The Impact of Increasing Patient Portal Enrollment and Utilization in Appointment No-Show Rates in Family Medicine Clinics

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"A missed appointment is a missed opportunity to engage the patient on their healthcare, and maybe a patient lost forever" (Challa, 2020, as cited in Siwicki, 2020). Missed appointments are known to critically impair a clinic's operational efficiency and patient engagement to care. An appointment is a no-show when the patient fails to attend or reschedule an appointment, either office visit or telemedicine, without prior notification for at least 24-hours. Other than transportation issues, some other reasons are patients forgetting their scheduled appointments, hesitancy in calling the office due to long wait times, and other personal or emergency reasons. State University of New York (SUNY) Upstate Hospital Family Medicine Department exhibited a high no-show rate despite automated patient reminder calls and texts.

Enrollment is the primary step to patient engagement regarding patient portal utilization. Previously published studies showed that one of the effective ways to increase appointment adherence is utilizing the patient portal, but its adoption is still low due to some barriers. SUNY Upstate Hospital is an organization that has a well-designed patient portal called My Chart. However, the Family Medicine Department identified a gap in the clinic's workflows that do not actively encourage or assist patients in signing up to MyChart or inform patients about its appointment management features. Therefore, the project aims to implement efforts to increase patient portal enrollment and utilization and find out its impact on the no-show rate.

This paper will discuss the problem, the problem's significance to the organization, the clinical question in PICO(T) format, and the purpose statement. It will also include the review of literature, the gaps in the literature, internal and external evidence, the recommendations, the key

stakeholders, the barriers and facilitators, the organizational impact, the implementation plan, the measurement methods, and the human subject protection statement for the IRB proposal.

Problem Statement

In 2020, U.S. health care spending grew 9.7%, reaching $4.1 trillion or $12,530 per person. Healthcare spending accounted for a 19.7% share of the nation's Gross Domestic Product (GDP) (CMS.gov, 2021). With the rising cost and demands on healthcare providers, it is more critical to efficiently use clinical resources, which have become even more limited due to the Covid-19 pandemic. No-shows are significant setbacks to cost-effective healthcare delivery because they may decrease generated revenue, waste human and space resources, and delay diagnosis and treatment.

Missed appointments cost the U.S. healthcare system more than $150 billion a year (Ullah et al., 2018). A recent study estimated that 67,000 no-shows could cost the healthcare system approximately $7 million (Berg, 2013, cited in Marbouh, 2020). An extensive public health system in New York City has 5 million annual scheduled visits and a historic no-show rate of roughly 20%-40% (Siwicki, 2020). Moreover, a retrospective cohort study of ten regional hospitals' no-show rate of 12 years showed a mean rate of 18.8%, and the average cost of no-show per patient was $196 in 2008 (Kheirkhah et al., 2016). The no-show rate in primary care settings usually ranges from 14% to 50% (Daggy, 2010). Reducing no-show rates can diminish costs and improve the quality of healthcare delivery. Recent advancements in technology, such as patient portals, must be well utilized to improve patient appointment compliance, thus reducing expenditure.

Significance of Clinical Problem at the Organizational Level

The study will only focus on the Family Medicine Community Campus (CC) office because medical residents only hold their clinics at this location. It also has the highest patient population and number of providers (attending and residents) compared to the other two sites. The Family Medicine CC has identified an ongoing problem of a high no-show rate of about 15 to 20%. No-shows have directly and indirectly affected the productivity of the clinic and the providers, continuance of care, space and human resources, and future patients due to the unavailability of timely appointments. The clinic currently has 17 medical residents who have also expressed concern because the residency program requires each resident to complete 1650 visits. A 20-min visit is a single patient missed, and a 40-min visit is either one or two patients missed. The department has done different measures to decrease the no-show rate, including automated reminder calls and texts and non-automated appointment reminder calls. The non-automated appointment reminder has been on hold due staffing shortage. Despite this, the high no-show rate continued. Furthermore, the check-in, rooming, and visit workflows and the patient visits do not actively involve encouraging or assisting patients to sign-up to MyChart and informing patients about its appointment management features.

PICO(T) question

Do process improvement and educational efforts with the family medicine community campus staff to increase patient portal enrollment and utilization affect the appointment no-show rates compared to the current workflows and processes of automated patient reminder calls and text over the summer?

Purpose Statement

This project aims to improve existing workflows to increase MyChart enrollment and utilization among the SUNY Upstate Hospital Family Medicine Community Campus (CC) patient population to find its impact on the appointment no-show rate. It will also support the hypothesis that MyChart utilization will help reduce no-shows.

Review of Literature

A systematic literature search was guided by the PICO(T) question. The databases searched included the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews (CDSR), and PubMed. The keyword and controlled vocabulary searches included "no-shows" OR "missed appointments" AND "patient portal". Boolean connectors AND and OR were used to combine the keywords to narrow the search by requiring both of the combined terms in the retrieved articles. Results were then filtered to English-only publications. The publication year was set from 1990 to the present because patient portals were only introduced and adopted by a few large healthcare organizations in the late 1990s (Irizarry et al., 2015). However, it was not until 2006 that patient portals gained widespread use when several initiatives coincided, such as the launching of electronic Personal Health Records (PHR) by Microsoft and Google. The results were 17 PubMed, 15 Cochrane Central, 1 CDSR, and 218 CINAHL articles. Additional related articles were searched from the national benchmarking websites, healthcare organizations, health information organizations, and government websites. Studies that qualified for acceptance included those that discussed no-shows, missed appointments, patient engagement, patient

portals, portal adoption, portal utilization, and portal barriers in primary care clinics or outpatient clinics.

Synthesis of Current Literature

According to the Medical Group Management Association (MGMA, 2017), the national average no-show rate is at 5%-7%, negatively affecting patient care flow and clinic productivity. There are different factors contributing to no-shows. Patients who are more likely to no-show are younger (18-49), have transportation issues, have no insurance, non-Caucasian, unmarried, chronic no-showers, Medicaid patients, non-English speakers, or whose primary language differs from the provider's, patients referred from the Emergency Department, acute visits, self-referrals to specialty clinics, and patients with psychosocial problems (Johnson et al., 2007; Shah et al., 2019; Sobota & Vais, 2019). No-shows were also associated with longer intervals between visits and confusion about the reason for the follow-up appointment (Johnson et al., 2007).

Patient Portal Reducing No-shows

Several published articles and studies have promoted and proven the effectiveness of the patient portal in reducing no-show rates and increasing patient engagement to care. The Healthcare Information and Management Systems Society (HIMSS, n.d.) believes that information technologies, such as patient portals, can support greater patient engagement leading to improved health outcomes. One study to prove this was by Zhong et al. (2018), which showed that post-patient portal adoption notably reduced the PCP (Primary Care Provider) appointment no-show rate at the University of Florida Health, indicating improved patient engagement. Another study among women with HIV also saw an improvement in their overall engagement and retention of care through increasing patient portal enrollment and utilization (Plimpton, 2020).

Similarly, Davis (2021) conducted an integrative review of 20 published studies related to using technology to reduce missed appointments and concluded that notification systems, which technology such as patient portal offers, reduce no-shows significantly by 5-10%. Lastly, a 53% relative reduction in the no-show rate was also seen in patient portal users in the five pilot clinics in Canada (Graham et al., 2020).

Although these studies didn't consider overall patient engagement, they also showed a promising benefit of patient portal usage to no-show rates. A study across seven Duke Medicine clinics particularly pointed out that the appointment email reminder feature of the patient portal played an essential role in significantly reducing the monthly no-show rates (Horvath et al., 2011). Also, educational research in a neurology resident clinic (Shah et al., 2019) and data analysis on ten community health centers (Mohammadi, 2018) found that patients enrolled in the patient portal have significantly lower no-show rates and a higher rate of appointment adherence than those who do not. The patient portal also offers several other benefits to patients and the practice. According to Fabrizio (2017), the Medical Group Management Association's most recent MGMA Stat poll showed that automated reminders, including email, result in higher revenue, lower no-show rate, better patient compliance, and better appointment utilization, and more time for staff.

Barriers and Underutilization

The adoption of patient portals is still slow. In a survey done by Goel et al. (2011), among the non-patient-portal users, 63% reported never attempting enrollment even if they received a sign-up invitation mainly due to lack of information or motivation, 30% reported negative attitudes toward the patient portal, and 8% reported computer-related obstacles. The study

concluded that strategies to increase enrollment in the patient portals should include ensuring that patients understand the patient portal features. Similarly, Ronda et al. (2014) survey among diabetic patients revealed that unawareness of the patient portal is the main barrier to enrollment. The researchers recommended that healthcare professionals address the unawareness of its existence and its possibilities to increase patients' usage of the patient portal.

One of the most extensive programs is the Centers for Medicare & Medicaid Services (CMS) Medicare Electronic Health Record Incentive Program (Medicare EHR Program). Among other things, it encourages providers to make electronic health information available to patients. However, according to the Government Accountability Office (GAO, 2017), as of 2015, 87% of eligible professionals had offered their patients electronic access to their health data, but only one-third (30%) of patients visiting a non-hospital-based provider had used the patient portal to access their health information. One of the many barriers identified is that providers do not promote patient portals. Miller et al. (2016) and Health I.T. (2017) stated that patients are more likely to adopt the patient portal if they hear provider testimony for the tool because patients trust providers and value their opinions. Another major challenge with the patient portal is the multiple-step registration process, and some patients may fail to complete the registration process after leaving the clinic (Health I.T., 2017).

Promotion Strategies

According to The Office of the National Coordinator for Health Information Technology Patient Engagement Handbook (Health I.T., 2019), clinics should treat patient office visits as a prime opportunity for registration to facilitate portal enrollment. Patients are more likely to register in the office while getting support from staff and engaging in conversation about its benefits. A study by Athena Health revealed that among 973,000 patients who were offered to

sign-up to the portal during their office visit, 57% effectively signed up using a kiosk or a tablet, 53% used the registrar's computer, and 23% enrolled after receiving a text. The at-home registration was lower, showing only 12% signed up after getting an email at check-in, 4% after automated monthly email, and less than 1% via marketing campaign invitation (Health I.T., 2019). To gain patient-portal buy-in, some of the strategies done by clinics are as follows: clinician encouragement, distributing marketing brochures, posting materials about patient portals in the clinic, providing talking points for staff to encourage patient registration and use, clinical staff incentives, in-office computer access, reminder emails, and even offering assistance to create a private email address for portal sign-up (GAO, 2017; Health I.T., 2017). Unfortunately, the effectiveness of those efforts is still unknown as the Department of Health and Human Services (HHS) is yet to develop measures to assess them.

Project Problem Identification

After numerous meetings with the administrative contact, a SWOT (strengths, weaknesses, opportunities, and threats) analysis was made to assess the department's needs and capacity. SWOT analysis was used because it unpacks the difference between external developments (opportunities or threats) and internal capabilities (strengths and weaknesses) (Harris et al., 2020). The SWOT analysis in Table 1 identified a problem with no-show rates and the underutilization and poor promotion of the patient portal in the clinic.

Table 1

SWOT Analysis

Strength	**Weakness**
● Good communication by utilizing group chat via Epic secure chat among nurses and staff ● Works together to accomplish tasks or assignments ● Approachable and open-minded providers ● Staff are tech-savvy ● Most staff personally use MyChart ● Welcoming and friendly front-office staff ● In-office Patient-Centered Medical Home (PCMH) coordinator ● In-house pharmacist ● Residency program, currently has 17 residents ● Newly appointed manager ● Medical director who's supportive of QI projects	● High no-show rates (10-20%) ● Long call wait times ● Underutilization of MyChart's appointment management features ● Underutilization of MyChart brochures ● MyChart enrollment not part of rooming-in process by nurses or check-in process by front staff ● MyChart sign-up are not prioritized for new patient encounters ● Unknown if providers encourage MyChart adoption ● Understaffed and staff burnout ● Provider to nurse ratio (2:1) causing time constraints ● Preceptor to resident ratio (1:4 or more residents) causing time constraints ● Lacking MyChart Superuser or go-to person ● Some staff are unaware how or where to manually sign-up patients to MyChart in Epic and different ways to do so
Opportunities	**Threats**
● New program for appointment text reminder and confirmation system via Epic (on-hold) ● Organizational patient portal (MyChart) sends appointment email reminder and can be used to manage appointments ● No-show committee for outpatient departments	● Patients may transition care to competitors ● Delayed care or missed opportunities may cause patients to go to ED or urgent care which will in turn increase demand more openings for follow-up visit with PCP ● Medical residents unable to timely complete the required number of patient visits

● Organization has MyChart brochures by readily available request ● eHealth Initiative - MyChart Direct Schedule and Cancel	● Low patient satisfaction or negative feedback ● Pandemic - Covid ● Low Medicare EHR program incentive

Internal Evidence

Internal data supporting the need for the project were gathered as a baseline measurement of the current performance of the clinic and to measure the ongoing performance before, during, and after the quality improvement initiatives.

First, the average monthly no-show rate for the last quarter of 2021 was 21% (316/1492) for October, 19% (300/1577) for November, and 17% (278/1668) for December.

Second, the percentage of the population by MyChart status for the last quarter of 2021 showed that out of 5,369 patients, 68.2% (3660) have an active status, 25.9% (1388) have pending activation, 2.8% (153) have non-standard MyChart status (proxy-access), 1.3% (71) has inactivated status, and 1.8% (97) has an unknown status.

Third, in the last quarter of 2021, out of the 2233 patients seen, 76% (1705) already have active MyChart accounts, and 8.7% (194) signed up. It means that 23.6% (528) of patients do not have patient-portal accounts and were opportunities missed during the patient visit.

Lastly, one of the identified weaknesses of the clinic is not including patient portal sign-up during the check-in process by the front staff and rooming-in by nurses. New patients are being missed as portal sign-up is also not prioritized during the initial encounter. The several benefits of

MyChart, including its appointment management features, are not promoted to the existing and new patients.

External Evidence

Compared to the national average of no-shows at 5%-7% (MGMA, 2017), the clinic's rate is twice as much at 15%-20%. A no-show is a missed opportunity to see other patients and a revenue loss for the clinic. The high percentage of patients with pending MyChart activation reflects some possible barriers found in the literature. These patients did not finish the registration process, possibly due to several challenges, such as the multiple-step registration process, lack of information on its features and benefits, or lack the vision of the importance of patient portal adoption due to lack of promotion by their providers and the staff (Health I.T., 2017; Goel et al., 2011; Miller et al.; 2016).

The lack of integration of MyChart sign-up and poor encouragement of staff during check-in and the rooming process is one of the significant barriers to patient portal adoption, as mentioned many times in previous studies (Goel et al., 2011; Health I.T., 2017). New patients not signed up to MyChart during the initial visit are a significant missed opportunity because office visits are the prime opportunity for portal registration versus at-home registration (Health I.T., 2019). Patients who are not patient-portal users tend to have lower patient engagement and higher no-show rates, as evidenced in published studies (Horvath et al., 2011; Shah et al., 2019; Mohammadi, 2018).

Project Recommendations

Implement MyChart Enrollment During Check-in and Rooming Workflow

During the check-in process and rooming, front-office staff and nurses should identify patients who are not enrolled or have pending activation to MyChart and manually enroll. If possible, the team should complete enrollment with a username and password while in the office versus sending an activation link. They should also hand out brochures and talk about MyChart's benefits in managing appointments, including online cancellations, reminders, and requests to avoid no-shows.

Promote MyChart adoption by Providers During In-Office and Telehealth Visits

Provider's promotion and testimony on MyChart benefits will encourage patients to sign-up and use the patient portal. It will also enhance patient engagement to care. Providers should highlight the features of MyChart, including management of appointments to avoid no-shows. Providers should endorse patients to their nurse or front staff to assist patients in activating MyChart.

Increase Access to MyChart Brochures and Distribution

MyChart brochures should be available at all nurse stations and check-in and check-out counters. Staff will hand out a leaflet to new and existing patients who do not have an active MyChart account.

Conduct Staff Training on MyChart Enrollment and Activation

The project leader will conduct training using a PowerPoint and tip-sheet on manually registering patients to MyChart, different ways of doing it, activating pending accounts, and giving proxy access during the monthly staff meeting to ensure high staff attendance. It will also

discuss the importance of utilizing MyChart for appointment management and its possible positive impact in reducing no-shows.

Assist Patients with Pending Activation and Proxy accounts

The internal evidence showed a high number of patients with pending activation of MyChart. Staff should be trained on using activation codes to complete the registration. One of the reasons for completing the portal registration during the patient visit versus sending an activation link is to avoid pending activation accounts. It is also important to offer patients who may require proxy accounts, such as children, teenagers, older patients, and patients with special needs.

Enable Text Alert Per Patient's Preference

MyChart sends appointment reminders via text at least a day prior, which has helped reduce no-shows in several priorly mentioned studies. Patients should tick text alerts under communication preference to activate this feature. Patients will also be able to change preferences through their patient portal account.

Assign A MyChart Go-To Person

Having a go-to person for questions or help in registering patients to MyChart will increase the staff's confidence in promoting the patient portal. The go-to person should also be able to list down the patients' information to assist later if signing up is not possible during the patient visit due to time constraints or other factors.

Provide Staff Incentives

Staff with the highest monthly MyChart sign-up assistance should be rewarded with a prize, such as Family Medicine’s customized jacket, to encourage positive behavior towards patient portal promotion.

According to previous studies, as mentioned in the literature review, patients who utilize the patient portal are less likely to miss appointments and are more engaged in their care. However, the clinic's internal data showed patient portal registration is inconsistent in the many workflows. The no-show rate of the clinic was also above the national average. The recommendations above will help reinforce staff knowledge on MyChart registration and utilization and allow the inclusion of MyChart sign-up in the clinic's workflow to impact the no-show rate positively.

Project Implementation Plan

The Family Medicine Community Campus has an ongoing problem of a 15-20% high no-show rate. The patient portal enrollment and utilization, known to reduce no-show rates in several published studies, is not well integrated into the workflows during check-in by the front staff, rooming by the nurses, and office and telehealth visits by the providers.

Key Stakeholders

There are several key stakeholders in this project:

1. The manager, supervisor, PCMH coordinator, and medical director are the people who are looked up to at the office and implement policies. Without the support and approval from the upper-level staff to implement interventions in the current workflow, the project will not be successful.
2. The nurses, front-office staff, attending providers, and medical residents will execute the intervention in their workflows. Their dedication and support are vital to the outcome of the project.
3. The patients are portal users whose continuity to care and health outcomes will be improved.

4. The I.T. department also has a significant role in providing data as a baseline reference and post-intervention analysis.

Barriers and Facilitators/Drivers and Resistors to Change

One significant potential barrier is the time constraint caused by staffing shortage for nurses and front staff, preceptor to a resident ratio (1:4 or more residents), and a large influx of new patients. Promoting the patient portal in the workflow takes extra time and effort during the patient's visit. When a nurse has providers at a time, it causes time constraints, such as a cluster of patients waiting and pending tasks. The rooming-in process might be rushed or shortened to compensate for the time constraint. Also, when there's not enough front office staff, they have to divide their time into checking-in patients, checking-out patients, and answering phone calls, which hampers them to promote or enroll patients in the portal.

Similarly, residents mostly need attending providers to precept their patients after each visit, depending on the level of care the patient is being seen. When one preceptor oversees four or more residents at a time, it causes delays and time constraints to the visit; therefore, promoting the patient portal might not be a priority. A large influx of new patients also causes time constraints because new patients already require extra steps to check in and room. Some solutions to overcome this barrier are hiring more nurses and new front office staff, retaining graduating third-year residents to become attending providers, and limiting one new patient per session. As part of the intervention, the team will endorse patients to the clinic's go-to person for patient-portal or the student-leader of this project if they face time constraints or issues.

A crucial technological barrier to the project is that the patient portal requires an email address for registration. Some patients do not have an email account, leaving them no other option to sign up. A family member or an emergency contact's email address might be used in the

registration. However, a personal email address is preferred to avoid any security issues. This barrier might be resolved in the future if mobile numbers are integrated into patient portal sign-up as an additional option other than an email address.

One strength of the practice is most staff are tech-savvy and personally use the patient portal. They can leverage this to help promote the portal to the patients and gain buy-in. The staff are familiar with MyChart and mostly require refresher and reinforcement training. Educational materials such as brochures are also readily available for the project. The organization has been ready to make changes to reduce no-show rates. As mentioned prior, one of the organization's opportunities is the no-show committee that holds a monthly meeting joined by representatives from each outpatient department to explore ways to reduce no-shows. In support of the eHealth initiative in the organization, MyChart direct schedule and cancelation features have recently been updated, allowing patients more scheduling actions. Also, the family medicine clinic has a new manager who is open-minded, receptive, and has fresh perspectives to address the identified problem.

Organizational Impact

The project offers several benefits to the organization's business. The project will help reduce lost revenue and misspend resources caused by missed appointments. Second, it will help increase or maintain providers' productivity and facilitate patient engagement to care. Third, the medical residents will have a better chance at timely completing the 1650 patient visits required for the residency program. Fourth, improving patient engagement to care will also help increase patient satisfaction and patient health outcomes. Lastly, the organization will gain more from incentive programs focused on patient health information access and patient-centered care should patient health outcomes improve and patients' access to electronic health information increase.

Organization Planning Process

The hospital's vision is to be a clinical center of educational and research excellence by continuously evaluating and adopting innovative technology and health care practices. The Family Medicine Department's patient creed is to bring patients a high quality of family-centered care in a compassionate, caring, and healing atmosphere. To meet this goal, the team promises to, among other things, empower patients to participate and take ownership of their health and keep patients informed and involved in their plan of care. To relate the vision and creed to the implementation plan, the interventional efforts to increase the use of the patient portal to help lower the no-show rate reflect the adoption of healthcare technology to facilitate the provision of quality care to patients by improving patient engagement and continuity of care. It will also help empower patients because the patient portal has several beneficial features. Other than appointment management, MyChart allows patients to be more involved in their care, such as viewing their lab results and sending messages to providers.

Implementation Plan

The project will be implemented at SUNY Upstate Hospital Family Medicine Department, which operates in three offices (Community, UHCC, and Township 5). The clinic is located in Upstate New York. The study will only focus on the Community Campus (CC) office because medical residents only hold their clinics at that location. It also has the highest patient population, with 17 residents, four attending providers, and one nurse practitioner. The clinic sees an average of at least 50 to 100 or more patients a day. Depending on the provider and visit type, each patient visit duration is either 15-min or 20-min for short visits and 30-min or 40-min for longer ones. The key participants are the PCMH coordinator, the front office supervisor, the nurse supervisor,

the medical director, the nurse manager, the front office staff, the nurses, the providers, and the I.T. department for data gathering.

Timeline Overview

The implementation of the project will be done from May to June 2022 or from week 2 to week 5 of the summer semester. The staff training and presentation will be done preferably during the monthly staff meeting, usually the fourth or first Thursday of the month. By the end of week 5, the total number of staff assisted MyChart sign-up will be gathered. Data gathering and analyses will start during the first week of July or around week 9 to allow 2 to 3 weeks for the system report to be up-to-date. Lastly, the final written report will be presented to the organization in August.

Staff Education and Training

The project leader will conduct education and training during the monthly staff meeting to ensure the highest attendance of nurses, front office staff, and providers. A tip sheet will be handed out before the presentation. The PowerPoint presentation and training will include the project overview, its objective and goals, MyChart impact on no-show rates and its appointment management features, integration of MyChart enrollment and utilization to the clinic's workflow, the different ways to enroll patients via Epic under the Rooming-in tab or MyChart icon, activating pending accounts, and giving proxy access. One-on-one training will also be provided to staff as needed. Another highlight is to inform the team that the project leader will be the go-to person for issues with patient portal registration. If they are time-constrained, the patient's information may be forwarded to the project leader to assist the patient during the visit or later through a phone call. It will also include the details about the rewards program.

Rewards Program

A healthy competition to encourage staff participation will be set up. A family medicine customized jacket will be awarded to the team member with the highest MyChart enrollment assistance at the end of the implementation month. A record board will be placed in each nurse's station and at the front office for staff. An enrollment assisted by the project leader will be counted under the staff who endorsed it. Any front office staff, nurse, or provider, excluding the project leader, is eligible to win. The PCMH coordinator and charge nurse will help the project leader oversee the rewards program.

Brochures

MyChart brochures will be available at the front office and each nurse station. It is vital to ensure that they get replenished. These brochures will be handed off to patients who are not yet registered on the patient portal or require more information. The PCMH coordinator and front office supervisor will assist the project leader in securing the brochures.

Project Measurement Plan

The measuring tools are Epic SlicerDicer and Reporting WorkBench. Epic SlicerDicer is a self-service reporting tool that provides intuitive and customizable data exploration abilities; thus, it generates the percentage of population or number of patients by MyChart Status. Reporting Workbench (RWB) is a Business Intelligence tool within Epic that shows the no-show rate for each month. Reports from the I.T. department on the monthly MyChart sign-up will also be used. The total number of patients from the rewards program will also be utilized.

The project's objective is to acquire an increase in the MyChart monthly enrollment, a

decrease in the monthly no-show rate, an increase in the activated MyChart rate, and a drop in the pending MyChart accounts. For outcome measurement, the monthly no-show rate, MyChart status, and monthly MyChart sign-up for the last quarter of 2021 will be compared with the post-evaluation monthly rate.

Human Subject Protection Statement

The project does not require consent to inform patients of risk or expose them to any risk. No identifiable patient information during baseline data gathering and post-intervention analysis will be used in the project. The project leader signed a confidentiality agreement with the organization's manager noting that all information that the healthcare organization has provided will be kept confidential and will not be shared outside of the educational requirements of this project. Since this project is an organizational initiative supported by its leaders, the staff and providers are expected to participate; therefore, consent is not required. An IRB proposal (see Appendix) was submitted to the University of Mary IRB Chair on April 10, 2022, to gain approval to proceed with this proposed project.

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Appendix

IRB Application

IRB Exempt Protocol Application

Institutional Review for Human Subjects Research

Please direct any questions regarding IRB application procedures to irb@umary.edu. You may also contact the IRB Coordinator, Melissa Bohl, by phone at 701-355-8037.

General Information

Primary Contact Name: Raziel Estornino
Primary Contact Email: restornino1@umary.edu
Primary Contact Phone: 970-300-8900
School: N/A - External Project
Research/Project is: Graduate
University Division or Department (N/A if external): N/A
Project Title: The Impact of Increasing Patient Portal Enrollment and Utilization in Appointment No-Show Rates in Family Medicine Clinics
Anticipated Start Date:: 2022-05-09
Anticipated End Date:: 2022-08-26
Select Project Type:
1. Research: Defined by the Common Rule [46 CFR 102(d)] to be "a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge." This is traditional research, most often expressed by students as a doctoral dissertation or a master's thesis. Data gathered in this type of investigation is primary data.
2. Evidence-Based Practice Project/Action Research/Performance Improvement: Action research is generally conducted by practitioners for the purpose of improving practice for a specific audience, organization, or institution. This type of research is often conducted within health care organizations for the purpose of improving patient care or services within a specific organization or provider network. Data in this type of investigation is secondary data.
a. If Evidence-Based Practice Project/Action Research/Performance Improvement is selected, the applicant must submit a letter of support from the Sponsoring/Cooperating Agency. If the project has been reviewed by an internal committee or board, such as a nursing ethics board within the sponsoring agency, evidence of the committee's findings must be submitted. This letter is not commiserate with IRB approval from the cooperating agency. It is recognized student project may also be subject to organizational IRB requirements. Prior to IRB application to the cooperating agency University of Mary IRB approval should be attained.
b. If Evidence-Based Practice Project/Action Research/Performance Improvement is selected and the application has been reviewed by a departmental or school-based Performance Improvement/Evidence-Based Practice Project Advisory Committee, documentation of the committee's review and recommendation must be submitted with the application.

Evidence-Based Practice Project/Action Research/Performance Improvement

Project Intention: Intended for Private Use by the Sponsoring/Cooperating Agency
Is this project:: Student Project

Project Investigators - Student Projects

The policies and procedures on use of human subjects for research at the University of Mary apply to all activities involving use of human subjects and performed by persons conducting such activities under the auspices of the University. Research activities involving human subjects are initiated once review and approval by the Institutional Review Board is received.
Please list all project investigators below; include both name and email.
Each investigator will be sent a request to sign the form electronically, so they will need to watch their email for signature requests to come through. This submission cannot advance until all signatures are received.
Project Investigator 1: Name Raziel Estornino
Project Investigator 1: Email restornino1@umary.edu

Project Investigator 2: Name

Project Investigator 2: Email

Project Investigator 3: Name

Project Investigator 3: Email

Project Investigator 4: Name

Project Investigator 4: Email

Project Investigator 5: Name

Project Investigator 5: Email

Project Investigator 6: Name

Project Investigator 6: Email

Project Investigator 7: Name

Project Investigator 7: Email

Project Investigator 8: Name

Project Investigator 8: Email

Project Investigator 9: Name

Project Investigator 9: Email

Project Investigator 10: Name

Project Investigator 10: Email

Project Oversight Details - Student Projects

Please enter your advisor/research committee chair's name and email below, as well as the name and email of your department chair. Both parties will be required to review and approve your submission before IRB reviews it.
Project Advisor (Full name & credentials.) Jacalyn Luchsinger, PhD, MBA, RN, PMP
Project Advisor Email jsluchsinger@umary.edu

Name of the chair/program director that supervises your academic department: Dr. Deborah Cave
Chair/program director email: drcave@umary.edu

Project Investigators - Faculty/Staff or Outside Agents

The policies and procedures on use of human subjects for research at the University of Mary apply to all activities involving use of human subjects and performed by persons conducting such activities under the auspices of the University. Research activities involving human subjects are initiated once review and approval by the Institutional Review Board is received.
Please list all project investigators below; include both name and email.
Each investigator will be sent a request to sign the form electronically, so they will need to watch their email for signature requests to come through. This submission cannot advance until all signatures are received.
Primary Project Investigator Name

Primary Project Investigator Email

Project Investigator 2 Name

Project Investigator 2 Email

Project Investigator 3 Name

Project Investigator 3 Email

Project Investigator 4 Name

Project Investigator 4 Email

Project Investigator 5 Name

Project Investigator 5 Email

Eligibility for Exempt Review

Will the data be recorded by the investigator in such a manner that the identity of the subjects can be readily ascertained OR be potentially damaging to a participant's financial standing, employability, or

reputation? No
Will your research participants include prisoners, cognitively impaired, economically impaired, or educationally impaired participants? No
Will the information be obtained in such a manner that the identity of the participant can be readily ascertained, directly or through identifiers, linked to the subjects? (Exempt Category 2 or 3--requiring Limited IRB Review) No
Does the research involve federal department or agency heads for the purpose of assessing or changing public benefit or service programs? (Exempt Category 5) No
Does the research involve the storage or maintenance of identifiable private information or bio-specimens? (Exempt Category 7--requires Limited IRB Review) No
Does the research involve using identifiable private information or identifiable bio-specimens? (Exempt Category 8--requires Limited IRB Review) No

If you answered "yes" to any of the above, STOP. This project does not qualify for Exempt Review

If you answered Yes to one or more of the preceding questions, stop. This means that this project does not qualify for exempt review. STOP completing this form and exit WITHOUT submitting. You should instead complete the Expedited or Full Board Protocol Application form.

Exempt Research Category

Study must fit exactly into one of the below categories in order to proceed with the Exempt Review Application. Indicate the applicable Exempt Category (1-4, or 6). Exempt Categories 5, 7, and 8 require an Expedited Review Application, so STOP if none of the below apply to your project, and complete the standard IRB application instead.

Category 1. Research, conducted in established or commonly accepted educational settings that specifically involves normal educational practices that are not likely to adversely impact students' opportunity to learn required educational content or the assessment of educators who provide instruction. This includes most research on regular and special educational instructional strategies, and the research on the effectiveness of or the comparison amount of instructional techniques, curricula, or classroom management methods.

Category 2. Research that only includes interactions involving education tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least ONE of the following criteria is met. Select below if one of the two criteria fits.

Category 3. Research involving benign behavioral interventions in conjunction with the collection of information from an ADULT subject through verbal or written response or audiovisual recording if the subject prospectively agrees to the intervention and information collection. At least ONE of the following criteria must be met:

Category 4. Secondary research for which consent is not required: secondary research uses of identifiable

private information or identifiable bio-specimens, if at least ONE of the following criteria is met.

["Information, which may include information about bio-specimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects"]

Category 6. Taste and food quality evaluation and consumer acceptance studies, if:

Conflicts of Interest Disclosure

Conflicts of interest must be disclosed in accordance with university policy.

Do any investigators or research team members have any relationship or equity interest with any institutions or sponsors related to this research that might present or appear to present a conflict of interest (COI) with regard to the outcome of the research? No potential conflicts exist
Name of person with potential COI:

If a potential COI exists, please explain the COI management plan. If you have questions about COIs, contact the IRB Office at irb@umary.edu or 701-355-8037.

Grant & Contract Review

Is this project supported in whole or in part by a grant or contract? No
Sponsor Name:

PI on Grant:

Grant Title/Contract:

Project Period Start Date:

Project Period End Date:

Upload Grant Project Summary:

Summary

Please provide a detailed description of your project. Please include full and complete details for your study protocol in order for the IRB to fully understand your proposed methods. If any sections do not contain enough information, the IRB may need to put your application on review while we ask you to submit additional clarifying detail.

Please note that there is a maximum character limit in the below fields. If you'd like to upload any of the essay responses as Word documents in order to bypass the character limit, please write "see attachment" in the response instead and upload your documents to the upload question at the end of this section.

Purpose for the study/project:

The purpose of this Quality Improvement (QI) project is to increase patient portal, Mychart, enrollment, and utilization of the patient population of family medicine department in Upstate NY and evaluate the impact on the appointment no-show rate. It will also support the hypothesis that MyChart utilization will help reduce no-shows. Missed appointments cost the U.S. healthcare system more than $150 billion a year (Ullah et al., 2018). However, several published studies have proven that patient portal adoption is effective in reducing no-show rates, thus improving patient engagement (Zhong et al., 2018; Plimpton, 2020; Davis, 2021) The organization has identified an ongoing problem of a 15% - 20% monthly no-show rate despite trying different measures to decrease it, including automated reminder calls and texts. No-shows have directly and indirectly affected the productivity of the clinic and the providers, the continuance of care, the space and human resources, and the future patients due to the unavailability of timely appointments. Also, the department currently has 17 medical residents who have expressed concern because the residency program requires each resident to complete 1650 patient visits. A 20-minute visit is a single patient missed, and a 40-min visit is either one or two patients missed. A workflow gap was identified during the check-in, rooming, and visit of the patient. Staff do not actively assist patients to sign-up for MyChart and promote the appointment management features. Hence, the projected outcome of this project is to implement change in the workflows of the front-office staff, nurses, and providers to increase MyChart enrollment and utilization to decrease the monthly no-show rate. The PICO(T) question is "Do process improvement and educational efforts with the family medicine community campus staff to increase patient portal enrollment and utilization affect the appointment no-show rates compared to the current workflows and processes of automated patient reminder calls and text over the summer?"

Protocol: Study Design

The project leader has the full support of the healthcare organization and the clinic's leaders. A letter of support from the department's leadership is attached to this document.

Protocol: Study Population/Sample

The project will be implemented at SUNY Upstate Family Medicine Department Community Campus in Syracuse, New York. The key participants are the leadership, front office staff, nurses, providers including residents, and the IT department for data gathering.

Protocol: Procedures To Which Research Participants Will Be Subjected

The project recommendations are to implement MyChart enrollment during check-in by the front office staff and rooming-in by nurses and promote MyChart adoption by providers during in-office and telehealth visits. Access to MyChart brochures and distribution will be increased by making sure that MyChart brochures are available at all nurse stations and check-in and check-out counters. Staff will hand out a leaflet to new and existing patients that do not have an active MyChart account. The project leader will conduct education and training about MyChart enrollment and activation during the staff meeting in May, tentatively scheduled for May 12, 2022. It will ensure the highest attendance of nurses, front office staff, and providers. A tip sheet will be handed out before the presentation. The PowerPoint presentation and training will include the project overview, its objective and goals, MyChart impact on no-show rates and its appointment management features, integration of MyChart enrollment and utilization into the clinic's workflows, the different ways to enroll patients via Epic, activating pending accounts, enabling text alerts per patient's preference, and giving proxy access. One-on-one training will also be provided to staff as needed. Another highlight is to inform the team that the project leader will be the point of reference for issues with patient portal registration. If the front office staff, nurses, or providers are time-constrained, the staff may send a secure Epic chat to the project leader, a staff and triage nurse, to assist the patient during the visit or later through a phone call. Epic chat is an instant messaging service in Epic, and as a triage nurse, the project leader is constantly logged into Epic; therefore, notifications will be received instantly. Should the project leader be out of the office, the Epic secure message is still available until after 14 days. The project leader does not have an anticipated leave or time off work that's more than 14 days during the project's implementation period. Also, the staff work close range in the clinic, so they may also verbally inform the project

leader should the patient need assistance with the MyChart sign-up. The project leader will prioritize helping the patients before they leave the office. An incentive program will also be conducted to encourage positive behavior toward patient portal promotion. At the end of the implementation period, the staff with the highest number of patient-portal-assistance will get the department's customized jacket as a prize. The staff or provider who referred a patient to the project leader for assistance will still earn the point. Any front-office staff, nurse, or provider is eligible to win the incentive, excluding the project leader. The training will also include the details about the incentive program.

Protocol: Data Analysis

The measuring tools to be used are Epic SlicerDicer and Reporting WorkBench. Epic SlicerDicer is a self-service reporting tool that provides intuitive and customizable data exploration abilities; thus, it generates the percentage of population or number of patients by MyChart Status. Reporting Workbench (RWB) is a Business Intelligence tool within Epic that shows the no-show rate for each month. I.T. department will provide the monthly MyChart sign-up rate. The incentive program's tally results will also be used. For outcome measurement, the baseline data from the last quarter of 2021 will be compared to post-implementation data. The employee who collected the data pre-implementation as baseline and provided it to the project leader will have the same responsibility post-implementation. The data will include the monthly no-show rate from WorkBench and the MyChart status from SlicerDicer which are both collected by the PCMH coordinator, the monthly MyChart sign-up provided by the IT department contact person, and the total staff assisted MyChart sign-up in the office in which the project leader will generate the tally result from the incentive program.

Benefits:

The project offers several benefits to the organization's business. The project will help reduce lost revenue and misspent resources caused by missed appointments. Second, it will help increase or maintain providers' productivity and facilitate patient engagement to care. Third, the medical residents will have a better chance at timely completing the 1650 patient visits required for the residency program. Fourth, improving patient engagement to care will also help increase patient satisfaction and patient health outcomes. Fifth, the organization will gain more from incentive programs focused on patient health information access and patient-centered care should patient health outcomes improve and patients' access to electronic health information\\ increase. Lastly, the front office staff and nurses will also benefit from the training. It will refresh or add knowledge about different ways to enroll patients to MyChart via Epic, identify and activate pending accounts, give proxy access, and learn about the appointment management features of MyChart.

Risks:

The participants in this EBP project are the front office staff, nurses, providers, leadership, and the IT department. The staff is used to changes related to initiatives to improve quality and best practices within their environment. Due to short staffing and time constraints, there is still a potential for stress associated with the change. However, this is minimal because the participants are already familiar with MyChart. The project leader will also act as the go-to person when the staff faces barriers or other inevitable reasons. The staff is also used to incentive programs that the leadership has led for quality improvement. No extra spending is required since the prize will be an extra customized jacket that the department already has from prior projects. Therefore, the staff's emotional, psychological, or economic risks will also be minimal. Staff resisting this change could be subject to established organization policies related to noncompliance. This project aims to increase patient portal enrollment and decrease the no-show rates, ultimately improving patients' health outcomes. The patients would encounter no additional risks served in this department. The organization is already managing the patient portal. No patient data related to the enrollment will be gathered for the project. The usual process in signing up patients to the patient portal will be done wherein information will be entered directly into the MyChart website; therefore, staff will retain no information. Should the project leader, as a point of reference, be asked to assist a patient in sign-up, a similar mentioned process will be followed. The project obtained baseline, secondary data from the healthcare organization and similar data sources will be used for outcome measurement and analysis. The

protections that are being implemented in response.

Will your population include University of Mary students or employees? No
If the UMary students or employees report to you, list the third party contact who will hold all data until final grades have been given or data has been coded (N/A if no reporting relationship exists):

Human Subjects Informed Consent Form

Please upload your completed Informed Consent or Assent form(s) here. You can download a sample form/template from the IRB website if needed.

No consent form can be submitted, because this is an Evidence-Based Practice Project/Action Research/Performance Improvement project. No consent form can be collected as participation is mandated by the cooperating agency/subject employer. Yes

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Appendices

Note: if you are collecting data at a location not on UMary property or you are wanting to access information via your department (such as a list of emails to contact all students within a given program), you may need to provide a Letter of Support.
Please check the boxes for the documents you are uploading with this submission.

["Letter(s) of Support"]

Upload your documents here [{"name":"Letter of Support pdf_Raziel Estornino.pdf","link":"https://umary0-my.sharepoint.com/personal/mpmcdowall_umary_edu/Documents/Apps/Microsoft%20Forms/IRB%20Exempt%20P of citiCompletionCertificate_9317301_379_Raziel Estornino.pdf","link":"https://umary0-my.sharepoint.com/personal/mpmcdowall_umary_edu/Documents/Apps/Microsoft%20Forms/IRB%20Exempt%20P

Verification

My submission of protocol documents to the University of Mary IRB Office indicates: 1. I agree to full comply with the policies and procedures of the University of Mary IRB Office, as well as applicable programmatic guides, rules, and regulations. 2. I will ensure all personnel involved in the activities outlined in this application have received training on appropriate practices and procedures. 3. I ensure the information provided in this document is accurate and complete and that I am qualified to perform the described activities. 4. I agree to stay within the scope of activities outlined in this application, and I understand any changes in activities must be approved by the IRB before they begin. 5. I understand that this project is not cleared to proceed until I have received an approval letter from the IRB Office. Research cannot begin prior to the receipt of the approval letter.

I agree to the above stipulations. Yes

Next Steps

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I agree to the above stipulations. Yes

Next Steps

Thank you for completing an IRB application form. Please review the following information closely before clicking "submit."

Step One:

After you submit, you will receive a copy of the form via email. Be sure to retain your copy. You will need this in case your advisor or the IRB Office asks you to make changes to your submission and resubmit.

Step Two:

If you do need to make edits, you will need to copy and paste the information from your original submission back into a new form, then make your needed edits and resubmit. We apologize for the inconvenience, and are working toward selecting a system that will allow direct editing. Thank you for your patience in the meantime!

Step Three:

Student Projects: all investigators, the advisor, and program chair will need to sign off on your submission before it can be reviewed by the IRB. Please notify all of the people whose emails you provided on this form that they will need to watch their email for those approval requests to come in from HelloSign, and sign electronically as they arrive. If anyone wishes to have you make edits, they can email the IRB Office to let us know to end the signature process and cancel this submission. You will then be able to resubmit with the necessary changes and everyone will get new approval requests to respond to.

Faculty/Staff/External Agent Projects: all investigators will need to sign off before review can begin. Please notify all of the people whose emails you provided on this form that they will need to watch their email for those approval requests to come in from HelloSign, and sign electronically as they arrive. If anyone wishes to have you make edits, they can email the IRB Office to let us know to end the signature process and cancel this submission. You will then be able to resubmit with the necessary changes and everyone will get new approval requests to respond to.

If you have any questions about this process, email us at irb@umary.edu.

Thank you!