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A Retrospective Program Evaluation of Existing Quality Improvement Project Colorectal Cancer Screening

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This is to certify that the doctoral study by

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

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Walden University
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Abstract

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Post-Master Certificate, Texas Women University, 2012

BSN-MSN, University of Phoenix, 2006

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

The United States Preventive Services Task Force (USPSTF) makes recommendations on preventive health screenings based on the level of evidence. Colorectal Cancer is the third most commonly diagnosed cancer. The practice problem for this DNP QI project, is that providers are not following the USPSTF Guidelines on colorectal cancer screening with the FQHC scores below the HRSA expectation of 80% showing only a 43% screening compliance rate for patients age 50 -75 years. The purpose of this DNP QI project was to evaluate the effectiveness of the existing QI initiative for provider colorectal screening of patients age 50-75 years, then provide recommendations to address the gap in practice based on the results. The project's theoretical framework was based on the Model for Improvement and the Donabedian Model. Eleven providers were evaluated pre/post education to determine the impact interventions. A quantitative approach was used to conduct a retrospective review of de-identified data from a FQHC to evaluate the impact pre/post education interventions. The data were analyzed for six months before and after the education for proper ordering and electronic charting and the quick reference cards were issued to the providers. The goal was to determine whether an improvement in colorectal cancer screening performance occurred, therefore increasing early detection, and decreasing mortality from colorectal cancer. The data indicated that four of the 11 providers showed improvement post-education. The positive social change this project hopes to address is recommending interventions that increased colorectal cancer screening and decreasing deaths from colorectal cancer.

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Section 1: Nature of the Project

Colorectal Cancer (CRC) is the fourth most commonly diagnosed cancer in the world (Croke, 2019). CRC is the second leading cause of cancer related death (Croke, 2019). The goal established by the American Cancer Society is 80%, this goal is supported by Health Resources and Services Administration (HRSA), and HealthyPeople 2020 (American Cancer Society, 2017). Colorectal cancer screening can prevent the develop of adenomas to cancer. The United States Preventive Services Task Force (USPSTF) preventive screening measure has reduced the incidence of cancer, yet challenges exist to reach 80% goal in Federally Qualified Healthcare Center (FQHC) (Meenan et al., 2019). This doctoral project evaluated a quality improvement initiative that was implemented at a FQHC ambulatory clinic in the SW United States. This initiative was implemented with a goal to improve colorectal cancer screening initiates by clinic providers. The nature of this project is a retrospective review of de-identified data from a FQHC to evaluate the impact of interventions which were to increase colorectal cancer screening orders by medical providers. The positive social change this project hopes to address is recommending interventions that increased colorectal cancer screening and decreasing deaths from colorectal cancer. Section 1 includes discussion of the identified problem, purpose of the project and the sources to be utilized in this retrospective program evaluation.

Problem Statement

Colorectal cancer represents eight percent of all new cancer cases and is the second leading cause of cancer deaths in the United States (National Committee of

Quality Assurance, 2018). Approximately 140,000 persons get CRC, and 50,000 die from it (Center for Disease Control and Prevention, 2019). The practice problem identified in a local clinic in the SW United States is that providers are not following the USPSTF Guidelines on colorectal cancer screening. This southwest FQHC has fallen below the HRSA expectation of 80%. Providers at the clinic show only a 43% screening performance compliance rate for patients age 50 -75 years. The USPSTF guidelines for colorectal cancer screening are important for detecting or preventing colorectal cancer. The local clinic recognized the low screening rates and implemented practice interventions to address the deficit in using the USPSTF guidelines for colorectal screening. The gap in practice this QI project addressed, is a means of improving colorectal screening in a FQHC. These practice interventions for providers have been in place for six months without follow-up data analysis for practice change. The goal of this DNP quality improvement (QI) initiative was to evaluate the de-identified data for six months before and after the program was implemented. Evaluation of the data must be a systematic, organized process to determine the meaning and the value of the data (Kellogg W.K. Foundation, 2017). It is important to analyze a clinical practice change to determine if outcomes have been improved. By increasing the percentage of patients screened for colorectal cancer, the healthcare center potentially decreased the mortality of patients from CRC and increasing the health center compliance colorectal cancer screening.

This project has the potential to improve patient preventative screening, thus decreasing disease potential and improve patient outcomes for early recognition and

treatment of cancer. Therefore, this DNP was designed to evaluate the pre/post intervention data then make recommendations for clinical practice improvement.

Purpose Statement

The purpose of this DNP QI project was to evaluate the effectiveness of the existing program improvement initiative for provider colorectal screening of patients age 50-75 years, then provide recommendations to address the gap in practice based on the results. The practice focused project question is: Did the implemented interventions to the colorectal screening program at the FQHC result in an improvement in colorectal screenings, when compared to the previous patient colorectal screenings program?

This DNP QI program initiative included provider education on the USPSTF colorectal screening guidelines and reminder quick reference cards for all providers. This provider program was held in June 2019. The provider educational program consisted of a 2-hour training presentation on USPSTF quality measures and screening for colorectal cancer. Laminated quick reference cards for key points on colorectal cancer screening were given to each provider. The goal of this DNP QI project was to evaluate the existing QI program using de-identified data from the six months before and after program implementation, then make recommendations for clinical practice change based on the outcomes of data analysis.

Nature of the Doctoral Project

The sources of evidence for the importance of colorectal cancer screening included evidenced based literature from the United States Preventive Services Task Force Guidelines American Cancer Society, the U.S. Multi-Society Task Force of

Colorectal Cancer (USMSTF) which is a panel of expert gastroenterologists representing the American College of Gastroenterology, the American Gastroenterological Association, and the American Society for Gastrointestinal Endoscopy. These bodies of professionals in colorectal cancer are considered the leading experts. After the Walden IRB approval, de-identified, organizational data was analyzed.

In summary, the de-identified data for this DNP QI project exist in the electronic medical record of the organization and the chief executive officer has granted the DNP student permission to access it for the purpose of the project. Improving the effectiveness of colorectal cancer screenings addresses the greater social context of potentially decreasing colorectal cancer morbidity and mortality and addresses a known gap in practice. A chart comparing the number of colorectal screenings before the intervention by all providers was totaled for the six months before the education was provided and the quick reference cards were issued to the providers. Once the analysis from the data are completed, recommendations of clinical changes to nursing practice were made.

Significance

The stakeholders for this DNP QI project include the governing board of the FQHC, medical staff healthcare center and the patients. All stakeholders benefit from the evaluation of the QI program initiative at the FQHC. Evaluation of existing program de-identified data can indicate if the program initiative improved colorectal screening. The significance and impact on the FQHC and its patients are multifaceted. Improved colorectal cancer screenings lead to earlier detection of colon lesions and decreased mortality (Croke, 2019). FQHCs are evaluated on their success to meet certain

performance indicators, of which colorectal cancer screening is one indicator. The purpose of this QI project was to evaluate the effectiveness of the existing program improvement initiative for provider colorectal screening of patients age 50-75 years. A PDSA (plan, do, study, act) is a moniker for a process to test a change in a consistent, organized matter, repetitive test may be performed using the same methodology (Institute Healthcare Improvement, 2019).

If colorectal screening rates for patients are improved, patients may benefit from application of the screening guidelines for early detection of colorectal cancer. The organization stakeholders and providers can benefit from the improvement in performance of screening compliance for colorectal cancer. This project has the support of the FQHC board. The governing board was recently provided the annual report on clinic performance for colorectal screening, recognized the need for the QI program initiative evaluation and voted to support this doctoral project.

Potential contributors to this project are the nursing staff, quality improvement manager and providers. The quality improvement manager provided the training and assisted in developing the quick reference cards, the providers actually ordered the colorectal screenings in the electronic medical record. The nursing staff is charged to screen the patient and ask the patient if they have had a colorectal cancer since their last appointment.

These practices may prove worthy of transferring to the FQHC ‘s cervical cancer screenings or other preventive screenings. The positive social change this project has the opportunity to enhance is increasing early detection, by increasing preventive screenings.

Summary

In summary this DNP QI project evaluated the effectiveness of the existing program improvement initiative for provider colorectal screening of patients age 50-75 years. Section 2 discussed the theory to support the project, relevance to nursing practice, the local context and my role as the DNP student and the role of the project team and stakeholders.

Section 2: Background and Context

The practice problem is the FQHC's colorectal cancer screening performance scores are below the HRSA goal of 80% of the eligible patient having the required colorectal cancer screening. This DNP quality improvement project evaluated the existing organizational de-identified data to determine the impact of the education provided to the providers and whether it resulted in an increase in colorectal cancer screening when compare to no education and intervention. Section 2 discussed the theory guiding this project, the relevance to nursing practice, the local context, my role as a DNP student and the role of the stakeholders and project team.

Concepts, Models and Theories

Donabedian Model

The Donabedian Model for quality improvement uses structures, processes and outcomes, believing that at strong structure and processes leads to improved outcomes (K. W. White & Zaccagnini, 2017). In application of this model, the process is the evaluation of the policy and procedures and outcomes are the effects of the care delivered to the patients (Dziak, 2018). The Donabedian Model, sometimes called the Donabedian Triad is often represented by three boxes connected by arrows, labelled structure, process and outcomes (Sund et al., 2015). Donedian believed the quality of care can be improved by improving structures and processes (K. M. White et al., 2016). The Donabedian model allowed for examining the organization structures such as staff roles and their qualification, and physical equipment and devices, next processes or workflow are

evaluated which based on this model impact outcomes. It is logical to assume that if the outcomes need to change the processes and structures have to change.

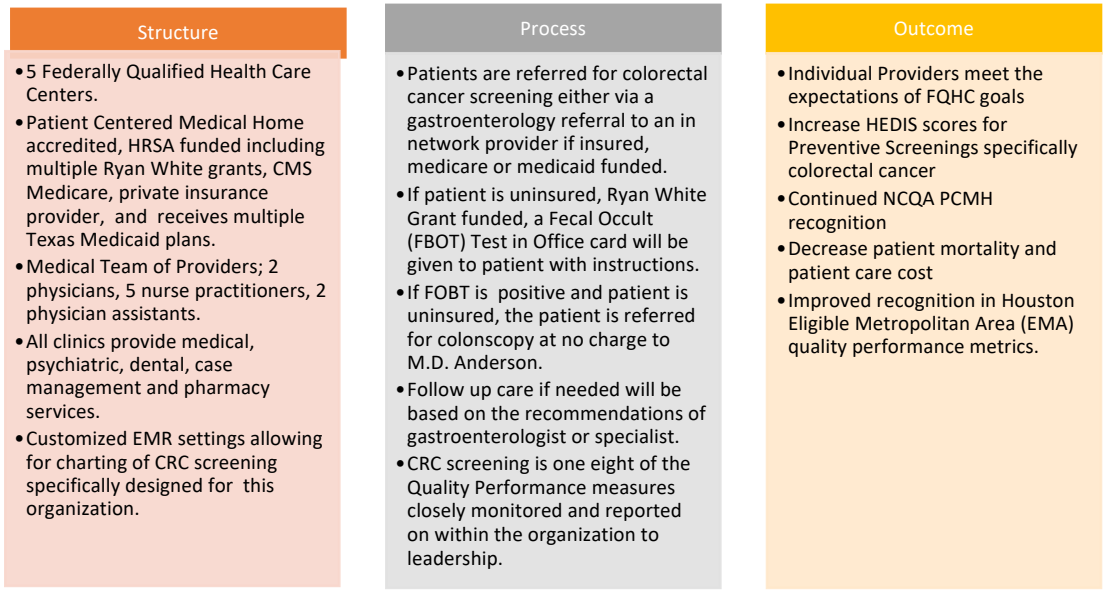

Figure 1. Structures, processes, and outcomes of the FQHC colorectal cancer screening process.

Model for Healthcare Improvement PDSA

The Model for Improvement was utilized as PDSA (plan, do, study, act) cycles are run to test the effectiveness of process changes. The PDSA is the most common quality improvement tool (Christoff, 2018). The PDSA model allows for changes to be made and evaluated, if the change is effective in a predetermined time span, the assumption might become that it would be effective when implemented or changes to the process can be made to and tested in the same manner.

The PDSA model includes the steps to plan, do, study and act for a change project.

1. Plan- the first activity step and involves developing a plan to be completed. The who, when and where of completing the plan and implementation of the plan are designed.
2. Do- is the actual implementation of the plan and documenting the results of the plan.
3. Study- is the evaluation and analyzing of the results from the do step. In this step the predicted results are compared to the actual results achieved.
4. Act- is the step implementation of the plan into the organization. The intervention is further evaluation to determine if the expected outcomes expected are met. The organization may decide to make change a permanent process change or changes may be made to the new intervention (Christoff, 2018).

Relevance to Nursing Practice

Current Screening Guidelines

Colorectal cancer (CRC) is the third most common cancer and second-leading cause of cancer death in the U.S. Colorectal cancer screening remains underutilized, even though it is cost efficient and effective, only 63% percent of eligible persons are up to date on colorectal cancer screening. This is below the Health Resources Service Association (HRSA) goal of 80% (Fedewa et al., 2017). FQHCs follow the USPSTF guidelines and adherence to screening guidelines in integrated to all FQHC quality measures (Health Resources Services Administration, 2018).

The United States Preventive Services Task Force (USPSTF) Guidelines. The USPSTF is a volunteer, group of experts in prevention, who using evidence based practice (EBP),work to develop the guidelines and recommended preventive screening practices (U.S. Preventive Services Task Force, 2019b) The USPSTF guidelines are for colorectal screening of asymptomatic persons beginning at 50 years of age every 10 years until age 75. (United States Preventive Services, 2017) The new final draft for the 2020 update to the guidelines proposes to change the screening age to 40 years of age, which will be in agreement with USMSTF and ACS guidelines (U.S. Preventive Services Task Force, 2019)

The USPSTF guidelines conflict with the recommended screening age of the ACS guidelines where screening starts at 45 years of age. The USMSTF guidelines recommend the same screening age as USPSTF, except African American and select high risk groups should be screened at 45 years of age and younger. FQHCs adhere to the USPSTF guidelines in all clinics.

American Cancer Society Guidelines. Newly released and controversial updates to previous guidelines from the American Cancer Society state the option for CRC screenings should begin at 45 years of age and dependent of life expectancy may be needed past age of 75 (Wolf et al., 2018). Recommended screening tests are: fecal immunochemical test (FIT) annually (FIT-DNA) every three years; and colonoscopy every 10 years (Croke, 2019). These guidelines recommend screening test selection based on financial, history and availability. The USTSTF has a tier structure to select the appropriate screening test for the patient.

The U.S. Multi-Society Task Force of Colorectal Cancer Guidelines. This group of professionals and experts are from the gastroenterologist's organizations and develop guidelines for multiple intestinal and colon related practice standards. The USMTF recommends screening for colorectal cancer should begin at 50 years of age, except in the African American population whereas screening should start at 45 (Rex et al., 2017). Due increase incidences of colorectal cancer in those younger than 50 years of age some special exception such as patients with colorectal bleeding or a family history may need screening earlier (Rex et al., 2017) The USMSTF is aligned with the ACS regarding screening past the age of 75, appropriate only based on life expectancy of the patient and should be a discussion between providers and patients (Rex et al., 2017)

Barriers to Screening Adherence

Confusion continues regarding screening age and specific screening tests, which may lead providers to screen patients using the wrong testing method or not ordering patient screenings at all (Wolf et al., 2018). Barriers to screening are often cost. Colonoscopies are an expensive procedure for the uninsured and FIT testing, even the mail in type can cost several hundred dollars. Colonoscopies often require the patient to lose income by missing work the day of the procedure (Joseph et al., 2020) . Another barrier may be the requirement to have the patient accompanied by another person who is able to stay and drive them home. Another patient barrier is the apprehension of the colonoscopy colon cleaning prep necessary prior to the procedure. Errors in sample collection and mailing in samples are often ripe with patient errors and compromise results. Providers struggled to enter the order and successfully achieve recognition of

completed colorectal screening in the electronic medical record (EMR). The correct ICD 10 code of the exclusions must be documented. Exclusions are colectomy, colonoscopy within the last 10 years or recommended period identified from previous screening, FIT test in last year or FIT DNA in the last three years with documented results in the EMR.

Strategies to Improve Compliance

Screening reminders to providers, both electronically and educational sessions, information to patients about the benefits of CRC in multiple media formats, and even mailing of FOBT kits, are some of the most common strategies implemented in ambulatory clinics (Perestelo-Perez et al., 2019). Strategies to improve the colorectal cancer screening performance in this clinic have been implemented in the past;

1. partnering with a world-renowned cancer center for colorectal cancer screening at no cost.
2. establishing the process for ordering the colorectal cancer screening.
3. electronically screening due date notifications to both providers and patients as well as patient education delivered through the EMR.

National Performance Standards for Screening and early detection are causally related to survival rates. The recommended national benchmark for adults age 50 years to age 75 years is 80% (Brandt et al., 2019). CRC screening rates remain below normal and in medically underserved and low-income areas the national screening rates in 63% (Sharma). At the local FQHC the colorectal screening performance rate is 43% (Dawson & Sims, J., 2019). FQHCs have a lower percentage collectively; approximately 44% adherence (Health Resources Services Administration, 2018). The CDC recognizes the

disparities exist based on social determinants of health (SDOH) such as lower income, education, sexual orientation, race, ethnicity and access to care and these disparities affect compliance percentage as related to the CRC screenings (Center for Disease Control and Prevention, 2017). Another study of a similar FQHC clinic was 70% which is similar to the clinic where this project is to be performed, therefore the SDOH and outcomes are relational to this clinical environment (Sharma et al., 2019).

Local Background and Context

This clinic is a FQHC in SW U.S., and manages the care for 20,000 patients, with a very culturally diverse patient population, 42% African American, 38% percent Hispanic and 20% Caucasian patient population. The performance measures of the FQHC is comparatively judged to other FQHC clinics. In order to meet the colorectal cancer screening preventive screening measures patients who are 50-75 years of age must have a FIT test in the last year or a FIT-DNA in the last three years, or colonoscopy in last 10 years.

Surgical cure rates for colorectal cancer detected early from colorectal cancer screenings remains 85-90%, but approximately one-third or more do not receive colorectal screenings (Rowe S et al., 2012). Colorectal cancer screening can detect these polyps or adenomas that may progress to an advanced-stage tumor without symptoms or may become symptomatic during late stage and be clinically diagnosed. The percentage of colorectal cancer screening in the southwestern states is between 59%-69% compliance (American Cancer Society, 2017). This FQHC colorectal cancer screening

rates were 29% in 2017 and increased to 43% in 2018. This clinic has established a goal to increase colorectal cancer screening to 53% in 2019.

Colorectal cancer screening consists of mainly three methods in this FQHC. Referrals to a gastroenterologist are necessary for a colonoscopy and often require insurance, bowel preparation, loss of work and someone to drive the patient home after the procedure. Fecal occult blood test and fecal immunochemical can be cards or packages can be issued in the office but due to the complicated instructions patients submit improperly collected samples to the lab. The improperly collected samples are not credited to the FQHC colorectal cancer screening performance. The FQHC providers must decide which of the colorectal cancer screening options is must suitable to their patient and order the appropriate test in the electronic medical record.

Interventions that increase the colorectal cancer screening performance, increased the detection of polyps or adenomas, therefore increasing the detection of colorectal cancer. The practice problem identified in a local clinic in the SW United States is that providers are not following the USPSTF Guidelines on colorectal cancer screening.

Role of the DNP Student

As a provider at this FQHC, I am aware of the performance of the clinic in the area of colorectal cancer screening. The provider team are my colleagues. My previous role at this clinic was Director of Quality Improvement, I was responsible for the reporting of quality indicators and developing strategies to improve those performance measures. I no longer serve in the role at this clinic, but I am the Director of Patient Centered Medical Home (PCMH) Transformation and a provider. I reported the findings

of the project to the Chief Medical Officer (CMO) and the Director of Quality Improvement. Personally, I have a history of colorectal cancer in my family and recognize the benefits of early screening and earlier detection.

Potential bias could be the desire to see this clinic perform better than other clinics. The steps to avoid this are quantitative calculations of the data and a review of the final data with the current quality improvement manager.

In this project I evaluated if a change was bought about as a result of the interventions initiated. The de-identified data provided to this DNP student by the organization was evaluated after performing a PDSA cycle. An EXCEL spreadsheet was generated comparing the pre/post colorectal cancer screening incidences. After the data analysis the de-identified data was deleted, and the screenshots of confirmation messages were emailed to Chief Executive Officer (CEO) per his request.

Role of Project Team

The data has already been collected, the de-identified data was evaluated, there was not a role for team members. Once IRB final approval was granted, the Chief Medical Officer (CMO) accessed the electronic medical record and exported the de-identified data to the DNP student in two EXCEL® spreadsheets. One spreadsheet was the performance percentage per provider for the 6 months pre-education and one spreadsheet was for the 6 months after the education and quick reference cards were distributed. The CMO was available to perform oversight and if additional data was needed or clarity of current data, from the electronic medical record. The CMO has the

highest level of admin privileges in the electronic medical record and security settings, second only to the CEO.

Summary

This DNP QI project evaluated the existing organizational de-identified data to determine the impact of the education provided to the providers and whether it resulted in an increase in colorectal cancer screening when compare to a period of time with no education or intervention**.** Many FQHCs continue to report preventive colorectal cancer screenings less than the national goal of 80%. This clinic has tried interventions to increase the number of colorectal cancer screenings. Did the interventions tried six months increase the colorectal cancer screening orders and therefore more colorectal cancer screenings were ordered and this therefore decrease the potential gap in practice and resulting deaths due to colorectal cancer?

Section 3: Collection and Analysis of Evidence

The practice problem at the local FHQC is colorectal cancer screening rates below the 80% national requirement. The purpose of this QI project was to evaluate the effectiveness of the existing program improvement initiative for provider ordering colorectal screening of patients age 50-75 years. In section 3, I discussed the process of analyzing the data as it relates to the practice focus question, including the sources of evidence, archival and operational data, evidence generated for the doctoral project.

Practice-Focused Question

The purpose of this DNP QI project was to evaluate the effectiveness of the existing program improvement initiative for provider colorectal screening of patients age 50-75 years. The local healthcare center's preventive screening for colorectal cancer has continually failed to reach expected outcomes. The USPSTF has given the evidence it highest grade of "A" to support screening persons 50 to 75 years of age leads to early detection of colorectal cancer and decreased mortality colorectal cancer (USPSTF, 2016). Screening has been shown to reduce CRC incidence and mortality significantly; but screening rates remain low, particularly among underserved populations, such as African Americans, and underserved communities.

To clarify, the practice focused project question is: Did the implemented interventions to the colorectal screening program at the FQHC result in an improvement in colorectal screenings, when compared to the previous patient colorectal screenings program?

Sources of Evidence

The project used *EBSCO, PubMED* and *Proquest* databases to search for peer reviewed journals within the past five years. Guidelines for colorectal cancer were included as sources of evidence: The search terms to be used are:

1. *"colorectal cancer screening"*, "*compliance* and *providers" and "colorectal cancer screening"*, "*education and providers".* This evidence is used to determine the correct colorectal cancer screening guidelines and methods. In order to meet the preventive colorectal screening, the provider must follow the evidence-based guidelines of the USPSTF (USPSTF, 2019). In order to count affirmatively the screening must be the proper method, and the proper time interval between screenings. One of the articles from this search was a New York clinic that provided the patient with a handout as soon as they arrived to clinic about CRC, an increase in colonoscopies result from this intervention (Sriphanlop et al., 2016).

"increasing colorectal cancer screenings", EBSCO retrieved 212 articles, all the articles "*compare screening tests*", such as "FIT", "colonoscopy", and "*fecal occult blood test*".

To retrieve more relevant articles the search terms "*increasing colorectal cancer screenings*", "*providers and advance practice nurses*" plus "*electronic medical record*", netted one article. The term "*electronic health record*" was interchanged with "*electronic medical record*" and netted the same article. A systematic review in Cochrane is a

comparison of colorectal cancer screening method and does not consider provider performance.

One search in EBSCO using the terms "*increasing colorectal screenings*" and *"electronic medical record"* and *"federally qualified healthcare centers"*, retrieved three articles, two were community healthcare clinics and focused on providers(Daly et al., 2015) (Weiner et al., 2017), 1 focused on the FIT testing and the return of mailed kits with very little interaction of medical providers (O'Connor et al., 2020).

A search in EBSCO *"preventative health screenings"*, plus "*providers"* and "*electronic medical record"* netted 6 articles, all were about the perception of health screenings either by race or sex. All interventions to increase colorectal screening measures have been centered on adding an less invasive screening method, such as Cologuard® or Epi Pro Colon® (PR Newswire, 2016).

There was a lack of articles on interventions to increase colorectal by providing education to providers, in effectively ordering and coding colorectal screenings. When using an electronic medical record, HEDIS measures are measured based upon whether an examination or test was coded. Coding is relevant since them providers must submit orders electronically with the correct International Classification of Disease (ICD) code of Z12.11 to achieve credit for meeting the CRC screening measure a for a specific patient.

Evidence Generated for the Doctoral Project

The de-identified data provided to me by the organization is the data from patients who are 50-75 years of age and eligible for a colorectal cancer screening and either

compliant (had proper screening) or noncompliant (did not have proper screening). The de-identified data originates from Analytics area or the EMR under the HEDIS measures tab.

Participants

Data was collected from patients who were eligible for CRC screenings, and who had a scheduled appointment, from the December 2018 thru June 2019 compared to July 2019 thru December 2019, before the CRC screening process changes and education, then in comparison the six months afterwards. There were approximately 1,300 patient who were eligible for CRC screening during the study dates, their de-identified medical records were retrieved to determine if CRC screening increased following the interventions.

Procedures

The data was extracted from eClinicalWorks® (eCW) electronic medical record (EMR), using specific ICD10 codes (Z12.11 and Z12.12) and a defined date period. The HEDIS data from the search was searched for patients who were 50-75 years of age during scheduled appointment, between December 2018 to June 2019, then a second search with the same criteria to compare post intervention from July 2019 thru December. This search was performed by the CMO using ICD codes Z12.11 and Z12.12 within the defined dates.

Internal validity is protected, by using restriction, in restricting the sample size to only those (providers) who participation in the education and received the quick reference

cards. Reliability is assured because the analysis was using EXCEL® and paired t-test, which are consistent over time and with repetition.

Protections

Since this project is a retrospective analysis of patient data there is minimal harm to the patient. All collected data was deidentified and provided to the DNP student by the CMO. This method was to avoid IRB or Health Information Portability and Accountability Act (HIPAA) violations. In consideration of Walden IRB and the Doctrine of Nurse Practice (DNP) blanket ethics approval for QI Doctoral Projects, no data was be collected prior to approval from Walden IRB. Each provider anonymity was protected, providers were identified as Provider1 to Provider11.

Analysis and Synthesis

This DNP quality improvement project evaluated the existing organizational de-identified data to determine the impact of the education provided to the providers. The purpose of the evaluation was to determine whether the interventions increased colorectal cancer screenings. The de-identified data was compiled from the EMR but has never been analyzed. Only the CEO has access to it. The data was exported to an EXCEL® spreadsheet. Both pre and post intervention data was evaluated. The analysis of the de-identified data was performed using EXCEL® as a paired *t*-test. Once the results are compiled if additional patterns are apparent, other charts may be presented. The goal of this project was to evaluate the existing QI organizational de-identified data from the six months before and after program implementation.

Summary

The purpose of this QI project was to evaluate the effectiveness of the existing program improvement initiative for provider colorectal screening of patients age 50-75 years. The data was to be analyzed for six months before and after the education for proper ordering and electronic charting and the quick reference cards were issued to the providers. The goal was to determine whether an improvement in colorectal cancer screening performance occurred, therefore increasing early detection, and decreasing mortality from colorectal cancer.

The next chapter, Section 4 reported the analysis and synthesis of findings. Nursing implications for positive social practice changes were discussed.

Section 4: Findings and Recommendations

The local clinic recognized the low screening rates and implemented practice interventions to address the deficit in using the USPSTF guidelines for colorectal screening. The gap in practice this project were address, is a means of improving colorectal screening in a FQHC. The practice focused project question is: Did the implemented interventions to the colorectal screening program at the FQHC result in an improvement in colorectal screenings, when compared to the previous patient colorectal screenings program?

The practice problem identified in a local clinic in the SW United States is that providers are not following the USPSTF Guidelines on colorectal cancer screening. The purpose of this DNP QI project is to evaluate the effectiveness of the existing program improvement initiative for provider colorectal screening of patients age 50-75 years, then provide recommendations to address the gap in practice based on the results.

The sources of evidence were obtained from the Chief Medical Officer (CMO), in an excel file of deidentified data as HEDIS colorectal cancer screenings by provider. Two providers were removed from the data since they were not with organization during the complete 12-month period. The data was segregated into two batches. One batch labeled Pre-Education is data before the 2-hour education lecture and distribution of the quick reference cards. The second batch of data is labeled Post Education, was compiled six months after the education lecture and quick reference cards distribution.

Findings and Implications

The data was analyzed using a descriptive analysis of the pre-education and post-education of each provider and the differences after the education and quick reference cards distribution. The differences were determined mathematically by using EXCEL® spreadsheet and calculating the difference, then the overall difference for the organization was calculated. From this calculation the overall organization average was negative, indicating the CRS did not improve after the 2-hour education lecture and quick reference cards distribution, yet some providers individual performance did increase over the 6-month period.

Table 1

Pre/Post Education for Providers

	Pre-Education HEDIS Performance	Post-Education HEDIS Performance	Difference
Provider 1	9.09%	13.89%	4.80%
Provider 2	12.38%	11.00%	-1.38%
Provider 3	9.95%	5.99%	-3.96%
Provider 4	6.37%	3.23%	-3.14%
Provider 5	8.00%	6.73%	-1.27%
Provider 6	9.43%	15.94%	6.51%
Provider 7	20.74%	31.88%	11.14%
Provider 8	5.41%	9.15%	3.75%
Provider 9	21.95%	22.82%	0.87%
Provider 10	30.28%	7.59%	-22.68%
Provider 11	26.19%	13.04%	-13.15%
Average	14.53%	12.84%	-1.68%

While analyzing the performance of the individual providers, it was baffling that the average is higher in the pre-education group, yet many of the providers performed

better after the education and achieved higher CRS HEDIS performance scores. As indicated by on the chart below 4 of the 11 providers did have significant improvement post-education, with a 5th provider having slight improvement. Provider's 3 performance actually decreased by 50% after the education, while Provider's 7 performance increased by approximately 33%.

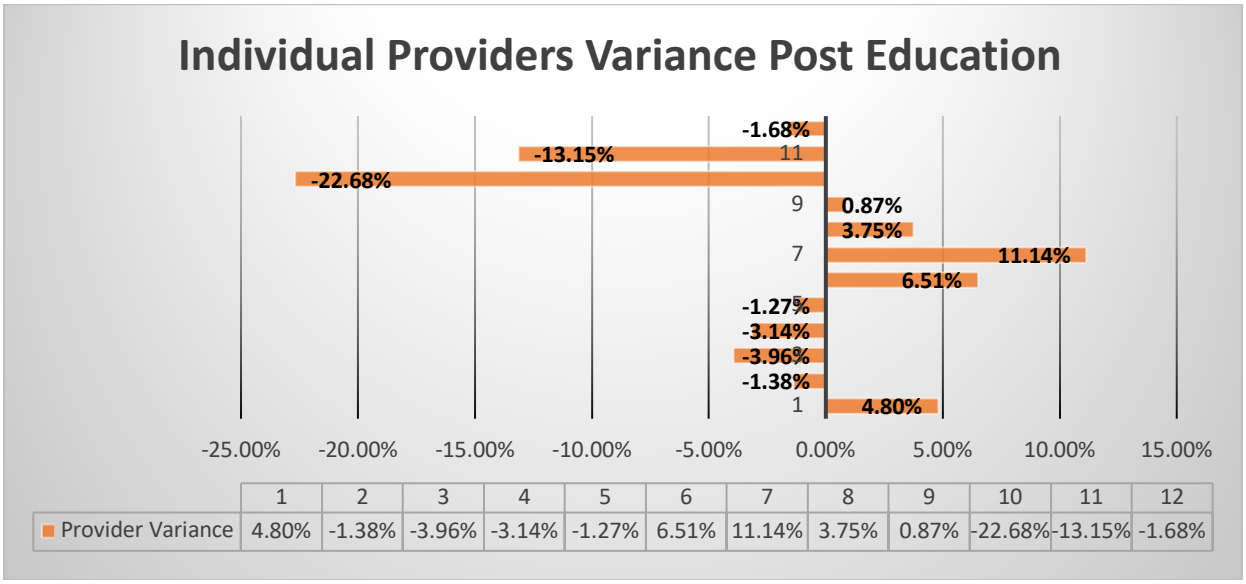

Figure 2. Individual providers variance post education

Limitations of this project are that further studies need to be completed to determine what are some additional tools and techniques to assist providers in achieving higher performance outcomes of preventive screenings, including colorectal screenings. Another limitation should be considered the small sample size of providers, recommend further studies with larger sample size to determine education and quick reference cards to increase preventive screenings, including CRS. We know these specific providers work at the same clinics, use the same electronic medical record, both passed a posttest after the post education and distribution if the quick reference cards, so we can assume

they have similar knowledge level, therefore the limitations are the unknown factors that impacted the reasons some providers failed to order CRS of their patients.

Implications from these findings is that the quick reference cards (Appendix: Figure 1 and 2) and education, increased the number of some clinic patients receiving CRC screening, and probable awareness of the benefits of early detection of colorectal cancer. The implication of early detection of colorectal cancer improves the health of individuals, our communities and decreases healthcare cost to our institutions and systems. The potential implications of positive social change from this project is the opportunity to enhance is increasing early detection, by increasing preventive screenings.

Recommendations

The gap in practice was to increase colorectal cancer screenings at the FQHC, while these interventions may not be the sole solution to reaching 80%, they are of benefit. Secondary products may be additional enhancements and clinical decision tools to the electronic medical record, or improved screening products. In relation to the findings additional education modules should be provided. A possible recommendation is surveying the providers or observing the providers to determine what tools would be helpful from their perspective. Policies are currently in place, but the organization could consider additional audits with missed screening callback visits, in which the nursing staff review the chart and call the patient back if a screening is missed, including vaccines.

Contribution of the Doctoral Project Team

The doctoral project team, consisting of the CMO transferred the de-identified data to the DNP student via an EXCEL® spreadsheet. Once the final project is the results were be submitted to the clinic's QI committee and leadership team. Plans to extend the project beyond the DNP project depend on partnering with the manager of QI at the clinic and running another PDSA at a later date.

Strengths and Limitations of the Project

Strength of this DNP project was to continue to address the need in the practice to increase preventive screenings, specifically colorectal cancer. One strength of the project was the teaching used both visual aids during the two hours education and announcement of a provider compensation bonus for those reaching targets. Each provider was also given the quick reference cards, laminated, and bound 8.5" x 11" (Appendix A). Limitations are the small size are providers and the need for further studies to determine what interventions can be instituted to improve colorectal cancer screening. Future projects to improve preventive screenings should include EMR enhancements, in the area of referrals and connectivity among specialists, charting or clinical decision tools, cost effective preventive screenings, including colorectal cancer.

Section 5: Dissemination Plan

The plan to disseminate this work to the institution is within the quality improvement (QI) committee and the next scheduled board meeting. Working with the QI manager additional PDSA cycles and interventions may be added to build upon the results of this project. This project audience is the providers including physicians and nurse practitioners, nursing staff and quality improvement staff. The screening and assessments are often performed by the nursing staff and reporting and monitoring compliance is performed by quality improvement staff. Providers continue to order test, referral and interpret test results. This project dissemination would be appropriate for nurse educators or health education.

While planning to publish this project via Proquest and present it at other appropriate conferences such as National Association of Community Health Centers (NACHC), Texas Association Community Health Centers (TACHC) in presentation or poster format. As a member of the Texas Association Community Health Centers (TACHC) clinical practice guidelines committees, strategies to improve preventive screenings, or develop clinic protocols are frequently requested for presentation.

Analysis of Self

As a provider and senior director, the important of preventive screenings and achieving compliance to HEDIS measures cannot be overlooked. There is a certain amount of trepidation that goes along with analyzing yourself and realizing your performance score was not the highest in your project. As a practitioner, I am probably more computer savvy than most of my peers in the electronic medical record, yet I

recognize I falls “clicks” short at times. As a scholar I have watched our professional build the knowledge base, nursing leaders used to speak of needing to have to be a science. Today I can find the research I need to source clinical guidelines and evidence due to databases of meta-analysis and systematic reviews. I worked on this project for years, analyzing the approach, and gained a better understanding of the approach at Atlanta at the DNP Intensive, and feel like the final results are a proper representation my work. This project has been insightful into the operations of HEDIS and, while I have been in quality improvement in the past, I intend to continue in compliance and quality.

Many times in my coursework I referenced the DNP Essentials (AACN, 2006) and I see the relevant of my doctoral project completion throughout the document. All elements of the DNP Essentials (AACN, 2006) are met in this project. My project demanded I understand informatics and the application of these technological advancements in nursing today. The project addressed the first requirement of the DNP Essentials (AACN, 2006), when discussing providing care to a specialized group and managing the care needs in a cost effective manner. Throughout my scholarly time and in my work life, I have focused on population health and chronic illness in the FQHC. This project depended on collaboration between nurses, providers, quality managers, and patient care specialist, to provide leadership and policy change.

As project manager, waiting and pulling it all together and then those moments of clarity when you start to see it all coming together. The greatest challenge was Taskstream® and the frequent revisions and that is about my personality, accepting that it has to be improved and more work is needed over and over, I am very goal oriented when

working on a project. Presently I am happy with how the project turned out and I am amazed when I recall first starting the project, the documents, timelines and graphs, trying to understand the proposal, to now at all the labor and hours it has been. A lot has been learned concepts are broader and the simple answers I used to have to many questions now are often multifactorial. My scholarly education has taught me that all aspects have to be considered in policy development or population health and many times problems and solutions are complex.

My long-term professional goals are to continue in the area of FQHC, population health, currently I am specialty certified in both Diabetes and HIV, Director of PCMH and Risk Management, develop all the medical team policies. Additionally, I might teach in Emergency Department or online university setting.

Summary

In summary this doctoral project interpreted data from interventions performed to improve colorectal cancer screening in a FQHC. Early detection of polyps continues to be the most effective means of colorectal cancer prevention (American Cancer Society, 2020). FQHCs and primary care clinics are attempting to reach the goals established by the Health Resources and Services Administration (HRSA) the USPSTF recommendations regarding colorectal cancer screening. This DNP project indicated that 50% of the providers did increase their colorectal cancer screening numbers after the education and distribution of the quick reference cards were provided, compared to before the education and quick reference cards. This DNP project gives insight into other interventions that might be effective in increase colorectal cancer screening performance.

This clinic uses a team approach, whereas the nursing staff and same provider are paired together. When this project was started, this was probably a missed opportunity of not actively involving the nursing staff in the same or equivalent education.

This project was important as both a challenge and tragedy of watch young people suffer from what is often preventable when detected early, and some were relatives. Additional incentives to improve colorectal cancer screening are the monetary need of all organizations to improve preventive measures and value-based care and payment systems broaden. The solution to colorectal screening improvement appears to lie in improving processes and technology, but also test that are easier to self-perform and less costly.

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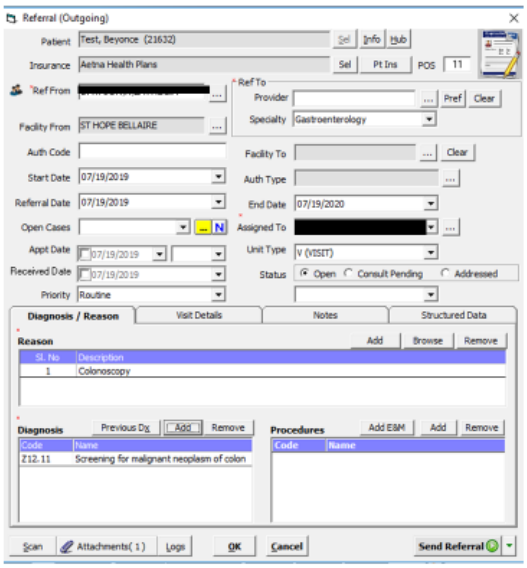
Appendix: Quick Reference Cards

Quick Reference Card Colorectal Cancer Screening

COLORECTAL CANCER SCREENING

- Screen patients ≥ 50 years old
- Assessment: Screening for Malignant Neoplasm of Colon Z12.11
- FIT Ordering > Treatment > Labs > Lab Company: ALL > FIT
  - Assign To Referral Coordinator
- Colonoscopy Ordering > Treatment > Diagnostic Imaging > Colonoscopy
  - Insert Referral to Gastroenterology
- Preventive Medicine > Colorectal Cancer Screening



Exclusion Codes

EXCLUSION CODES

Colorectal Cancer Screening:

- Colon Cancer Screening Declined Z53.20
- History of Total Colectomy Z 90.49
- History of Colon Cancer Z85.038

Cervical Cancer Screening:

- Cervical Cancer Screening Declined Z53.20
- History of Hysterectomy/Absence of Cervix Z90.710

Breast Cancer Screening:

- Mammogram Declined Z53.20
- Left Mastectomy Z90.12
- Right Mastectomy Z90.11
- Bilat. Mastectomy Z90.13