2019

Increased Patient Portal Usage Following an Educational Intervention

Renee Lynn Robinson
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Renee Robinson

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Mary Verklan, Committee Chairperson, Nursing Faculty
Dr. Jennifer Nixon, Committee Member, Nursing Faculty
Dr. Faisal Aboul-Enein, University Reviewer, Nursing Faculty

The Office of the Provost

Walden University
2019

Abstract

Increased Patient Portal Usage Following an Educational Intervention

by

Renee Robinson

MSN, Walden University, 2014

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2019

Abstract

The patient portal, a Health Information Technology (HIT) tool, was created to help patients become engaged with their health and health information to improve health outcomes. The practice problem was the low patient portal use and lack of nurses' knowledge of patient HIT tools at an urban ambulatory clinic in the northeastern United States. The practice-focused question explored whether an educational intervention with the care coordination team (CCT) would increase prescription refill requests and facilitate patient-provider communications via the patient portal. The 2 frameworks used for the project were Knowles's adult learning theory and Lewin's theory of change. The preintervention data were collected from an electronic-medical-record-generated report that provided portal usage for the 6 months prior to the intervention. The CCT members were trained on teaching and modeling portal use from the perspective of the patients. A checklist of steps was created and given to the CCT to be used in patients' education. Postintervention reports showed that the patient portal usage for patient-provider communication increased by 165%. The prescription refill requests did not show an increase because medication used to treat chronic conditions were typically supplied for 6 months. The implications of this project for social change include the potential for providers to improve how they interact with their patients by incorporating patient portal education inpatient visits.

Increased Patient Portal Usage Following an Educational Intervention

by

Renee Robinson

MSN, Walden University, 2019

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2019

Acknowledgments

First I have to thank GOD for giving me the strengh, direction and guidance to take and continue on this journey. My husband and children; you supported me for the last four years and for that I am grateful. A heart felt thank you to Dr. Verklan and Nixon for time your and support, I could have never done this without you. To the doctoral prepared nurses that I have encountered on this journey, Dr. Sengstack and Dr. Hash thank you for all the encouragement and being my sounding board when I needed.

Table of Contents

List of Tables

List of Figures

Section 1: Introduction

Introduction

Healthcare organizations have begun to gradually engage patients in the management of their own care. Patient-centered care enlists patients to act as essential members of their care team and allows them to contribute to the information that forms the basis of their care (Mishuris et al.; 2015). As part of the American Recovery and Reinvestment Act of 2009, the Health Information Technology for Economic and Clinical Health (HITECH) Act provides meaningful use incentives to hospitals that offer patient portals (Mishuris et al. 2015). The provided incentives are designed to increase patient portal usage and to engage providers to encourage their patients to become active members in their own care (Mishuris et al. 2015). Despite these incentives and evidence that patient portals can improve healthcare service delivery and outcomes, there remains a low adoption rate for patient portals, with only 30% of patients having an access code (Mishuris et al. 2015). The nature of this project was to provide an educational intervention for patient care coordination team to encourage increased patient portal engagement, which can ultimately improve the health of the populations served by the facility (Hofer, Choi, Mase, Fagerlin, Spencer, & Heisler, 2017). Improving patient access to health information and communication with providers is an essential step toward health promotion, self-management of disease, and shared medical decision-making. In section 1 the problem statement, the purpose of the project, the nature of the doctoral project, and the significance of the project were discussed.

Problem Statement

The introduction of electronic medical records (EMR) into healthcare settings has resulted in the development of patient health information technology (HIT) tools, which can enable patients to become engaged with their health and health-related information (Tiase, 2015). Currently, patients cared for in ambulatory clinics do not take advantage of patient portals. Research suggests that a lack of knowledge regarding what a portal is and how to use it, as well as a lack of internet access, are factors that contribute to patients not taking advantage of these tools (Nguyen, Mosadeghi, & Almario, 2017). Clinicians, in particular, do not receive training on how to use patient HIT tools (Nahm et al., 2017). An educational intervention was used to train the nurses in how to request prescription refills, how to send patient-provider communications, so that they could teach their patients to use the patient portal, to help increase portal usage. The Health Information and Management Systems Society, Technology Information Guiding Education Reform (TIGER) initiative encourages nurses to familiarize themselves with HIT tools and to partner with patients and families to increase engagement with these tools (Tiase, 2017).

EMRs have been in place for over a decade; thus, there is a need to leverage nurses to help engage patients with HIT tools. Patients are provided with opportunities to sign up for portals during office visits and often receive a pamphlet containing instructions for signing up later. Despite these attempts, the use of patient portals remains low, with an adoption rate of approximately 30% (Mishuris et al. 2015). My goals for this

doctoral project were significant for the field of nursing because my project filled a knowledge gap regarding how to use a patient-centered healthcare tool.

Purpose

One gap in nursing practice is the lack of knowledge regarding how to use HIT tools (Nahm et al., 2017). Nurses can encourage patients to use portals but often lack the knowledge regarding how to use the portals themselves. As trustworthy members of care team, nurses optimally positioned to promote patient engagement with HIT tools, and HIT tools are catalysts that drive greater patient engagement.

The practice-focused question was: Will an educational intervention with the care coordination team increase prescription refill requests and facilitate patient-provider communications via the patient portal? My goal for this project was to provide necessary education to nurses regarding how to use patient portals, allowing them to promote and encourage patient engagement with portals. The American Nurses Association Scope and Standards of Nursing Practice and the Scope and Standards of Nursing Informatics Practice support the use of healthcare technologies to engage patients (Tiase, 2015).

Nature of the Doctoral Project

The purpose of this project was to encourage patient portal use among patients seen by a care coordination team and to measure whether the educational intervention provided to the care coordination team increased the use of the patient portal. The retrospective data collected provide the number of active patients on the portal and the past 6 months' percentage rates for refill requests and patient-provider communication.

The data were used to measure the rate of success. An educational intervention regarding how to use the patient portal was provided to the care coordination team. During the intervention, the team was provided with a training manual checklist that included step-by-step instructions of how to teach patients to use the portal, to use during office visits, home visits after the project ends. The post-intervention data were analyzed, sorted, and expressed as percentages of the total active portal population and of the patients who use the portal. The desired increase for portal usage is at least 10%. One gap in nursing practice is that nurses do not receive training with regards to patient-centered HIT tools; therefore, the educational intervention provided the nurses on care coordination team with knowledge regarding the functionality of the patient portal. With this knowledge, nurses taught their patients how to use two functions in the portal: how to request prescription refills and how to send patient-provider communications.

Significance

The significance of this project was the development of educational and training classes for HIT tools that can be readily provided to nurses when they receive new hire training for EMR. Nurses who are proficient in the patient-centered HIT tool can engage patients and families with the patient portal for better-managed care. Collaboration among all stakeholders is a vital measure for translating best evidence into practice. A partnership strengthens both health care delivery and nursing practice and improves outcomes. The stakeholders for this project were the physicians, practice managers, care coordination team, office staff and ambulatory directors. The potential impact on the

stakeholders is that the patients they serve will be more engaged with the portal, which will result in a decrease in the number of phone calls they receive for prescription refills and an increase in patient communications with providers, which can result in more timely interventions (Miller, Latulipe, Melius, Arcury and Quandt, 2016). However, providing education during office visits will cause the visits to take longer than normal (Miller, et al., 2016).

The goal of this project aligned with the goal of providing safe, effective, patient-centered, timely, efficient, and equitable health care for the betterment of people. Office-based physician practices across the United States have achieved an adoption rate of 86.9% for the use of EMRs, which provide patients with access to their health information via the patient portal (CDC, 2017). Patient portal engagement leads to better management of care, which can reduce costs associated with chronic disease management (Hofer et al., 2017). Nurses are well-positioned to promote and encourage patient engagement with portals, which may improve health outcomes.

The educational intervention provided to the care coordination team has the potential to change the training and education that nurses receive when working within health systems that utilized electronic charting. The implementation of this project contributed to nursing practice by filling a knowledge gap in how to use patient-centered HIT tools. Patient portals are making patient-centered partnerships between the patient and his or her care team possible, for the betterment of the patient and their health outcomes (Mishuris et al., 2015).

Summary

As part of the American Recovery and Reinvestment Act of 2009 and the Health Information Technology for Economic and Clinical Health (HITECH) Act, hospitals were provided with incentives if they offered patient portals to their patients (Mishuris et al. 2015). Despite these incentives and the association between patient portals and improved health outcomes, patient portals have a low adoption rate of approximately 30%. Clinics that provide primary care have care coordination team that provide disease management options to patients with diabetes, heart failure and COPD. The methodology of this project involves a quality improvement approach, with a pre- and post-intervention design. The practice question was: Will an educational intervention for care coordination team increase the use of patient portals to request prescription refills and facilitate patient-provider communication? In Section 2, I will address the following topics: the theory of planned change and the adult learning model, which are the frameworks used to guide this project, the relevance of patient portals for nursing practice, the local environment, and the role of the DNP student and the project team.

Section 2: Background and Context

Introduction

Healthcare organizations have begun to gradually engage patients in the management of their own care. Patient-centered care enlists patients to act as essential members of their care team and allows them to contribute to the information that forms the basis of their care (Mishuris, et al., 2015). As part of the American Recovery and Reinvestment Act of 2009, the Health Information Technology for Economic and Clinical Health (HITECH) Act provides meaningful use incentives to hospitals that offer patient portals (Mishuris et al. 2015). The provided incentives are designed to increase patient portal usage and to engage providers to encourage their patients to become active members in their own care (Mishuris et al. 2015). Despite these incentives and evidence that patient portals can improve healthcare service delivery and outcomes, there remains a low adoption rate for patient portals, with only 30% of patients having an access code (Mishuris et al. 2015).

The nature of this project was to provide an educational intervention for patient care coordination team to encourage increased patient portal engagement, which can ultimately improve the health of the populations served by the facility (Hofer, et al.,2017). Improving patient access to health information and communication with providers is an essential step toward health promotion, self-management of disease, and shared medical decision-making.

Section 2 includes the concepts, models and theories that were used to guide this study, the relevance this study has for nursing practice, background information that is relevant to this study, the context of this project, and the roles played by the doctoral student and the project team.

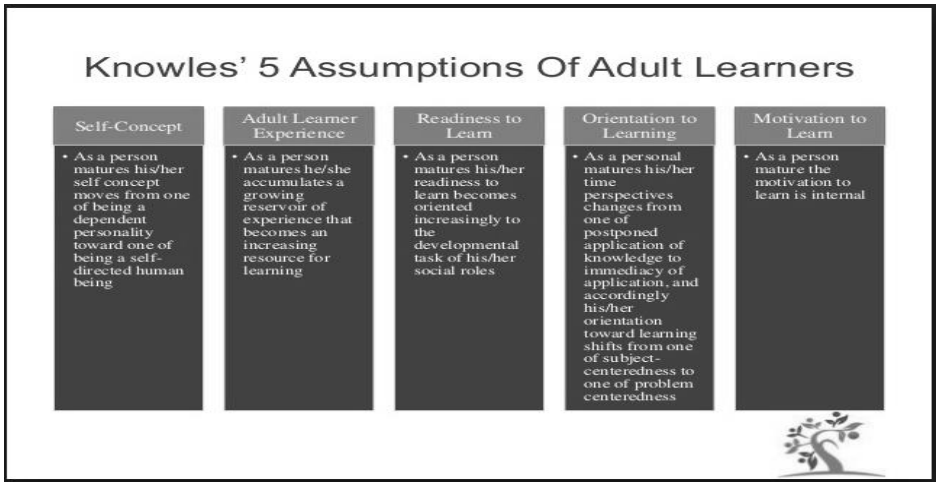
Concepts, Models and Theories

I used the adult learning theory that was developed by Malcolm Knowles to guide the educational intervention provided to the care coordination team. The adult learning model was chosen because it provides guidance regarding how to effectively deliver education to adults. I used Kurt Lewin's theory of planned change as the framework to implement the change. The planned change approach helps to prepare both the facilitator and the stakeholders for what to expect, while also providing methods for alleviating barriers and challenges.

The adult learning theory created by Malcolm Knowles is composed of six assumptions (McEwen & Wills, 2014) and was used to guide the delivery of the intervention. The first assumption, self-concept, outlines how a person matures in their thinking as they move from being a dependent thinker to being a focused thinker that moves in a particular direction. The next assumption, the adult learner experience, explains that, as an individual matures through life experiences, he or she builds a bank of knowledge from which to retrieve resources during learning. The third assumption, readiness to learn, explains that, as individuals mature, their eagerness to learn is more focused on the social roles that they have taken on. Orientation to learning, the fourth assumption, postulates that, as a person gets older, his or her outlook changes from the delayed application of knowledge to the instant

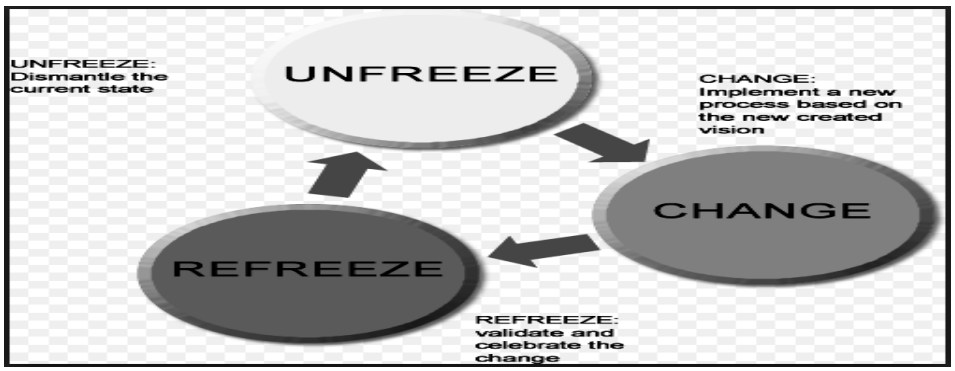
application of knowledge. The last assumption is motivation to learn, which implies that learning comes from within (McEwen & Wills, 2014).

The adult learning theory is focused on strategies that help adults to learn. Providing an environment that supports trust, respect, openness and the acceptance of diversity is imperative to creating a successful learning experience (McEwen & Wills, 2014). Adults must understand why the education is necessary, and in this project, it is necessary to acquire knowledge regarding how to teach patients to use the portal. The assumption of self-concept helps the project by raising awareness that attention must be paid to the individuality of learners. The experience of leaners can benefit the project by sharing those experiences that enhance the learning experience, which can be accomplished by assessing the learners existing knowledge regarding the portal. Readiness to learn is another assumption of Knowles, and establishing the benefits that can be derived by engaging patients with the portal can create a desire for newly educated learners to apply their newly acquired knowledge to their work environments. According to Knowles, motivation to learn in adult learners increases when they recognize that learning results in solutions to known problems, and the lack of patient engagement with the portal is a problem that can be solved through educational interventions (McEwen & Wills, 2014). Tailored education results in better learner experiences (McEwen & Wills, 2014).



Lewin's theory is rooted in a concept of the opposition between an existing field, which can represent any system and requires the close evaluation of all of the affected parts within the system, and any force that has power, an application and a path, which creates the driving and restraining forces that disrupt the status quo (McEwen & Wills, 2014). Any change passes through the following three phases: the unfreezing or disruption of current processes; movement into a new state; and the refreezing of a new state deemed to be successful (McEwen & Wills, 2014). The theory of planned change was chosen to guide the change at the project site because it allows stakeholders to express their opinions for consideration before a change is implemented, which can result in a more successful change process. According to Lewin, a planned change can be an effective change (McEwen & Wills, 2014). Acceptance of the reasons for change and resistance to change creates driving and restraining forces, respectively; therefore, providing the reasons for change is necessary to minimize the resistance to change. To attain stakeholder endorsement of the project, it is necessary for them to acknowledge that patients who are engaged with their portal have improved outcomes due to better managed care. Soliciting feedback regarding what a new

state should like can ease the coordination to the new state and assessing which parts of the coordination process are successful and which are not allows the process to be improved until it becomes sustainable.



Definitions of Terms

The relevant terms used in this paper are defined as follows:

American Recovery and Reinvestment Act (ARRA): legislation that was enacted to encourage the use of technology in healthcare and to provide oversight of this use (Release of Information, 2016).

Health Information Technology for Economic and Clinical Healthcare (HITECH): a part of the American Recovery and Reinvestment ACT of 2009; it provides incentives for increasing the adoption of electronic medical records (Release of Information, 2016).

Healthcare Information and Management Systems Society (HIMSS): an organization focused on improving health through information and technology (HIMSS, 2018).

Meaningful Use (MU): an incentive program that was established to reward healthcare facilities for adopting certified electronic medical records (Release of Information, 2016).

Protected Health Information (PHI): A person protected health information.

Socioeconomic: the combination of social and economic factors (Merriam-Webster, 2018).

Stakeholders: individuals that are concerned about organizational systems because of potential for changes in these systems to impact their work, depending on the problem (Merriam-Webster Dictionary, 2018). The stakeholders for this project are the employees in the ambulatory clinic, ambulatory directors, practice managers, providers, office staff and the care coordination team.

Technology Informatics Guiding Educational Reform (TIGER): an initiative that was established in 2004 to improve patient care via the use of health information technology and that outlines a mutual vision, strategy and actionable items that impact the nursing practice and education (Hübner, Ball, de Fátima Marin, Chang, Wilson, & Anderson, 2016).

Relevance to Nursing

Health care settings have experienced low adoption rates for patient portals, with only approximately 30% of patients receiving access codes (Mishuris et al. 2015).HIT tools were introduced with the intent of engaging patients and families to become more involved with their own health and health information. According to a 2014 national survey performed by the CDC, 74.1% of provider offices use electronic health records (CDC, 2017). The use of health information technology in health care has skyrocketed, and nurses are optimally placed to engage with patients regarding the use of patient-

centered HIT tools. However, many nurses lack training in health information technology tools (Nahm et. al., 2017). The TIGER initiative was formed to organize nursing stakeholders, with the aim of improving nursing practices, care delivery, and education through a shared vision of leveraging health information technology (HIMSS, 2018). The primary objective of TIGER was to inform nursing stakeholders of the need for a nursing workforce that is capable of providing and improving care through the use of electronic health records, to engage more nurses in the process of building technical infrastructure for health care, and to increase engagement with smart technologies that can be used to deliver safer, more efficient, timely, accessible, and patient-centered care (HIMSS, 2018). TIGER envisions empowering nurses to use informatics tools, ideologies, and concepts to improve nursing practices and provide patient care that is patient-focused, current, well-organized, and timely (TIGER, 2018).

The TIGER initiative was started in 2004, and in 2006, the nursing stakeholders held a summit to collaborate and commit to some actionable tasks. From the summit came a 3-year plan, which was the start of a 10-year vision, for improving care and nursing practices through a collaborative team approach? The topics that received attention were standards and interoperability, national health information technology, informatics competencies, education and faculty development, staff development, usability and clinical application design, virtual demonstration, leadership development, consumer empowerment, and personal health record (HIMSS, 2018). The TIGER initiative aims to increase the awareness of practicing nurses in the United States of the

necessity of incorporating informatics technologies with nursing education and practices (TIGER, 2018).

Another approach designed to aid nursing workforce is the HIMSS online virtual learning environment, which provides health information and technology resources that can be incorporated into curricula (HIMSS, 2018). The American Nurses Association (ANA) and HIMSS have joined forces to drive the position statement by the Institute of Medicine (IOM), The Future of Nursing: Leading Change, Advancing Health (ANA, 2018). HIMSS has established an informatics foundation for nurses, which can reach millions of nurses through the ANA (ANA, 2018). To increase patient engagement with HIT tools, nurses must be comfortable using technology and be prepared to adopt technologies into their daily workflows.

The average practicing nurse in the United States is 47 years old and is considered to be a digital immigrant, as opposed to newer practicing nurses who grew up using technology; therefore, the HIMSS stated goal is to reach as many practicing nurses as possible to bridge the technology gap (HIMSS, 2018). Large numbers of practicing nurses have not learned how to use computers or HIT effectively, and therefore have not incorporated technologies into their practices (HIMSS, 2018). The implementation of this doctoral project advanced nursing practice by providing an educational intervention regarding the use and incorporation of health information technologies into daily practices.

Local Background and Context

Cultivating the management of self-care for patients with costly chronic conditions, such as diabetes and congestive heart failure (CHF), has become a primary concern across the country. People with chronic healthcare issues cost the United States over two trillion dollars in healthcare spending, annually (Ory et al., 2013). Disease prevention and better-managed care may reduce healthcare costs (Kaiser Family Foundation, 2012). Patient portals can be leveraged to reduce health care spending due to poor disease management and to engage people with their own health and health information. Although patient portals have been shown to improve health outcomes, and despite existing financial incentives, there has been limited adoption and engagement with patient portals (Mishuris et al. 2015). At the project site, the current rate of patient portal adoption is 30%, with a patient population that is characterized by low socioeconomic status which according to Nguyen, Mosadeghi and Almario (2017) is a population that has been previously characterized by a lack of portal engagement. The 30% represent how many patients are active on the portal however it doesn't represent the portal usage. Some contributing factors that limit engagement with patient portals include a knowledge deficit, technical literacy, and internet access (Nguyen, Mosadeghi, and Almario, 2017). The idea for the project arose from the low patient portal adoption rate observed on the executive dashboard. As an Informaticist overseeing both the hospital and the ambulatory clinic, I chose the ambulatory setting for the introduction of

this project because primary care providers have relationships with patients, allowing them to follow up with patients.

Ethnic minorities with lower socioeconomic standing tend to have lower medication compliance rates and lower quality of care associated with chronic diseases and low portal adoption rates (Hofer et al., 2017). The project site is located in a busy urban location in the Northeastern United States, as part of a hospital affiliated primary care practice. The population is 65.9 percent African American, with an annual income of less than $25,000 for a family of three, according to a 2016 needs assessment performed by a local community hospital (Bon Secours, Community Works, 2018). Increased adoption and engagement with patient portals among this population has the potential to not only reduce costs but also improve clinical outcomes.

Role of the DNP Student

I am a nurse Informaticist working at an acute hospital and currently have oversight of the health information technology needs and goals of ambulatory clinics. I have a stake in leveraging technology to improve patient outcomes. As a doctoral student, I facilitated my DNP project through time management, communication, education and evaluation for the betterment of the patients we serve.

My role in the project was to provide the educational intervention to the care coordination team and to monitor whether the provided educational intervention increases patient engagement with the portal. First, I met with the team and discuss the project and the next steps. Next, I educate the care coordination team in how to use the portal, which

allowed them to teach their patients who are active on the portal. The DNP student requested six months of data, one day prior to the intervention, to show the past percentages for refill request and patient-provider communication. Thirty days post the intervention, the DNP student requested the current portal usage number for refill request and patient-provider communication to measure whether the intervention influenced the portal use.

Summary

Cultivating self-care management for patients with costly chronic conditions, such as diabetes and CHF, and COPD has become a primary concern across the country. Diabetes care costs the United States billions of dollars every year, according to the American Diabetes Association (2013). Chronic obstructive pulmonary disease (COPD) is also a financial burden for the U.S. and is predicted to cost 49 billion dollars by 2020 (Ford, Murphy, Khavjou, Giles, Holt, and Croft, 2014). The patient portal provides an avenue for improving patient outcomes. Utilizing nurses to engage patients with the portal can improve health outcomes. The goal attainment theory was discussed as the guiding framework for the engagement work between the nurse and the patient. People with chronic health care issues cost the United States over 2 trillion dollars in health care spending, annually, as of 2013. As a DNP student, I will deliver the educational intervention to nurses to address this gap in practice. The patients received education from the care coordination team regarding the portal functionalities of requesting prescription refills and communicating with the provider. In section three discussed the

use of an EMR generated report to collect, analyze, organize and track the data that was used to measure the outcomes directly related to the intervention.

Section 3: Collection and Analysis of Evidence

Introduction

Healthcare organizations have begun to gradually engage patients in the management of their own care. Patient-centered care enlists patients to act as essential members of their care team and allows them to contribute to the information that forms the basis of their care (Mishuris et al., 2015). As part of the American Recovery and Reinvestment Act of 2009, the HITECH Act provides meaningful use incentives to hospitals that offer patient portals (Mishuris et al. 2015). The provided incentives are designed to increase patient portal usage and to engage providers to encourage their patients to become active members in their own care (Mishuris et al. 2015). Despite these incentives and evidence that patient portals can improve healthcare service delivery and outcomes, there remains a low adoption rate for patient portals, with only 30% of patients having an access code (Mishuris et al. 2015).

The nature of this project was to provide an educational intervention to the care coordination team to encourage increased patient portal engagement, which can ultimately improve the health of the populations served by the facility (Hofer et al., 2017). Improving patient access to health information and communication with providers is an essential step toward health promotion, self-management of disease, and shared medical decision-making. Section 3 includes the data collection process, the sources of evidence, the data collection protocol, and the analysis and synthesis of the data.

Practice-focused question

Patient portal engagement has positive impacts on patient outcomes (Hofer et al., 2017). Despite the financial incentives offered through the MU program, there remains a low adoption rate of 30% for those patients who are provided with an access code for a patient portal (Mishuris et al., 2015).

The gap in practice is that nurses, unlike other clinical staff, do not generally receive training in the use of patient HIT tools. The educational intervention provided the care coordination team with knowledge regarding how to use the patient portal, allowing them to then teach the patients.

The practice-focused question was, Will an educational intervention provided to the care coordination team increase the usage of the patient portal functions of refill request and facilitate patient-provider communication? The practice-focused question of this project aligns well with the IOM recommendation to make health care system better, safer, more efficient, patient-centered, timely, efficient and equitable (IOM, 2010). The patients under the care of the care coordination team received instructions regarding how to request prescription refills and how to send their provider messages using the patient portal. Providing structured educational opportunities for people can help to bridge the gaps between people and technology. Advancing interventions that support and improve self-care among low-income, minority populations that suffer from chronic diseases is necessary to improve health outcomes (Hofer et al., 2017). The care coordination team was well-positioned to increase patient engagement with the patient portal through an

educational intervention, which can lead to better health outcomes, increase provider communications, and improve adherence to treatment plans.

Sources of evidence

I completed the literature review using the Walden University library to identify and critically appraise published literature related to patient engagement with patient portals. The databases utilized were the Cumulative Index to Nursing & Allied Health Literature, the Joanna Briggs Institute, and the Ovid Nursing Journals. The search terms used were *patient portal*, *patient portal engagement*, *patient portal benefits*, and *HITtraining*. The peer-reviewed articles incorporated into this project have been limited to the United States. The search returned 55 studies; I only included the studies that addressed the practice-focused question. Nine peer-reviewed articles were reviewed and selected for this scholarly project. The chosen studies aligned with the need for tailored interventions to provide support and train patients in how to engage with their own health and health-related information for improved health outcomes.

Patient portals can be a useful tool for managing chronic diseases, and since the inception of MU, they have received a lot of attention. Patient portals are being looked to as tools that can help improve health outcomes, reduce healthcare costs and improve the patient experience according to Nahm et al., (2017). Technology in healthcare is fast-moving, and a constant review of the literature is needed to understand what interventions will increase portal engagement. Increasing portal use could be accomplished through tailored interventions and support for patients (Irizarry, Dabbs, and Curran, 2015). Lack

of patient portal knowledge has been noted as a gap in practice that this scholarly project is addressing (Nahm et al., 2017)

The focus of one feasibility study was to assess the impact of an implementation toolkit on patient portal knowledge, self-efficacy, patient-provider communications, and adherence to treatment plans in an ambulatory clinic (Nahm et al., 2017). The toolkit was comprised of resources that could be used to train clinicians on the use of the patient portal and an online resource website. The study was divided into two phases: first, the staff was trained in how to teach the patients to use the portal; and second, patients were educated in how to use the portal. The control group was provided with an online resource website. The findings revealed that the intervention group were introduced to portal functions available to patients, and, coupled with their willingness to learn, this group showed greater improvements in portal knowledge and patient-provider communications compared with the control group, which experienced a decrease in patient-provider communications. There were no significant differences for portal knowledge and adherence to treatment plans between the groups. The patient portal implementation Toolkit revealed positive findings for addressing the gaps in the implementation of EMRs. The intervention applied in Nahm's feasibility study is similar to the one used for this project; therefore, the project could have a similar outcome as the study. A perceived usability study by Hyojin and Nahm for patient portals included 272 older adults who actively use patient portals and were recruited through their patient portals was evaluated (Hyojin and Nahm, 2018). The study used a secondary data

analysis; analyzing selected baseline data from an online trial that tested the effects of a three-week learning program. Findings revealed that self-efficiency and perceived usability was low among the 272 subjects. The portal features that were most appreciated by the subjects were eMessages and the availability of health-related information. The challenges most commonly reported by the subjects were associated with the portal login process. These findings support the need for training and support increasing portal usage to improve health outcomes**.**

A mixed-methods study was performed with the goal of examining the attitudes of people, aged 65 and older, with regards to the usefulness and acceptance of patient portals as a platform for health care engagement (Irizarry et al., 2017). The study design used a combination of phone surveys and focus groups, which were implemented as follow ups according to participant responses in the phone surveys and as a result of the variability found among perceptions when an analysis was performed to identify themes among the phone survey responses. The results revealed the following thoughts expressed by participants: "'don't force it on me'", "'I will comply if it's required'", "I need help with the portal'", "I see the benefit but I enjoy personal conversations", and "I love what the portal offers and how it will grow". The results of this study align with the aim of the current project because the educational intervention will allow patients to receive instructions from people who have been explicitly trained in the functionality of the portal. Health systems that strive to meet the needs of older patient populations should

provide training and support for the patient portal to build the confidence of the people they serve, who tend to be less comfortable with computer literacy.

Irizarry, Dabbs, and Curran (2015) performed a state of science review to determine if the literature supports the use of patient portals as tools for improving patient engagement and to summarize the future direction of portals. The study was conducted as a review of literature published between 2006 and 2014 from different databases. The final selection of studies included in the review reported on patient experiences or described techniques for empowering patients to make sound health care decisions, including 120 articles associated with portal adoption, provider engagement, health literacy, usability and utility. It was concluded that the future of patient portals must consider the populations being served and how to engage these patients to take active roles managing their health and health-related information. These findings align with the current project because they inform how to tailor an intervention designed to help engage patients in the management of their health and health-related information.

In a randomized control study, the MyAsthma portal was examined to determine its impact on shared decision-making in the pediatric population across three primary care practices over a six-month period (Scott Kruse, Argueta, Lopez, and Nair, 2015). The families were randomized for portal access, and families that received portal access also received education and training regarding how to use the portal, while the control group only received routine care. The portal tracked the plan of care, exacerbations, medication adherence and side effects, along with providing a means for the families to

participate in health care decisions. The results revealed that portal use and having all the health information in one place had positive impacts on shared decision making, as demonstrated by improved asthma control, portal acceptance, and fewer days missed from work and school. These findings align with the proposed doctoral project because they demonstrate that patient portal engagement improves health outcomes.

Nahm, Sagherian, and Zhu (2016) compared the portal use of three sample populations composed of older adults. Three different sets of data, including a survey conducted in 2014, a survey conducted in 2015, and a population treated at an ambulatory clinic in an underserved area were analyzed. It was found that older adults can and will use a patient portal if they are supported, motivated and educated. The findings from this study align with the doctoral project because it focused on the same type of population and area along with confirming that portal engagement can be accomplished through support and education.

The viewpoints of patients and caregivers regarding patient portals were explored at a safety net hospital (Tieu et al., 2017). Eleven subjects diagnosed with chronic diseases and five caregivers were interviewed using performance testing and think-aloud methods while the subjects used the portal. Some of the barriers experienced by the subjects using the patient portals included difficulties with basic computer skills, health literacy, reading, and writing, and completion of the portal features took longer in the population with low health literacy. The noted barriers to engagement were security, lack of skills, not being interested, and preferring face-to-face communications, while the

facilitators of engagement included convenience, health monitoring, and improved patient-provider communications. The results of this study demonstrate the need for training and support for vulnerable patients and caregivers to increase engagement with patient portals which also aligns with the purpose of this doctoral project.

A physician's practice used teamwork to increase patient enrollment and engagement with a patient portal (Eramo, 2017). The front office staff was trained to collect patient email addresses, the laboratory staff encouraged patients to view their diagnostic test results through the portal, and the physician spoke to patients about how they could communicate with one another via the portal. There was a 72% increase in portal activations and 3,000 incidents of portal access in one month. Although this particular practice did not have nurses in the office, nurses are on the frontline of healthcare and are optimally positioned to encourage patients to use patient portals using methods similar to those used by the staff described in this study. Therefore, it is likely that methodology described in this study can be applied to the care coordination team at the proposed project site. Patient portals are patient-centered, effective, and efficient and it places the patient in direct communication with the provider at all times.

In a multispecialty practice a pilot study took place with a goal of increasing portal enrollment and engagement (Malhotra, Uppal, and Malhotra, 2017). The physician, front-office staff and medical assistant received training regarding how to use the portal. During the registration process, the front office staff provided the patient with educational materials describing the benefits of portal access. The physician would

discuss portal enrollment with the patient at discharge and, if the patient agreed, a "yes" was indicated on the discharge instructions, which instructed the front office to create an account with a username and password. As a result of this pilot study, the office increased portal activations and use by 43%, an increase of 13% from the previous month. During the first month of the pilot, 463 patients were seen and 200 of them agreed to portal enrollment, and the increased portal use was accompanied by an increase in follow up appointments. The goal of this study aligns with the purpose of the doctoral project which is to increase patient portal engagement.

Evidence Generated for the Doctoral Project

Participants

The chosen participants for this doctoral project were the members of the care coordination's team, who are associates of an ambulatory clinic. The team is comprised of two registered nurses and a coordinator, and their role is to manage the populations of patients at the clinic who have been diagnosed with chronic diseases. The team can interact with patients either in the office or at the patients' homes if necessary. The ambulatory director chose the participants for this project because of their roles in the management of patients with chronic diseases. The care coordination team currently lacks education regarding how to use the patient portal, however, the intent of this project was to educate the care coordination team regarding the functionality of the patient portal, and the educational intervention with the care coordination team increased patient engagement with the portal.

Procedures

After receiving the IRB approval from Walden University, I will contact the Director of the project site to begin the project. Retrospective data will be collected one day prior to the intervention to show the refill request and patient-provider communication for the past six months. The number of patients active on the portal will represent the denominator and the number of patients that use the portal will represent the numerator. The education intervention took place in the project site conference room by the DNP student. The care coordination team is composed of two nurses and a coordinator, and their job responsibilities are to manage the patient population who are diagnosed with a chronic condition. The educational intervention will take one hour, with time for questions and answers. The educational intervention was performed using a play environment that is a replica of the patient portal. The patient portal team provided mock patients and passwords to use for hands on education and return demonstrations. After the care coordination team received the educational intervention, they begin educating the patients in their homes and in the office, on how to use the portal for prescription refills and how to communicate with the provider via the patient portal.

Data collection was then performed 30 days post the intervention. The data that will be collected from the EMR generated report are the number of patients that requested refills, communicated with the provider via the portal and received the education which will be tracked by the care coordination team. The data collected will be used to evaluate

the impact that the intervention has on the portal use. No PHI will be collected and there aren't any identified risks associated with this project. All collected data will be deleted at the conclusion of this project.

Analysis and Synthesis

The analysis of the retrospective data obtained through the EMR report was analyzed one day prior to the educational intervention. The data elements consisted of the number of active patient on the portal and the number of patient that use the portal, to represent the denominator and the numerator for calculating the percentages for current use. The retrospective data collection provides the baseline data needed to determine if the intervention was impactful.

The prospective data elements that was collected and analyzed 30 days post the intervention were the current number of patient that use the portal for refill request and patient-provider communication. An additional data point collected was the number of patients that received the education from the care coordination team which was collected by the care coordination team. During the post intervention data analysis it was determined that the intervention influenced the portal usage.

Summary

The need for education, training, and support to improve the use of patient portal functionalities, with respect to refill requests and patient-provider communications, among patients under the care of care coordination team was imperative to improving health outcomes. The proposed evidence-based DNP project provided the opportunity to

identify the knowledge gap that currently exists in nursing practice concerning the lack of education regarding the use of HIT tools. The literature review was conducted using CINAHL, Joanna Briggs Institute, and Ovid Nursing Journals databases to achieve the project goal. Lastly, the analysis and synthesis of the project will be performed retrospectively and prospectively. An EMR generated report was used to collect and analyzed the projects data elements. The data elements are the number of patients active on the portal, number of patients that use the portal for refill request, patient-provider communication and the number of patients that received the education. These data elements were used to measure whether the educational intervention increased refill request and patient-provider communication through the patient portal. In section of this project discusses the findings and implications of the evidence-based intervention, recommendations collected from the results of the intervention, and the strengths and limitations of the implemented project.

Section 4: Findings and Recommendations

Introduction

The primary purpose of this project was to provide an educational intervention to the care coordination team. The intervention consisted of teaching them how to use the patient portal through the eye of the patient so they could provide the patients with training on how to request medication refills and communicate via the portal. The problem at the project site was that portal engagement is low. The gap in practice was that nurses did not receive training to use patient-centered HIT tools. The practice-focused question was, Will an educational intervention for the care coordination team increase the use of patient portals to request prescription refills and facilitate patient-provider communications by ten percent? The practice has 1683 patients of which 633 were active on the portal. The care coordination team nurses were scheduled to visit 65 patients in the month of April, however, only 24 of the patients received the patient portal education. From October through March, 63 patients used the portal for either refill request or communication via the portal as obtained from an EMR generated report by the practice manager. An educational intervention was given to the care coordination team on two separates dates to accommodate their schedule. The team began educating the patients following the intervention and the post intervention data collection began 30 days after the intervention, using an EMR generated report and ended after 7 weeks. In this section, the findings, implications, recommendations, contribution of the doctoral project team, strengths, and limitations of the project will be discussed.

Summary of Findings

The goal for the quality improvement project was to increase patient portal engagement. Patient portal engagement can lead to improved health outcomes and reduced health care cost (Hofer et al., 2017). The project served to answer the following question: Will an educational intervention with the care coordination team increase the use of prescription refill request and facilitate patient-provider communications via the portal by at least ten percent? The first objective was to create a checklist of the step by step instructions on how to use the portal functions of requesting prescription refills and facilitating patient-provider communication. The second objective was to determine if the seven weeks post-intervention patient portal usage data showed an increase in prescription refills request and patient-provider communication

Objective 1: Create a Checklist of Step by Step Instructions on how to use the Portal Functions of Requesting Prescription Refills and Facilitating Patient-Provider Communication

To create the checklist, I logged into the "play patient portal environment" and captured screenshots of the workflow for prescription refill request and patient-provider communication. The screenshots were captured using a tool call the snipping tool. I placed the screenshots together in the order of the workflow on a Microsoft document and used arrows to show where to click to get through the workflow. Verbiage was added before each screenshot to explain what the picture was showing (Appendix).

Objective 2: To Determine if the Seven Weeks Post-intervention Patient Portal Usage Data Increased Prescription Refill Requests and Patient-Provider Communication.

The objective was achieved by collecting 6 months of pre-intervention data to determine the number of portal uses. The data were collected from an EMR generated report by the practice manager, and it consisted of the number of times the portal was used for prescription refill requests and patient-provider communication for the months of October, 2018 to March, 2019. I entered the data into an Excel spreadsheet to show six months of portal use prior to the intervention. Next I calculated the average usage to determine a starting point to measure from, for measuring the success of the project and then discarded the EMR report. The pre-intervention data collected for six months showed the practice has 1683 patients, of whom 633 were active on the portal. From October through March, 63 patients (10%) used the portal for prescription refills (*n*= 34) and communication with a provider (*n*= 34; Table 1).

Table 1

Number of times the portal was used for refills and communication Pre-intervention

	2018 Oct	2018 Nov	2018 Dec	2019 Jan	2019 Feb	2019 March	Average
Rx Refills	5	4	6	8	6	20	8.166667
Communication	9	6	4	7	6	11	7.166667

The patient portal intervention took place in April 2019 and required two sessions due to scheduling conflicts. Both educational sessions were taught by me to maintain the

integrity of content. The care coordination team members attended the educational intervention which consisted of two nurses and a clinical coordinator. I created an environment of openness to achieve a successful learning experience by allowing the learners to share personal stories. My explanation of the portal benefits was well received by the care coordination team, because they were discussing which patients would benefit the most from being engaged with the portal. An explanation of why the education was needed and its importance was also discussed, which aligns with the strategies used in the adult learning theory (McEwen & Wills, 2014). The learners seemed eager to learn by the stories they were telling me about their patients. The educational intervention began at 1300 for the first class and 1500 on the next day. The class took place in the conference room at the project site, and the learners brought their own laptops. Fictitious patient logins, passwords, and a portal link were provided at the beginning of the class via tent card along with my created checklist of steps. The link provided was to the "play patient portal environment" which allowed the learners to experience how to use the portal through the eyes of the patient. First, I provided a demonstration of how to request prescription refills and how to communicate via the portal and had the learners watch. Then, I asked the learners to login with the username and password so we could perform the two functions together. For the last part of the intervention, each learner had to complete a return demonstration of both functions. The steps of the return demonstration were as follows: login, click on the message button at the top of the screen, choose prescription refill request, choose a medication from the list, and click on request refill. The work flow for the patient-provider communication was as follows: click on the "Messaging" icon at the top of the

screen which opens to a list of choices, scroll down and choose “Message Center,” next a screen opens up with an “Ask A Question” box. When the “Ask A Question” box is clicked on, a message window opens with three fields. The first field is a required field, for the recipient, which has a pre-constructed list of the patient health care providers to choose from. The second field is a message type field with pre-constructed lists that consist of non-urgent medical question, prescription question, test result question, visit follow-up question and referral request to choose from. The last step is to type the message in the text box and click send. The classes lasted 30 minutes, including time for questions and answers. The care coordination team began educating patients the next day and continued for the next 30 days. There were 24 patients who received the patient portal education within the 30 days post intervention out of 65 patients scheduled who were seen by the care coordination team.

Post-intervention, eight patients used the portal for prescription refills and 19 used it for communication with the provider, showing an 165% increase from the baseline for patiet-provider communication and no increase in usage of prescription refill request (Table 2). The post-intervention data analysis was performed as followed: I entered the post-intervention portal usage data from an EMR generated report into the same Excel spreadsheet to compare it to the average pre-intervention portal usage to calulate the difference to show the results. The findings from this project was presented to the project site during their staff meeting via an oral presentation using a powerpoint. The attendees were nurses, doctors, management, medical assistants and hospital leadership, the

presentation lasted for 15 minutes and allowed for questions and answers. After the presentation, it was recommended that I present this work to the inpatient case management teams sub team, also known as care coordination. The inpatient care coordination teams perform follow up home visits for patients who were recently discharged from the hospital. I also presented the project findings to the corporate health system director over the patent portal.

Table 2

Number of times the patient portal was used for refills and communication post-intervention

		2019	2019	2019	2019
	Pre-intervention Average	May 29 to May 31	June 1 to June 14	Post-intervention usage total	% Change
Prescription Refills	8.166	4	4	8	-2.04081
Communication	7.166	8	11	19	165.1163

Findings and Implications

The project I implemented used a before and after design to determine if the educational intervention did increase the patient portal engagement. The thought for this project came from the Meaningful Use program, a government program that provides financial incentives to health care providers who increase patient portal usage by encouraging their patients to become active members in their own care (Mishuris et al. 2015). The educational intervention did increase the communication via the portal,

however, the prescription refill requests did not increase at this time due to patients having 90 day supply of medications. Fifty days is not enough time to measure the impact that the intervention had on prescription refill requests, however, the project site will continue to monitor the prescription refill request data post the scholarly project. The findings indicate that involving the patient's care team was a great strategy for increasing patient engagement with the portal.

Patients can improve their health outcomes as a result of this project. The care coordination team members are knowledgeable regarding how to use the patient portal for prescription refill request and patient-provider communication and can continue to educate after the projects end. Cultivating self-care management has become a primary concern across the country as a result of the rising cost of healthcare. Diabetes care costs the United States billions of dollars every year, according to the American Diabetes Association (2013). Chronic obstructive pulmonary disease (COPD) is also a financial burden for the United States and is predicted to cost 49 billion dollars by 2020 (Ford, Murphy, Khavjou, Giles, Holt, and Croft, 2014).

Individuals

Patients engaged with the portal are involved with their health and health information which leads to better managed care. Lack of patient engagement with the portal will continue to add to the rising cost of health care in the United States (Ford et al, 2014). In 2014, health care expenses in the United States reached 17.5% of the national gross domestic product (Yang, Delcher, Shenkman, and Ranka, 2018). To decrease

health care expenses, information technology is being called upon to help with health care (Yang et al., 2018). Patient portals are making patient-centered partnerships between the patient and his or her care team possible, which leads to better health outcomes. The care coordination team now has the knowledge to help facilitate patient engagement with the portal.

Communities

Patient portals are HIT tools designed to engage patients with their health information. The care coordination team has raised awareness of the portal to the patients in the community who are stricken with chronic conditions. The practice will continue to raise awareness in the communites at health fairs, senior citizens apartment living and at the practice by giving out information about the portal and how it can help improve healthaccording to the project site director. . The practice manager has decided to incorportate patient portal training in the new hire onboarding. The patient portal project had a positive influence on the people of the community, where the project took place. The positive influence was evident in the results of the post-intervention data that revealed an increase in patient-provider communication via the portal. Patient-provider communication is a necessary component to shared decision making to improved health outcomes (Hofer et al, 2017). Improving patient access to health information and communication with providers is an essential step toward health promotion, disease self-management, and shared medical decision-making.

Institutions

The acute facitiliy over the project site can see the benefit of engaging patients with the portal as a result of my scholarly project and would like for this work to infiltrate the inpatient care coordination team according to the director of case management. Since the implementation of my scholarly project and the presentation of its findings, other project site team members are more engaged with introducing the patient portal to the new patients. The practice manager is working with the IT team to obtain information about the patient portal to show on the television in the patients' waiting room as a way to continue raising awareness. As part of my current role at the hospital system that the project site is under acute facility, the director of nursing would like for me to continue this work in the emergency department and with case management team after my graduation according to the director of nursing. The continuation of this work aligns with the natures of these projects which was to increased patient portal engagement and ultimately improve the health of the population served by the project site (Hofer et al., 2017). Improving patient access to health information and communication with providers is an essential step toward health promotion, self-management of disease and shared medical decision-making.

Systems

Since the implementation of my scholarly project, I have reached out to the director in charge of the patient portal work at the corporate level to share my project and the findings. The project site is a smaller entity of a larger health system and each moving part works independly to make the system work (Rusoja et al., 2017). Therefore, my

project to increase patient portal usage is part of a larger effort to engage patients with the patient portal. The findings of the project represent a solid approach to achieving the systems goal of improving health outcomes. Having buy-in at the corporate level will help to faciliate the importance of engaging patients with the portal from the top of the organizational structure to the bottom. With that, the project site will continue to collect the patient portal usage data, and report it to the health systems director. The health system is interested in continued collection of the data because they are looking for promising approaches to increasing patient portal engagement. Having the percentages for prescription refill request and patient-provider communication six months post the project implementation will show how effective the intervention was as stated by the project site director. The current focus from CMS is to provide patients with the ability to see their health information from their health visit online within four days of being seen by the provider, and to allow the patients to download the information if needed (CMS, 2019). The corporate health system that governs the project site has its attention focused on aligning the system goals with the CMS standards at this time. However, the director responsible for overseeing the patient portal at the corporate level confirms that any efforts directed toward engaging patients with their health information is valuable according to the sytem lead over patient portal.

Recommendations

Implementation of this patient portal project took place over a seven-week period. My role was to provide an educational intervention to the care coordination team and to

measure whether it would increase the patient portal usage. The findings from the project suggest that the intervention positively influenced the patient-provider communication, however, continuing to monitor the results will provide confirmation of the influence that the project had on prescription refill request post the implementation. A recommended solution to help increase patient portal engagement can be accomplished through having the patients' providers ask the patients to communicate via the patient portal. For example, the provider can ask the patient to send their home reading for their blood pressure or blood glucose via the portal to them so they can evaluate self-care management. Sending the readings via the portal will engage the patient and the provider with the portal. Patients are more engaged with the portal if the physician is engaged (ERAMO, 2017).

Another recommendation proposed after the project was presented to nursing leadership was to have the project site continue to collect the patient portal data. The data collection will continue until six-month post implementation to evaluate the impact that the project had on prescription refill request. The recommendation was suggested because the prescription refill request needed some additional time for data collection to measure whether the intervention had an influence on it.

It was also recommended that I continue this work with another care coordination team and the emergency department case management team. The other care coordination team is part of the inpatient case management team and their responsibilities are to perform follow up visits to patients that have been recently discharged from the hospital

to see if the patients' are following their discharge instructions and to see if there are any questions about home medications. There are many titles given to individuals or groups such as the care coordination team who provide support and follow up to patients in the home and this role is becoming very important to patient care (Ingram et al., 2017). The emergency department case manager has responsibilities to make sure that discharged patients are connected to a primary care provider and the nursing leadership feels that introducing the patient portal at this time could help to engage the patients with their health information. Patient portal engagement can lead to shared decision making between the patient and provider (Mishuris et al., 2015).

The last recommendation is the new hire onboarding process at the project site. The project site has decided to incorporate patient portal education in their staff orientation process. New nurses need to be educated on what is expected of them so they can flourish in their clinical environment. Providing education during orientation is an effective strategy when onboarding new nurses (Ashton, 2015).

Strengths and limitations of the project

Strengths

The strength of the project was the care coordination team and the established relationships they have with the patients. I chose the care coordination team because they manage all patients who have a chronic condition and have the autonomy to visit homes or provide office visits. The findings indicate that involving the patient's care team is good strategy for increasing patient engagement with the portal.

Another strength of this project is the relevence it has on leveraging technology to improve the health of populations. The patient portal is a HIT tool designed to connect patient with their health information to produce an informed patient which has been linked to improve health outcomes. According to a literature review, 81% of the articles reviewed identified a positive impact that HIT had on medical outcomes (Kruse and Beane, 2018).

Limitations

A limitation of the schorlary project was the time needed to collect the data equally for pre and post the intervention. The pre-intervention was collected for six month and the post intervention data was collected for 50 days due to time constraints for finishing the DNP program. However, the project site will continue to collect the portal usage data for six months after the intervention.

An unanticipated limitation of the project was that some patients did not attend their scheduled appointments, which negatively impacted the amount of patients who recieved the intervention. Having a small number of patients receive the intervention contributed to a slow uptake of the patient portal education. Patient portals are designed to connect patients with their health and health information so that patients can make informed health care decisions. Therefore, if patients don't attend their appointments, they won't receive the patient portal education and will not be an informed patient. Informed decision making means that the patient and the provider are making health decisions together with respect to the patients preferences (Sepucha et al., 2018).

Summary and Conclusion

Unmanaged chronic diseases are contributing to the increased cost of health care in the United States, and technology is being examined as a strategy to help mitigate the rising cost. The patient portal is a HIT tool designed to engage patients with their health and health information with the goal of creating a patient-provider relationship that is built on shared decision making with respect to the patients' wishes. Patients that are engaged with the portal have better health outcomes and if the patients' provider is knowledgeable about the portal, the patients' are more likely to be accepting of the portal.

Nurses are in an optimal position to facilitate patient portal engagement but lack the knowledge of how to use the portal through the eyes of the patient. Implementation of this DNP project had a positive impact on the patients cared for by the project site as evidenced by the findings that showed an increase in patient-provider communication via the portal. The educational intervention with the care coordination team has provided the nurses with the knowledge of how to use a HIT tool that they can incorporate it into their daily nursing practice. In section five, the following topics will be addressed, dissemination plan, analysis of self and summary.

Section 5: Dissemination Plan, Analysis of Self, and Summary

Introduction

The scholarly project has been successfully implemented. The primary purpose of this project was to provide an educational intervention to the care coordination team. The educational intervention taught the team how to use the patient portal through the eye of the patient to facilitate providing the patients with training on how to request medication refills and communicate via the portal. The problem at the project site was that portal engagement is low. The gap in practice was that nurses did not receive training to use patient-centered HIT tools. The practice-focused question was: Will an educational intervention for the care coordination team increase the use of patient portals to request prescription refills and facilitate patient-provider communications by 10%? The findings from the project were presented via a powerpoint presentation to the project site staff and leadership. I also presented the findings to the project sites corporate director who oversees the patient portal from the system perspective. The director has requested the project site to continue collecting the patient portal usage data and for them to present it to her after six months post-implementation.

Analysis of Self

Practitioner

My current role within the hospital is director of clinical informatics. The duties that I perform align with leveraging data and technology to improve patient outcomes. As a DNP graduate, there are many roles that can be taken on with the expectation to

demonstrate strong assessment skills, problem solving abilities, literature reviews, and transformation of evidence to practice. The DNP project allowed me to strenghten my skills of leveraging technology and data to improve clinical outcomes, which aligns with the DNP Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care (ANCC, 2006). The doctoral project has enlighten me with the knowledge of how research has strong implications on the society. The research shows that if patients are engaged with their health and health information they have better health outrcomes so this DNP project aligns with getting people engaged with their health information. My objective for obtaining my DNP degree is to improve the health of the people which mirrors the thoughts and goals of healthy people 2020 (Neumann, Farquhar, Wilkinson, Lowry, and Gold, 2016).

Scholar

Doctorally prepared nurses have the knowledge to seek and apply solutions to problems and evaluate the outcomes. Scholarship is defined by the action of translating research into clinical practice. As a DNP prepared nurse, I have been prepared with the knowledge from ethics, biophysical, psychosocial, analytical, and organizational sciences in combination with nursing science to translate evidence-based findings in to clinical practice. As a scholar practitioner, I can advance the nursing profession by disseminating knowledge to the nursing profession. The experience I gained from my scholarly project has strengthen my skills to perform a literarature search, solve problems, become a

change agent, translate evidence into practice and to evaluate outcomes which aligns with the skillset of a DNP prepared nurse according to american nurse credentialing center.

Project Manager

Leading projects can be very challenging, especially when the leader lacks preparation to lead them in an effective and efficient manner. Planning and implementation of the DNP project gave me the experience to develop, implement, and evaluate projects, which is a skill that DNP prepared nurses possess. Project management is an essential skill needed to drive change to impact clinical practice and patient outcomes. Change begins with setting the direction through a vision for the future and providing strategies o how to get there according to (Josh et al., 2014). Changes in healthcare organizations require skillful leaders that can assist with helping people through the change (Joshi, Ransom, Nash, and Ransom, 2014). As I worked in my DNP project I leveraged communication skills, collaboration and vision to gain buy-in for the success of the project. As a project lead I was presented with some challenges related to scheduling the intervention because of the busy schedule that the care coordination team had. Therefore, I had to accommodate the care coordination team by providing two sessions to deliver the intervention. Being flexible is very important to achieve your desired outcomes. Another challenge that was presented was that patients sometimes did not show up for their appointments, which meant that fewer patients received the training from the care coordination team. It was also suggested that having the physicians involved in the project could have helped with the patient portal engagement. The

physicians could give the patients a homework assignment which could entail a patient sending their weekly glucose reading or their blood pressure readings. Patient are more likely to be engaged with the portal if the physician are engaged (ERAMO, 2017).

What This Project Means for Futue Professional Development

Personally and professonally my career growth has increased exponenitually and I give the credit to the DNP program. Some of the new practices that I have adopted is shown when I am presented with a clinical issue that is in need of a resolution. First, I look to the literature in search of the evidence to address the gap in practice and then I present the findings to the nursing leadership team. Another approach that I have begun to use is the use of a change management toolkit. The toolkit is designed to take the project leader and team through a sequence of the steps in the change process while also keeping the team and leader focused on the practice issue. As a result of being doctorally prepared, collaboration and communication are key factors to the future of change. My DNP project has the potential to change the future onboarding process at the project site because the leadership wants to incorporate patient portal training into the onboarding of all new employees. I am a preceptor for bachelor and master's degree programs and I have started to use what I have learned in my DNP education to help enhance their real-world experience.

Summary

In the field of nursing informatics, data are analyzed and the findings are used to develop action items that will result in a positive outcome. Understanding the target

population is imperative so that action items are appropiately tailored to get the intended results. Recommending a technology-based solution requires a nurses informaticist to be knowledgable in what technology is available and how it is used. The patient portal is an effective tool that has been created to put the patients' health information at their fingertips. The goal of this DNP project was to provide an educational intervention to the care coordination team to help increase the use of patient portals for prescription refills request and facilitate patient-provider communications by 10%. The project I implemented measured whether an educational intervention influenced the patient portal usage. A before and after design was used, during the pre-intervention phase, an EMR generated report provided portal usage for the 6 months prior to the intervention from a busy urban location in the Northeastern U.S. ambulatory clinic.

The intervention involved training three care coordination team members on teaching and modeling portal use from the eyes of the patients. A checklist of steps was created and used with the intervention and given to the care coordination team to be used with the patients' education. The patient-provider communication increased by 165% after the intervention which superseded the goal of 10%. The prescription refill request did not show an increase due to the project timeline as the medications are typically refilled every 6 months. Patient-provider communication can lead to a partnership with collaborative decision making which ultimately leads to improved health outcomes. The intervention proved to be an effective approach to helping patients become engaged with the patient portal and educating nurses on HIT tools. Through the process of my DNP project and

studies, I have learned so much about being compassionate and understanding and results driven, which has made me a better nurse informaticist.

References

American Association of Colleges of Nursing. (2006). *The essential of doctoral education for advanced nursing practice*. Washington, D.C.: Author

American Diabetes Association. (2013). Economic costs of diabetes in the US in 2012. *Diabetes Care, 36,* 1033-1046.

American Nurse Association. (2018). American nurses association + himss announce new relationship to advance nurse-led innovation. Retrieved from https://www.nursingworld.org/news/news-releases/2018/american-nurses-association--himss-announce-new-relationship-to-advance-nurse-led-innovation/

Ancker, J., Barrón, Y., Rockoff, M., Hauser, D., Pichardo, M., Szerencsy, A., & ... Rockoff, M. L. (2011). Use of an electronic patient portal among disadvantaged populations. *JGIM: Journal Of General Internal Medicine*, *26*(10), 1117. doi:10.1007/s11606-011-1749-y

Ashton, K. S. (2015.). The Orientation Period: Essential for New Registered Nurses' Adaptation. *NURSING SCIENCE QUARTERLY*, *28*(2), 142–150. Retrieved from https://doi-org.ezp.waldenulibrary.org/10.1177/0894318415571600

Centers for Disease Control and Prevention. (2017). Electronic medical records/electronic health records (EMR's/EHRs). Retrieved from; https://www.cdc.gov/nchs/data/databriefs/db236.htm

Doss, S., DePascal, P., & Hadley, K. (2011). Patient-nurse partnerships. *Nephrology*

Nursing Journal, *38*, 115-125.

ERAMO, L. A. (2017). Improve patient engagement through technology: Electronic health records and portals are not perfect, but they do offer physicians a way to connect with patients. *Medical Economics*, *94*(13), 23. Retrieved from https://ezp.waldenulibrary.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edb&AN=123687739&site=eds-live&scope=site

Fiks, A. G., Mayne, S. L., Karavite, D. J., Suh, A., O'Hara, R., Localio, A. R., … Grundmeier, R. W. (2014). Parent-Reported Outcomes of a Shared Decision-Making Portal in Asthma: A Practice-Based RCT. *PEDIATRICS*, *135*(4), E965–E973. Retrieved from https://doi-org.ezp.waldenulibrary.org/10.1542/peds.2014-3167

Ford, E. S., Murphy, L. B., Khavjou, O., Giles, W. H., Holt, J. B., & Croft, J. B. (2014). Total and state-specific medical and absenteeism costs of chronic obstructive pulmonary disease among adults aged≥ 18 years in the United States for 2010 and projections through 2020. *CHEST Journal*. Online version Retrieved from http://journal.publications.chestnet.org.ezproxy.gvsu.edu/data/Journals/CHEST/0/chest.14-0972.pdf

Health Information and Management Systems Society (2018). The tiger initiative. Retrieved from: https://www.himss.org/professionaldevelopment/tiger-initiative

Health Information and Management Systems Society (2018). Virtual learning environment. Retrieved from: https://www.himss.org/professional-development/tiger-

initiative/virtual-learning-environment

Hofer, R., Choi, H., Mase, R., Fagerlin, A., Spencer, M., & Heisler, M. (2017). Mediators and Moderators of Improvements in Medication Adherence: Secondary Analysis of a Community Health Worker-Led Diabetes Medication Self-Management Support Program. *Health Education & Behavior, 44*(2), 285-296.

Hübner, U., Ball, M., de Fátima Marin, H., Chang, P., Wilson, M., & Anderson, C. (2016). Towards Implementing a Global Competency-Based Nursing and Clinical Informatics Curriculum: Applying the TIGER Initiative. *Studies In Health Technology And Informatics, 225*, 762–764. Retrieved from https://ezp.waldenulibrary.org/login?url=https://search.ebscohost.com/login.aspx/direct=true&db=mnh&AN=27332333&site=eds-live&scope=site

Hyden, M. (2013). Patient portals improve satisfaction and streamline processes. *MGMA Connexion,* November/December, 36-37

Ingram, M., Doubleday, K., Sabo, S., Zapien, J. G. de, Carvajal, S. C., Bell, M. L., … Blackburn, J. (2017). Community Health Worker Impact on Chronic Disease Outcomes Within Primary Care Examined Using Electronic Health Records. *The American Journal of Public Health*, (10), 1668. Retrieved from https://search-ebscohostcom.ezp.waldenulibrary.org/login.aspx?direct=true&db=edsgea&AN=edsgcl.518901302&site=eds-live&scope=site

Irizarry, T., Dabbs, A. D., & Curran, C. R. (2015). Patient portals and patient engagement: A state of the science review. *Journal of Medical Internet Research,*

17(6), 1-1. doi:10.2196/jmir.4255

Irizarry, T., Shoemake, J., Nilsen, M. L., Czaja, S., Beach, S., & DeVito Dabbs, A. (2017). Patient Portals as a Tool for Health Care Engagement: A Mixed-Method Study of Older Adults With Varying Levels of Health Literacy and Prior Patient Portal Use. *Journal Of Medical Internet Research*, *19*(3), e99. Retrieved from https://doi-org.ezp.waldenulibrary.org/10.2196/jmir.7099

Joshi, M. S., Ransom, E. R., Nash, D. B., & Ransom, S. B. (Eds.) (2014). *The healthcare quality book: Vision, strategy, and tools* (3rd ed.). Chicago, IL: Health Administration Press.

Kruse, C. S., & Beane, A. (2018). Health Information Technology Continues to Show Positive Effect on Medical Outcomes: Systematic Review. *Journal Of Medical Internet Research*, *20*(2), e41. Retrieved from https://doi-org.ezp.waldenulibrary.org/10.2196/jmir.8793

Lewin, K. (1997). *Resolving social conflicts and field theory in social sciences*. Washington, D.C.: American Psychological Association.

Malhotra, V. S., Uppal, A., & Malhotra, A. (2017). Improving patient engagement through patient portals. *MGMA Connexion*, *17*(1), 34. Retrieved from https://ezp.waldenulibrary.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=mnh&AN=30376262&site=eds-live&scope=site

Maslowski, J. (2012). Patient participation: An emerging nursing issue. *International Journal for Human Caring*, *16*(4), 74-78.

Miller, D. J., Latulipe, C., Melius, K. A., Arcury, T. A., & Quandt, S. A. (2016). Primary care providers' views of patient portals: Interview study of perceived benefits and consequences. *Journal Of Medical Internet Research, 18(1),*

Mishuris, R. G., Stewart, M., Fix, G. M., Marcello, T., McInnes, D. K., Hogan, T. P., &... Simon, S. R. (2015). Barriers to patient portal access among veterans receiving home-based primary care: a qualitative study. *Health Expectations*, *18*(6), 2296-2305. doi:10.1111/hex.12199

Nahm, E.-S., Diblasi, C., Gonzales, E., Silver, K., Zhu, S., Sagherian, K., & Kongs, K. (2017). Patient-Centered Personal Health Record and Portal Implementation Toolkit for Ambulatory Clinics: A Feasibility Study. *Computers, Informatics, Nursing: CIN*, *35*(4), 176–185. Retrieved from https://doi-org.ezp.waldenulibrary.org/10.1097/CIN.0000000000000318

Nahm, E., Zhu, S., Sagherian, K., Kongs, K., Diblasi, C., Gonzales, E., & Silver, K. (2017)Patient-Centered personal health record and portal implementation toolkit for ambulatory clinics a feasibility study. *Computers Informatics Nursing*, *35*(4), 176-185.

Neumann, P. J., Farquhar, M., Wilkinson, C. L., Lowry, M., & Gold, M. (2016). Lack of Cost-Effectiveness Analyses to Address Healthy People 2020 Priority Areas. *American Journal Of Public Health*, *106*(12), 2205–2207. Retrieved from https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=mnh&AN=27631752&si

te=eds-live&scope=site

Nguyen, A., Mosadeghi, S., & Almario, C. V. (2017). Persistent digital divide in access to and use of the Internet as a resource for health information: Results from a California population-based study. *International Journal Of Medical Informatics*, *103*49-54. doi:10.1016/j.ijmedinf.2017.04.008

Olmstead, C. (2013). Using Technology to Increase Parent Involvement in Schools. *Techtrends:Linking Research & Practice To Improve Learning*, *57*(6), 28-37. doi:10.1007/s11528-013-0699-0

Release of information: The HIPAA Omnibus Rule and the HITECH Act. (2016). Briefing on HIPAA, 16(6), 8-10. Retrieved from https://ezp.waldenulibrary.org/login?url=https://search.ebscohost.com/login.aspx?direct-true&db=rzh&AN=116433675&site=eds-live&scope=site

Rusoja, E., Haynie, D., Sievers, J., Mustafee, N., Nelson, F., Reynolds, M., …Williams, B. (2017). Thinking about complexity in health: A systematic review of the key systems thinking and complexity ideas in health. *JOURNAL OF EVALUATION IN CLINICAL PRACTICE*, *24*(3), 600–606. Retrieved from https://doi-org.ezp.waldenulibrary.org/10.1111/jep.12856

Sepucha, K. R., Atlas, S. J., Chang, Y., Freiberg, A., Malchau, H., Mangla, M., …Cha, T. (2018). Informed, Patient-Centered Decisions Associated with Better Health Outcomes in Orthopedics: Prospective Cohort Study. *MEDICAL DECISION MAKING*, *38*(8), 1018–1026. Retrieved from https://journals-sagepub-

com.ezp.waldenulibrary.org/doi/10.1177/0272989X18801308

Tiase, V. L. 2015. ANI Emerging Leaders Project: Nurses' Perceptions of the Use of Health Information Technology Tools for Patient and Family Engagement. *Cin-Computers Informatics Nursing*, *33*(12), 520-522.

Tieu, L., Schillinger, D., Sarkar, U., Hoskote, M., Hahn, K. J., Ratanawongsa, N., & ... Lyles, C. R. (2017). Online patient websites for electronic health record access among vulnerable populations: portals to nowhere? *Journal of The American Medical Informatics Association: JAMIA*, *24*(e1), e47-e54. doi:10.1093/jamia/ocw098

Yang, C., Delcher, C., Shenkman, E., & Ranka, S. (2018). Machine learning approaches for predicting high cost high need patient expenditures in health care. *Biomedical Engineering Online*, *17*(Suppl 1), 131. Retrieved from https://biomedical-engineering-online.biomedcentral.com/articles/10.1186/s12938-018-0568-3

Appendix A: Patient Portal Workflow Checklist

Patient Portal Workflow

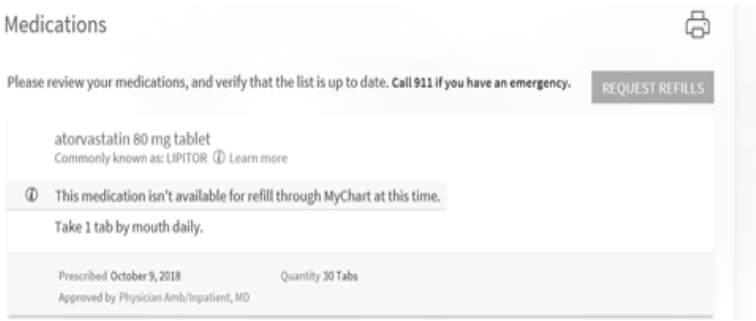
Patient-Provider Communication

Step 1: choose the message icon

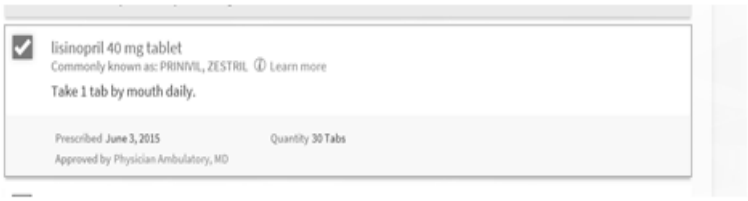
Step 2: scroll down to message center and choose to send a message to a recipient, the topic of your question and type your question in the text box and click send.

Refill Request

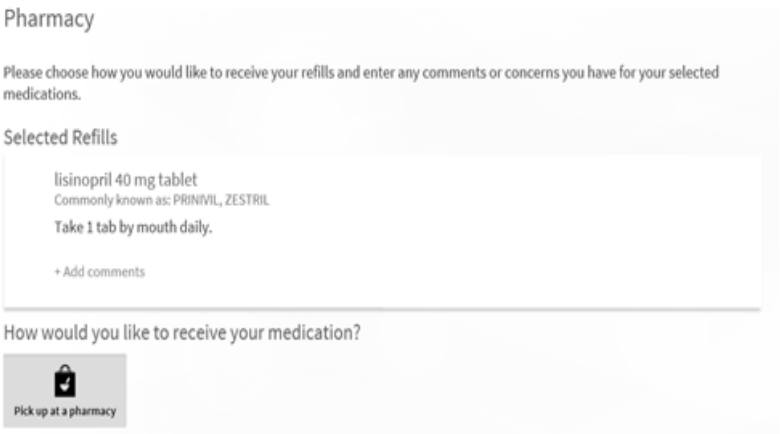
Requesting a prescription refill, go back up to the message icon at the top of the screen and click it, then scroll down to request Rx refill



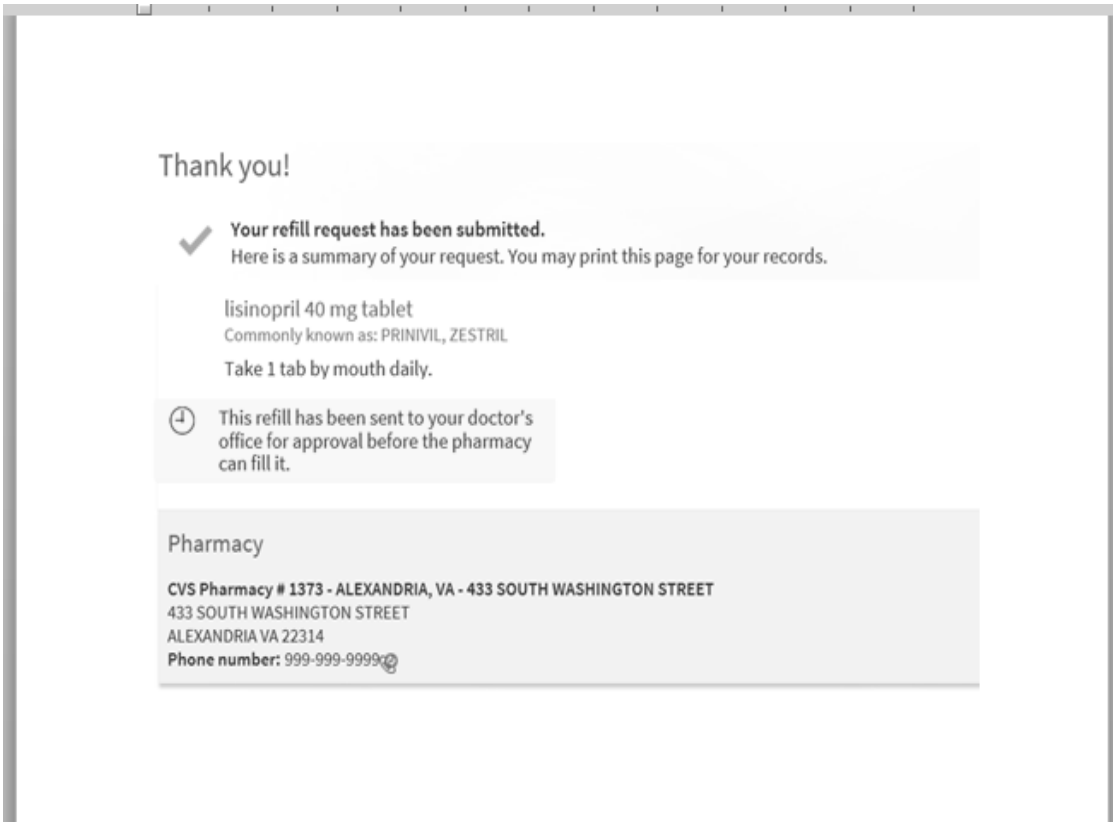
Step 1: your medication list will appear on the screen, then click on the medication you want refilled by clicking on the request refills button to the top right of the medication list.



Step 2: with your medication selected; choose the pharmacy you want your prescription to go to and select submit and the bottom of the screen and you will see a screen with the confirmation that your refill request has been submitted




Select a pharmacy
Other (please specify pharmacy below)
Other pharmacy
Pharmacy hours: The time when this pharmacy is open is not available
BACK
NEXT
CANCEL
Select a pharmacy
CVS Pharmacy # 1373 - ALEXANDRIA, VA - 433 SOUTH WASHINGTON STREET
Pharmacy hours: The time when this pharmacy is open is not available
BACK
NEXT
CANCEL
Review
Does everything look correct?
lisinopril 40 mg tablet
Commonly known as: PRINIVIL, ZESTRIL
Take 1 tab by mouth daily.
+ Add comments
Pharmacy
CVS Pharmacy # 1373 - ALEXANDRIA, VA - 433 SOUTH WASHINGTON STREET
433 SOUTH WASHINGTON STREET
ALEXANDRIA VA 22314
Phone number: 999-999-9999
BACK
SUBMIT
CANCEL



Thank you!

Your refill request has been submitted.
Here is a summary of your request. You may print this page for your records.

lisinopril 40 mg tablet
Commonly known as: PRINIVIL, ZESTRIL

Take 1 tab by mouth daily.

This refill has been sent to your doctor's office for approval before the pharmacy can fill it.

Pharmacy

CVS Pharmacy # 1373 - ALEXANDRIA, VA - 433 SOUTH WASHINGTON STREET
433 SOUTH WASHINGTON STREET
ALEXANDRIA VA 22314
Phone number: 999-999-9999