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Health Literacy, Health Confidence, and Simulation

A Novel Approach to Patient Education to Reduce Readmissions

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ABSTRACT

Purpose/Objectives: The vision for this project was to create an inpatient education intervention to better prepare patients with chronic medical conditions for more effective self-management after discharge using a Skills Simulation Experience and focused one-on-one structured education format in a circuit-based intervention. As an interdisciplinary intervention, the health care team presents standardized education in a circuit training presentation to allow for one-on-one interaction with health care professionals, using multiple teaching/learning strategies, to assist the participant in acquiring or reinforcing skills needed to successfully self-manage his or her conditions postdischarge.

Primary Practice Setting(s): West Suburban Medical Center (WSMC) is owned by Pipeline Health and is located on the west side of Chicago, IL. WSMC is a 118-year-old community-based teaching facility that has collaboration with a local Federally Qualified Health Center, providing clinic space on-site as well as clinical rotations for OB/GYN. WSMC serves 2 very diverse neighborhoods, Oak Park, IL, home of Frank Lloyd Wright and Ernest Hemingway, and the Austin neighborhood of Chicago, which ranks 11th out of the 77 Chicago communities in violent crime.

Findings/Conclusions: Data collected included the following:

1. *Participation in Simulation Laboratory (SIM LAB) experience*: During the time frame of the project, 323 patients were identified as eligible for participation in the project. Of those identified as eligible, there were 130 patients who completed the intervention (37.15%).
2. *Readmission events within 30 days from index admission*: The intervention period (January–December 2019) noted a readmission rate for the target population of patients with chronic obstructive pulmonary disease/congestive heart failure of 10.12% compared with a readmission rate of 21.05% for the nonparticipation group.
3. *Patient self-evaluation of ability to care (pre/postintervention test)*: The average preintervention test score of the participants was 39.6/50, whereas the average postintervention test score increased to 50.2, a 21% increase in perceived knowledge base.
4. *Patient self-evaluation of health confidence score (pre/postintervention):* SIM LAB participants' average health confidence score prior to the intervention was 6.71 (under the baseline desired 7.0 or 0.95/1.00 desired outcome) and postintervention was 8.74 (significantly higher than the 7.0 baseline or 1.25/1.00 desired outcome). The net gain is noted as 2.03 points on the 10-point scale.

Implications for Case Management Practice:

1. Patient perspective on why readmission occurred should always be explored and taken into consideration.

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2. Health literacy/confidence is a key Social Determinant of Healthcare (SDoH), a greater predictor of success/failure than any other SDoH.
3. Patient-focused, interdisciplinary, multiexperience discharge teaching, using varied teaching methods, has been demonstrated to reduce readmissions and increase patient/caregiver health confidence.

Key words: *health confidence, readmissions, Social Determinants of Health*

There has been a focus on readmission reduction and prevention in acute care facilities since 2009. Potentially preventable readmissions have been related to failed or ineffective discharge planning, especially for patients with chronic, high-focused diseases such as congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD). Chronic condition management is a major factor in rising health care costs. The extensive costs per hospital admission associated with CHF and COPD (to include care, medication, therapy) represent a major financial liability to health care systems, a significant component being the issue of unplanned, avoidable readmissions.

The factors driving the need to reduce readmissions include cost containment, achievement of performance initiatives and penalty avoidance, and improvement of quality indicators and patient experience. National awareness of adverse medical outcomes occurring within care settings continues to rise through quality data reporting, patient satisfaction reports, and a dedication to health care transparency. The expanding evidence base points to comparable problems occurring at the time of discharge with the discharge education process. As case management registered nurses (CM RNs) and social workers (SWs) are integral in the discharge process, there is a key opportunity to develop interventions to improve the quality of patient education to sufficiently prepare the patient/caregiver to continue care at home.

Quality initiatives such as The Joint Commission (TJC) and the National Quality Forum's increased focus on medication reconciliation, discharge planning process, and examination of performance measures for posthospitalization care coordination are examples of endeavors to improve the transitions of care process.

According to the Institute for Healthcare Improvement (2017), current research has demonstrated that the rate of readmissions can be reduced by improving discharge planning and care coordination between all levels of the care continuum concurrent with providing increased opportunities for patient coaching, education, and support for self-management. Implementation of a targeted education intervention at the time of discharge is proposed to decrease readmissions and improve quality of care.

A review of literature demonstrated that addressing the patient "point of view" through survey of risk focused on Social Determinants of Health (SDoH) has been successful at creating better linkage and access to care/services needed by patients to self-manage their heath. Using a survey tool based on the "PRAPARE" survey (used in outpatient settings), CM RNs and SWs surveyed all readmitted patients and identified and addressed gaps in self-management by providing community resources and services. When the result obtained from this survey in the first 3 months' data collection was evaluated, it demonstrated that the primary self-identified reason for readmission was lack of understanding of the discharge instructions provided.

One of the leading SDoH factors has been identified as health literacy, defined by the Agency for Healthcare Research and Quality as "the degree to which an individual has the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions" (Jordan, 2016, p. 2). Health literacy differs from "basic literacy" by being more than the basic ability to read. According to Linda Jordan, BSN, RN, MHCM (2016), from TJC, "Everyone, no matter how educated, is at risk for misunderstanding health information, especially if the issue is emotionally charged or complex." Health literacy has a major impact on patient engagement or activation. Dr. Eric Coleman notes that "engaged patients have better health outcomes and better healthcare experiences, and are likely to use fewer healthcare services and cost the healthcare system less in case dollars" (Wasson & Coleman, 2014, p. 8). One measure of patient engagement is "health confidence" scoring, measured by the response to a single question: "How confident are you that you can control and manage

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most of your health problems?" Rated on a scale of 0 ("not confident") to 10 ("very confident"), with a desired response of 7 or higher, this single question can start a meaningful conversation between the practitioner and the patient and lead to increased health literacy, understanding, and engagement.

After the initial survey evaluation, the health confidence scoring tool was added to our intervention. Of the 146 patients surveyed between November 2018 and July 2019, the average health confidence score was 6.41 out of 10 (see Figure 1). This finding was interpreted that this patient population needed more intense case management interventions and more focused education to better prepare them for discharge and independent condition management.

Case managers have long made the connection between SDoH and increased risk for readmission through anecdotal observation. Failure to create overarching strategies to address the gaps caused by SDoH continues to impact the care continuum's ability to adequately equip the patient for success postdischarge. Addressing patient health literacy and health confidence is as much a necessity as identifying the patient's extra medical needs and linking with needed services and resources to provide the patient with excellent patient-centered care and promote client self-advocacy and independence in alignment with the Case Management Society of America (CMSA) Standards of Practice (Morley & Walker, 2019).

The focus of this project was to develop and evaluate a program providing coordinated care to reduce the readmission rate for patients with select chronic conditions. Evaluating the data available for the clinical site, patients with CHF and COPD were chosen as the pilot focus group, due to the financial risk to the facilities as a result of penalties and quality initiative payment focus and the close clinical relationship of CHF and COPD diagnoses. The identified objectives for the program were to provide support, resources, and increased education to patients with COPD/CHF at the time of discharge to increase self-management skills with a goal of decreasing 30-day readmissions for patients with COPD/CHF. The rationale for this project was to address the recommendation of the Institute for Health Improvement, namely, provision of education to better manage their chronic conditions as well as to decrease the avoidable readmissions.

Inclusion criteria for this project included that the participants were all patients admitted as "observation' or "inpatient" status with CHF or COPD as a primary diagnosis. The participants were patients who were discharged to home (community environment) with or without home health care services. Patients who were excluded from consideration for the study were patients with a discharge destination of any type other than home or home with home health care services, such as, skilled nursing facilities, hospice, palliative care, or custodial care environments, or those having other end-stage comorbidities, such as end-stage renal disease, or malignancies were excluded from participation as well.

The intervention identified was to implement a program of multidisciplinary education during the patient's hospitalization for both patients and caregivers. Interventions proposed included education on chronic condition management, review of medications, equipment management, review of strategies to control symptoms, conserve energy, review or schedule follow-up appointments, gap finding for the

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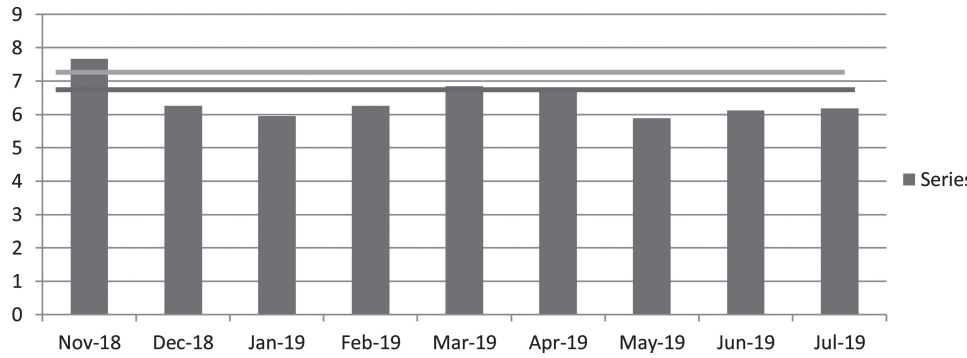

FIGURE 1
Readmission survey health confidence score results. Goal 7/10 denoted by gray line. Average score 6.41 denoted by black line.

discharge plan, and providing a point of contact for patient/family questions.

Results would be based on readmission reduction of the target project population compared with the standard discharge education process (regular discharge instructions, basic condition management education, and recommendation to follow up with primary care physician [PCP] visit within 7 days post-hospitalization). The goal was to decrease COPD/CHF 30-day readmission rate in the target population by 10% over the 1-year study period.

The Standards of Practice for Case Management direct case manager nurses and SWs to be advocates for patients and contribute to improved health outcomes by fostering case management growth and development, impacting health care policy, and providing evidence-based tools and resources. Professionals in the case manager role assume the role of "advocates who help patients understand their current health status, what they can do about it and why those treatments are important … by guiding patients and providing cohesion to other professionals in the health care delivery team, enabling their clients to achieve goals more effectively and efficiently" (CMSA, 2016, p. 3).

Synthesis of Literature

A search strategy was developed to find published studies relevant to the proposed project. The initial search was conducted in the following databases: PubMed, EBSCO-Host, CINAHL, MEDLINE, and two sources of processed studies, Joanna Briggs Institute and the Cochrane Library, using the key words of "CHF," "congestive heart failure," COPD," "chronic condition," "readmissions," readmission reduction," "discharge education," "health literacy," and "discharge." The date range for inclusion was determined to be between 2009 and 2019, with the exception of certain seminal readmission research studies. Systemic reviews and meta-analyses were retrieved and reference lists manually reviewed for additional primary sources and studies. The search was further limited to studies published in the English language and related to health care, human services, and acute care facilities.

Health Literacy/Confidence

The need to focus on health literacy goes to the core of health care. How do we, as health care practitioners, engage and empower our patients and their caregivers to be successful in managing complex medical issues combined with the day-to-day business of living. Protheroe, Nutbeam, and Rowlands (2009) note that "research on health literacy has shown that those patients with poor health literacy are less responsive to health education and use of disease prevention services, less able to successfully manage chronic disorders and incur higher healthcare costs."

Health literacy is defined as "the degree to which an individual has the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions" (Jordan, 2016, p. 2). Health literacy is considered a SDoH, a key in patient safety, and should be assessed and addressed for every patient every time in every health care encounter.

Loan et al. (2018) report that 88% of adults in the United States have health literacy limitations and 77 million struggle with routine care management tasks, such as following discharge instructions,

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engaging in appropriate timely follow-up, and medication adherence.

Rademakers and Heijmans (2018) report that patients with low health literacy have a correlated "capacity to act" or patient activation level. In their study, patients with low health literacy and low activation scores use more health care services, use more inappropriate level of care services (e.g., emergency department vs. PCP), and have less positive experiences with patient-centered care, shared decision-making, and self-management.

Unless the issue of health literacy is better understood and addressed, the likelihood of creating and environment where patients are engaged and empowered, able to achieve self-care with greater confidence and success is extremely low. Increasing a patient's health confidence score has been shown to lead to greater patient engagement in their health management.

There are several health literacy/health confidence tools in the evidence-based literature. The WSMC team reviewed all the tools identified and chose to incorporate the Wasson & Coleman Health Confidence Score tool for its simplicity in use; its single-question format was viewed as both nonthreatening and a conversation starter and a natural bridge to the intervention being developed.

Patient Education Models

Patient education is a focus of all the interventions reviewed in this proposal. Several of the studies evaluated intensive education plans. Blee, Roux, Gautreaux, Sherer, and Garey (2015) utilized a pharmacist-driven medication education program to increase understanding and compliance with medication usage. Reductions in COPD readmissions were reported from 21.3% preintervention to 8.6% postintervention. Cavalier and Sickels (2015) developed a checklist for chronic care management education, focused on patients with CHF and COPD. The checklist drives the patient education throughout the inpatient admission to account for all education required for effective diagnosis management. Use of the checklist reported a reduction in readmission for the population from 28.8% to 17.4%. Sookhoo, Pellowe, and Derham (2013) reported that patients with CHF receiving "enhanced" condition management education felt more empowered and confident in managing their symptoms, demonstrated improved medication adherence, and continued to be engaged in self-management education to the point that they could be utilized as peer mentors for other at-risk patients.

The importance of patient education is underscored by the need to effectively coach patients through self-management strategies. Linden and Butterworth (2014) report on the use of motivational interviewing techniques to increase patient engagement, starting while the patient was hospitalized and continuing periodically through the initial 90 days postdischarge. Although this intervention did not produce statistically significant reduction in 30-day readmission rates, patients reported feeling more educated about their chronic condition and more engaged in their self-management. Inclusion of patient caregivers in condition management education is imperative. Hahn-Goldberg, Jeffs, Troup, Kubba, and Okrainec (2018) state that "for complex medical patients, the ability to retain, understand and adhere to post-hospitalization instructions is a critical marker of successful transitions." Caregivers enable these patients by reinforcing and assisting in self-management according to the instructions provided, facilitating the recovery at home, and providing nonmedical support during recovery. The recommendation is that caregivers should be included in the self-management and discharge education as much as is possible.

Simulation is defined as "a useful means of teaching psychomotor skills in a controlled laboratory environment prior to patient contact" (Lewis & Ciak, 2011, p. 256). Simulation experiences are well documented in the literature in use for health care provider education and are generally accepted as valid and a cornerstone of provider education. The team hypothesized that simulation would be a valid strategy for patient education as well.

Current strategies for patient education included "teach back," also known as "tell back" or "show me," teach back includes provider-to-patient instruction and subsequent inquiry to the patient in the vein of "so I know I did a good job teaching you how to measure your insulin, can you show me how you are going to do this when you go home?" Selected patients (admitted with high-risk diagnoses) were also followed by a team of transition coaches who

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provide ongoing education and interventions postdischarge. By incorporating the standardized, evidence-based education from the transition coach program and "teach-back" strategies into a focused intervention with subject matter expert providers during the inpatient experience, it was postulated that patients' health confidence and engagement would increase.

Practice Recommendations

The use of focused discharge education has been demonstrated to produce measurable results in readmission reduction while also linking the patient with support and resources in the 30-day post-acute hospitalization period. This project required the dedication of a true interprofessional team, consideration to realign resources and responsibilities, and increased accountability by all care team members. Initial discussions and ongoing dialogue with senior administration, physicians, interprofessional care team members, post-acute service providers, and other stakeholders were key to the success of the program. Approval to initiate and pilot the program was obtained from all stakeholders with relative ease.

Stakeholders included patients, their families/support systems, facility and corporate leadership, physicians, and the entire interdisciplinary care team. Representatives from each group were sought to form the "Simulation Laboratory (SIM LAB)" Committee. Members included a physician champion, physicians representing each of the residency programs and the hospitalist groups, department heads, and staff-level representation from Nursing, Rehabilitation Services, Pharmacy, Dietary, Patient Financial Services, Case Management, and Administration. At the time of the project implementation, there was no patient or family representation on the committee.

The committee met several times to work out the structure and content of the educational activity. The final determination was to utilize a SIM LAB-type educational experience, combining several modalities of interactive teaching at a "station-based" experience not unlike circuit training.

Project Vision, Mission, and Objectives

The vision for this project was to create an inpatient education intervention to better prepare patients with chronic medical conditions for more effective self-management after discharge using a Skills Simulation Experience and focused one-on-one structured education format in a circuit-based intervention. The Health Confidence Lab was developed as an intervention for patients admitted to the hospital with COPD or CHF for the purpose of providing focused chronic condition management education. As an interdisciplinary intervention, the health care team presents standardized education in a circuit training presentation to allow for one-on-one interaction with health care professionals, using multiple teaching/learning strategies, to assist the participant in acquiring or reinforcing skills needed to successfully self-manage their conditions postdischarge.

For best results, this Health Confidence Lab experience occurs as close to the day prior to discharge as possible and brings all the patient teaching together with visual, video, and tactile learning opportunities. The patient's family/caregivers are also encouraged to attend to learn how to best support their "patient." The Health Confidence Lab is open daily, Monday through Friday, from 2:00 p.m. to 3:00 p.m.

By focusing on the prevention of 30-day hospital readmissions as the cornerstone of providing safe, smooth, and sustained discharges through education and patient engagement, WSMC could demonstrate accountability and elongate the influence of the hospital. There is an expectation that this practice change will not only be sustained but also grow to include more high-risk patient populations and be implemented at other corporate-owned facilities.

Project Structure/Workflow

A. Identification of participants
   1. Using the daily census, and Transition Coach Risk tool, the director of case management or designee is primarily responsible for identifying the population for this intervention.
      a. In addition, CM RNs/SWs refer patients for participation upon identification of need [TEMPO], patient/family interaction or other referral [RN, MD]).
   2. Participants are identified on the unit TEMPO Board, using the "I CAN'T" magnet.
   3. Identified participants are approached by transition coaches for participation in the Health Confidence Lab experience.
      a. The patient's assigned RN can address as part of the plan of care/patient education.
      b. Physician referral process in place through SW referral for "Health Confidence Lab."
      c. Potential participants are provided with one-pager info sheet about the Lab experience that is reviewed with them.

B. Preparation for participation
   1. Potential participants will receive RN Transition Coach Visits per current workflow and will be facilitated to view the designated self-management patient education videos on televised in-house education station *prior* to their Health Confidence Lab experience.

2. Potential participants also receive a visit from the CM RN/SW to confirm consent to participate.

C. Transportation to Health Confidence Lab
   1. Transportation of participants to/from the Health Confidence Lab will be provided by the WSMC Transportation department, according to the current process to order inpatient department-to-department transportation or by the assigned physical therapist who attempt to schedule Health Confidence Lab patients immediately prior to 2:00 p.m.

D. Lab experience
   1. Upon arrival, the participant(s) will complete the preintervention test and initial health confidence survey tool and receive the Lab Station Checklist/Feedback Form ("Green Passport").
      a. Patient identification stickers are affixed to each document.
   2. Participants can start their Health Confidence Lab experience at *any* station but must visit all stations before checking out of the laboratory.
   3. After completing the station circuit, participants will complete the postimplementation test and postexperience health confidence survey to determine the impact of the educational experience in preparing a participant for self-management.

E. Documentation

F. 1. The Lab Station Checklist/Feedback Form is added to the patient's chart and serves as a feedback form for the participant's health care team in identification of gaps, changes in plan of care, or discharge planning considerations.
      a. Each discipline is expected to follow up on and resolve the feedback, recommendation, or identified gaps prior to discharge.
      b. The CM RN/SW reconciles the feedback form to ensure all follow-up items are addressed prior to the participant's discharge.
   2. Each discipline documents its interaction/interventions during the Lab experience in the participant's medical record.
   3. All documents are reviewed and collated to assess for value of experience to participants and increase in health confidence.
   4. Participants are also tracked in the WSMC system for 30-day readmission and impact of Lab experience on readmission rate.

G. Educational experiences

Using information from the evidence-based practices and subject matter experts, such as the American Lung Association (COPD) and the American Heart Association (CHF), the participant(s) engage in learning opportunities at the following stations in the Health Confidence Lab:

1. Signs and Symptoms (NUR)
   a. Stoplight tool from the American Lung Association/American Heart Association
   b. Who to call and when to call
   c. Review of transition coach education packet
   d. Viewing of chronic condition management videos
2. Medication reconciliation station (RX)
   a. Managing your Meds
   b. Medication Mgmt Tips
3. DME station (DME Provider, RT)
   a. Use and Cleaning of Nebulizer, O_2, and or other devices
   b. Ability to "hands-on" with unfamiliar equipment (continuous positive airway pressure, BiPAP, O_2 concentrator, nebulizers) using demonstration models
4. Protecting Your Lungs (NUR, RT)
   a. Identifying triggers
   b. Lifestyle changes
   c. Measurement skills and tools (hands-on experiences with devices)
5. Physical Activity (PT)
   a. Endurance and exertion
   b. Conservation strategies
   c. Stair training/assessment if needed
6. Planning for the Future/Discharge (CM RN/SW)
   a. Goals of Care/End-of-Life Care
   b. Paperwork Management (Powers of Attorney for Health Care, Surrogate Decision Maker)
   c. Post-Acute Follow-Up Appointment review/scheduling if needed
   d. Connection with post-acute resources
   e. Review of services setup

Clear and easy identification of the program's patient population through daily reports was also noted to be a priority. Identification at this time was a manual process of reviewing the medical record on each admission for primary or secondary included diagnosis, age, and payer.

The cost of this program must be interpreted in the light of the productivity of the Health Confidence Lab staffing, the potential reduction of rehospitalization rates, and accompanying cost savings and potential increase in patient/physician satisfaction scores, which are a key indicator of loyalty. The source of funding for this program was mainly the Case Management Department's budget for furnishings and printing and participating departments staffing budgets. Staffing was estimated to begin with one representative from each discipline for 1 hr per day, 5 days per week.

The implementation of this project began in January 21, 2019, and continues to date. The daily census is reviewed, and patients meeting the criteria established for inclusion were/are recruited for participation into the project. As of December 31, 2019, a total of 130 patients were recruited to the project of the 323 identified by primary diagnosis. This demonstrates a "capture rate" of 37.15% (see Figure 2).

Updates on the progress of the project and preliminary evaluations were/are presented at the monthly Quality Improvement Council, monthly Readmission Committee, and bimonthly Utilization Review Committee.

Project Evaluation

Project evaluation was completed by comparing pre- and postintervention data for the target population to evaluate for reduction of actual readmissions for the target population, including observation status admissions. The intervention's success was based on lack of readmission within 30 days of discharge for the index admission of the target population member. The evaluation created a nominal ranking, reporting the percentage of target diagnosis population experiencing a readmission after a qualifying index admission. A decrease in 30-day readmission rates for the target population was the expected outcome.

Data were obtained through the MIDAS database, which is the validated "source of truth" for the facility. Data were collected daily and weekly through admission reports and monthly to determine 30-day readmission. Milestones to evaluate the efficacy of this plan were planned at monthly, quarterly, and yearly intervals postimplementation. Thirty-day readmission is calculated as any readmission within a 30-day period of the initial (index) admission and as such a regular monthly report would not address the admissions/readmissions occurring in overlapping time periods. Readmission determination was manually reviewed through the electronic medical record, using the patient's index admission as a guide and searching for subsequent admissions 30 days postdischarge from the index admission.

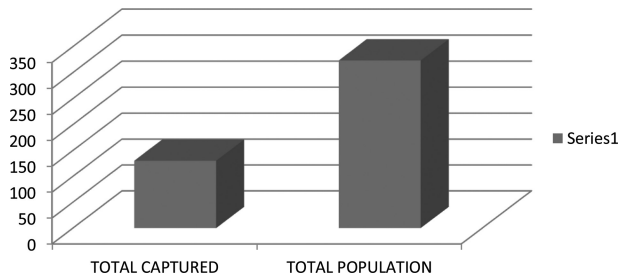

FIGURE 2
Comparison of total captured (participated) versus total identified population. Demonstrates capture rate of 37.15%.

Respect for persons (autonomy) empowers people to make their own informed decisions. Participation in the project was through informed consent. Each patient had an individual introductory meeting the SW manager to describe the intervention and document the patient's decision to participate. The patient had the option to "opt out" of participation. As noted in the participation percentage, the opt-out rate so far has been 62.85%.

Forms used in the Lab experience with patient identifiers are securely scanned into the electronic medical record. Pre/postintervention test scores, pre/postintervention health confidence ratings, and de-identified comments are recorded only for data purposes. For the purposes of this project, specific patient identification was not deemed necessary as the results were reported in aggregate increases/decreases in readmissions over time

Data analysis for this project included the review and evaluation of the 30-day readmission rate monthly over the project period. Patients were recruited daily and reviewed after 30 days postdischarge to evaluate for any readmission occurrence. During the time frame of the project, 323 patients were identified as eligible for participation in the project. Of those identified as eligible, there were 130 patients who completed the intervention.

Data collected included the following:

1. Participation in SIM LAB experience;
2. Readmission events within 30 days from index admission;
3. Patient self-evaluation of ability to care (pre/postintervention test);
4. Patient self-evaluation of health confidence score (pre/postintervention)

The initial evaluation is reported as a straightforward percentage of population experiencing readmissions and follows the guidelines set forth by Medicare for consideration. Based on the current data analysis, there has been a reduction in readmissions for the participation group versus the nonparticipation group. The intervention period (January–December 2019) noted a readmission rate for the target population of patients with COPD/CHF of 10.12% compared with the nonparticipation group readmission rate of 21.05% (see Figure 3).

This demonstrates a 10.93-percentage point decrease in readmissions and a relative risk reduction of 51.9% in the participation group. Notably, SIM LAB participants accounted for 4.3% of all COPD/CHF readmissions for the 2019 data period (see Figures 4 and 5).

Upon entry to the SIM LAB, each participant completes a 10-item inventory of self-management

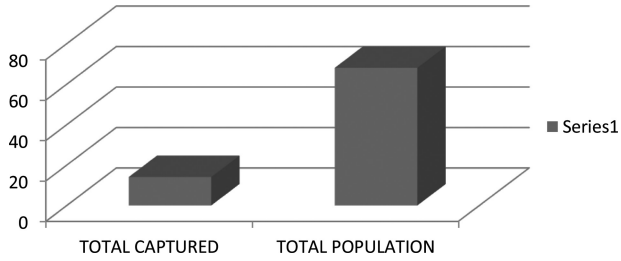

FIGURE 3
Comparison of total captured (participated) versus total identified population readmissions.

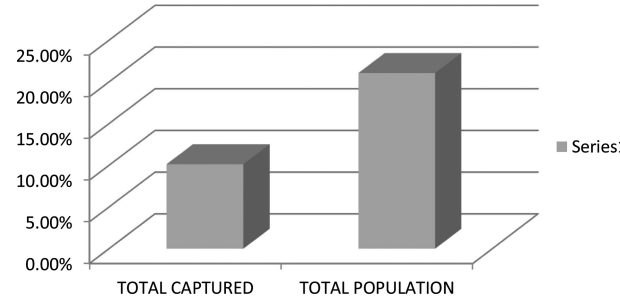

FIGURE 4
Comparison of total captured (participated) versus total identified population readmission rate.

tasks, covering topics such as exacerbation recognition, activation with PCP, medication self-management, and durable medical equipment maintenance. This inventory (pretest) is scored on 1- to 5-point scale (1 "not confident" to 5 "very confident"), with a maximum score of 50 points. The same inventory is completed at the end of the SIM LAB experience (postintervention test). We noted that many participants were giving themselves a "5+." To account for this "upgrade" in the patient's perception of his or her personal evaluation of his or her skills inventory, the team determined to award an additional 1 point for each "5+" noted, giving a maximum point value on the postintervention test of 60 points.

It is important to note that this inventory is completed from the patient's perspective, and many answered the preintervention test with higher end scores, feeling that they were well prepared but after completing the intervention, realized that they had learned so much more that they felt the need to communicate that with adding a handwritten "+" to the grade scale. As this tool is patients' perception of their skills inventory, we felt the need to validate and recognize their personal rating. The average preintervention test score of the participants was 39.6/50, whereas the average postintervention test score increased to 50.2, a 21% increase in perceived knowledge base (see Figure 6).

At the same time as the self-management inventory is administered, patients are asked to complete the one-question health confidence survey. Created and validated by Dr. J Wasson, MD, and Dr. E. Coleman, MD, MPH, the tool considers that "health confidence is an effective proxy for engagement, and practices can easily measure it using a single question: "How confident are you that you can control and manage most of your health problems?" (Wasson & Coleman, 2014, p. 8). Patients can rate their confidence on a scale from 0 ("not very confident") to 10 ("very confident"). A score of 7 or higher is the desired response. SIM LAB participants' average health confidence score prior to intervention was 6.71 (under the baseline desired 7.0 or 0.95/1.00 desired outcome) and postintervention was 8.74 (significantly higher than the 7.0 baseline or 1.25/1.00 desired outcome). The net gain is noted as 2.03 points on the 10-point scale (see Figure 7).

Implications for Case Management

Readmissions are viewed as a failure of the discharge plan. Ensuring that a patient and his or her caregiver are properly and sufficiently educated to manage the patient's chronic conditions prior to and at the time of discharge can be challenging. Establishment of and adherence to standards and expectations of discharge planning and discharge education are key to ensuring that patients are equipped for success. The Centers for Medicare & Medicaid Services' (CMS') Conditions

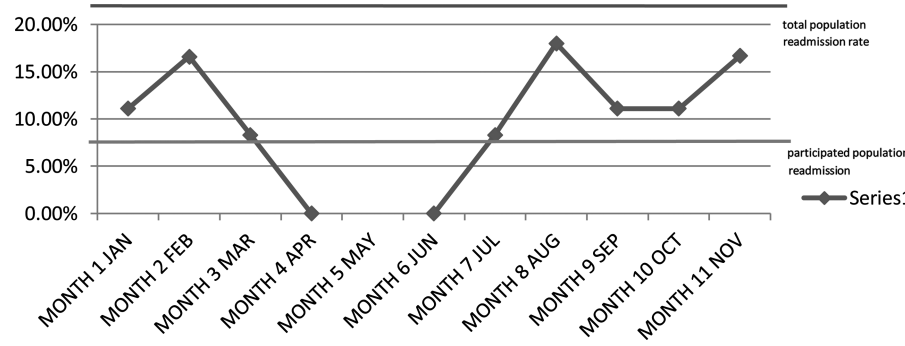

FIGURE 5
Month-by-month project participant readmission rate.

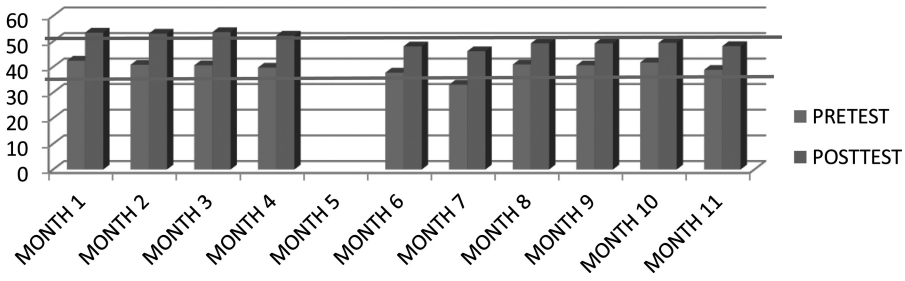

FIGURE 6
Pre/postintervention test score comparison month by month.

of Participation for acute care facilities address the basic tenets of the discharge planning process, such as who can assess and create a discharge plan, elements of the plan, and freedom of choice for post-acute providers. Missing from this directive are standards and expectations for discharge education to patients/caregivers, especially for chronic condition management.

Acute care facilities face increased financial repercussions from readmissions, in the form of penalties and nonreimbursed care episodes. All health care professionals should be educated on these financial issues facing health care, being directly related to their interventions. Ineffective discharge planning and education are also reported on patient satisfaction surveys, which directly impact the facility's CMS Star rating, also impacting the reimbursement level. Implementing a discharge skills laboratory model to reinforce the condition management education predischarge is an effective strategy to improve patient satisfaction and decrease readmissions.

Conclusion

Low health literacy has been demonstrated to be a barrier to a patient's postdischarge success, leading to adverse events such as medication errors, poor follow-up, and readmissions to acute care. The current state of the discharge process has been shown to be ineffective at successfully transitioning patients with chronic conditions back to the community. Evolving the discharge process from a transactional process of physician order, written discharge instructions accompanied by a stack of indecipherable patient education handouts, and recommendations on a follow-up time frame is necessary to serve the needs of the chronic condition management population. Moving to an interactive transitional process with a focus on improving patients' health literacy and health confidence through active education and patient engagement opportunities incorporated into the acute length of stay will require focus on process improvement, stakeholder education, and creation of an active interprofessional collaboration to provide the best support and education for each patient/population.

Research demonstrates that interventions started in the acute facility and carried through the transition to the community for a minimum of 30 days are more effective at reducing readmissions than interventions initiated postdischarge. Implementation of an acute inpatient level of care in-depth patient/caregiver condition management education intervention, utilizing elements of simulation, established transitional care programs, and discharge education models combined into a facility-specific model has been demonstrated to meet the needs of the patient and facility to reduce readmissions. Evaluation of the project results notes that there was a significant decrease in COPD/CHF readmissions during the implementation period, noted as 10.12% for the intervention group versus 21.05% for the nonparticipant group. From a patient engagement viewpoint, the increase in the patient's perception of his or her ability to perform the skills

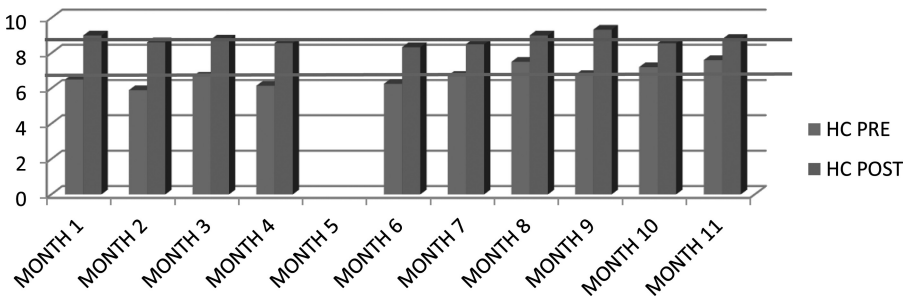

FIGURE 7
Health confidence pre/postintervention score comparison month by month.

Research demonstrates that interventions started in the acute facility and carried through the transition to the community for a minimum of 30 days are more effective at reducing readmissions than interventions initiated postdischarge.

needed to manage chronic conditions indicated a 21% increase in the skills inventory score from preintervention to postintervention. This gain is reflected in the increase in the health confidence score from preintervention (6.71) to postintervention (8.74), a net gain of 2.03 points on the 10-point scale.

The discharge process for patients at a higher risk for readmissions must be reevaluated to include consideration of SDoH, particularly health literacy. Creating a more robust education plan than the standard discharge instructions and outpatient follow-up, complete with active assistance in understanding the complexities of self-managing a chronic condition and navigating the immediate postdischarge period, has been shown to increase patient engagement in self-care, as demonstrated by the link between improving health literacy, increasing health confidence, and through this empowerment, helping reduce readmissions for the patient and facility.

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