healthcare provider relations; Determine the number of adverse events that occur post-discharge; Determine the number of return visits to the ED post-discharge; Evaluate patient experience and satisfaction as a result of the discharge instruction provided.

5. Timetable/Flowchart

Through previous coursework, the following PICOT question was developed: In the emergency department (P) how does the utilization of a structured discharge method (I) compared to basic instructions (C) affect patient satisfaction (O) within a 2-month period (T)? However, there was insufficient evidence pointing to one particular intervention. Also, due to the current healthcare crisis, the ability to implement an intervention was not possible. Therefore, the following action plan was created for this benchmark study. The anticipated timeline for this change project is as follows and the flowchart is included in Appendix B.

The proposed action plan will be presented to the facility management team as a potential quality improvement project. It will serve as a benchmark for implementation and will include the following steps. The “Model for Evidenced-Based Practice Change” will be used as the outline for this change project (Dang et al., 2019, p. 395). This six-step system will be a great strategy because it will allow the team to assess the need for change, implement an intervention based on evidence-based practice and then evaluate the impact of the change on patient outcomes.

The first step will be to observe the existing methods of discharge at an urban acute care hospital setting, in the 120-bed emergency department. Nurse navigators’ interviews will be recorded regarding the current need for change in discharge instruction administration. Next, current patient relations statistics associated with patient satisfaction in relation to the discharge process will be acquired. Patients will be given a 5-question survey (Appendix C) to obtain

baseline satisfaction scores with the current discharge approaches. Investigating the patients' opinions will allow the team to evaluate the current discharge process and focus on the areas that need improvement.

The next step will include implementing the standardized discharge method and delivering the new instruction method consistently to every patient that meets sample criteria and is discharged from the emergency department. Initially, the targeted patients will be those who are seen for minor emergencies, such as orthopedic injuries, laceration repairs, minor incision and drainage procedures and chest pain workups without elevated troponins. Minors, psychiatric patients, patients with extensive cardiac history and patients that meet criteria for admission will not be included. There will not be a control group for this project.

Staff nurses will be responsible for delivering discharge instructions to patients. To do so, they will need to be trained and educated on the new discharge process. This can be accomplished by utilizing a training module via the facility education software. Also, nurse educators can deliver short presentations during staff meetings and can round during different shifts, answering any questions that could arise. Nurse managers will ensure that staff nurses involved in the project are adequately trained and that facility policies are followed. Nurse administrators will confirm that the organization's standards for quality patient care are met.

The assigned nurse will then obtain informed consent from the patients to participate in this research project. HIPAA laws will be maintained throughout this study. Discharge paperwork and after-visit summary will be provided to the patient. The nurse will discuss in detail each of the following components according to the developed outline: 1. Prescriptions and medication education as applicable and pharmacy location; 2. Follow-up appointments and referrals; 3. Primary care provider referrals and community-oriented clinics available; 4. Home

instructions and self-care education (i.e. diet restrictions, wound care); 5. Social work needs (i.e. clothing, transportation, medication cost support, shelter availability, community resources); 6. Financial assistance options and programs; 7. Online patient portal for access to discharge instructions and further education. The new discharge method will be delivered and documented in the patient's electronic medical record (EMR), specifically in the discharge note. The nurse will record only the patient's medical record number (MRN) so that chart reviews can be conducted at a later date. The selected patients will again be given the survey to complete regarding their discharge experience (Appendix C). Nurse navigators/managers will follow-up with patients, as needed. This benchmark study will be presented to management in October/November of this year. The implementation phase dates will be set at later time.

6. Data Collection Methods

Prior to presentation of this study, current patient relations data will be obtained. These statistics, in combination with the selected research articles, will be presented to nurse management. For the implementation phase, patient information will be collected from the EMR. Lastly, pre-intervention and post-intervention surveys will be acquired. All data will be compiled into a complete project proposal.

7. Evaluation Design

Opper et al. (2019), suggested that “combined improvement, process innovation, and a research approach” are essential to quality change evaluation. Evaluation will begin by reviewing patient charts and pertinent data. The second step will be to analyze patient relations statistics regarding patient satisfaction after two months of change project implementation. Lastly, the 5-point Likert-Scale patient surveys (Appendix C) will be evaluated. The most recent results will be compared to the survey scores collected prior to the application of the revised

instructions. Comparing the new results from patient relations to the original scores will allow for evaluation of the efficacy of the structured discharge method. After this evaluation, nurse navigators will again be interviewed to determine if they have received positive feedback from patients regarding the discharge intervention.

8. Discussion of Evaluation

Completion of this quality improvement initiative could allow patients to gain a better understanding of their disease process and plan of care. Further investigation and collection research articles focused on one particular method are necessary. A number of the studies chosen highlighted the teach-back method as a potential intervention. However, at this time, there is not sufficient evidence to select a specific intervention. Therefore, using the benchmark approach, a presentation of this project on the need for discharge instruction improvement will be developed and shared with nurse management. Standardizing discharge instructions will ensure that every patient receives the education that they need.

9. Costs/Benefits

Anticipated costs include education materials and software modules. Exact costs of these training tools are not known at this time. Staff RNs and team members involved in the project will not be compensated monetarily but will be given an opportunity to use this project to achieve RN II or RN III level status. There are no additional costs predicted at this time.

Conclusions/Recommendations

As nurse practitioners, it is important to ensure patient safety but also work to decrease recurrent visits to the emergency department due to lack of education. Ultimately nurse practitioners should seek to encourage the patient through their experience. Providing standardized, structured discharge instructions allows for patients to gain a better understanding

of the plan of care and also an opportunity to ensure they have the correct information prior to leaving the facility. The studies described above focused on restructuring discharge teaching and reported that “effective discharge communication, empowering patients to understand and memorize medical information, should therefore be an integral part of patient care” (Ackermann, et al., 2016, p. 557). Further investigation into the teach-back method as a potential intervention is recommended. Drawing from this research and professional experience, investing more time in providing improved discharge education could greatly enhance patient care and satisfaction.

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Appendix A: Evaluation Table

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/Method	Sample/Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
Author, Year, Title	Theoretical basis for study Qualitative Tradition		Number, Characteristics, Attrition rate & why?	Independent variables (e.g., IV1 = IV2 =) Dependent variables (e.g., DV =) Do not need to put IV & DV in Legend	What scales were used to measure the outcome variables (e.g., name of scale, author, reliability info [e.g., Cronbach alphas])	What stats were used to answer the clinical question (i.e., all stats do not need to be put into the table)	Statistical findings or qualitative findings (i.e., for every statistical test you have in the data analysis column, you should have a finding)	<ul style="list-style-type: none"> • Strengths and limitations of the study • Risk or harm if study intervention or findings implemented • Feasibility of use in your practice • Remember: level of evidence (See PICOT handout) + quality of evidence = strength of evidence & confidence to act • Use the USPSTF grading schema http://www.ahrq.gov/clinic/3rduspstf/ratings.htm
Yen et al. 2019 Use and Effectiveness of the Teach-Back Method in Patient Education and Health Outcomes	None stated.	SR	26 studies (15 cohort studies, 5 case-control studies, 5 RCTs, and 1 qualitative interview) AR = 0, SR	IV = teach-back method DV1 = patient satisfaction DV2 = readmission rates	PRISMA CASP	<i>p</i>	Readmissions <i>p</i> = 0.005 Disease and Knowledge management <i>p</i> < .001	Strengths: systematic review, all studies use teach-back method Limitations: no standardized intervention, organizational differences No risk or harm identified. Feasible in daily practice. LOE: I USPSTF: B, moderate
Oh et al. 2019 Effectiveness of Discharge Education With the Teach-Back Method on 30-Day Readmission: A Systematic Review	None stated.	SR/MA	5 studies (3 quasi-experimental design studies and 2 cohort studies) AR = 0, SR/MA	IV = teach-back method DV = 30-day readmissions	RBANS	EF odds ratio <i>p</i>	EF = 0.55 (95% CI, odds ratios = 0.34–0.91) Overall Effect <i>p</i> = 0.02	Strengths: systematic review, all studies use teach-back method Limitations: no standardized intervention, small number of articles No risk or harm identified. Feasible in daily practice. LOE: I USPSTF: B, moderate

<p>Opper et al. 2019</p> <p>Effects of Implementing a Health Team Communication Redesign on Hospital Readmissions Within 30 Days</p>	<p>Meleis' Transitions Theory</p>	<p>Quasi-experimental</p>	<p>128 RNs 72 MDs 604 patients</p> <p>Convenience samplings from 2 surgical units</p> <p>AR ≈ 46% of patients and doctors, no postintervention survey</p>	<p>IV = restructured communication process</p> <p>DV1 = team communication</p> <p>DV2 = patient experience</p> <p>DV3 = 30-day hospital readmissions</p>	<p>DCS</p> <p>CBS</p> <p>QDTS</p> <p>RHDS</p> <p>PDCDS</p>	<p><i>p</i></p>	<p>Readmissions <i>p</i> = 0.05</p> <p>ED visit <i>p</i> = 0.15</p>	<p>Strengths: pre and post intervention statistics</p> <p>Limitations: Not a randomized or blind study, convenience sampling, loss of participants</p> <p>No risk or harm identified.</p> <p>Feasible in daily practice.</p> <p>LOE: III</p> <p>USPSTF: B, moderate</p>
<p>Slater et al. 2017</p> <p>The Impact of Teach-Back Method on Retention of Key Domains of Emergency Department Discharge Instructions</p>	<p>None stated.</p>	<p>Control Trial without Randomization/Quantitative</p>	<p>209 patients</p> <p>F 143 M 66 Discharged from ED</p> <p>Setting: Saint Louis University Hospital, St. Louis, MO</p> <p>AR: 40%, 314 patients declined to participate</p>	<p>IV = teach-back discharge method</p> <p>DV = patient retention of information</p>	<p>0-2 (0=no knowledge, 1=partial knowledge, 2=full knowledge) scale in 4 categories of information</p>	<p><i>p</i></p>	<p>Participants (teach-back category) with Complete Accuracy</p> <p>Diagnosis <i>p</i> = 0.000</p> <p>Medications <i>p</i> = 0.14</p> <p>Return precautions <i>p</i> = 0.000</p> <p>Follow-up <i>p</i> = 0.03</p>	<p>Strengths: systematic sampling, scoring conducted by one study investigator in both phases</p> <p>Limitations: Not a randomized or blind study, before and after study</p> <p>No risk or harm identified.</p> <p>Feasible in daily practice.</p> <p>LOE: III</p> <p>USPSTF: B, moderate</p>
<p>Shuen et al. 2018</p> <p>Telephoned, texted, or typed out: A randomized trial of physician-patient communication after emergency department discharge</p>	<p>None stated.</p>	<p>RCT/Quantitative</p>	<p>251 patients</p> <p>Adults (age ≥ 18 years of age) discharged from ED</p> <p>Setting: ED of university hospital, US</p> <p>AR: 3%, 8 patients lost</p>	<p>IV1 = telephone call follow-up IV2 = text message follow-up</p> <p>DV1 = ED re-visits DV2 = patient satisfaction</p>	<p>Likert scale for patient satisfaction (1-5, 1 = lowest, 5 = highest)</p>	<p><i>p</i></p> <p><i>x</i>²</p>	<p>ED Revisits (phone and text groups) <i>p</i> = 0.10 <i>x</i>² = 4.57</p> <p>Patient Satisfaction <i>p</i> = 0.24 <i>x</i>² = 2.88</p>	<p>Strengths: randomized sample, post-intervention survey</p> <p>Limitations: single-center, pilot study, inability to blind patient to intervention</p> <p>No risk or harm identified.</p> <p>Feasible with proper personnel.</p> <p>LOE: II</p> <p>USPSTF: B, moderate</p>

Sheele et al. 2019 Patient preference for medical information in the emergency department: Post-test survey of a random allocation intervention	None stated.	RCT/Quantitative	196 patients F 122 M 69 Ages 18-98 Setting: 45-bed ED in Cleveland, OH, USA AR = 4 patients lost, declined to complete survey	IV = discharge instructions via video DV = patient preference	6 question post-test survey, with yes or no answers	p x^2	Preferred Video Method LSN: $p = 0.10$, $x^2 = 3.9$ HBUM: $p = 0.003$, $x^2 = 8.64$ Preferred Written Method LSN: $p = 0.003$, $x^2 = 8.69$ HBUM: $p < 0.001$, $x^2 = 32.19$ Preferred Both Methods LSN: $p = 0.76$, $x^2 = 0.09$ HUBM: $p = 0.14$, $x^2 = 2.16$	Strengths: two discharge methods, sample was randomized Limitations: convenience sampling, single center study, different video lengths No risk or harm identified. Not particularly feasible due to time constraints. LOE: II USPSTF: C, moderate
Mäkinen et al. 2019 Assessing the discharge instructing in the emergency department: Patient perspective	None stated.	Descriptive /Quantitative	132 patients Adults discharged excluding drug abusers and mental health issues Setting: Peijas hospital ED, Helsinki, Finland AR = 21 patients lost, declined to participate	IV = follow-up phone calls DV1 = patient satisfaction DV2 = patient perspective	Likert Scale 1–10, (1=very dissatisfied, 10=very satisfied)	Mean CI p	Patient Satisfaction ET: mean 3.26 vs. 3.83, 95% CI: 3.33–3.71, $p < 0.000$ OFQ: mean 3.63 vs. 4.22, 95% CI: 3.58–4.21, $p < 0.01$ IPU: mean 3.79 vs. 4.44, 95% CI: 3.84–4.32 $p < 0.009$	Strengths: pilot study that can be improved upon Limitations: small sample size, a single-institution study, and a non-randomized design No risk or harm identified. Feasible in daily practice. LOE: VI USPSTF: B, moderate
Lindpainter et al. 2013 Discharge intervention pilot improves satisfaction for patients and professionals	None stated.	RCT/Quantitative	60 patients CGC MA 75.2 M 11 F 19 IGC MA 75.1 M 15 F 15 3 cancer patients Setting Kantonsspital Hospital, Baden, Switzerland AR = 0 No patients lost to follow-up	IV = nurse manager led discharge follow-up DV1 = occurrence of adverse event DV2 = patient satisfaction DV3 = caregiver burden and quality of life	BI GMM CD CCI SF-12 GCSI SS5 SS30	p U MCS MWUT FET RIG	Patient's satisfaction $p = 0.0272$ Caregiver's satisfaction $p = 0.008$ OAD = 12 RIG $p = 0.026$	Strengths = RCT, single-blind Limitations = pilot study, single center study, small sample size No risk or harm noted. Feasible in daily practice. LOE = II USPSTF = B, moderate

<p>Newnham et al.</p> <p>2017</p> <p>Discharge communication practices and healthcare provider and patient preferences, satisfaction and comprehension: A systematic review</p>	None stated.	SR	<p>30 articles</p> <p>RCTs, surveys, pre-post design, surveys, record audit, in-depth interviews and a focus group</p> <p>Setting: location of authors, set in 10 countries</p> <p>AR = 0 no articles lost in review</p>	<p>IV = discharge teaching methods</p> <p>DV1 = patient comprehension</p> <p>DV2 = patient and provider preferences</p> <p>DV3 = patient satisfaction</p>	QualSyst tool	<p>SS</p> <p>NA</p>	<p>SS = ≥ 0.83 (score ≥ 0.83 indicates significant results and study design)</p> <p>Incorporating technology into discharge instructions is preferred by providers and patients and can increase patient satisfaction.</p>	<p>Strengths = SR, consistent results</p> <p>Limitations = varying research methods, lack of generalizability</p> <p>No risk or harm noted.</p> <p>Feasible in daily practice.</p> <p>LOE = I</p> <p>USPSTF = B, moderate</p>
<p>Griffey et al.</p> <p>2015</p> <p>The impact of teach-back on comprehension of discharge instructions and satisfaction among emergency patients with limited health literacy: A randomized, controlled study</p>	None stated.	RCT/Quantitative	<p>408</p> <p>- PWCP</p> <p>- DFED</p> <p>- ≥ 18 years</p> <p>Setting = ED in St. Louis, MO</p> <p>AR = 37% 151 DBPF</p>	<p>IV = teach-back method</p> <p>DV1 = patient comprehension</p> <p>DV2 = perceived comprehension</p> <p>DV3 = patient satisfaction</p>	<p>REALM-R</p> <p>PFGVE</p> <p>$\alpha = 0.05$</p>	<p>p</p> <p>OR</p> <p>CI</p> <p>MHCS</p>	<p>PEM</p> <p>$p = 0.02$</p> <p>OR = 1.84;</p> <p>95%</p> <p>CI = 1.09-3.12</p> <p>MHCS = 3.71</p> <p>PEF</p> <p>$p < 0.0001$</p> <p>OR = 3.61;</p> <p>95%</p> <p>CI = 2.09-6.22</p> <p>MHCS = 16.75</p> <p>PESC</p> <p>$p = 0.03$</p> <p>OR = 1.83;</p> <p>95%</p> <p>CI = 1.07-3.13</p> <p>MHCS = 5.34</p>	<p>Strengths = RCT</p> <p>Limitations = convenience sampling, single-center study</p> <p>No risk or harm noted.</p> <p>Feasible in daily practice.</p> <p>LOE = II</p> <p>USPSTF = B, moderate</p>
<p>Ackermann et al.</p> <p>2016</p> <p>Discharge communication in patients presenting to the emergency department with chest pain: Defining the ideal content.</p>	Grounded theory	Mixed methods explanatory	<p>Patients = 51</p> <p>- CP</p> <p>- CVRF</p> <p>- > 18 years</p> <p>Physicians = 47</p> <p>- CA, IM, ED</p> <p>- volunteered</p> <p>Setting = ED of the University Hospital of</p>	<p>IV1 = physician preferences</p> <p>IV2 = patient preferences</p> <p>DV = correlation of discharge instruction content</p>	<p>PCC</p> <p>PPQ</p>	<p>U</p> <p>p</p> <p>CCS</p>	<p>Comparison</p> <p>$U = 544$</p> <p>$p = .15$</p> <p>Retest results</p> <p>Physicians:</p> <p>$p < .001$</p> <p>Patients:</p> <p>$p < .001$</p>	<p>Strengths = study included a retest, included quantitative and qualitative data</p> <p>Limitations = patient and provider personal preference, individualized communication</p> <p>No risk or harm noted.</p> <p>Feasible in daily practice.</p> <p>LOE = VI</p> <p>USPSTF = C, moderate</p>

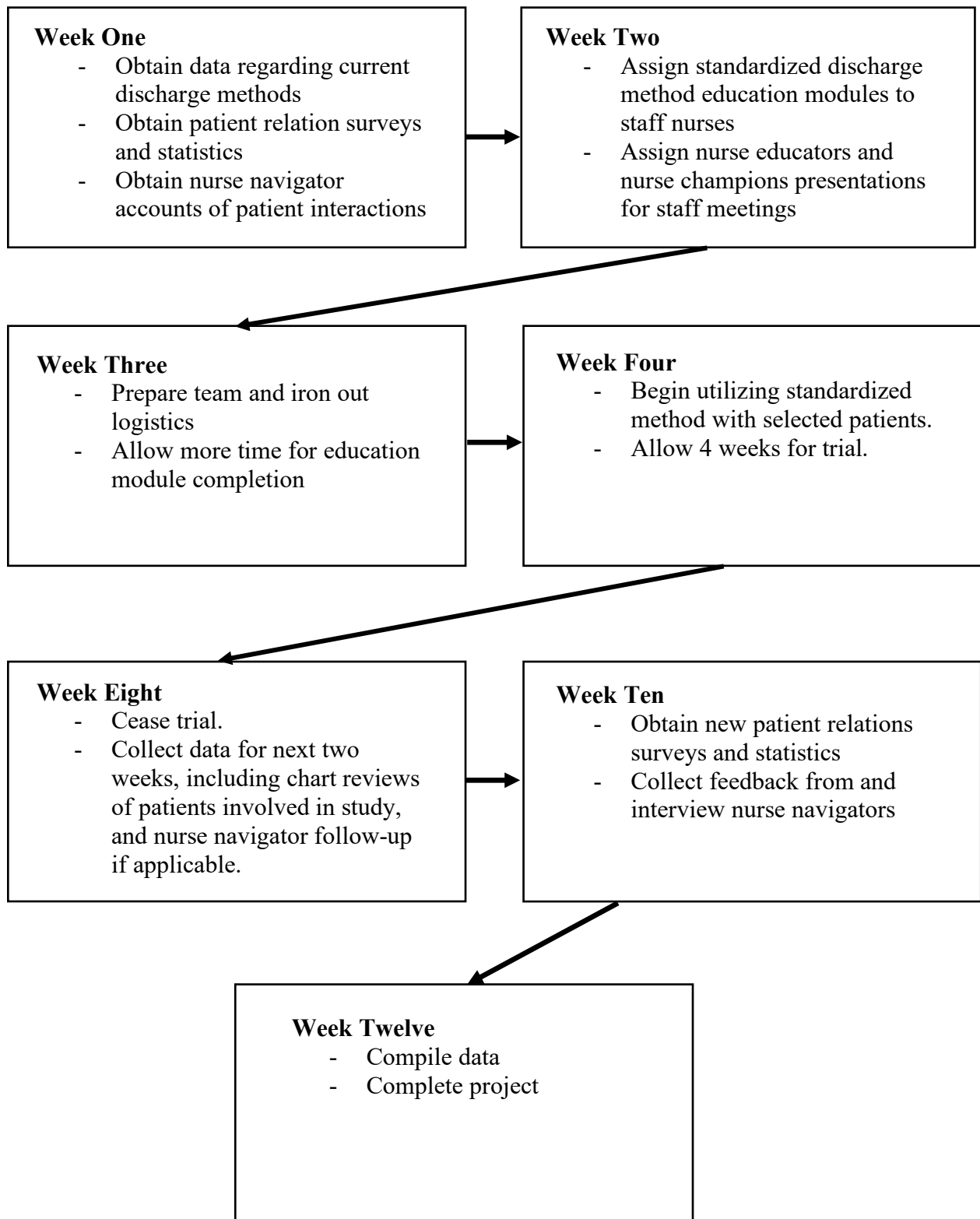
			Basel, Switzerland AR = 39% 20 patients did not participate in retest					
Waniga et al. 2016 The impact of revised discharge instructions on patient satisfaction.	None stated.	Descriptive /Quantitative	Year 1 = 1437-1589; Year 2 = 1673-1850 Survey sent to all patients discharged from 180 bed hospital in Massachusetts 30% response rate AR = 0, no cases lost in survey, no exclusion criteria	IV1 = Revised patient centered discharge tool IV2 = IFHC DV = patient satisfaction	Press-Ganey Rate satisfaction, on a scale of 1 to 5 (1 being very poor, 5 being very good).	<i>p</i> <i>t</i> ANOVA	Discharge overall <i>t</i> = -2.663 <i>p</i> = 0.007 ANOVA = 0.002 IFHC <i>t</i> = -3.485 <i>p</i> = 0.0004 ANOVA = 0.0008 EFRD <i>t</i> = -2.477 <i>p</i> = 0.013 ANOVA = 0.0003	Strengths = comparison of survey scores one year prior and one year after intervention, one standardized intervention Limitations = other interventions implemented, 30% response rate No risk or harm noted. Very feasible in daily practice. LOE = VI USPSTF = B, moderate

Legend:

- a* = alpha
- AR = attrition rate
- BI = Bartel index
- CA = cardiologists
- CASP = Critical Appraisals Skills Programme guidelines
- CBS = Collaborative Behavior Scale
- CD = clock drawing
- CCI = Charlson Comorbidity Index
- CCS = consensus classification system
- CGC = control group characteristics
- CI = confidence interval
- CP = chest pain
- CVRF = at least one cardiovascular risk factor
- DBPF = discharged before protocol finished
- DCS = Discharge Communication Survey

DFED = discharged from emergency department
ED = emergency department physicians
EF = effect size
EFRD = extent felt ready for discharge
ET = whether the ED staff spent enough time giving the instructions
F = female
FET = Fisher's exact test
GCSI = German Caregiver Strain Index
GMM = German Mini Mental
HBUM = watching the video helped patients better understand their medical condition
IFHC = instructions for home care
IGC = intervention group characteristics
IPU = whether the instructions were given so that the patient understood them
IM = internal medicine physicians
LOE = level of evidence
LSN = learned something new about their disease process from watching the video
M = male
MA = median age
MCS = Monte Carlo simulation
MHCS = Mantel-Hanzel chi-squared test
MWUT = Mann-Whitney U-test
NA = narrative analysis
OAD = occurrence of adverse event (death, rehospitalization, urgent medical evaluation, adverse medication reaction within five days of discharge)
OFQ = whether the patient had the opportunity to ask questions
OR = odd's ratio
PCC = Pearson's Correlation Coefficient (r)
PDCDS = Post-discharge Coping Difficulty Scale
PEM = post-ED medications
PEF = post-ED follow-up
PESC = post-ED self-care
PFGVE = 5-point scale for patient satisfaction (poor, fair, good, very good, excellent)
PPQ = patient and physician questionnaire
PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PWCP = patients with chest pain
QDTS = Quality of Discharge Teaching Scale
QualSyst = Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields
RBANS = Risk of Bias Assessment tool for Nonrandomized Studies
RCT = randomized control trial
REALM-R = Rapid Estimate of Adult Literacy in Medicine-Revised
RHDS Readiness for Hospital Discharge Scale
RIG = rehospitalization in intervention group
SF-12 = SF-12 health survey checklist
SR = systematic review
SR/MA = systematic review/meta-analysis
SS = summary score
SS5 = satisfaction survey on day 5
SS30 = satisfaction survey on day 30
 U = U statistic
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Appendix B: Flowchart/Anticipated Timeline



Appendix C: Evaluation Tool

1. During this ED visit, I was satisfied with the level of communication I received from my healthcare team.
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

2. During this ED visit, I felt prepared for discharge and I was updated on my plan of care.
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

3. During this ED visit, I received complete and thorough discharge instructions.
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

4. After this ED visit, I understand my discharge instructions and follow-up plan of care.
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

5. After this ED visit, I feel safe to return home and continue caring for myself.
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree