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Patients, Preferences, and Portals: Barriers Identified to Accessing Personal Health Information Through a Secure Online Website

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This is to certify that the doctoral study by

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Abstract

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Project Submitted in Fulfillment
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Abstract

Patient engagement is one of the 6 quality directives issued by the Institute of Medicine for patient-centered care. Federal meaningful use regulations require health care organizations to offer patients a secure online website, or patient portal, to access their health information. Although the patient portal offers patients the opportunity to be more involved in their care, the portal has not been widely used. However, barriers to utilization are best understood from the perspective of the patient. Any barriers to patients accessing the portal are also barriers to patient engagement. The purpose of this project was to understand from the patient perspective why 99% were not using the portal at a large health system. The goal was to understand the patient preferences and their expectations for the portal as well as the perceived barriers. The Diffusion of Innovation Theory guided this quality improvement project to understand the patient perspective to initiate focused portal revisions and program changes. A focus group method was used to interview patients about their portal knowledge, willingness to use the portal, and general preferences for accessing health information. Four focus groups were conducted with 15 participants. Each session was recorded, transcribed within the program *NVivo,* and reviewed through content analysis. The main barrier to patient portal use is a general knowledge deficit about the purpose, usefulness, and accessibility. As possible solutions, the participants suggested education and promotion materials are essential. Also, nursing staff will need to offer patients information about how to access and use the portal. Through this project, positive social change can be achieved as patients will have better access to their personal health information with the revised portal.

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Dedication

This project is dedicated to all the pioneers in patient engagement and nursing informatics. It is through the continual commitment to utilizing technology to further the quality of care, and to steadfastly putting the patient first, and yet continue to promote the profession of nursing that allows this project to be considered. I truly hope to contribute to this area of nursing and to continue to learn from those that came before me.

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Table of Contents

List of Tables

List of Figures

Section 1: Nature of the Project

Introduction

Patient engagement, through active participation in their own health care, is a key component for quality patient care (Baker, Fancott, Judd, & O'Connor, 2016). There are different ways to engage patients, such as through teaching, patient handouts, support groups, and technology. In the digital era, technology in the various forms, such as the Internet and satellite television, are part of people's everyday lives. Health care organizations are embracing technology to advance patient engagement by providing patients with remote access to their personal medical information. Personal health records (Archer, Fevrier-Thomas, Lokker, McKibbon, & Strauss, 2011), electronic medical records (Dick, Steen, & Detmer, 1997), and patient portals (Coffield, Ishee, Kapp, Lyles, & Williams, 2011) were developed to enhance communication between clinicians, payers, and patients (Harris Health Care Solutions, 2012). With the patient portals, patients can easily access their health information as a means of understanding their health status as well as the services they access (Irizarry, Dabbs, & Curran, 2015; deLusignan et al., 2014). This represents a new paradigm to enhance the quality of health care by offering the patient a role as a member of their care team. Patients choosing to participate will have more knowledge, greater voice, and the power to make informed decisions (Archer et al., 2011). This is the epitome of patient-centered care.

To advance a new agenda focused on improving the failing American health care system, the Institute of Medicine, or IOM (2001) provided six specific aims: (a) safe, (b) effective, (c) patient-centered, (d) timely, (e) efficient, and (f) equitable care. As patient-centered care is an essential element to improve patient outcomes, care models are developing to specifically address patient centeredness. Patient-centered care requires more attention than only addressing patient concerns; instead, this demands effective methods of communication. The patient is becoming an active participant in their health care. Communication and ease of access to information is fundamental to the patient involvement to understand the nature of the care they receive (Clancy, 2008).

Several patient-centered models have been developed since the beginning of the new millennial. For example, the Planetree model was developed to change care by establishing a pathway to patient centeredness with focused tenets to facilitate change (Planetree, 2014). Another model, the patient- and family-centered care model, organizes care with emphasis on the patient and family as vital members of the health care team (Institute for Patient-and Family-Centered Care, 2011). Both models speak to the importance of patient-centeredness, with different methods for implementing the concept.

Health information technology allows patients to access information and to be involved in their health care, specifically allowing access to their information through a patient portal. The patient portal provides patients with access to their health records. Informatics is a practice of nursing that specializes in the integration of nursing, computer, and information sciences to manage and communicate data, information, knowledge, and informatics practice (American Association of Nurse Informatics, 2008). Patient portals are the primary digital method for patient engagement to enable patients to share information and communicate with their health care providers (Rodriguez, 2010). Contemporary government regulations, such as Meaningful Use Stage 2 (Centers for

Medicare and Medicaid Services [CMS], 2017), support the development of patient portals for patients to facilitate patient and provider communication and to provide patients with unobstructed access to their personal health information.

Health information technology and patient-centered care intersect when the patient portal is implemented in a health care institution. Health information technology provides the patient with the essential knowledge to strengthen their voice in the decision-making process, but this progress significantly lags consumer-centered technology in other industries, such as banking (DuPree, Anderson, & Nash, 2011). The patient portal also gives an additional form of communication between providers and patients. Communication is key to information exchange and is vital to quality care. Understanding barriers, such as lack of utilization of the portal, from the patient's perspective, places the focus on the patient and places health information technology in the context of a key aspect of patient care. Barriers, whether great or small, represent a gap in what patient-centered care strives to achieve.

Problem Statement

The IOM (2001) directs health care institutions to develop systems and processes to incorporate patients as active health care team members who engage in decision making, access information regarding their own treatment plan, and use information from other sources regarding their care. Incorporation of systems to engage patients as active members of their health is expected to promote quality care and as such makes the patient a key stakeholder in their own personal care, but also within the business of the health care industry. Patient-centered care is one of the six aims to achieve quality in health care

(Davis, Schoenbaum, & Audet, 2005; IOM, 2001). The concept of patient-centered care dates to the statement “Nothing about me without me” (Deblanco et al. 2001, p. 145). Patient-centeredness requires communication between the patient and the health care providers and organization. Information exchange is a key component of quality and effective communication comes about when information is easily accessible and understood. Decision making through information exchange is a powerful tool that engages patients and increases knowledge and now it has been mandated through the Meaningful Use initiative (HealthIT.gov, 2015).

Local Context for Gap in Practice

The patient portal was developed as a tool for the exchange of information (Harris Health Care Solutions, 2012). Organizations spend millions of dollars in portal implementation, but still there is a lack of utilization, added with a lack of knowledge of the patient portal from members of the organization to the patients themselves. This raises the question of what the barrier is for using the patient portal, particularly from the viewpoint of the main stakeholder, the patient.

Evidenced-based practice, quality improvement, communication, information exchange, and patient-centered care are concepts that are continually examined in health care. These concepts remain only concepts if there is not an understanding of fulfillment and what methods are most effective to ensure the synthesis of these concepts. Understanding comes from information seeking, and quality improvement methods can be the foundation for exploring barriers to achieving quality of care.

The patient portal was instituted at the project site in July 2014; at that time, the Meaningful Use Stage 2 fulfillment requirements were for 5% of the in-patient population to view, download and transmit their information via this technology (CMS, 2017). In the more than two years since its implementation, numerous changes have taken place in the organization and in the health care environment regarding the importance of the portal. Meaningful Use requirements have been decreased to encourage organizations to promote and fully utilize the portal (HealthIT.gov, 2015). These requirements have yet to be met, with the highest success rate of 1% in the summer of 2015, within the project site.

Local Relevance and Practice Environment

The utilization of an evidence-based care model meets the requirement for improving quality, defined by the IOM (2001) as organizing health services to increase the likelihood of achieving the desired health outcomes in a manner consistent with current professional knowledge. A core competency for health care professionals is to provide patient-centered care by identifying, respecting, and caring for patient differences, values, preferences, and expressed needs. Also, patient-centered care is enhanced by utilizing informatics to communicate, manage knowledge, mitigate error, and support information technology (Stevens, 2013).

As the American health sector moves toward a more patient-centered health care system, an integrated electronic health record with a patient portal is the contemporary standard by which providers and patients can more actively collaborate and exchange information. Healthcare Information and Management System Society (2012) noted that organizations engaging patients in the overall design of system processes, including utilization of a patient portal, had better patient satisfaction. However, there are still limited data to support the claim that patient portals result in improved patient outcomes.

Organizations offer the patient portal to meet the intent of Meaningful Use criteria. Web portals are at the forefront of technology for hospitals and providers to deliver information to patients because they meet the need to promote personalized care and secure communication mechanism systems between hospital/provider and patient (Apter, 2014). Federal regulations spur the implementation of technology, but for sustainability and usefulness, patient understanding is the precursor to viability of such technology.

Meaningful Use, as defined by the Affordable Care Act, is to utilize technology that is meaningful to both the organization and the patient population that it serves (CMS, 2017). The reality of the relevance is the portal was instituted in the organization and still it is not being utilized. Understanding patients' barriers to using the patient portal can only be provided by the patients and by not allowing a tool that is meant for the patients' benefit to be unused.

Significance and Implication for Nursing Practice

Health services research is shifting with the emergence of quality patient-centered outcomes research, per the Patient-Centered Outcomes Research Institute (2013); as such, projects that focus on the patient place a greater social emphasis for change and take the focus away from the provider to the patient as the key stakeholder of technology implementation. As evidence mounted on standard medical metrics (mortality and morbidity), it has been noted that metrics and outcomes of interest to patients and families (such as quality of life) were understudied (de Lusignan et al., 2014). In 2010, national attention was drawn to the need to produce evidence on patient-centered outcomes from the perspective of the patient, as well as supply a tool to allow patients access to their health care information (IOM, 2013). Understanding patients' barriers for not using the patient portal contributes to patient-centered outcomes, as they relate to using information sharing tools, such as the patient portal.

The ideal patient portal is designed to build trusting relationships between patient and providers through enhanced communication and information sharing. However, if the provider does not understand the portal purpose, especially the potential to build trust, the provider will not use the portal appropriately and the patient will not be encouraged to use the technology. The nursing practice scholar, or Doctor of Nursing Practice (DNP), can address this reality. This emerging role, advocated by the IOM, will move theory and research into clinical practice (Greiner & Knebel, 2003). Through developing evidence-based programs, protocols, and processes, the DNP scholar improves the quality of patient care and delivers measurable organization and patient-specific outcomes (Moore & Watters, 2013). This project has the potential to act as a catalyst for increasing patient engagement using the patient portal.

Purpose Statement

This project examines patient and nurse definitions of the patient portal; the data specifically focuses on perceptions and personal definitions. These perceptions and personal definitions also identify barriers to utilization of the patient portal.

Phenomenological studies allow the researcher to focus on an experience as the participants live it. The participants' experience defines the data collection and interpretation. To acquire a description of the core concepts of patient-centered care from two of the key stakeholders, nurses and patients, the project followed a descriptive design, utilizing focus groups to describe patient's definitions of barriers to portal utilization. The focus group methodology was used to gather data from nurses and patients regarding their understanding of the patient portal.

The purpose of this project was to explore from the patient perspective the facilitators and barriers to utilizing the patient portal. Lack of utilization of the patient portal does not support the importance of information exchange, communication, and quality care. The overarching goal of this project is to increase the use of the patient portal to enhance information sharing as a strategy to improve outcomes, which will lay the foundation for increased patient engagement through increased communication and information access using technology.

Project Objectives

Goals and objectives of this project focused specifically on maximizing the utilization of the existing portal. Program goals were intended to be compatible with the program's mission (Kettner, Moroney & Martin, 2013). The overall goal of this program will be to increase use of the patient portal by accommodating patient preferences. For this goal to be obtained, patients must be enrolled in the portal, which has continued to be a barrier, as noted by less than 1% enrollment and portal access as of February 1, 2015. Nurses also need to take ownership of the portal as part of the care model. Objectives focused on measuring the overall goal. Understanding the use of the portal will lay the foundation for enrolling patients and patients accessing the portal. Activities in the program focus on engagement of key stakeholders, and objectives and goals align:

1. Patients will enroll in the patient portal.
2. Patients will access the patient portal as a means of accessing information regarding their health care.
3. Nurses will utilize the portal as a means of discharge teaching as well as admission teaching.
4. Patients and nurses will understand the importance of the portal.

Gap in Practice Defined

Exchange of information through technology is meant to enhance the communication between patients and health care providers. Tools put into place by institutions to enhance this exchange are only viable if people use them. If individuals do not know the mechanisms and processes those tools are intended for, then gaps in understanding and usage will continue to exist. The patient portal has the potential to increase information access, but if key stakeholders do not know or understand the concept, then successful implementation will not take place.

It has been established the patient portal is meant as an information tool, a communication device, but if there is a gap in the process of knowledge of the portal, then there will be a continuous gap in utilization and a barrier to information exchange.

This doctoral project addressed the core understanding of the patient portal by those who ultimately benefit, the patients. Usage of the patient portal by the primary stakeholder, the patient, measured the ultimate success of full implementation of the patient portal.

Evidence-Based Practice

Evidence-based practice focuses on evaluation of processes to achieve best possible outcomes (White & Dudley-Brown, 2012). This evaluation can only be achieved by examining processes and questioning results to ensure quality care. Best practices should include those processes that consistently achieve outcomes that improve the quality of care. These practices should consist of understanding the patient's perception of what is best and then making decisions regarding what is best including the population for whom it applies.

Evidence-based practice is to use the best practices to achieve quality patient outcomes (Conner, 2014). Nurses, translating evidence into practice, position themselves to ensure quality outcomes, provide additional knowledge to both the profession and to patient populations, and bridge the gap between research and clinical practice (Youngblut & Brooten, 2001).

PICOT Process

The PICOT process is a systematic process to state research problems, identifying key components. The PICOT question, ideally, determines the research project design (Riva, Malik, Burnie, Endicott, & Busse, 2012). In exploring quality improvement projects, the qualitative methodology is the foundation to understanding why tools such as the patient portal are not utilized. Communication, the exchange of information, is only effective if the two parties that are involved understand the shared information. The development of project questions must be specific, but for qualitative methods, allowing for exploration of phenomena is fundamental to the project.

Quality improvement questions should be addressed in a systematic manner that allows for a foundation of understanding and can be expanded upon for further improvements. This process specifically identifies areas for improvement and allows for exploration of barriers or gaps in what should be evidence-based practice. For this project, the concept of the portal is to be a tool for communication and accessing information, but is not utilized, and, as such, quality improvement project questions must be developed that address this gap.

PICOT Question

For this project, the problem statement was framed as a PICOT, as conceptualized by Richardson, Wilson, Nishikawa, and Hayward (1995), and then expanded by Fineout-Overholt and Johnson (2005), The PICOT:

Population/Problem: Patients, 18 to 65 years of age, who have signed up to use the portal, but have not accessed the portal since signing up.

Intervention: The patient portal.

Comparison: The number of patients utilizing the portal before exploring barriers for not using the portal, and the number of patients who use the portal after changes are implemented.

Outcome: Barriers will be identified to the lack of portal usage; strategies will be implemented to increase the usage of the patient portal.

Timeline/Type: The timeline will be dependent upon how long it will take to recruit eight to 10 patients to participate in a focus group.

Response to the Gap in Practice

To understand patients' lack of utilization of the portal, as evidenced by the lack of 5% fulfillment requirements within the organization, addressing the question to the key stakeholder, the patient, allows for understanding and participation in quality improvements that will result in improved access to health care information. Quality improvement projects such as this allow for measures to be instituted that benefit the patient and the health care organization, which leads to improved patient outcomes.

Summary

Patient engagement and the need for greater access and health care transparency have led to a means for patients to have access to their care and their health care information. To affect better patient outcomes, new knowledge must be transformed into clinically useful forms, effectively implemented across the entire care team within a systems context, and measured in terms of meaningful impact on performance and health outcomes. Technology has become thread that links patient engagement and quality of care.

Section 2: Background and Context

Introduction

The purpose of this project was to analyze barriers defined by the patient for not utilizing the patient portal. The scholarly literature for this project focused on barriers to utilizing the patient portal and how the use of a care model such as the patient- and family-centered care model could be used as a catalyst for promoting portal use. The lack of scholarly evidence demonstrated the need for an improvement in the way information is shared and how patients and their family members are included in their care. The understanding of what patients want or how they feel about the manner that they receive information leaves a gap in understanding for both the patient and the providers. Having a say in one's care does not necessarily give understanding to why a tool is present and not utilized. In patient-centered care, the focus is the patient, and to understand the patient needs, they must have a voice. The evidence for the use of portals in the tertiary care setting is limited, though patient engagement in any setting in health care continues to be a performance quality measure.

Theories, Models, and Concepts

Theories

Focus groups. Through focus groups, patients can give their definition of what barriers they have encountered in attempting to use the patient portal. Focus groups have their beginnings in marketing dating back to World War II in understanding citizen's reaction to war propaganda (Sim, 1998). The basis is allowing participants to define the concept in a noninvasive, noninterventional setting. This type of model can also be useful for the continual evaluation of the program. If there is input from the target population, as well as key stakeholders in the project, and the ultimate outcome is to increase patient engagement and access to personal medical information, then it is through the focus group that there is empowerment. It is also important to note that understanding patient's barriers, in their own words, also allows participants to have input in any further interventions, which in turn will be better served by input from the target population and as a key stakeholder.

Diffusion of innovation theory. The diffusion of innovation theory (Rogers, 2003) explains how populations reject or accept and adopt new technology. In this project, the innovation is the patient portal, as a means of access to information, and adoption is how individuals accept an innovation. There are different rates at which individuals begin to utilize technology. Based on the present lack of patient portals, most patients would be considered early adopters (Dearing, 2009). Diffusion occurs through different channels and can also include the description of specific channels. Potential adopters who exhibit an uncertainty in an innovation will seek out information from trusted individuals (Dearing, 2009). This is the area where nursing becomes a key player in the further implementation and utilization of the portal. Nurses are the trusted individual patients can access when they are uncertain about the relevance of the patient portal to their health care.

Diffusion of innovation theory emphasizes the importance of communication, especially when an innovation is introduced to an organization for adoption through diffusion (Rogers, 2003). The underlying premise is that people and organizations move through five stages of innovation: knowledge, persuasion, decision, implementation, and confirmation (Rogers, 2003). There are different levels of adopters of innovation, though any newly introduced concept can be considered an innovation (Rogers, 2003). This framework recognizes that a variety of factors influence the adoption of a practice or innovation (Hubbard & Sandmann, 2007).

Early adopters of the patient portal encountered similar barriers as currently identified: safety and security, deficiencies in health literacy, utilizing peer reviewed studies to evaluate the impact of the portal on health care organizations. Understanding portal features and what information patients want access to in their portals has been the focus of most quantitative studies conducted (Emont, 2011).

Models: Patient- and Family-Centered Care

The patient- and family-centered care model is an evidence-based care model that was specifically developed for patient engagement and the inclusion of family and the patient as active participants in their health care (Institute for Patient- and Family-Centered Care, 2011). A focus group methodology has been used to evaluate the effectiveness of the patient-and family-centered model in promoting evidence-based practice protocols, identifying the care model as a framework for information management that includes patients and their family members (Lacy & Backer, 2008). Utilizing the care model as a foundation for information sharing positions any tool, such as the patient portal, as a catalyst for engagement.

Concepts: Patient Portal

Nagykaldi, Aspy, Chou, and Mold (2012) studied the impact of a patient portal focused on wellness on the delivery of patient-centered care. They determined by the behaviors and experiences of both the patients and the primary care clinicians the degree to which recommended services were individualized, providing insight from providers and patients in this specific setting (Nagykaldi et al., 2012). The researchers conducted a 3-year systemic portal development and testing study with a 6-month feasibility pilot in two primary care practices, followed by randomized controlled trials in eight clinic offices. Ninety percent of the patients in the pilot study found the portal easy to use. Seventy-three percent of the patients utilized the portal during the study period and found it beneficial. Thus, patients become more activated in their care and have enhanced knowledge and improved confidence and better health decision skills, which brings the right type of patient care to the right patient. Patients were surveyed on the ease of the portal use and the increased access to personal information. In this study, providers also reminded patients to utilize the portal and to set up communication and offer feedback (Nagykaldi et al., 2012).

Applications within patient portals, such as the Blue Button, promote patient engagement by allowing patients to easily download their personal health information (Turvey et al., 2004). The Blue Button is a registered trademark of the U.S. Health and Human Services and is a clickable blue button on their patient portal page (Turvey et al., 2014). This feature allows patients specific access to portions of their individual portal, such as upcoming appointments, problem lists, or medications. In an online survey, 33%

of current Veteran’s Administration portal users utilized the Blue Button feature, and of that number 73% endorsed the benefit of understanding their health history and having an ease of access of this information (Turvey et al., 2014). Understanding all that features of a portal can offer might, in the future, decrease the gap in utilization (Turvey et al., 2014).

Ammenworth, Schnell-Inderst and Hoerbst (2011) conducted a systematic review focusing on medical records and access to information and patient participation revealed conflicting findings on improvements on adherence to treatment, patient education, and empowerment. Portals provide better information from the medical record, but better-informed patients do not equate to healthier patients (Ammenworth, Schnell-Inderst, & Hoerbst, 2011). To make significant strides towards a health care system that is patient-centered, organizations must be willing to explore what patients need, communicated in their own words. Utilization of clinical care systems and health care technology supports and encourages quality patient engagement, as well as the confidence that information relayed is secure and confidential (Davis et al., 2005).

Terms

The following terms guided the development of this project. In qualitative methods of data collection, concepts and terms evolve as the transcription of information is decoded, so future terms may develop as data are transcribed (Terry, 2012).

Patient portal is a web-based information tool that allows communication between health care organizations, providers, and patients (Harris Health Care Solutions, 2012). The level of communication depends on the technology utilized and the extent that providers and organizations wish to use the technology. Focusing on ease of use, convenience, and practical access, the portal is designed to make patients want to further engage with a hospital health systems through health information technology (Harris Health Care Solutions, 2012). The ideal portal would offer a low cost, low touch scalable solution for service and transaction delivery including self-management disease, engage in self-manage disease, engage patients in self-care and update health information, and connect patients with providers and health care members.

Working definitions of electronic personal health records, and patient portals to build a database of what is viable and can stand alone, speak to the importance of nomenclature as well as the topic of interoperability and the general knowledge of the concepts of this health technology (Jones, Shipman, Plaut, & Selden, 2008).

Patient- and family-centered care is an evidence-based care theory that has its basis in the inclusion of patients and their families as active members of the health care team, with equal input in decisions of health care and interventions (Institute for Patient- and Family-Centered Care, 2011).

Patient engagement is one of the key concepts of the patient centeredness of health care reform. Engagement is the willingness of the patient to have a voice in their care and having the opportunity to actively participate at their own level. This term has become the important aspect of inclusion and the way health care is received.

Communication is the way information is exchanged. It is a transactional process between two parties (Corcoran, 2007). Access to information comes in the form of communication. Technological advances have been developed that are meant to improve communication between provider, organizations, and patients.

Project Relevance to Nursing Practice

Search Strategy

Several databases were searched including CINAHL and Medline, PubMed, and Science Direct. Both qualitative and quantitative studies were searched with studies published within the last 5 years as primary focus. Keywords utilized for the search included the following: *patient portal*, *utilization*, and *barriers*. Much of the literature focused on the implementation of the portal, specific barriers as they related to age and ethnicity, and the information regarding promotion of the portal.

General Literature

Literature regarding the patient portal and its utilization has focused on the technology of the portal, the implementation of the portal in organizations, and how providers have viewed the ease of the portal. There have been limited studies that focused solely on the patient's perception of the portal. Rodriguez (2010) noted, in a study of oncology nurses, that before establishing a patient portal with e-mailing communication system for oncology patients, both nurses and patients could give input on what they wanted, through focus groups, surveys, and user-acceptance testing to design a secure messaging system. Identifying early adopters and engaging key stakeholders provided an opportunity to receive and incorporate feedback and add needed enhancements, as well as empowering nurses with the importance of their feedback.

Access to health information through the patient portal and other technologies is still not given to all patient populations. U.S. veterans are one of the few groups that are given and encouraged to utilize this technology, but even with access, disparities remain in this population. Assessing the frequency and correlation of veteran's use of internet based web portals, of the 3408 who responded to a questionnaire, 54 % had used the internet and 29% had used the internet specifically for health (McInnes et al., 2011). In this systematic review, more education and urban location was strongly associated with use of the internet for health-related information (McInnes et al., 2011). These findings laid the foundation for the establishment of My Health eVet, the PHR specifically for U.S. veterans (McInnes et al., 2011).

Wagner et al. (2010) studied the incorporation of patient feedback into existing personal health records system. Patients participated simultaneously in a two wave semi structured interview (n= 9 Wave1) and (n=7 Wave 2) after one or two weeks of using the personal health record (Wagner et al., 2010). Interviews addressed strength and weaknesses of the personal health record. Results of this study indicated a mixed collaboration between patients and providers could be possible. The use of personal health records provides an opportunity to motivate patients to improve their health and potentially increase patient safety and quality of care. Examination of patient perspectives on PHRs use and functionality and compare those to collaborative team members, IT professionals, patient centered care experts and investigators show that when given information regarding the portal, interest increases as does enrollment and utilization (Wagner et al., 2010). Patients anticipated that the personal health record would facilitate partnership with their providers to manage their medical conditions. Patients also saw the PHR as means to improve communication with their providers and means for health promotion information (Wagner et al., 2010). To accomplish this patient-centeredness personal health records and patient portals must be perceived by patients as functional and valuable.

Specific Literature

Specific literature as it relates to patient's perception of the portal has been limited. Geol et al. (2011) conducted an observational cross-sectional study that examined enrollment in, and use of an electronic patient portal based race/ethnicity, gender and age which found that 69% of the 7, 088 patients enrolled there was a large racial disparity were seen in enrollment in the patient portal. Leville et al. (2012) utilized a mixed method approach to evaluate Open notes in three diverse health care settings in Boston, Pennsylvania, and Seattle using the patient portal to increase patient engagement. A quasi-experimental non-equivocal design with pre-and posttest approach was used for convenience, as the focus of the study was on providers, and not necessarily the patients. Participation across the three sites varied, a total of 114 primary care providers, with a 40% intervention response (Leville et al., 2012). Most providers in the study were willing to participate in the initial implementation, which lays the groundwork for the actual implementation of the Open notes in the patient portal, but gives no indication of patient utilization (Leville et al., 2012). This returns to the importance of patent understanding and knowledge of technology, such as the portal, that is used to improve quality of care (Geol et al., 2011).

Reti, Feldman, Ross and Safran (2009) studied the patient-centeredness of personal health records and offered best practice guidelines. Semi-structured interviews with early PHR adopters in seven large organizations, one administrative representative from each organization (n=7) were completed (Reti et al, 2009). Patient-centeredness was assessed against a framework that included respect for patient values, information and education access to care emotional support, continuity and secure transition and coordination of care. The results evidenced a lack of patient centeredness is preventing patients from accessing their clinical notes, and turnaround time for information was close to seven days, which is far greater than the 36 hours mandated by Meaningful Use 2 requirements (Reti et al., 2009). Patients need to have a voice in understanding the gap that exists in the desire to use patient portals or personal health records and the unobstructed ability to do so. By facilitating online access to medical information and activating patients in knowledge based collaborations with clinical health information technology can have a key role in patient centered care (Reti et al., 2009). Again, the focus is on the organization without the input of the patient in a patient centered study. Incorporation of patient feedback in existing portals focus less on engagement barriers, but more on recruitment of patients.

Evidence to Address the Gap in Practice

Limited studies specifically looked at the patient’s perception barriers to utilization of the patient portal utilizing quality improvement methods. The lack of access to Internet has been identified as a key barrier, but there is the continued assumption that with the utilization of smart phones and other mobile technologies, this is not the case

(Kanaan, 2009). Studies on experiences of early adopters of patient portals and their experiences focus on institutions and their experience in the initial installation of the portals and the difficulties faced in a new means of patient engagement. Within the early adoption studies there has been active involvement of providers in promotion of the utilization of the portal, which supports the point that patients look to their health care providers for information and for patients to have access to information regarding their care it is up to organizations to promote these tools (Dearing, 2009).

Luxford, Safran and Deblanco (2011) conducted a qualitative study of eight U.S. health care organization patient-centered care facilitators examining patient engagement and information technology as well as feedback mechanisms. These facilities had already established patient-centeredness and were key facilitators for increasing patient engagement through a strong organizational approach (Luxford et al., 2011). The strong foundation of patient-centeredness lends itself to further implementation of tools that expand information exchange, but from the provider/organization viewpoint, and not from the patients.

A systematic review of the literature of 6508 titles regarding patient portals to report the effect on clinical care including qualitative studies on barriers or facilitators of the patient portal found that there is not sufficient evidence that patient portals improve health outcomes, though patients were generally positive (Goldzweig et al., 2013). In this review, there were 14 randomized controlled trials, 21 observational hypothesis testing studies, 5 quantitative descriptive studies and 6 qualitative studies selected based upon studies of EHRs with tethered patient portals addressing patient outcomes, satisfaction, adherence, patient characteristics, utilization, including barriers (Goldzweig et al., 2013). Limited data for outcomes and organizational reporting were noted. Though portals are designed to have patients be more active participants in their care, this review suggests potential barriers to achieving this goal, including disparities in who accesses these portals (Goldzweig et al., 2013) This is consistent with what has been demonstrated in the clinical site thus far. There are disparities and barriers in usage, as well as understanding of the concept of the portal.

Kruse, Argueta, Lopez, and Nair (2015) conducted a systematic review to gather data about the use of patient portals in the management of chronic disease. The review concluded that portals do show significant improvement in self-management of chronic disease and improve the quality of care by providers (Kruse et al., 2015). The review revealed mixed attitudes of patients regarding the use of the portal in disease management. A standardized portal design was suggested for patients to understand the management of their disease. This supports the use of the portal, but does not specifically address what barriers exist in the implementation of the portal and the how lack of knowledge of the tool can be addressed.

Barriers to Internet-based health services required improved technology access and ease of navigation of systems to accommodate all health literacy levels (Sarkar et al., 2010). Health literacy has been focused on as a barrier to enrollment and utilization of the patient portal. Studies of literacy focused on the need for information and the gap in literacy. Sarkar et al. (2010) studied literacy divide in patients using the patient portal, specifically focusing on the patients with diabetes. In this study, patients with a chronic health issue that need continual monitoring and a greater need for information, along with the assumption that universal use of health information technology should be central to U.S. health care reform.

There are clear racial/ethnic disparities in patient portal use (Anker et al., 2011; Hsu et al., 2005). Again, promotion of the patient portal being a key factor to those patients that do not have limited health literacy. Focusing on demographics associated with health literacy as it relates to the patient portal is key in addressing disparities. In the project site, though the diabetic population is a major portion of patients seen it has been conveyed that this population is not to the level of wanting or accepting access to information for their chronic conditions.

Issues of security of information in web based portals have also been addressed and may be a barrier to utilization. Confidentiality of sensitive information makes participants weary when contemplating putting personal information into portals, and who will have access to that information and what if there are security breaches (Croll, 2010). The ethical aspect of electronic health records and their content cannot be discounted and can create conflict for both providers and participants (Layman, 2008). Of utmost concern, are organizations pushing this technology upon their patient populations, as opposed to educating patient’s that this is an available option for easier access to health information, and ensuring the confidentiality of private information.

Local Background and Context

Evidence or Justify the Problem

Access to information, through technology is a forward change in basic assumptions in patient care. Technology should be an extension of care, not a barrier to the health care system and patients, as the main stakeholders. Understanding patient's perspective in an organization whose care model is patient-centered lends itself to the greater focus on exploring barriers as described by the patient.

Institutional Context

The patient portal was implemented into the organization in July 2014, since the "go-live" of the project, the minimum fulfillment of Meaningful Use requirements of 5% has yet to be achieved (CMS, 2017). Meaningful Use, and its many requirements, not limited to the patient portal, have been at the forefront of implantation processes; though the processes related to the portal have not been put at the forefront of urgency. This is supported by the maximum fulfillment requirement of 1% as of July 2015. The patient-centered care model adopted by the institution to guide care specifically focuses on the importance of information sharing, which is the primary purpose of the patient portal.

Local Terms and Definitions

Patient portal is a web based information tool that allows communication between health care organizations, providers, and patients (Harris Health Care Solutions, 2012). The level of communication is dependent upon the technology utilized and the extent that providers and organizations wish to use the technology.

Barriers are any obstacle that prevents access to information or care. Access to health information through the patient portal and other technologies is still not given to all patient populations.

Identifying barriers to patient portal use is essential to produce tools and to develop strategies to encourage patient engagement with the patient portal. There is a limited understanding of the public's health information needs. Assumptions are made that consumers/patients have the same information needs as professionals (Keselman, et al., 2008). The requisite of needs assessment and speaking to our patients to understand what their needs are cannot be discounted.

View, download, and transmit is the term specific to Meaningful Use Measure 1 regarding the patient portal. This measure states that more than 50% of all unique patients seen by the reporting provider during the EHR reporting period are provided timely access to view online, download, and transmit to a third party their health information subject to the EP's discretion to withhold certain information (CMS, 2017).

Meaningful Use is the term that relates to the use of certified electronic health record (EHR) technology to: Improve quality, safety, efficiency, and reduce health disparities. Engage patients and family. Improve care coordination, and population and public health. Maintain privacy and security of patient health information (CMS, 2017).

Patient- and Family-Centered Care is an evidenced based care theory that has its basis in the inclusion of patients and their families as active members of the health care team, with equal input in decisions of health care and interventions (Institute for Patient-and Family-Centered Care, 2011). The organization adopted this model of care, and it has been instituted for the last 6 years.

State and Federal Context

The Accountable Care Act (2010) requires health care organizations to deliver patient-centered care by setting technological standards to expand patient access to health information (Pelletier & Strickler, 2014). Providing incentives for organizations and providers, as well as penalties for those that do not comply, the federal government is supporting an expanded role for technology in health care (DuPree et al., 2011). Patient portals are considered part of the expanded technology that health care organizations are utilizing to increase patient access to their own information, and are part of fulfillment requirements for Meaningful Use (CMS, 2017). As such, health care organizations seek to improve quality by refocusing on systems and processes that center on the patient versus the provider. Conceptually patient-centered care is meant to be a core concept in the health organizations, central to advancing quality in health care, through patient's active role in their own health information. Central to patient-centered care is the communication that must take place for exchange of information, as well as understanding of this information.

Role of the DNP Student

Professional Relationship to the Project

My professional relationship to the patient portal project has been as a gatherer of information that could be presented to the organization as evidence to support the need to address the patient portal and its role in patient care and improved patient outcomes. The organization has become part of a larger health care entity, and as such brings its own processes as well as gaps in processes as it is included in a larger health care organization.

Professional Role in the Project

My professional role in this project has been as doctoral student in hopes of gathering information that will benefit the organization to improve patient care. This role lays the foundation for further exploration of information, as well as to role model for other nurses the importance of translating research into practice.

Motivation for Completing the Project

The present change of health care policy and the unknown changes that will arise, makes the timing of the project important to evaluate the present usage and knowledge of the patient portal, and to address changes in processes that will benefit the organization and support federal mandates.

Potential Biases

The greatest bias that I can address is that my focus of the entire project has only been on the patient portal and not all other aspects of the Meaningful Use mandates, and as such I only see the need to implement processes that will fulfill the requirements as they relate to the patient portal. I have used the patient portal in other institutions, as have my family members and I have seen the successful implementation of the tool in other various settings.

Role of the Project Team

The project will be designed in a manner that puts the patient and quality of care at the center of the project. The team will include those individuals who understand not only nursing research, but quality initiatives, nursing informatics and continuum of care. The focus group will be the design of the project and to gather enough data on patient's perceptions of barriers of utilizing the patient portal. The team will also consist of advisors for the project and team members for the practicum site will also be included as members, as well as key stakeholders in this project. Members of the project site assisted me in patient recruitment, data collection and coding of information.

Team Members and Background Information

Multiple meetings and presentations took place to communicate the background of the portal project to have organizational and leadership buy in. Team members changed throughout the portal project, due to many different factors. The assigned organizational team for the project went from a five to one contact person, and not one specific person in the organization that focused exclusively on the patient portal. Due to time constraints and scheduling conflicts, information was exchanged through Internet communication, as well as weekly meetings.

Team Member Expertise and Contextual Insight

Insight from team members, particularly those who have gone through the DNP process, were shared at meetings and support as well as organizational processes were shared.

Team Member Responsibilities and Work Timeline

The visual presentation of the project found in Appendix A, included measures of evaluation, through Patient Portal reports, regular meeting with Patient Portal and Meaningful Use team as well conducting the focus groups to gather both quality improvement information, as well as a measure of outcomes. The timeline for the project was determined by patient recruitment, as well as conference room availability.   Before beginning gathering data through the focus groups, Institutional Review Board (IRB) approval was obtained through the practicum site, and through the university. Questions for the focus group was developed with the assistance of the project team.

Summary

Understanding patient's barriers to utilization of the patient portal first begins with the patient and their perception. The noted group of achieving *Meaningful Use 2* fulfillment raises the question of "why". This is best understood by using the patient's own words, as can be achieved in the focus group methodology. The focus group supplies a platform for patient to state, in their own words, how they define barriers.

Section 3: Collection and Analysis of Evidence

Introduction

Qualitative methodology is based on the principles of phenomenology, which acknowledges the individual experiences of each study subject and their perceptions as the basis for the study (Terry, 2012). The systematic subjective approach used to describe experience, gain insight, and discover meaning through comprehension lends itself to the experience of the individual guiding the data collection and evaluation (Burns & Grove, 2009; Planas, 2008). This approach allows the nature of the project to guide the data collection. Understanding the experiences of the individual's perception of barriers in portal utilization guides the project process, as well as evaluation of the project. Prior studies of the patient portal have focused on the barriers as they relate to age and ethnicity, as well as ease of use. Few studies have explored the concept of the portal from both a nursing perspective as well as the patient's perceived barriers.

Many organizations have successfully instituted the patient portal, with good results, and full implementation and utilization by both the organization as well as the patient (Wilson, Murphy, & Newhouse, 2012). Barriers can only be sufficiently addressed from an individual's perspective, only if the individual is able to state their own perception, as is done in qualitative studies. Further exploring and understanding barriers from the patient's perspective supports the concept of patient-centered care and gives further emphasis to tools that are meant to allow access to information and open lines of communication.

Practice-Focused Questions

The purpose of this project was to examine the patient described barrier(s) for not utilizing the patient portal. This project seeks patient feedback about possible strategies to increase patient engagement through the patient portal. Changes are difficult to plan and to implement in the absence of patient feedback about their preferences, in this case technology. The overarching goal of this project was to increase the use of the patient portal to enhance information sharing as a strategy to improve outcomes, which will lay the foundation for increased patient engagement incorporating one of the core concepts of the care model.

Project Purpose and Method Alignment

This project examined patients' perceived barriers to utilization of the patient portal, the data specifically focused on perceptions and personal definitions. The project explored nurses' and employees' perception of the patient portal, as it relates to patient information exchange. Phenomenological studies and projects allow for the focus on an experience as the participants live it. The participants' experience defined the data collection and interpretation. My intention was to acquire a description of core concepts from two of the key stakeholders: nurse and patients. The project followed a quality improvement design, utilizing focus groups to describe patients' definitions of barriers to portal utilization.

The purpose of this project is to understand from the patient perspective the facilitators and barriers to utilizing the patient portal. A secondary purpose is to solicit feedback from patients about strategies to increase their use of the patient portal. The overarching goal of this project is to increase the use of the patient portal to enhance information sharing as a strategy to improve outcomes, which will lay the foundation for increased patient engagement.

Key Operational Definitions

The purpose of this project is to examine the patient described barrier(s) for not utilizing the patient portal. This project will seek patient feedback about possible strategies to increase patient engagement through the patient portal. Changes are difficult to plan and to implement in the absence of patient feedback about their preferences, especially regarding technology. Increasing enrollment and utilization of the portal will be the overreaching project goal. The following terms were operational definitions I used in describing the project to the organization and continued communication with key stakeholders.

Patient portal is a web-based information tool that allows communication between health care organizations, providers, and patients (Harris Health Care Solutions, 2012). The ideal portal will offer a low cost, low touch scalable solution for service and transaction delivery including self-management disease, engage in self-manage disease, engage patients in self-care and update health information, connect with providers and health care members.

Working definitions of electronic personal health records, and patient portals to build a database of what is viable and can stand alone, speak to the importance of nomenclature as well as the topic of interoperability and the general knowledge of the concepts of this health technology (Jones et al., 2008).

Patient- and family-centered care is an evidence-based care theory that has its basis in the inclusion of patients and their families as active members of the health care team, with equal input in decisions of health care and interventions (Institute for Patient- and Family-Centered Care, 2011).

Patient engagement is one of the key concepts of the patient centeredness of health care reform. Engagement is the willingness of the patient to have a voice in their care, and given the opportunity to actively participate at their own level. This term has become the important aspect of inclusion and the way health care is received.

Communication is the way information is exchanged. It is a transactional process between two parties (Corcoran, 2007) Access to information comes in the form of communication. Technological advances have been developed that are meant to improve communication between provider, organizations, and patients

Sources of Evidence

For quality projects, authors need to review both quantitative and qualitative studies as sources of evidence. To incorporate patient-centered care into organizations, an exploration of both methodologies allows for inclusion of a greater foundation of evidence to practice.

Search Strategy

A thorough literature search was performed from September 2014 to March 2015. The databases searched included CINAHL and Medline, PubMed and Science Direct. Initial search criteria solely focused on the following keywords: *barriers*, *patient* *perceptions*, *patient portal*, and *patient-centered care*. With these combinations of keywords, there were no studies produced. The search parameters were then expanded to look only at barriers to utilization of the patient portal. There were few studies noted. Both qualitative and quantitative studies were searched, with studies published within the last 5 years as primary focus. Technical studies that focused on the initial "startup" of the portal in organizations were excluded. Much of the literature focused on the implementation of the portal in organizations and specific barriers as they related to age and ethnicity. There were 15 studies that were finally utilized that were specific to the purpose of the study.

Description of Data Collection

Data collection was done through focus groups. Quality improvement information collection was done during the focus group through digital audio recording during focus groups, after ensuring consent forms from all participants. The focus group served to gather information from the patient's perspective of perceived barriers to utilization and ways to encourage increased patient engagement. The focus groups consisted of 1 to 10 participants. The time for the focus group lasted no longer than 1 hour, and I stated as such in any flyers or introductory information used to recruit participants. Light refreshments were offered, as well as an honorarium, a $25 gift card, for participation in the focus group.

The focus group utilized myself, as well as an assistant to allow for smooth transitions throughout the prescribed time. The focus group was audiotaped and participants were informed of this at the time of recruitment, and I reiterated in the consent form that the discussion would be recorded. The use of an audio recorder allowed for accurate gathering of the information and serves as a back-up in case of technology malfunction. The use of two digital devices ensured accurate data collected for verbatim analysis. This method also allowed me to engage the participants of the focus group (Sim, 1998).

Once the data were gathered, I as the project leader and my assistant began the evaluation phase, which includes a review of the notes and review the recordings. The data collected from the focus group was transcribed and coded, based on the concepts consistent throughout the transcription process. As this project focused on perceptions of patients, no preconceptions were developed before data collection, as it would have detracted from the foundation of understanding the perceived barriers. The meeting was transcribed the recordings as to reduce bias (Doody, Slevin, & Taggart, 2013). Concepts that evolved from the transcription were specifically from the participants and were grounded in the actual data (Hsieh & Shannon, 2005). This analysis and coding was consistent with the importance of understanding barriers from the patient's perspective.

Participants

Participants for this project were taken from patients who were part of the hospital network. Patients were English speaking and between 18 and 65 years of age.

Procedures

The focus group methodology was used, and I recruited patients from various groups throughout the organization. I conducted patient recruitment. Participants were recruited in person and full explanation of the project was given.

Protection

IRB approval was granted for this project by Walden University (Approval number: 06-02-16-0368403) as well as the organization where the project took place. Participants were recruited by me, the purpose of the project was explained, and consent forms were given before the project began. Participants were informed that the focus group would be recorded, but no personal information would be disclosed. No names were utilized. All data were kept with me, then locked in a secure cabinet at the project site.

Analysis and Synthesis

Data Analysis

The evaluation was based on the model of focus groups as well as the diffusion of innovation theory (Rogers, 2003). Focus groups are a quality improvement method of data collection that also provide analysis of information at the same time. Focus groups allow for the inclusion of the target population and can be a valuable tool for evaluation (Rauf, Baig, Jaffery, & Shanti, 2014). Diffusion of innovation theory guided the evaluation of the project and addressed the barriers and gaps in utilizing the patient portal.

The focus group has is roots all the way back to World War II. A group of sociologists were asked to investigate how audiences received the military's propaganda films (Sim, 1998). The consumer culture has used focus group technology as a means for evaluation in marketing research (Galloway Research Service, 2014). It is a means for the target population, as key stakeholders, to have input in the program as well as the evaluation of the program. The same means used to collect data can also be used in the evaluation of the project. Focus groups can be used to get in-depth information on perceptions, insights, attitudes, experiences, and beliefs to the program (Centers for Disease Control and Prevention, 2008). This information can be used throughout the program to evaluate how the program is progressing and if changes must be instituted.

Evaluation should be continuous and, as information is gathered, the need for further evaluation and decision makings will continue. The goal was to understand patients' barriers for utilizing the patient portal. The period to achieve the goals was based on the amount of information gathered. I felt that there was a need to conduct as many focus groups as was necessary to have at least 8 participants. To minimize variability in facilitator style, I conducted all focus groups.

Eventual benchmarking for the data gathered in this project can be used within the larger health care organization, as well as in outside similar organizations. This will be done with the approval of the health care organization, and may be also used for further networking on aspects of patient engagement and access to information. Those who have experience are in the best positions to know which conditions need to be targeted. In this project, a focus group of patients stating their barriers of utilizing the portal gives light to the gap in utilization.

Outcome measures constitute the structure of the program evaluation plan (Gard, Flannigan, & Cluskey, 2004). The focus group method allowed the flexibility I needed to obtain descriptive information for outcome measures to evaluate the project, as well as plan necessary changes, and, if necessary, gather more information. These outcomes may demonstrate necessary implementation changes of interventions in future programs. Changes implemented after conducting evaluations should be evident to stakeholders, including feedback, and they should be assured their opinions are valued (Rauf et al., 2014). This will be demonstrated by conveying to the health care organization evaluation through timely reporting to key stakeholder during patient portal meetings.

Summary

The use of the patient portal has been the front of patient-centered care and the utilization of health care technology as means to give patient's access to their health care information. Patient portals and personal health records are means of patient and provider communication. The problem arises when patients do not utilize these tools in health care organizations. Literature supports that portals have potential, but the barriers to their utilization is varied across studies. Health literacy, race, access to technology and age are some of the discrepancies that have been noted, but limited research has focused on patient's perceptions. In including the patient in their health care decisions, through care models, such as the patient- and family-centered care model information sharing as a core concept encourages the use of the portal, and yet there remains a gap in understanding. Answering questions regarding patient's reasoning can best be defined by patient's themselves. This project focuses on patients and their perceptions to understand the gap in utilization.

Conclusion

Patient-centered care is a model of care as well as a mandate for quality by the patient-centered care is a model of care as well as a mandate for quality by the IOM

(2013). Technology has become an everyday part of providing patient care. Communication and access to information are key aspects of patient-centered care, and the patient portal has become a necessary tool of providing a link of communication between patients, their families, and providers. Available tools are of no use if they are not utilized. This project will analyze patient’s perceptions of barriers to utilizing the patient portal. Barriers to utilizing a patient portal have been studied, but limited studies focus on patient’s perception of these barriers. The information gathered and disseminated will lay the foundation for increased quality care, through patient engagement.

Section 4: Findings and Recommendations

Introduction

The problem addressed in this project was perceived barriers identified by patients to utilizing the patient portal. The portal has been put into place as a communication tool for the exchange of information. The evidence addressed barriers as they relate to age and access to information and the importance of understanding barriers to put processes in place that allow for the successful implementation of the patient portal. Most of the research has focused on the importance of the ease of the use of the portals, though less from a quality improvement method, and limited in the nursing literature. This lack of quality improvement data led to the decision to use the focus group methodology, and this coincided with the project site's patient-centered care methodology.

The process of gathering the information for the project became the focus and main objective of the project. Several attempts were made to recruit participants who had utilized the patient portal. The primary barrier of any project is identified when one realizes the knowledge about the concept is limited. Through the process of the recruitment of participants for the project, the number of patients who had utilized the patient portal was limited. This required the widening of the participant recruitment criteria.

As this quality improvement project was focused on learning why patients were not using the patient portal, the difficulty in recruiting participants indicates a lack of knowledge of the patient portal was a main barrier to utilization. One cannot perceive what they do not know. The lack of knowledge then attends itself to who knows about this information tool; conducting a focus group that explored nurse’s perception of the patient portal was a step that was included, as information not known cannot be shared. The patient recruitment then became such that participants were interested in participation and the concept of the patient portal. To understand barriers, patients need to have knowledge of the concept. The focus of the project was not to prove or disprove, but rather to understand the phenomena as described by patients.

Participant recruitment began by contacting key specialties whose populations have been noted to have a greater knowledge and want of access to their health care information. The organization has Wealth from Health, which is a self-management program offered for both employees and patients. The demographics of this group were supported by the literature that indicated individuals who have a personal stake in their health would be the ones who would find a tool such as the patient portal of use to have information regarding their health care. Other groups that were approached for recruitment were the diabetes support group, orthopedic pre-op education group, congestive heart failure support group, as well as the breast cancer center. I had one-on-one discussions with the nursing coordinator of each group and the support team lead and attended these groups to recruit patients. Information regarding the purpose of the project was given to key members, and flyers were distributed to nurses, employees, and patients to increase awareness of the study.

Originally, one focus group was scheduled, and after the limited attendance, it became evident that more groups would be necessary to achieve the expected 8 to 10 participants. Four focus groups were conducted, with varied attendance. The first group consisted of four participants. The second group had only one participant. The third group had nine participants who were a combination of nurses who had also been patients, patients, and employees. The nursing focus group developed from the original objective of understanding nurses' knowledge and perception of the patient portal. Only one participant attended the fourth focus group.

The focus group format was utilized to understand patients' perceptions in a group format to allow for a variety of answers and a free flow of information. The groups were held in a conference room at the project site. The sessions were attended by me and the head of the Nursing Research Council to ensure consistency of information and fact gathering; the sessions were also recorded for accuracy.

A PowerPoint presentation was prepared that defined the patient portal, demonstrated systematic instruction, and included the questions that were to be discussed during the project. The project site suggested this, to ensure that participants had an introduction to the portal. The questions that explored the patient portal were as follows:

- What do you think of the patient portal?
- Have you used the patient portal?
- Did you find the portal easy to use?
- What do you like about the portal?
- What did you dislike about the portal?
- Do you feel the portal had/has an impact on the care you received?
- If you could design your own portal what would you include?

These questions were developed to be open-ended and exploratory in nature. At the end of each conducted group, I asked the group if there were any questions. Each participant was asked to fill out a demographic sheet (Appendix D) at the beginning of the session.

Consent forms were filled out by each participant, and I answered any questions regarding consent; both anonymity and confidentiality were assured. The participants were again informed that the session would be tape-recorded to ensure accuracy of information obtained. Each session lasted approximately 45 minutes. The director of Magnet and I debriefed after each group to ensure information was correct and common themes were discussed. Notes were taken during the group discussion and each group was recorded. Answers were taken verbatim, and there was no leading or bias from me to gather further information than what was given.

Of the 10 patient participants, only 2 knew of the existence of the portal. Of the 8 participants who were nurses, only 2 knew of the portal, and 1 had utilized the portal. Two of the participants knew of the portal, but had never accessed it. The rest of the participants did not know of the site's portal, though they had used other portals in other facilities.

Findings and Implications

The focus group sessions were tape-recorded, and the sessions were transcribed through the service TranscribeMe. The transcripts were then analyzed, both by me and the director of Magnet, who assisted in the focus group and has been the liaison from the project site. After each focus group, there was a debriefing to ensure accuracy of the themes that were consistent throughout each session.

The transcribed notes were then inputted into the qualitative data analysis program NVivo for accurate coding and analysis of the quality improvement information. The queries, shown by word clouds for each focus group, are in Figures 1 through 4. The concept of barriers, though a key component, was not specifically noted in the query, though the lack of knowledge of the portal was a noted barrier.

The demographics of the four focus groups are demonstrated in table format (Tables 1 through 4). The age range for the participants was 31 to 78 years of age. Fifteen total participants took part in the groups; of those only two were male, the rest female. Five of the participants were nurses and the other 10 were patients.

The most significant outcome of the groups was that most participants had not heard of the portal, including nurses. Three of the participants in the groups had registered for the portal and attempted to access the portal after discharge. Two of these three were unable to access the portal after they had been discharged from the hospital.

The lack of knowledge of the portal itself is the greatest barrier to its utilization, and this contributed to the difficulty in participant recruitment, as this was the theme for most of the groups. This, in turn, contributed to the lack of utilization as well.

Two of the patients who had utilized the portal had technical issues and were unable to speak to an IT specialist for 24 hours after the attempt. This was a noted barrier for one patient, as the individual was in a different facility attempting to gather clinical discharge records from their previous stay.

All participants were given the information regarding the portal, and they noted that it was a tool that they were very interested in and stated it was something that they would use. Two participants felt the lack of access to a computer was a barrier for utilizing such technology. Two of the participants expressed concern that the portal was only in English, as the project site is ethnically diverse. This is evidenced by the "like" theme as illustrated by the word clouds for all four focus groups.

The lack of knowledge regarding the portal requires the need for further understanding of the concept of the portal to be fully implemented and utilized. This significant barrier was one that reinforced the importance of the project, though the outcome was unexpected, the need for re-evaluation of the promotion of the portal was noted. The implications of the lack of information known regarding the patient portal lends itself that there is a need to readdress the importance of the portal in the organization, as well as the breakdown in communication regarding what the portal is, as well as its intended use. This places the focus on the organization and those key members that implement programs that support the concepts of the patient care model.

Recommendations

The recommendations were developed from the outcome of the information obtained through the focus group methodology. One can speak of barriers, but the greatest barrier is lack of knowledge by all key stakeholders, in this instance nurses as well as patients. One cannot promote what one does not know. Recommendations are based upon the need to improve the process of information sharing and the use of technology as a medium.

The first recommendation would be to reevaluate the importance of promoting the portal. This would require a commitment from a dedicated group of individuals from the organization who would be responsible for incorporating the portal into the core processes of the organization, and then making it a component of the information sharing of the organization. Kotter (1996) noted that, in guiding a change, a sense of urgency should be established. If there is not a sense that the portal must be utilized, then it will continue as it presently is, not known or utilized.

The organization should be responsible for the continued promotion and implementation of the portal. Education is a key component to introduce and begin to understand the portal, as well as being a key component within the portal itself. Information not known cannot be given or received. The key to making it an organization-wide system is to put process in place where all disciplines that encounter patients are understanding how the portal works and how to incorporate it into patient care. This adds to continuity and allows for a greater diffusion of information.

In-services for nurses to discuss what the portal is and how it can enhance patient care should be conducted regularly. New employee orientation should include information regarding the patient portal, and follow-up information should be scheduled to be provided by the organization. Online in-services can be offered and developed through nursing education. The portal should also be included in the discharge teaching.

Discharge planners can be key to the successful utilization of the portal. Education regarding the portal should be part of the discharge process and can be reinforced if follow up phone calls are made after discharge. Kruse et al (2015) noted that providing resources to patients regarding the use of the patient portal may promote adoption. Including the portal as part of discharge teaching places the importance of the concept of the portal as a tool for patient-centered care back to nursing.

Ideally, to increase patients' use of the portal, an organization must communicate information to stakeholders, the patients, employees, and nurses to have knowledge of the portal. This can only be done if there is knowledge of the portal among those who interact with patients from admission to discharge.

One recommendation is organization-wide broadcasts using the in-house television advertising to remind both employees and patients about the patient portal. This type of system incorporates the portal as part of the services that the organization offers as part of quality patient centered care. This reminder of the availability of the portal may be a means to re-enforce its use.

Another recommendation is monthly reports on how the organization is meeting the goals and how they can be improved to give a visual to key stakeholders as to how goals are being met. Stakeholder buy-in is the key to project success. The diffusion of innovation theory addresses the importance of a social system to begin early adoption of an innovation (Rogers, 2003). This can be the beginning of the integration of the innovation that is the portal. Information sharing regarding the portal within the system would begin the diffusion of portal usage, and a greater source of early adopters would be established. The current diffusion of information has not been successful as it has been segmented with gaps in the flow of information as seen in Appendix B. The goal of diffusion is demonstrated in Appendix C, in which the goal of diffusion is for the portal to be utilized as the information tool that is was meant to be.

Contribution of the Doctoral Project Team

The project would not have been possible without those members of the doctoral project team, particularly those who were specifically at the project site. Participant identification was only possible when the author was led to the correct groups that would be interested in participating. And without patient participation, there would not have been a true understanding of the barriers that exist.

The patient portal project required a team approach, the doctoral team for this project and a designated team in the organization brought some awareness of the portal. But to ensure its continued promotion and consistent use there must be a continual flow of information to the organization as well as the patients. The project team for the organization changed as the importance of the portal changed for the organization. The team changed over the course of the project, but each member played an integral part in the completion of this project. These same members also will play a key role in the further development and promotion of the patient portal within the organization as it becomes an integral part of the patient care in the future.

Strengths and Limitations of the Project

Strengths and limitations must be addressed in all projects. As addressed in the beginning of this project, they will be expanded upon here.

Strengths of the project focusing on the quality improvement project of exploring patient’s perceived barriers primarily was that all information came from the participants themselves. The patient portal is an information tool that was established for patients to have access to their health care information, and as such the primary focus should bae the patient, which was why the focus group methodology was utilized for this project.

Information obtained from this project may lead to a change in the process of presentation of information regarding the patient portal. A change in the process may yield greater results in the utilization of the portal, which is the goal of having the portal in place.

Limitation of the project, as stated at the beginning of the proposal remain the same. The outcome of the project cannot be generalized beyond the health care organization.

Another limitation, which can also be a strength of the project, was the lack of knowledge of the portal, which was not an expected result, though was a definitive barrier to usage of the portal. The need for further exploration regarding the communication process as well as the importance of concepts of the patient portal should be addressed at the organizational level, as this will be the vital to the full implementation of the portal as an intended communication, information sharing tool that will help promote patient-centered care.

Table 1

Demographics of Focus Group 1

Focus Group Nursing Resource Conference Room				
	Group 1			
Date	Oct 12 2016			
Time	4pm			
Participant	1	2	3	4
Nurse/Patient	P	P	P	P
Age	77	78	75	51
Gender	F	F	M	F
Length of Hospital Stay	N/A	N/A	N/A	5
Diagnosis	Diabetes	N/A	N/A	Colitis
First Hospitalization	N/A	N/A	N/A	No

Table 2

Demographics of Focus Group 2

Focus Group Nursing Resource Conference Room	
	Group 2
Date	Oct 27 2016
Time	1pm
Participant	1
Nurse/Patient	P
Age	64
Gender	F
Length of Hospital Stay	7
Diagnosis	Cardiac Arrest
First Hospitalization	No

Table 3

Demographics of Focus Group 3

Focus Group									
Nursing Resource Conference Room									
	Group 3								
Date	Nov 2 2016								
Time	11am								
Participant	1	2	3	4	5	6	7	8	9
Nurse/Patient	P	P	P	P	N	N	N	N	N
Age	64	38	62	51	45	31	32	30	56
Gender	F	F	F	M	F	F	F	F	F
Length of Hospital Stay	2	2	3	4	0	0	0	0	0
Diagnosis	Surgical	L&D^	R/O TIA	Pneum	N/A	N/A	N/A	N/A	N/A
First Hospitalization	Yes	No	Yes	No	No	No	No	No	No

***Pneumonia**

^Labor and Delivery

Table 4

Demographics of Focus Group 4

Focus Group Nursing Resource Conference Room	
	Group 4
Date	Nov 2 2016
Time	6pm
Participant	1
Nurse/Patient	P
Age	52
Gender	F
Length of Hospital Stay	5
Diagnosis	Breast Cancer

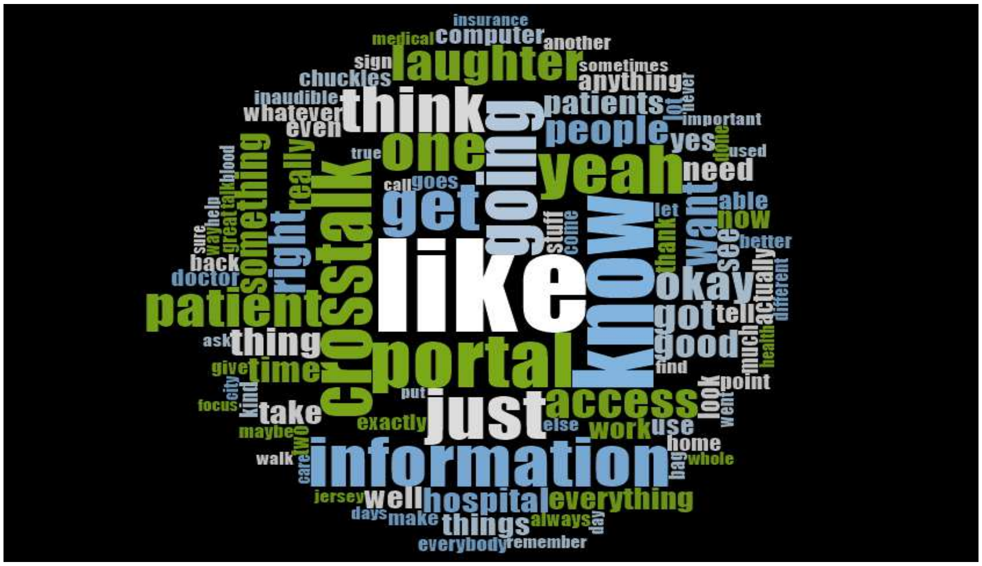

Figure 1. Word cloud Focus Group 1.

Figure 2. Word cloud Focus Group 2.

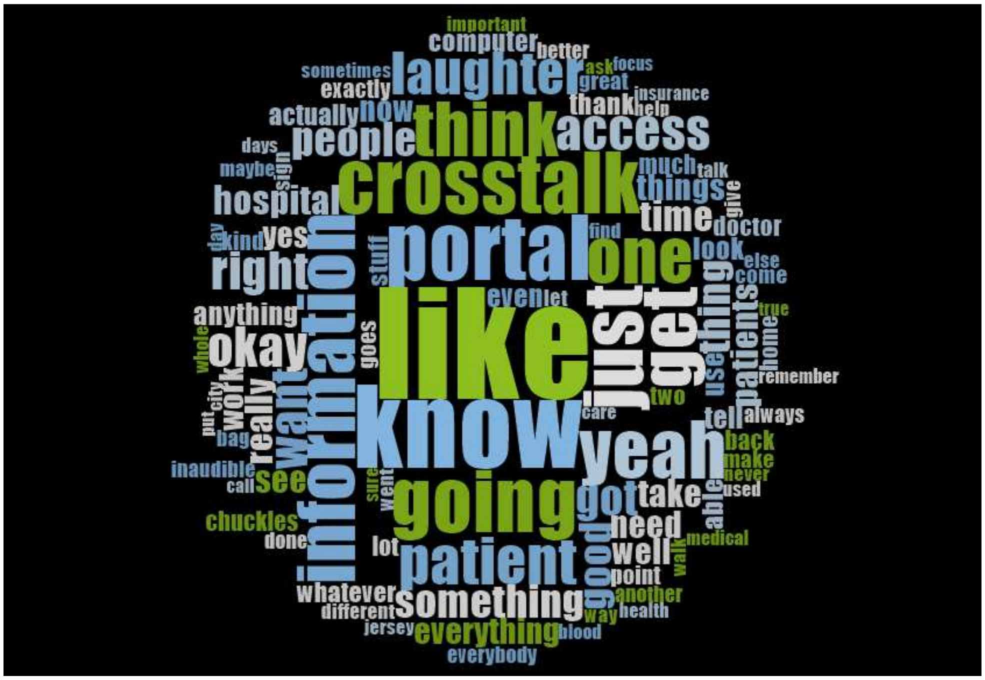

Figure 3. Word cloud Focus Group 3.

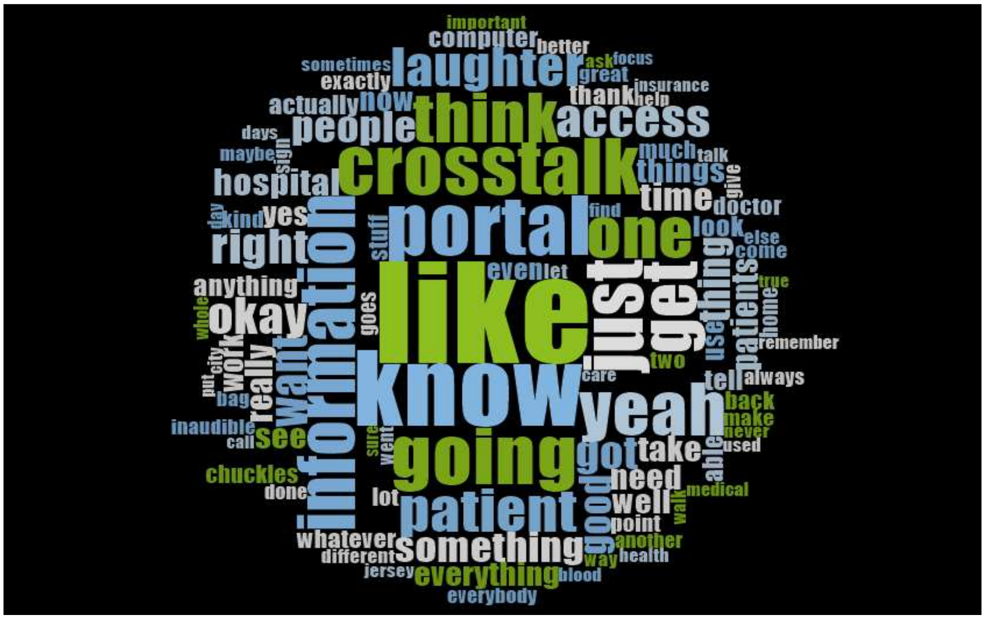

Figure 4. Word cloud Focus Group 4.

Summary

The intention of this project was to understand patient's perceived barriers for utilization of the patient portal. The outcome of the project supported that there are barriers, but also a gap in the communication process as it related to the patient portal. A priority must be set to improve the communication of any intended change, or utilization of a new information tool, such as the patient portal, and this must be the first step and then to readdress the barriers once the information has been shared with key stakeholders.

Section 5: Dissemination Plan

Introduction

Change can only come about when information is shared, which is a key component of the dissemination process. The DNP role is to translate evidence into the clinical setting. This requires the sharing of information to internal and external stakeholders to understand the effectiveness of programs that have been put into place to increase patient care quality and produce quality outcomes. Dissemination is important for the organization as well as the greater nursing community.

Dissemination Products

The dissemination of the project is important as a means for the organization to understand why the portal is not being utilized, and this may be the beginning of a change in the process. A poster presentation will be developed for the organization to be displayed at the Nursing Research Council. A follow-up presentation will also be developed to disseminate the outcome of the project to the key stakeholders, including chief nursing officer, nursing directors, as well as the patient support advocates. The project outcomes are timely for the anticipated changes in Meaningful Use coming in 2017 and will benefit the project site and the larger organization that the site is part.

The goals of the project were to identify barriers as perceived by patients for utilizing the patient portal. Barriers were addressed, the most important being the lack of knowledge of the portal. This demonstrates a gap in process and the usefulness of such technology if it is not being utilized to its full extent. Buy-in must come from all key stakeholders for any process to be diffused into an organization, and how urgent this process is will determine how adequately the process can be adopted.

Breakdowns in communication can cause one to doubt whether information intended to improve quality of care has relevance if it is not being transferred between individuals. Processes, such as the patient portal, can be put into place to ensure there is access and exchange of information in hopes of ensuring communication and patient-centeredness, but if there is no follow through to ensure this information is conveyed, then it is hard to determine if the portal is truly a worthwhile tool.

Analysis of Self

Analysis of myself as part of the dissemination process includes understanding my role in the project implementation and how the organization received the project. I have been the consistent link to the project and its culmination as the organization has undergone numerous changes as well as shifts in focus. As one viewing the process, or lack thereof, through the project, I feel that the need for dissemination becomes of greater importance to bring awareness and address the lack of knowledge regarding the portal. As an outsider to the organization process, I feel that I can address the identified barriers, but it is only through cooperation with the project site that full implementation of the portal will succeed.

No one individual can ensure that a project, such as the promotion of the patient portal, will be successful; however, one person can explore and give voice to patients. Collecting the data from the focus groups and presenting them to the organization leadership can be a start to recognizing the barriers, the break in communication, and the process of the actual utilization of the portal.

Summary

This project began as an exploration of perceived barriers to utilization of the patient portal as described by patients themselves. The realization of the lack of information regarding the patient portal addresses the importance of communication as a fundamental tool that needs to be readdressed for the portal to be utilized in the manner that has been defined in the literature. Further understanding is needed of the importance of relaying information of new projects that benefit patients as well as the organization. This project can be used as a foundation for further study for the organization.

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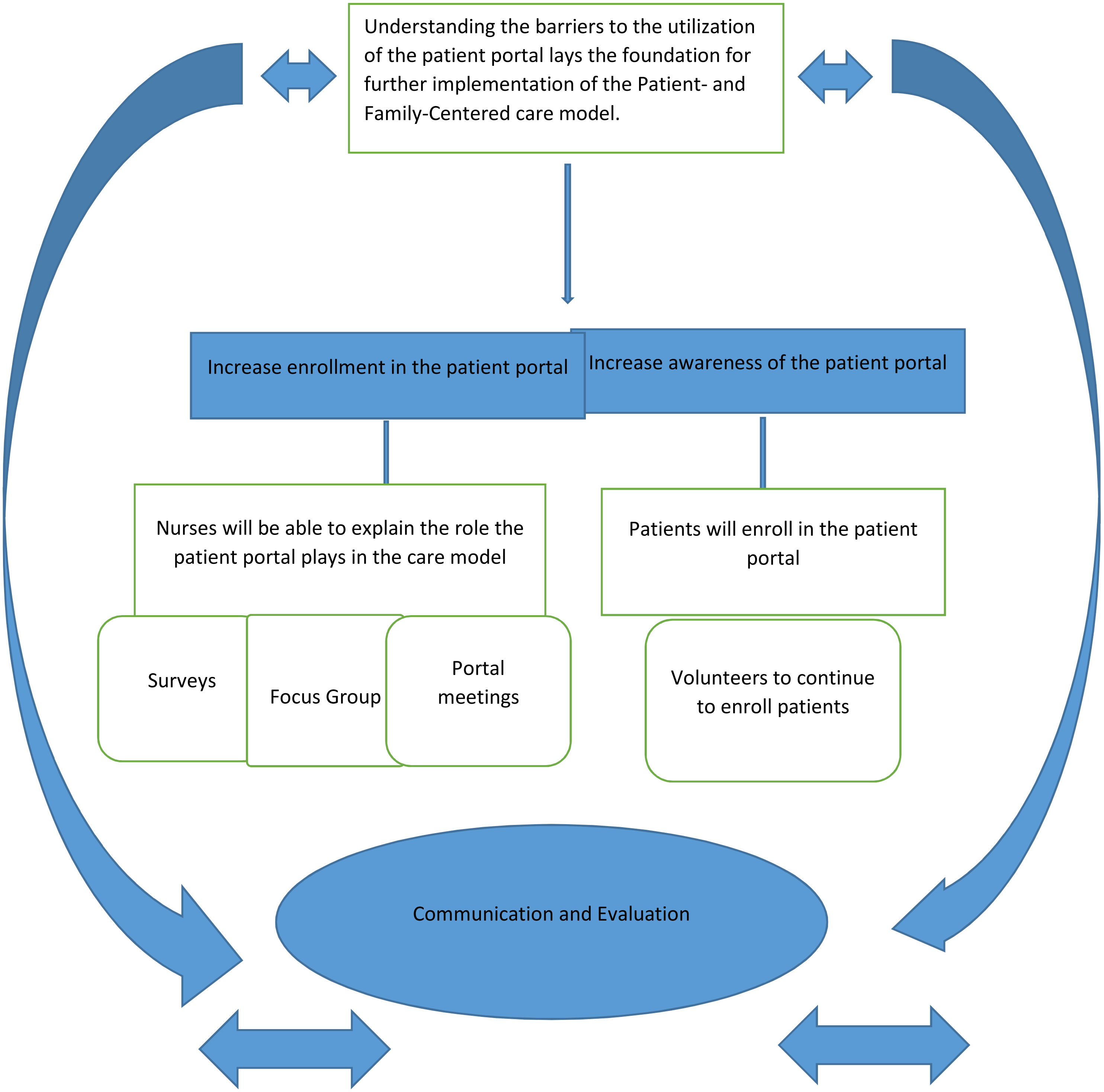
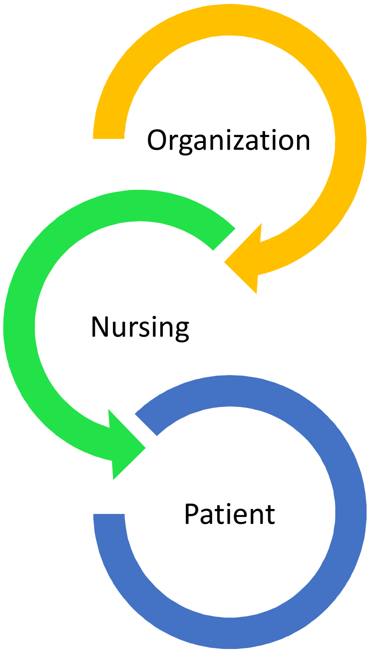
Appendix A: Visual of Program Project

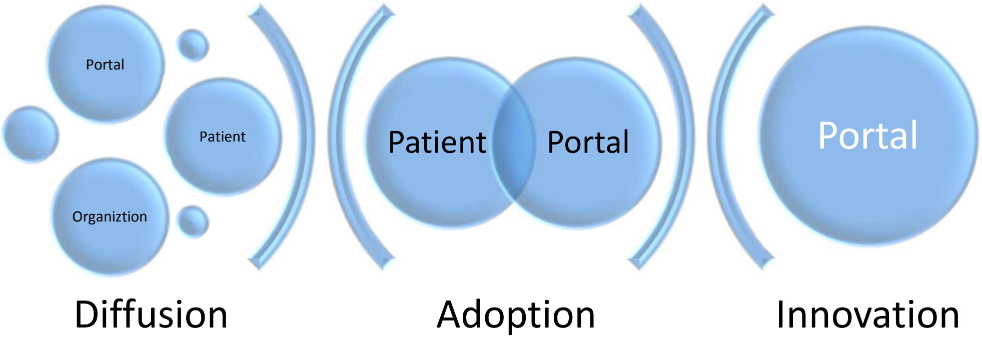
Visual Presentation of Patient Portal Program



Appendix B: Present Interrupted Diffusion



Appendix C: Diffusion of the Patient Portal



Appendix D: Focus Group Demographics Form

FOCUS GROUP DEMOGRAPHICS

1. Date:____________________________
2. Time: ____________________________
3. Place: ____________________________
4. Age:_____________________________
5. Gender: Male or Female
6. Length of Hospital Stay:______________
7. Diagnosis:_________________________
8. First Hospitalization: Yes or No

NOTE: All of this information is completely confidential