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### Improving Colorectal Cancer Screening in Primary Care

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**Improving Colorectal Cancer Screening in Primary Care**

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April 27, 2022

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## Section I: Abstract

Colorectal Cancer (CRC) is the second leading cause of cancer related deaths in the U.S., although it is preventable with adequate routine screening. Medically underserved minorities and immigrants require screening program awareness in their respective communities. The incidence of CRC remains markedly high despite the screening modalities among various populations. In the United States (U.S.), there were approximately 147,950 reported CRC diagnoses, 53,200 deaths, and over 35.2 cases per 100,000 in California alone reported in 2020 (Siegel et al., 2020). Healthcare providers can prevent colorectal cancer (CRC) through adequate routine screening. Various screening practices are widely implemented in primary care settings, but targeted screening for high-risk population must be addressed. This project created a process for prevention of CRC and training staff to educate patients on colorectal cancer screening (CRCS). This pilot educational project was implemented to increase staff knowledge about CRCS at Mission Primary Care Clinic in Fremont. The pretest/posttest along with staff education showed an increase in knowledge and improved routine practices for CRCS within primary care setting. The clinic benefited by educating staff on CRCS knowledge to educate underserved populations and older adults who have limited knowledge about the CRC and screening for it. This quality improvement project in nursing practice will influence a positive social change by emphasizing CRCS in primary care setting among high-risk populations.

*Keywords: colorectal cancer (CRC), screening, prevention, primary care settings, underserved community*

## Section II: Introduction

### Problem Description

Colorectal cancer (CRC) is one of the most common cancers occurring globally. In 2018, there were 1.8 million cases of colorectal cancer (CRC) (Rawla, et al., 2019). Colorectal cancer screening (CRCS) is recommended by the World Health Organization (WHO) as a prevention to reduce morbidity and mortality (CDC,2020; World Health Organization, 2020). Colorectal Cancer Screening (CRCS) is an evidence-based screening for colon and rectal cancer and may decrease the instances of CRC by early detection of pre-cancerous lesions. However, access to screening programs and reduction of social barriers that inhibit access to care must be addressed to make programs successful, especially for underserved and non-English speaking populations.

In 2020, The American Cancer Society estimated that approximately 104,270 will be diagnosed with colon cancer, and 45,230 diagnosed with rectal cancer in 2021 (American Cancer Society, 2021). There were 3,640 deaths in individuals who were younger than 50 years old. However, the incidence rate of CRC improved among the recommended age group 50 to 64 years annually by 3.3 %. For individuals aged 45 to 64 years, the American Cancer Society reports increased cases for tumors in the proximal and distal colon.

According to CDC Behavioral Risk Factor Surveillance System, in 2018 about one quarter of adults are not screened as recommended (CDC, 2020). In California, over 35.2 cases per 100,000 population deaths were CRC-related in 2020. Alameda County reported 34.2 deaths per 100,000 for CRC from 2013-2017 (Healthy Alameda County, 2020). Progress against CRC can be increased by access to recommended screening and high-quality treatment among underserved minorities and non-English speaking patients (Siegel et al., 2020).

Alameda County is in urban Northern California with a population of 1,671,329 and a poverty level of 8.9% (Healthy Alameda County, 2020). Fremont is a city in the San Francisco Bay Area with a population of 241,110 and a poverty level of 4.3% (Healthy Alameda County, 2020). The population without health insurance under the age of 65 years is 1.9% (Healthy Alameda County, 2020). Approximately 1.9% of people over age 65 living in Fremont City are without health insurance under the age of 65 years are 1.9% (Healthy Alameda County, 2020). The population is diverse consisting of Whites, African Blacks, Asians, South Indians, Afghani, and many other ethnicities. There are multiple hospitals and clinics that serve the entire county. Mission Primary Care, where this project was completed, services all race but has a large population of South Indian immigrants who may be monolingual and have low health literacy. Many of the other patients are bilingual; however, English is not the primary language. The CRCS educational program for the staff will be implemented at the clinic to raise awareness and increase knowledge on the screening of CRC guidelines that will allow staff to effectively educate the underserved populations and immigrant adult, ages 45 years or older at *Mission Primary Care*.

### **Setting**

Mission Primary Care Clinic is a private clinic in downtown Fremont. It is owned by three physicians. They have four more branches in San Leonardo, Hayward, Pleasanton, and an urgent care in Hayward. The main Fremont office provides services at the clinic that include primary care, gastroenterology specialty care, and cardiology specialty care. Various forms of insurance are accepted, and uninsured people can pay cash or receive free services. Many walk-in patients who are homeless, uninsured or need emergent medical services come to this clinic. Many clinics in the area do not accept Alameda Alliance Insurances, but this clinic provides

services to them. The clinic has three providers, two nurse practitioners, and ten medical assistants. All staff are bilingual and speaks different languages including Hindi, Urdu, Punjabi, Telegu, Arabic, and Farsi. Most of the patients are south Indians and Punjabi at this branch. At this clinic, there are no in-services and educational tools available for the staff on recent evidence based CRCS programs.

### **Specific Aims**

The aim statement for this quality improvement project is to develop, implement, and evaluate a CRCS toolkit to improve staff awareness and increase screening by 25% in the primary care setting over the next six months. The objectives are to develop an educational toolkit for this project to teach patients about the benefits of screening and increase awareness by 25% which will shape behavior, improve overall CRC screening, and increase early diagnosis of precancerous and cancerous colon lesions. The secondary goal is to increase staff knowledge about CRCS by 50% measured by pre-and-post surveys. The third goal is to assess the patient's willingness to get CRCS by 25% over the next six months

### **Available Knowledge**

### **PICOT Question**

The following PICOT question was formulated to guide a literature search for evidence-based solutions: Would an evidence- based staff education tool on colon cancer screening guidelines improves staff knowledge of colon cancer screenings at Mission Primary Clinic by 25% within next two months?

### **Literature Review**

A literature review was completed using the following databases: Cumulative Index to Nursing and Allied Health (CINAHL), Cochrane Library, and PubMed databases to locate

information on CRCS. This literature search covered the period from 2005 to 2021. The studies researched were from 2005 to 2021 because there were few health literacy articles found within the last ten years from 2011 to 2021 targeted to minority populations. During the following keywords “*colorectal cancer (CRC)*”, “*screening OR prevention*”, “*primary care settings*” “*underserved community*”, “*education*”.

The chosen articles were randomized controlled trials and literature reviews described in the evaluation table (Appendix A). They were selected by determining the strength, weaknesses, limitations, and quality of evidence using the John Hopkins Nursing Evidence Based Practice Tool (JHNEBPT) (Dang & Dearholt, 2017). The inclusion criteria for the research were minority group focused studies for CRCS. The articles used were only those in English that included the screening of colon cancer education and were limited to articles about health disparities in colonoscopy screening for immigrants and low- income populations. The literature used to support this project includes peer-reviewed articles from published literature. It includes randomized control trials, pilot studies, systematic reviews of level 1 and level 2 for this project. The staff education tools were prepared from American Cancer Society guidelines.

Maxwell et al. (2020) conducted a pilot study of colorectal cancer screening (CRCS) in African American women in community health centers and churches in Los Angeles (LA). The article is rated level I, quality A using the JHNEBPT. The pilot study combined with the cross-sectional study design analyzed the intervention that promoted CRCS through the counseling sessions, prints, materials, and telephone reminders. The study assessed demographic factors, cancer-related knowledge, and attitudes of the participants that affect CRCS. Maxwell found that routine check-up appointments with an

educational session with a provider significantly increased CRC screening and identified the additional barriers to CRCS.

The most recent study by Rawl et al. (2021) concluded in a clinic based randomized control trial (RCT) intervention showed that CRCS remains low in any racial group. The article is rated level I, quality A using the JHNEBPT. This RCT was conducted among African Americans from 11 clinics who were delivered a computer-based intervention about CRCS, and brochure designed to promote screening. The one-time CRC knowledge provided to patients before their appointment significantly improved CRC screening rates among low-income African American patients and positively impacted the frequency of intervention with colonoscopy screening in this group.

Maxwell et al. (2010) conducted a community-based trial to increase awareness of colorectal screening among the Asian American population. The article is rated level I, quality A using the JHNEBPT. The Filipino American participants had low literacy rate and knowledge about the procedure and importance of CRCS. In this RCT, the participants received the education sessions on CRCS and free kits for testing the fecal occult blood tests (FOBT) kits. At the end of the study there was 30% increase in reporting screening and follow up with the primary care physician. The studies showed that education session impacted the CRCS for the Filipino American population.

May et al. (2016) noted that African American had the highest prevalence of polyps at CRC screening. This ethnic group had only 2% decrease in CRC incidence compared to European Americans who had more than 3% decline in CRC with improved screening after staff education (May et al., 2016). An evidence- based educational program would increase awareness for the staff and would improve CRC mortality rates in this specific ethnic group.

Siegel et al. (2020) reported that missed appointments and lack of communication about the colonoscopy screenings results in noncompliance with CRC screening. Primary care clinics should promote the CRC screening and prevention programs by educating the staff and the providers (Siegel et al. 2020). There is an inadequate knowledge level among nurses and physicians that acts as one of the provider facing barriers affecting CRC screening.

With the growth in South Asian communities in the United States, Kazi (2020) studied South Asian Muslim's religious and spiritual beliefs that impact cancer screening rates. Religious barriers including preserving modesty, stigma of compromising hygiene and cleanliness as contributing factors that explain why South Asian Muslims are reluctant to get CRC screening (Kazi et al., 2020). It was found that this group was less likely to be updated with information on different types of colonoscopy screening tests which remain concerning.

Stracci et al. (2014) addressed several strategies to improve CRCS processes that include physician recommendations, screening procedures and accessible testing methods. Colorectal screening processes are beneficial, only if they are implemented. Only 70% CRCS procedures are implemented for targeted population (Stracci et al., 2014).

Primary care clinics advocate for improving healthcare outcomes and quality of care. Based on the above convincing evidence of effectiveness of educational sessions, printed, material and flyers, primary care settings can improve screening for health promotions. The structural barriers in screening for CRC can be reduced and colorectal cancer screenings in public health centers and primary care clinics will be increased improving early diagnosis of colon cancer and pre-cancerous conditions. This staff education process will help staff to provide excellence in care and fill in the gaps in current practice through educational sessions.

## **Rationale**

The Health Belief Model (HBM) is the theoretical framework for this project. This framework encourages individuals to change their health behaviors based on effective and evidence-based interventions (Lau,2020). Research has shown that the HBM is widely applied to explain interpersonal decision-making processes on wide range of studies on vaccinations and screening health behaviors (Lau,2020, Menon 2007). The main component of this model is associated with higher perceived susceptibility and risk severity to colon cancer, higher perceived benefits of screening, lower barriers to getting screened, and the presence of cues to action from health professionals (Alligood, 2014). The model influences CRCS and aims to promote the patient's well-being and change their health behaviors.

The HBM identifies patterns of healthy behaviors due to the patients' perceived perceptions. The initial stage is when health professionals offer the patient CRCS due to family history risks, colonic symptoms, smoking habits, or stress-related threats of bowel cancer (Lau,2020). The interventions will derive the patient's desire to make a change in their health behaviors and gain the level of confidence in their ability to perform the behaviors. Self-efficacy can have major effect in increasing the rate of screening of colorectal cancer and its prevention.

## **Section III: Methods**

### **Context**

Colorectal Cancer Screening (CRCS) educational program includes the development of educational material to train the staff members of care team about colorectal cancer screening (CRCS). The intervention includes providing training for the staff members to educate about screening indications and benefits, and motivational interviewing strategies that can be provided

and used in patient care interactions for all staff members. The DNP student will conduct these educational sessions to guide staff to increase the CRC screening process at the clinic.

The stakeholders include patients, family members, and the community who will need information about CRCS. Additionally, the clinic staff, MDs, RNs, NPs, and MAs will all be affected by the change in patient's health seeking behaviors and the educational interventions used to make those changes. Once training has been provided to the clinic staff, they will ensure that patients are screened for CRCS during regular follow up appointments for their primary care or specialty visits and timely referral to CRCS resources. Most of the patients who opt out of screening will be provided counseling services by trained staff. Stakeholders in the clinics will provide educational resources on CRCS to improve opportunities for at-risk populations to be screened, thereby reducing racial and ethnic disparities and death rates (Percac-Lima et al., 2009).

Other stakeholders in the clinic include nurse practitioners (NPs) and physician assistants (PAs) whose primary roles are to educate and assess patient willingness to get CRCS, and to ensure a referral is provided for an appointment with the gastroenterologist. Additional information about the procedure will be provided by the specialty clinic, and an appointment for a colonoscopy will be offered to the patient. The physician will offer and initiate and further educate the patient, and if they are willing, schedule them for colonoscopy. A project leader, DNP student, will collaborate with the primary care team and gastroenterologist team to serve as a liaison to ensure follow-up, pre-procedure testing, communications, scheduling, and follow-through with the screening program.

### **Proposed Intervention**

The project will be conducted in a period of 12 weeks (about three months). The DNP student will propose the project to the leaders of the primary care clinic to improve the colorectal cancer screening (CRCS). After getting the approval from the stakeholder and approval from the Institutional Review Board for a determination of a non-research quality improvement project, the planning phase will begin. In this phase, a pretest was given to the staff members to learn about their knowledge of CRCS and guidelines. After getting the responses from the staff, the DNP student trained the staff about the use of materials and educational sessions. There were no funds for the project so all the materials will be made by the DNP student. In the next phase of implementation, each staff member was able to identify risk factors for CRC and staff was able to educate patients on colorectal cancer screening (CRCS). The trained staff will be able to educate the patients about CRCS and guidelines involved in screening with their primary care providers (PCP). Primary care providers sent the referral to the collaborating gastroenterology care team who resides in the same office building. The process of scheduling colonoscopy was expedited due to collaboration with GI clinic care team. The staff took a posttest to assess their knowledge after the education sessions. Upon completion, the revised education material for the screening will become available for the staff and providers after reviewing changes with the clinic care team and providers. This educational session for the staff allowed the staff to be consistent with the guidelines for CRCS appointments, and eventually led to increased compliance.

### **Gap Analysis**

The best practice related to CRCS is to increase awareness for this population where services are not as readily available (Maxwell et al., 2020). However, many clinical nurse

practitioners and PCPs describe time constraints during visits as the reason they do not educate patients on CRCS (Rawl et al., 2021). Strategies to achieve improved CRCS educational interventions by PCPs include developing educational tools, handouts, flyers and sessions with clinical NPs and NP students regarding CRCS to increase awareness and understanding of the importance of such preventative screening measures. Educational tools and interventions by NP students will fill the gap in the previous program by providing timely referral to continued primary care-based treatment. Additionally, providing information on techniques for brief intervention using motivational interviewing skills will aid NPs and other clinicians in providing succinct and effective counseling on the value of screening (See Appendix B).

Currently, there is no education on CRCS available to staff who can educate patients seeking treatment in this clinic or coordination of care if screening is not scheduled. Many patients do not follow up on their annual appointments or decline screening due to educational and social barriers and fears. Barriers to implementation of a CRCS program include language and cultural issues, lack of transportation, staff education needs, and a lack of time in the clinic to provide interventions aimed to improve patient understanding of CRCS importance. An educational program and an assessment to decrease social barriers will be completed as part of this project through the collaboration between the clinic team, the project leader, and the clinic providers (See Appendix B).

### **Gantt Chart**

The execution was divided into four phases, as outlined in the Gantt chart (see Appendix C). Phase one began on July 6, 2021, after the DNP student received written approval from the organizational leaders. The verbal pre-approval was given on April 20, 2021, for the educational program for the CRCS from the primary care clinic leaders and gastroenterology clinic team.

The staff took a pre-test about the CRCS, and an initial assessment was done in phase one. In the second phase, the staff was trained in how to educate culturally sensitive colorectal cancer screening to the targeted population. The third phase was to implement the education sessions with the patients. The fourth phase will take place in April 2022 where the results are evaluated. Data collection will be done in May 2022 to finalize the findings of the project.

### **Work Breakdown Structure**

The work breakdown structure (WBS) categorizes a hierarchy of tasks that are beneficial in figuring out project costs, assigning roles and responsibilities of each team member, and developing a timeline by the project manager. The WBS can also help improve collaboration and communication by reducing scope creep that can delay the project (Moran et al., 2019). Using the health belief model, the three phases for this project (See Appendix D). In the first initiation phase, the project leader will present the proposed project to the organization. The team leader will conduct a needs assessment to study the needs of the population of focus. A literature review will be conducted for the need of CRCS for this population and develop an overview for the project. The project will be reviewed with the collaborative team. During the planning phase, the team leads will select the team members and meet with them. The gaps will be identified for the project and a budget created to present to stakeholders. After getting the approval for this project is attained, the team will move to the implementation and evaluation phase. In this phase, the CRCS will be implemented over the given time. The outcomes will be measured, and results will be analyzed. The project team members will evaluate results and discuss future practices. The final stage will be presenting the final project report to

the organizational leaders and emphasizing the need of early screening of colorectal cancer in this community.

### **SWOT Analysis**

The SWOT analysis (strengths, weaknesses, opportunities, and threats) is a useful tool for identifying and preparing for risks. This analysis identifies factors to make the project efficient and successful (Moran et., 2020). For this project, SWOT analysis is explained and shown in Appendix E.

The significant strength of this program will be to benefit the population of focus with useful and evidence-based information from bilingual staff. The available staff is proficient in following languages, English, Hindi, Urdu, Farsi, Gujrati, Tamil, and Arabic. The collaborative team will include bilingual providers and staff members who will provide culturally sensitive screening awareness. This population of low-income patients, bilingual population, immigrants will benefit from education and screening sessions from staff who can translate and explain them the importance of screening of CRC (Maxwell et al., 2020). The staff was motivated to help patients improve their health as a professional duty to them. This type of motivation can be a very strong force especially with RNs and NPs who are educated to place the needs of the patient front and center in clinical practice.

Other strengths include that the primary care clinic is partnered with a gastroenterologist at the same location. The ease of healthcare access will expedite the referrals to the gastroenterologist and will improve quality of care and save healthcare costs by providing early screening and intervention services. Staff will be trained by an NP-DNP student about the benefits of preventative colorectal screening targeted at the medical assistant staff who can ask simple questions while obtaining vital signs in the patient's native language. The student NPs

will train the staff about CRCS education using both culturally sensitive language and adaptive teaching styles so that the staff can appropriately convey the message to the patients. Using the newly attained skills, the staff will facilitate direct patient education that will improve screening rates and benefit in early detection of colorectal cancer (CRC).

The significant weakness of this program includes the limited resources provided to NP students for carrying out the training. The project planning budget will be managed by the NP students and is also limited. There are no initial programs of colorectal cancer screening for the individuals of the community who come to this clinic due to limited financial resources for educational services. Due to busy workflow and overbooked appointments, the primary care providers' initial screening is usually missed as there are multiple walk-in urgent visits on daily basis. There is a need to prioritize the CRCS screening in this population due to increased risk factors.

Socioeconomic and cultural barriers are involved in adoption of CRCS in this population at an increased risk. Transportation barriers, lack of childcare, the need to miss work for appointments that are scheduled during the patient's workday, and a lack of translations services present multiple complicating factors that limit access to care in general and especially for preventive healthcare services. Many fears expensive medical bills for CRCS invasive procedures that may be needed as part of screening or detection of precancerous or cancerous lesions. Providing childcare, transportation, and reimbursement for missed wages are outside the purview of the clinic or this DNP project but these factors are acknowledged. Costs are covered by the clinic, which many in the community may not be aware of so providing education on the financial aspect of care is of value in improving access to care.

The project is based on the needs of the staff who do not speak English, are unaware of colorectal cancer screening (CRCS) and risks associated with it, as well as the willingness of the organizational leaders to continue their efforts to train staff with in-office services. The population of focus is an underserved community member with no insurance, immigrants, non-English speakers with preventative education on colorectal screening (CRC) by trained staff. There are no programs currently at the clinic for screening patients unless presented with worsening clinical symptoms for CRC. The program will improve patient care, increase patient satisfaction and improve patient outcomes with increased screening of CRC (Percac-Lima et al., 2009).

Standardized care will benefit the clinic as there is a collaboration with the gastroenterologist available in the same clinic. The program will improve the referral system and will expedite the referral to gastroenterology physician available in the clinic. The ease of healthcare accessibility will encourage patients to get CRCS and will expedite the process for them.

There are always potential threats to innovative programs. Implementation of a colorectal cancer screening tool educational program will change the current practice for the staff members at the clinic. There will be resistance towards the program to start something new for staff. Staff training and educational tools will require time and cost. The project leader will have no funding, careful planning for the financial burden for this program is essential. The population of focus will be reluctant to adopt it as they might be concerned for the added cost for screening or reimbursement issues. There will be socioeconomic barriers such as transportation for screening in addition to the patient's regular appointment. This is where the staff play a role to educate them about the benefit of the program rather than not participating in it. Additionally, there may

be psychological resistance to change by staff because of ingrained current practices and time constraints for implementing new educational practices.

### **Cost-Benefit-Analysis (CBA)**

The cost associated with establishing an educational program for colorectal cancer screening tool and staff training was evaluated early on. There is no funding for this program, As a result, simple education tools were created by the DNP student. Flyers and training educational tools were created and printed at the clinic, followed by staff training on the documents. The total cost for educational tools was less than \$ 400. The DNP student used a personal laptop and Internet service to compile the data. There are indirect costs for printer ink, paper, and a portion of monthly Internet service charges were added to the budget. The salary for the DNP student was an in-kind service donation to the clinic. All work hours, including meetings were conducted at the clinic. Cost to facility previously assumed budgeting for one hour staff training. The overtime was prevented by giving staff early clinic on an afternoon clinic day. However, the revenue will be gained from this project and return on investment will benefit the clinic (See Appendix F).

### **Communication Plan/Matrix**

The project addressed improving colorectal cancer screening education to the patients by increasing awareness using an educational session. The clinic care team will train the staff to minimize patient's stress and educate them to provide brief education about CRCS before patient's appointment. Training staff required efficient planning to minimize anxiety and time management in the busy clinic hours. The DNP student used effective communication between providers and staff to ensure the use of time and resources (See Appendix G).

## **Proposed Outcome Measures**

### **Pre and Post Survey for Staff**

The pretest was provided to the staff to assess the education level about the teaching of colorectal screening before and after implementing the project (Appendix J). The NP student will create a brief 6-item questionnaire paper survey and six item Likert scale on CRC guidelines per physician's request, rather than a detailed questionnaire, to avoid survey fatigue. The pretest was appropriate with clinical objectives of the nursing staff. Each member of staff was able to address their experience on the training of basic education for colonoscopy education screening and how their experience was at the end of the project.

The DNP student gave an oral presentation to the clinic staff with handouts and printed information according to the CDC guidelines. The PowerPoint presentation included CRC risk factors, symptoms, and overview of the disease process. The educational session also highlighted the possible diagnostic test and how groups of people avoid screening due to fear of medical cost, cultural differences, and lack of education. After the teaching and implementation of the project staff took a posttest. The posttest had the same number of questions and was anonymous.

### **Proposed Analysis**

After the evaluation of pretest and posttest, the data was collected, scored, and organized to facilitate the data analysis. The effectiveness of the program was determined by the effectiveness of the education program. The pretest and posttest were compared for differences. The statistics were interpreted as percentages to see significant changes in the participant knowledge level that indicated the effectiveness of the education program in addressing the focused question. At the end of the analysis, the results will be presented to the stakeholders and staff.

## **Ethical Considerations**

One of the core Jesuit values is forming and educating agents of change which means teaching lifestyle behaviors that reflects responsible action on moral and ethical issues. NP students will educate staff and patients to change attitudes and behaviors towards colonoscopy screenings because of the high- risk of developing colorectal cancer. It is a moral and ethical practice to prevent negative health consequences, so the screening process is in alignment with that action. This quality improvement project addresses the highest standards of care in accordance with Jesuit values for all the communities.

The American Nurses Association (ANA) ethical standard that related to this quality improvement project in Provision 4, “The nurse has authority, accountability, and responsibility for nursing practice; makes decisions; and takes action consistent with the obligation to promote health and to provide optimal care” (p. 9). Provision 4 of the ANA *Code of Ethics* states that nurses have professional responsibility towards patient to educate them on health promotions strategies. This project empowers nurses to educate patients to establish habits and lifestyle changes to promote screening processes. Efforts will be made by nurses to promote colorectal screening to lower the rates of colorectal cancer in this at-risk population.

The ANA Provision 7 also states that” the nurse... advances the profession through research and .... professional standards development.... both nursing and health policy” (ANA Code of Ethics, 2015). By applying information obtained in research on best practices for CRCS behavioral changes, this project will seek change of practice that will benefit future provider care and standardization of best practice. Patients and providers will benefit from these changes which will streamline care and improve access to much needed services for those at increased risk.

The project reflects six attributes of the ethical principles including beneficence, non-maleficence, justice, autonomy, veracity, and fidelity. The screening process for the underserved population emphasizes distributive justice and beneficence by providing scarce healthcare resources to a population at high-risk population for colon cancer. Early screening of colon cancer will benefit the patients to detect cancer at an early treatable stage. The project focuses on autonomy of choice over screening and cultural sensitivity that may affect patient's decision for screening. The patient will be provided factual information about the increased risk for colon cancer which reflects the principle of veracity. All the patients are provided education and colonoscopy screening regardless of their insurance status which reflects distributive justice. Additional work is needed to provide the education that patients need to facilitate transition from the clinic to the use of CRCS which further elucidates fidelity.

On February 14,2021, the USF Graduate Nursing Department approved that this project as outlined in the statement of determination, in accordance with the guidelines for an evidence-based quality improvement project and deemed it a non-research project. There are no conflicts of interests noted for this project. The primary care physicians at Mission Health Center approved the request to move forward with the project on March 9,2021.

#### **Section IV: Discussion**

##### **Limitations**

The result showed a positive social change within the primary care offices. There was a significant impact on staff members after getting the training and then educating the patients about CRCS. The staff addressed the issues that the non- English speaking immigrant patient population had many questions regarding colorectal screenings and how it is covered from insurance. The finding of this quality improvement had a positive impact on the community

members by increasing the knowledge of the staff members within primary care to detect colorectal cancer. The analysis of the data was performed using descriptive statistics and a paired t-test in SPSS.

The paired *t*-test was performed showing an increase in staff knowledge regarding colorectal cancer screening. The test statistics is  $t = -16.71$ , with six degrees of freedom and  $p < 0.0001$ . The *p* value shows that there is a significant increase in staff knowledge. The average test score increased 65.4 points from pre to post test. The Cohen's *d* effect size has statistical significance, though the number of participants was low. The descriptive statistics and paired *t*-test results (See Appendix I).

### **Discussion**

Staff education can help improve screening processes and fill in gaps in primary care settings. The staff can educate, and screen patient based on current practice guidelines for early detection by the CDC. The staff was motivated and willing to do screening after receiving getting education. Notably, there was a significant increase in the referrals to the GI clinic for colonoscopy after the training was completed.

Research conducted in primary care and public health centers support additional education sessions that include providing flyers, brochures, and reading materials on colorectal cancer and the value of its screening for early detection and treatment. Recommendations for CRCS focus on improving the knowledge about the indications and benefits of screening. Access to information and continuous exposure can motivate participants to actively take part in the health screening process and continue to improve the CRCS rates by taking into consideration the cultural needs of ethnic groups at the primary care clinics. Teaching staff in primary care clinics about the value of motivational interviewing techniques to circumvent time limitations

placed on educational activities during patient care visits will facilitate dissemination of information about colorectal screening. Providing support for clinicians by teaching support staff about the value of coloscopy further disseminates education about the value of screening and early detection of colon cancer.

### **Limitations**

The limitation of this project is the brief period for the patients' visit period due to busy workflow of the clinic. There is a considerable number of established patients who will participate in the project. So, new patients will not be recruited due to the workflow of the clinic for this project. The follow up will be scheduled for every three - six months following the last visit to provide a refresher on education and monitor patient adherence to suggested preventative screening process. One of the major limitations was the low number of staff members who participated in this project.

Another limitation of this project is that the change of patient screening behaviors in relation to receipt of an educational intervention cannot be measured due to time constraints and limited resources. The project has no defined infrastructure and there is limited time for the NP student for this project. Additionally, there was little bit of resistance noted from the physicians during busy clinic hours especially on Monday due to heavy workflows.

### **Conclusion**

Many minorities are affected by CRC resulting in higher mortality rates from colon cancer in ethnic and underserved populations because they have less access to care, fewer financial resources, less healthy food choices and higher rates of late detection, resulting in an increase in mortality, and deaths in underserved populations. Access to CRCS must be made available to lower overall morbidity and mortality rates by providing culturally sensitive care and

education about the value of screening in a way that is most appropriate for a given culture.

Routine screening is an essential step in lowering the rate and increasing awareness of providers for these underserved populations. The implementation of a CRCS toolkit is a way to increase awareness of providers who care for underserved and high-risk populations in Alameda County, improving screening rates, reducing healthcare costs, and improving patient outcomes.

In the primary care setting, the targeted population at this clinic is high risk for colorectal cancer due to their cultural background, family history and lack of knowledge regarding colorectal screening. The staff can play a vital role in educating patients at registration and during the rooming process about colorectal cancer screening and assist with identification of gaps in primary care settings for CRCS (Adams et al., 2017). The lack of routine screening for colon cancer and cultural stigma associated with routine CRCS due to mistrust of healthcare providers has historically been a problem. These projects for staff education can impact significantly by identifying gaps in the practice to facilitate quality of care for the patients. It is beneficial to have a policy or protocol for the clinic to provide staff education on current guidelines from the CDC. Staff can flag and identify high risk patients to prevent higher rates of mortality related to colorectal cancer.

The implication from the results from this project will identify how culturally appropriate staff education can bring positive social change in the primary care settings environment. Such educational interventions, like the one in this DNP project address the importance of early detection and promote prevention according to current guidelines and can be duplicated in other settings.

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### Appendix A: Evidence Table

| Purpose of article or review  | Design / Method / Conceptual framework    | Sample / setting                           | Major variables studied with definitions | Measurement of major variables | Data analysis                                    | Study findings   | Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s)   |
|---|---|--|--|--------------------------------|--|--|---|
| Kazi, E., Sareshwala, S., Ansari, Z. et al. (2021). Promoting Colorectal Cancer Screening in South Asian Muslims Living in the USA. <i>Journal of Cancer Education</i> , 36, 865-873. <a href="https://doi.org/10.1007/s13187-020-01715-3">https://doi.org/10.1007/s13187-020-01715-3</a> |   |  |  |                                |  |  |   |
| The article studies about colorectal cancer screening is low in South Asian in USA  | Qualitative research: ethnographic study. | South Asian communities in California, USA | Screening rates of CRCS                  | Cultural and social barriers   | Survey to study the cultural and social barriers | CRCS rates were low because of lack of knowledge, back home there was no concept of screening, females do not get checked by male providers due to modesty, rectum considered dirty and unclean. | Level I, the study sample showed that cultural and religious beliefs played a great role in screening process for south Asian communities. There is need for more research in this community in US. |

| Purpose of article or review  | Design / Method / Conceptual framework | Sample / setting   | Major variables studied with definitions   | Measurement of major variables  | Data analysis   | Study findings  | Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s)   |
|---|--|--|--|---|---|---|---|
| <p>Rawl, S. M., Christy, S. M., Perkins, S. M., Tong, Y., Krier, C., Wang, H., . . .Champion, V. L. (2021). Computer-tailored intervention increases colorectal cancer screening among low-income African Americans in primary care: Results of a randomized trial. <i>Preventive Medicine, 145</i>,106449. doi:<a href="https://doi.org/10.1016/j.ypmed.2021.106449">https://doi.org/10.1016/j.ypmed.2021.106449</a></p> |  |  |  |   |   |   |   |
| <p>The article studies about computer-tailored intervention increases colorectal cancer screening among low-income African Americans in primary care.</p>   | <p>Randomized control trial</p>        | <p>Low income African American at Veterans Affairs Medical Center clinic / n=335</p> | <p>CRC knowledge, stool blood test (SBT), colonoscopy benefits, provider-patient discussion.</p> | <p>Computerized intervention / non tailored brochure intervention</p> | <p>Logistic regression models. Moderators and mediators were determined using multivariable linear and logistic regression analyses</p> | <p>The colonoscopy screening rate was higher among those receiving the computer-tailored intervention group compared to the nontailored brochure, but the difference was not significant.</p> | <p>Level I Quality A. The strengths are sample size is large from 4 veteran clinics, two university clinics and one-time computer-tailored intervention significantly improved CRC screening rates among low-income African American patients</p> |

| Purpose of article or review  | Design / Method / Conceptual framework    | Sample / setting  | Major variables studied with definitions                                     | Measurement of major variables  | Data analysis  | Study findings  | Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s)   |
|---|---|---|--|---|--|---|---|
| <p>Maxwell, A. E., Lucas-Wright, A., Chang, L. C., Santifer, R. E., Crespi, C.M. (2020). Factors associated with colorectal cancer screening in a peer counseling intervention study in partnership with African American churches. <i>Prev Med Rep.</i> 20,101280. doi: 10.1016/j.pmedr.2020.101280.</p> |   |   |  |   |  |   |   |
| <p>The article studies about the factors associated with colorectal cancer screening in a peer-counseling intervention study in partnership with African American churches</p>  | <p>Pilot study/cross sectional study.</p> | <p>Nine African American churches in underserved community in South Los Angeles. N=163 ages 50-75</p> | <p>Knowledge of CRCS, cancer related attitudes and barrier to screening.</p> | <p>Counseling with provider, CRC screening without provider counseling.</p> | <p>Bivariate correlates between receipt of community health advisors counseling intervention and participants demographic characteristics, knowledge of CRCS guidelines, cancer related attitudes measured by logistic regression.</p> | <p>Low literacy negatively associated with CRC screening. The CRC counseling increased significantly increased after discussing screening with provider but not with CRC screening.</p> | <p>Level I Quality A. The strength of this study is that adds to literature for this specific community. The sample was large for nine churches. The weaknesses is that only one zip code</p> |

| Purpose of article or review  | Design / Method / Conceptual framework | Sample / setting                              | Major variables studied with definitions   | Measurement of major variables  | Data analysis  | Study findings  | Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s)  |
|---|--|---|--|---|--|---|--|
| <p>Maxwell, A. E., Bastani, R., Danao, L. L., Antonio, C., Garcia, G. M., &amp; Crespi, C. M. (2010). Results of a community-based randomized trial to increase colorectal cancer screening among Filipino. <i>American Journal of Public Health (1971)</i>, 100(11), 2228-2234. doi:10.2105/ajph.2009.176230</p> |  |   |  |   |  |   |  |
| <p>The article studies about the community-based trials to develop a multicomponent intervention that would increase CRCS among Filipino.</p>   | <p>Randomized control trial</p>        | <p>45 Filipino American community /n= 548</p> | <p>Baseline interview on CRC screening guidelines, subjects who received just printed material for screening, education session with providers</p> | <p>Self-reported screening, screening with FOBT kit, without the kit, education session with provider (control group)</p> | <p>Variance analysis, used mixed effect logistic regression, 2 T test.</p> | <p>In this multicomponent intervention, educational group session in a community setting can significantly increase CRC screening among Filipino Americans.</p> | <p>Level I Quality A. The study design and sample were large for over 6 months. One of the limitations was that outcome was based on self-reports screening which could be biased. The intervention effects held up after adjusting sensitivity and specificity of self-reports.</p> |

| Purpose of article or review   | Design / Method / Conceptual framework               | Sample / setting                          | Major variables studied with definitions  | Measurement of major variables | Data analysis  | Study findings   | Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) |
|--|--|---|---|--------------------------------|--|--|---|
| Manne, S., Markowitz, A., Winawer, S., et al. (2002). Correlates of colorectal cancer screening compliance and stage of adoption among siblings of individuals with early onset colorectal cancer. <i>Health Psychology</i> , 21(3), 3–15. |  |   |   |                                |  |  |   |
| The article studies concepts of health beliefs to examine how siblings of individuals diagnosed with CRC before age 56 made decisions about CRCS.  | Randomized control trial, Transtheoretical framework | Four cancer center patients in U.S. n=504 | CRCS practices and intentions, pros and cons, cancer related distress, perceived risk of CRC, perceived severity of CRC | Compliance with CRCS           | Logistic regression indicated perceived pros and cons, perceived risks, commitment to screening, healthcare avoidance. | Increased screening compliance in early screening by 25% | Level I Quality A. The strengths are sample size, physicians and family recommendations were strong correlates.           |

**Appendix B****Gap Analysis**

|  |
|--|
| 1. The primary care clinic patients have limited knowledge about colorectal cancer screening.  |
| 2. The target population is fearful of additional bill for the screening.  |
| 3. The busy workflow of the clinic does not provide enough time for NPs or staff to educate the patients at the clinic on colon cancer screening.    |
| 4. The collaboration between the gastroenterologist and primary care physicians/providers will expedite the referral process to screen the patients. |

## Appendix C

### Gantt Chart

| GANTT Chart |   | 2021   |     |     |     |        |     |     |      |     |     |     |     |        |     |     |     |     |  |
|-------------|---|--------|-----|-----|-----|--------|-----|-----|------|-----|-----|-----|-----|--------|-----|-----|-----|-----|--|
| units       | DNP Project   | Jan    | Feb | Mar | Apr | May    | Jun | Jul | Aug  | Sep | Oct | Nov | Dec | Jan    | Feb | Mar | Apr | May |  |
|             | Project Proposal  | Spring |     |     |     |        |     |     |      |     |     |     |     |        |     |     |     |     |  |
|             | Project Planning  | Spring |     |     |     |        |     |     |      |     |     |     |     |        |     |     |     |     |  |
|             | Project Approval  |        |     |     |     | Summer |     |     |      |     |     |     |     |        |     |     |     |     |  |
|             | Planning  |        |     |     |     |        |     |     | Fall |     |     |     |     |        |     |     |     |     |  |
|             | Financial budgeting and material preparation                          |        |     |     |     |        |     |     | Fall |     |     |     |     |        |     |     |     |     |  |
|             | Staff training/<br>Implementation/Evaluation<br>/ Writing DNP project |        |     |     |     |        |     |     |      |     |     |     |     | Spring |     |     |     |     |  |
|             | writing my DNP project,<br>Nurs 7290, 795,7006                        |        |     |     |     |        |     |     |      |     |     |     |     | Spring |     |     |     |     |  |

## Appendix D

### Work Breakdown Structure

|    |                        |  |
|----|------------------------|--|
| 1. | Developmental<br>Phase | -The work to initiate the project began with evidence-based practice material  |
| 2. | Recruitment Phase      | The work for implementing the project by recruiting staff for training and patients for the project.   |
| 3. | Educational Phase      | The work of implementing the project by implementing education session with staff  |
| 4. | Evaluation Phase       | <ul style="list-style-type: none"> <li>• Project's results will be analyzed from the pre- and post-survey survey from the staff.</li> <li>• The results will be shared with the team members, be presented to the stakeholders, and future implications for this project.</li> </ul> |

**Appendix E**  
**SWOT Analysis**

|  |  |
|--|--|
| <p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Bilingual staff members in Hindi, Urdu, Arabic, Farsi, Gujrati, Tamil languages.</li> <li>• Nurse practitioner student educators</li> <li>• Collaboration of Gastroenterology and primary care team</li> <li>• Improve the quality of care and save cost</li> <li>• NPs and RNs are motivated professionally to improve patient health</li> </ul> | <p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Lack of time for education</li> <li>• Colorectal screening is not a priority currently</li> <li>• Lack of education of CRCS and training for staff.</li> <li>• Limited resources for the project and support to implement it.<br/>Fear of cost/ reimbursement</li> </ul> |
| <p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Early prevention of cancer screening</li> <li>• Accessibility for screening for care</li> <li>• Increase in GI referrals</li> </ul> <p>Improve patient care</p>   | <p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Lack of reimbursement</li> <li>• Community might reject</li> <li>• Lack of funding<br/>Social needs interference (transport)</li> </ul>   |

**Appendix F**  
**Proposed Budget**

| Type of expenses             | Cost      |
|------------------------------|-----------|
| Material and supplies: Paper | \$30      |
| Printer Ink/ Toner           | \$200     |
| Laptop                       | \$200     |
| NP services                  | \$57/hour |
| Gas cost                     | \$35/week |
| Parking                      | Free      |
| Estimated total              | \$230     |

**Return on Investment (ROI)**

| Increase in revenue        | Cost/hour | Estimated Increase in revenue (per day) * | Year after implementation. Estimated gross annual increase in Revenue | Comment                          |
|----------------------------|-----------|---|---|----------------------------------|
| Nurse Practitioner Student | \$50      | \$50                                      | \$12,000  | \$50x240 days/yr=<br>\$12,000    |
| Medical assistant          | \$20      | \$20                                      | \$4,800   | \$20x<br>240days/yr =<br>\$4,800 |
| Gross revenue              |           |   | \$16,800  |                                  |

Estimated incase in annual revenue (days per year seeing pts (240days/year when clinic is open)

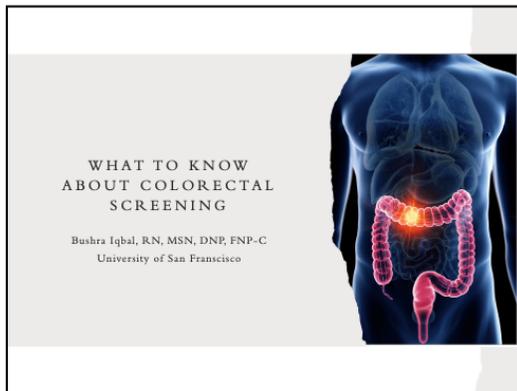
## Appendix G

### Communication Plan Matrix

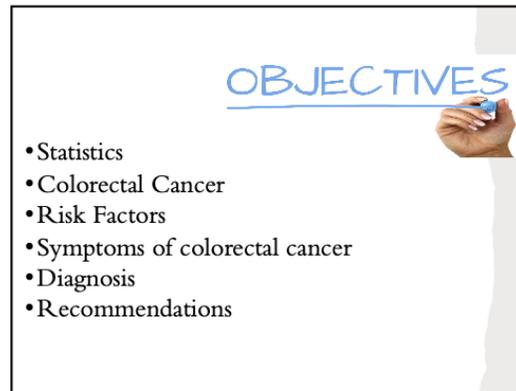
| <b>Who</b>          | <b>What</b>                     | <b>How</b>  |
|---------------------|---------------------------------|---|
| Screening care team | Evaluation &<br>Recommendations | Biweekly meetings   |
| DNP student         | Submit Project<br>Proposal      | Meet with staff and providers to<br>address the need of screening<br>with evidence-based<br>recommendations                     |
| DNP student         | Determine the project<br>team   | Meet with the care team including<br>medical assistants, nurses, Nurse<br>practitioners, physician assistants<br>and physicians |
| Screening care team | Project plan approval           | Project plan submitted to the<br>organization leaders (primary<br>care physicians and GI MD)                                    |
| DNP Student         | Educating the staff             | Presenting the staff about the<br>screening process for the project<br>to the physicians and staff                              |

|             |                               |  |
|-------------|-------------------------------|--|
| DNP student | Implementation of the project | The trained staff and DNP students will start screening patients during their routine appointments |
| DNP student | Project Presentation Meeting  | The DNP students will present the results to the organization leaders.                             |

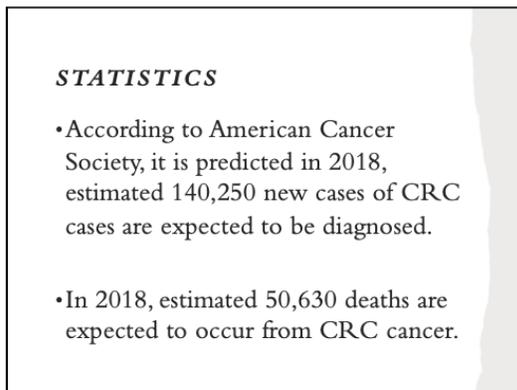
## Appendix H: Educational Modules



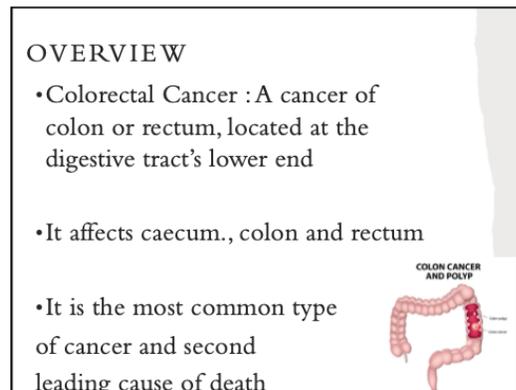
1



2



3



4

**QUESTION**

- Do you know which ethnic group of colorectal cancer at risk and highest in mortality rate?
- A. Hispanic American
- B. south Asian American
- C. Native American
- D. ***African American.***

5

**OVERVIEW**

- CRC starts as a growth called polyps
- Screening can detect pre-cancerous polyps so they can be removed before they progress into cancer.
- Colorectal screening for ages 45 and above according to the new guidelines.
- CRC can be prevented if more people had recommended screening tests to find colorectal cancer at an early stage

6

**QUESTION**

- Most colorectal cancer usually begin as :
- A. chronic inflammation
- B. ***adenoma polyp***
- C. ulceration
- D. virus

7

**RISK FACTORS**

- Family history of CRC or polyps
- Personal history of polyps
- Screen every 10 years before if no medical history
- Inflammatory bowel disease such as ulcerative colitis or Crohn's disease
- Start screening at age 25 years if family history of polyps, colorectal cancer.

8

**MODIFIABLE RISK FACTORS**

- Alcohol consumption
- Diet
- Obesity
- Sedentary lifestyle
- Cigarette smoking

9

**NON MODIFIABLE RISK FACTORS**

- Race
- Age
- Gene mutations
- Family history
- Inflammatory bowel disease
- Crohn's disease
- Ulcerative colitis

10

**SYMPTOMS**

- Blood in stool
- Bleeding from rectum
- Black or dark stools
- Iron deficiency anemia
- Change in bowel habits
- Cramping in abdominal pain
- Weight loss
- Inability to completely empty bowel

11

**SCREENING TESTS**

- Colonoscopy : GOLD Standard  
It is performed by sedating the patient and look inside the rectum and colon. It can detect precancerous polyps.
- Sigmoidoscopy : it is performed every five years and it looks inside the rectum and lower portion of the colon
- Guaiac based fecal occult blood (FOBT) : It looks for blood in stool.

12

**Appendix I**  
**Pretest Posttest Results**

|               | means    | Std deviation | Std error | Lower 95% CI | Upper 95% CI | t     | df |
|---------------|----------|---------------|-----------|--------------|--------------|-------|----|
| Pre/post test | - 64.753 | 7.8355        | 2.9072    | - 74.95      | - 57.2564    | 16.71 | 6  |

## Appendix J

### Pre & Post Staff Survey Questionnaire

Based on current guideline from Colorectal Cancer Screening from CDC

Please record your response to each question

1=Completely Unaware, 2= Somewhat unaware, 3=Neither Aware nor Unaware, 4= Somewhat Aware, 5= Completely Aware

| Questions   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Colon cancer screening is recommended for adults at age 45 to 75 years  |   |   |   |   |   |
| Colon cancer screening can be used to detect polyps or cancer   |   |   |   |   |   |
| There are several different types of colon cancer screenings that have been recommended by U.S. Preventive Task Force                     |   |   |   |   |   |
| Recommended stool tests for colon cancer screening include guaiac-based fecal occult Blood test, Fit-DNA, fecal immunochemical test (FIT) |   |   |   |   |   |
| Risk factors for CRC include obesity, low fiber diet, inflammatory bowel syndrome, smoking, alcohol use, tobacco use                      |   |   |   |   |   |
| Colon cancer screening is recommended every 10 years for people without risk  |   |   |   |   |   |

**Name:**

**Today's Date:**

**Pre & Post Staff Survey Questionnaire**

1. Do you feel confident about teaching the screening process to the patient? Yes \_\_\_\_\_  
No \_\_\_\_\_
2. Did the training help you in teaching the patient about colorectal screening? Yes \_\_\_\_\_  
No \_\_\_\_\_
3. Do you think the ten-minute teaching session about screening is beneficial for the patients? Yes \_\_\_\_\_ No \_\_\_\_\_
4. Is a going education session for the staff beneficial? Yes \_\_\_\_\_ No \_\_\_\_\_
5. Would you suggest additional teaching for the screening? If so on what topics?
6. Do you think staff education will benefit the CRCS process?

## Appendix K

**Appendix**  
**Letter of Support from Agency**

**Mission Primary Care**

February 19, 2021

Dear Ms. Iqbal,

The research Determination Committee for Mission Primary Care has reviewed the documents submitted for the above referenced project. The project does not meet the regulatory definition of research involving human subjects as per (45 CFR 46.102 (1)). The project was reviewed and determined to be a Quality Improvement activity and part of 'clinic' operations as it seeks to improve patient care.

The agency will maintain files on all studies determined to be exempt from regulations.



Sincerely,

Bhupinder N. Bhandari, MD

3755 Beacon Ave

Fremont, CA 94538

## Appendix L



### Doctor of Nursing Practice Statement of Non-Research Determination (SOD) Form

*The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E*

#### General Information

|                                  |   |                       |             |
|----------------------------------|---|-----------------------|-------------|
| <b>Last Name:</b>                | Iqbal   | <b>First Name:</b>    | Bushra      |
| <b>CWID Number:</b>              | 20348870                                      | <b>Semester/Year:</b> | Spring 2021 |
| <b>Course Name &amp; Number:</b> | Np qualifying project: Prospectus development |                       |             |
| <b>Chairperson Name:</b>         | Nancy Selix                                   | <b>Advisor Name:</b>  | Nancy Selix |
| <b>Second Reader Name</b>        | Cynthia Huff                                  |                       |             |

#### Project Description

1. **Title of Project:** Improving Colorectal Cancer Screening in Primary Care

2. **Brief Description of Project**

The purpose of this project is to improve colorectal cancer screening in the primary care setting.

Mission Primary Care Clinic in Fremont services all races, but mainly South Indian immigrants, regardless of the ability to pay for services. The services provided include primary care and gastroenterology specialty care. The majority of the patients are bilingual; however, English is not the primary language. The colorectal cancer screening (CRCS) program will be implemented at the clinic to raise awareness and increase the screening for CRC in the underserved populations and immigrant adults ages 45 years or older.

### **3. AIM Statement: What are you trying to accomplish?**

Colorectal cancer (CRC) is one of the common cancers occurring globally. The aim statement for this project is “The DNP student will develop, implement, and evaluate a colorectal cancer screening (CRCS) toolkit aimed to improve patient awareness and screening by 25% in the Mission Primary Care Clinic for the underserved populations and non- English-speaking patients within three months. The first goal of this project will be to increase staff knowledge about CRCS by 50% measured by pre-and-post surveys. The second goal is to create an educational tool to teach patients about the benefits of screening and increase awareness by 25%. The third goal is to assess the patient’s willingness to get CRCS by 25% over the next six months.

### **4. Brief Description of Intervention:**

A Colorectal Cancer Screening toolkit will be developed to increase awareness and screening for CRC. The staff will be educated and trained to ensure annual follow-ups and screening for CRC. Strategies to achieve this would be to develop educational tools, handouts, flyers, and sessions with nurse practitioner students regarding CRCS to increase awareness and understanding of the importance of such preventative screening measures.

#### **4a. How will this intervention be implemented?**

The project will be implemented in Mission Primary Care Clinic in Fremont, CA. The agency will provide the approval letter for the project. The focus of this project is the bilingual underserved population and non-English-speaking patients. The DNP student will inform the participants and stakeholders about the project and take consent for it.

### **5. Outcome measurements: How will you know that a change is an improvement?**

The outcome will be measured by surveys and analysis of early detection of colorectal cancer cases. The social needs assessment tool, educational toolkits, and material from the American Cancer Society will be used for educational purposes. The descriptive statistics will be computed for the demographic characteristics. The reliability will be assessed by interpreting the educational material to the patients and pre and post-surveys for

patients and staff education. The Champion's Health Belief Model scale has good structural characteristics and is a reliable and valid instrument that can be used for measuring beliefs related to colorectal cancer.



**DNP Statement of Determination  
Evidence-Based Change of Practice Project Checklist\***

*The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E*

**Project Title:**

Improving Colorectal Cancer Screening in Primary Care

| Mark an "X" under "Yes" or "No" for each of the following statements:  | Yes | No |
|--|-----|----|
| The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.   | yes |    |
| The specific aim is to improve performance on a specific service or program and <b>is a part of usual care</b> . <b>All</b> participants will receive standard of care.  | yes |    |
| The project is <b>not</b> designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does <b>not</b> follow a protocol that overrides clinical decision-making.   | yes |    |
| The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does <b>not</b> develop paradigms or untested methods or new untested standards.   | yes |    |
| The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does <b>not</b> seek to test an intervention that is beyond current science and experience.  | yes |    |
| The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.  | yes |    |
| The project has <b>no</b> funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.  | yes |    |
| The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., <b>not</b> a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.  | yes |    |
| If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: <i>"This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board."</i> | yes |    |

**Answer Key:**

- If the answer to **all** of these items is "Yes", the project can be considered an evidence-based activity that does **not** meet the definition of research. IRB review is not required. Keep a copy of this checklist in your files.
- If the answer to **any** of these questions is "No", you must submit for IRB approval.

\*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: <http://answers.hhs.gov/ohrp/categories/1569>



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### DNP Statement of Determination Evidence-Based Change of Practice Project Checklist Outcome

*The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E*

This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). **Student may proceed with implementation.**

This project involves research with human subjects and **must be submitted for IRB approval before project activity can commence.**

Comments:

|  |   |                     |                   |
|--|---|---------------------|-------------------|
| Student Last Name:                         | <u>lqbqj</u>                                | Student First Name: | <u>Bushra</u>     |
| Student Signature:                         | <u>Bushra lqbaj</u>                         | Date:               | <u>3/27/2021</u>  |
| Chairperson Name:                          | <u>Nancy Selix DNP FNP, CNM</u>             |                     |                   |
| Chairperson Signature:                     | <u>Nancy Selix DNP FNP CNM</u>              | Date:               |                   |
| Second Reader Name:                        | <u>Cynthia Huff DNP MSN RN OCN CRNI CNL</u> | Date:               | <u>07/07/2021</u> |
| Second Reader Signature:                   | <u>Cynthia Huff DNP, RN</u>                 |                     |                   |
| DNP SOD Review Committee Member Name:      | <u></u>                                     |                     |                   |
| DNP SOD Review Committee Member Signature: | <u></u>                                     | Date:               | <u></u>           |