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## Adherence to American Cancer Society Guidelines for Colorectal Cancer Screening Ages 40–49

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Walden University

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Walden University

2022

Abstract

Adherence to American Cancer Society Guidelines for Colorectal Cancer Screening Ages

40–49

by

Delores McLeod

MS Molloy College, 2009

BS, St. Joseph College, 2005

Project Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Nursing Practice

Walden University

November 13, 2022

## Abstract

There is a problem with risk awareness for ages 40–49 for colorectal cancer based on the American Cancer Society's (ACS's) most recent guidelines. Because there has been an increase in mortality and morbidity from colorectal cancer between ages 40 to 49 in men and women, this DNP project addresses the meaningful gap-in-practice characterized by the lack of sufficient and efficient practice approaches among practitioners regarding recommended screenings for colorectal cancer (CRC) as per ACS's recent guidelines. The practice-focused question that guided the current project is “Will the health care professionals and staff improve their knowledge concerning the risk awareness of the target age population in the recommendation for CRC screening based on an education module developed, using the current ACS guidelines to reduce the morbidity and mortality rate of CRC?” The Iowa model of evidenced-based practice model served as the foundational framework to support this project. Ten healthcare practitioners at one clinic serving a low-income population participated in an educational module regarding CRC and ACS guidelines for CRC screenings. Data were analyzed using SPSS statistic software and an Excel spreadsheet to organized the data and run a simple  $t$  test to evaluate the  $p$  value. The mean pretest score was 67.98 (SD =16.48) with a range of 46.20 to 92.40. The mean posttest score was 93.72 (SD = 6.82) with a range of 79.20 to 99.00. The results show increasing the knowledge of healthcare professionals regarding CRC, which may reduce the mortality and morbidity of the disease. Regular professional development regarding ACS screening guidelines may be implemented to ensure continued compliance with CRC screening protocol.

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## Dedication

I would like to dedicate this Doctor of Nursing Practice degree to my husband Wayne, my daughter, Shari, my son, Wayne Ian, and my sister-in-law, Donna McLeod, for their support throughout my educational journey.

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## Table of Contents

List of Tables .....	iii
Section 1: Nature of the Project .....	1
Problem Statement .....	1
Purpose Statement.....	2
Nature of the Doctoral Project .....	3
Significance.....	4
Social Change .....	5
Summary .....	6
Section 2: Background and Context .....	8
Concepts, Models, and Theories.....	8
Relevance to Nursing Practice .....	12
Current State of Nursing Practice in the Area and Recommendations.....	14
Strategies Used Previously to Address Gap-in-Practice.....	15
The Role of Current DNP in Advancing Nursing Practice.....	18
Local Background and Context .....	18
Role of the DNP Student.....	21
Summary .....	23
Section 3: Collection and Analysis of Evidence.....	25
Practice-Focused Question.....	25
Sources of Evidence.....	25
Participants.....	26



Procedure .....	27
Protections.....	27
Analysis and Synthesis .....	28
Summary .....	28
Section 4: Findings and Recommendations .....	29
Findings and Implications.....	29
Recommendations.....	31
Strengths and Limitations of the Project.....	32
Section 5: Dissemination Plan .....	35
Analysis of Self.....	36
Summary.....	37
References.....	38
Appendix A: 7 STEPS IOWA MODEL .....	47
Appendix B: Staff Education Module PPT.....	48
Appendix C: Staff Education Pre and Posttest Questions .....	57
Appendix D: Answer KEY To Test Questions.....	64

## List of Tables

Table 1. Normality Test of Pretest and Posttest Scores .....	30
Table 2. Wilcoxon Signed Rank Test between Pretest and Posttest Scores .....	31

## Section 1: Nature of the Project

The increasing rates in morbidity and mortality associated with colorectal cancer (CRC) support the need for research in areas such as screening and risk awareness. CRC requires sustainable and effective screening approaches by considering the current guidelines provided by the American Cancer Society (ACS; Ibáñez-Sanz et al., 2021). This DNP doctoral project was a research design practice to develop an education module with a pre- and post-test evaluation of staff's knowledge before and after the educational module. Thus, it is anticipated that the doctoral project will bring about risk awareness for screening approaches implications. Based on the Iowa model of evidence-based practice, the project will raise knowledge levels among professional and staff members leading to improved health care service delivery for the community (Woudstra et al., 2017).

### **Problem Statement**

There has been an increase in mortality and morbidity from colorectal cancer between ages 40 to 49 in men and women, but there is a problem with risk awareness in this population. CRC is the fourth most prevalent cancer in the United States and the second leading cancer-related cause of death (ACS Practice Guidelines, 2019). According to the U.S. Cancer Statistics Working Group (2017), 51,651 people in the United States died from CRC in 2014. The rate of CRC in the United States for people between the ages of 40–49 has increased by 1.3% and 2.3%, respectively, in the last two decades (Siegel et al., 2017). The ACS now recommends the beginning age should be 45 and age 40 for severe risk associated individuals for CRC screening (Wolf et al., 2018). The lack

of risk awareness approaches has negatively impacted those ages 40–49 for not being screened for CRC due to previous recommendations. Individuals who are 50 years and older continue to have a strong recommendation for colon cancer screening among most primary care providers (PCP) or health care providers (HCP) based on the evidence and recommendations (ACS, 2019).

There is a need to educate staff within the clinical setting to adhere to the following recent ACS guidelines to reduce the mortality and morbidity rate in the target age population (Siegel et al., 2017). Research and educational campaigns are necessary on the importance of screening and timely follow-up of CRC symptoms no matter the age to mitigate premature mortality and morbidity (Siegel et al., 2017). This project was required to investigate the knowledge and educate the health care staff about CRC screening based on the most recent guidelines. The Iowa model of evidence-based practice was used as the theoretical cornerstone for this project to promote quality care.

### **Purpose Statement**

The current project addresses the meaningful gap-in-practice characterized by the lack of sufficient and efficient practice approaches among practitioners regarding recommended screenings for CRC as per ACS's recent guidelines. This problem has been associated with issues related to risk awareness when it comes to young adult individuals aged between 40 and 49, which explains the significant increases in morbidity and mortality rates among population members falling within the age bracket (He et al., 2018). Owing to the gap in practices associated with CRC screening, and especially practitioners' insufficient knowledge of the most recent ACS guidelines, the

recommendation by the ACS to start screening exercises for individuals at the age of 40 has seldom been taken into account (ACS, 2021). Thus, the practice-focused question was “Will the health care professionals and staff improve their knowledge concerning the risk awareness of the target age population, in the recommendation for CRC screening based on an education module developed, using the current ACS guidelines to reduce the morbidity and mortality rate of CRC?”

This doctoral project can address the gap in practice because it will focus on the current ACS guidelines required to help generate practice-based changes among staff and professionals concerned with CRC screening. Such focus is essential given that insufficient knowledge regarding the development of education modules has led to low knowledge levels regarding risk awareness disparities among diverse cancer-prone populations (Woudstra et al., 2017). Additionally, by focusing on the target age population, (individuals aged between 40 and 49 years), it will be possible to link the current ACS guidelines to improve the knowledge among staff and professionals charged with the responsibility of CRC screening (Wong, 2021). Such an approach will generate practical and sustainable insights into developing education modules for practitioners to help reduce CRC mortality and morbidity rates among members of the target population.

### **Nature of the Doctoral Project**

Existing literature was used to meet the purpose of the doctoral project. I focused on acquiring literature that was published between 2016 and 2021 to ensure that the latest findings and reports are included in the doctoral project. The literature comprised books, peer-reviewed articles, and other bodies of written knowledge that communicate theories

and conclusion of practices relevant to the doctoral project. The following online databases and search engines will be used: Google Scholar, Educational Resource Information Center (ERIC), JSTOR: Journal Storage, EBSCO host Online Research Databases, and Journal Seek. The key search terms and combination of search terms will include the following: *American Cancer Society (ACS)*, *colorectal cancer (CRC)*, *risk awareness*, *Health Care Providers (HCP)*, *Primary Care Providers (PCP)*, *CRC symptoms*, *CRC screening*, and *the Iowa Model of Evidence-Based Practice theory*. These keywords (individually and in combinations) generated relevant studies from database searches. Only those deemed to relevant to the current study were included.

### **Significance**

Addressing the local problem can help in reducing morbidity and mortality rates arising from ineffective colorectal cancer screening practices. The issue will significantly impact members of the local community, especially those who fall between the ages of 40 and 49. Other stakeholders potentially affected by addressing the local problem are the local community's professional and staff members charged with CRC screening. This faction of stakeholders will benefit through improved approaches to developing education modules for practitioners based on current ACS guidelines (Siegel et al., 2017).

The doctoral project can also contribute to nursing by aligning CRC screening practices to the most recent ACS guidelines. More importantly, the project will enhance nursing practice by helping create an outline through which can establish the training of nursing staff associated with nursing practice. This training will acquire insights into current knowledge levels, risk awareness of the population targeted by the study, and

ACS guidelines required to minimize CRC mortality and morbidity will help create a foundational framework for future development of training and education modules for CRC screening professionals (Ibáñez-Sanz et al., 2021).

Further, the doctoral project can be transferred to the area of breast cancer screening. The medical predicament is almost similar to CRC. For instance, both cancer typologies have been associated with individuals over age 50 years. Breast cancer screening was closely set to start at the ages of 49 and 51 years (WHO, 2018) as findings obtained from the current project.

The potential implications for positive social change are based on the utilization of the Iowa model of evidence-based practice, which provides a framework through which knowledge acquired from research concerning risk awareness issues and ACS guidelines can be utilized to provide augmented care and reduction of morbidity and mortality rates (Woudstra et al., 2017). Whereas healthcare improvements will directly affect the local community, the accompanying improvements in staff knowledge will help effect positive social change since reductions of deaths associated with CRC will put staff members in good books with the community leading to improved interactions.

### **Social Change**

Development of a staff education project of CRC screenings will impact society by providing information on risk awareness to the HCP/PCP and nursing staff on adhering to the ACS most recent guidelines for the target age populations, using the Iowa model of evidence-based practice as a foundation to promote quality care, thereby providing better care in reduction of the death rates. The focus of this project was

improving staff knowledge with the goal of doing a follow up evaluation of the effectiveness of the other educational initiative on CRC screenings in adults aged 40–49 years of age. Risk awareness for colon cancer screening in young adults aged 40–49 based on the most recent guidelines supports the mission of Walden University by effecting positive social change.

### **Summary**

The problem that necessitated the current study is that existing CRC screening procedures have not been aligned to current ACS guidelines, especially for young adults aged between 40 and 49. Increased death rates associated with CRC have heightened the problem severity among the target age population. This problem is characterized by the gap in education modules for training staff under the most recent ACS guidelines. Exploring this problem, the practice-focused question was “Will the health care professionals and staff improve their knowledge concerning the risk awareness of the target population, in the recommendation for CRC screening based on an education module developed using the current ACS guidelines to reduce the morbidity and mortality rate of CRC?” To address this question, I used literature sources between 2016 and 2021. With the aid of health care staff, I developed a 15-question test about CRC screening developed for health care professionals by Shaukat et al. (2021) and risk awareness of CRC screening based on the ACS guidelines the screening for colorectal cancer. This was sent to 10 participants, and responses were obtained through email. The doctoral project will take place in a low-income primary health care clinical setting where I am employed. Procedural steps will involve developing an education module



with a pre- and post-test evaluation of the staff's knowledge after and before the educational module. Ethical considerations will be taken into account to ensure protection of the participants. Section 2 will focus on reviewing literature based on the focus question and study purpose.

## Section 2: Background and Context

Due health care practitioners' insufficient knowledge of the most recent ACS guidelines, the recommendation by the ACS to start screening exercises for individuals at the age of 40–49 has seldom been taken into account (ACS, 2021). The purpose of this doctoral nursing project (DNP) was to address this gap in practice. Addressing the gap-in-practice is critical for ensuring the pervasiveness of the severe risks associated with CRC for adult populations 40 and 49 years, reducing morbidity and mortality rates. The doctoral project was in a low-income primary health care clinical setting where I am employed. Procedural steps involved developing an education module with a pre- and post-test evaluation of the staff's knowledge after and before the educational module. Section 2 serves as a quasi-literature review of the current project, providing information on background research and the role of the researcher. The subsections include concepts, models, and theories, relevance to nursing practice, local background and context, the role of the DNP researcher, the role of the project team, and a summary.

### **Concepts, Models, and Theories**

The DNP project aims to improve health care professionals' and staff's knowledge concerning the risk awareness of those 40 and 49 in the recommendation for CRC screening based on an education module developed using the current ACS guidelines. The Iowa model of evidence-based practice was the framework to support this DNP. The Iowa model was formulated in the 1990s at the University of Iowa Hospitals and Clinics to guide health care professionals to utilize research outcomes to enhance patient care (Iowa Model Collaborative et al., 2017). The framework was developed as an

approach or pathway to evidence-based practice (EBP), a technique to guide the phases employed to determine concerns, research solutions, and execute transformations (Iowa Model Collaborative et al., 2017). The Iowa model is an application-centered guide for the EBP approach by Titler et al. in 1994 (Gitlin et al., 2020). It can be employed by novice to proficient users in various settings and is designed for health care professionals to ask questions and enhance quality based on evidence. The framework provides guidelines to determine issues with prevailing approaches and practices to enhance practice and healthcare outcomes (Titler et al, 2001). For the current project, the Iowa model of evidence-based practice promoted improved knowledge levels among professional and staff members, leading to improved health care service delivery for the community and reduced CRC morbidity and mortality rates.

The seven steps of the Iowa model of evidence-based practice are the identification of the problem, organizational level of the problem, the establishment of a team, the gathering of the evidence, piloting the practice change, adoption of the practice change, continuation of evaluation, and dissemination of the outcomes (Iowa Model Collaborative et al., 2017). The first step entails pinpointing the prompt where an EBP change is necessary (Gitlin et al., 2020). The second step involves determining whether the issue at hand is a priority for the entity, practice, unit, or department. In the third step, a team is created to establish, assess, and implement the EBP change. The team comprises representatives both in and out of the nursing division to allow for interdisciplinary stakeholders in the group for enhanced appraisal and execution of the EBP change (Gitlen et al., 2020). The fourth stage entails gathering and analyzing the

research linked to the anticipated practice change. Gathering of evidence further entails the formulation of an ideal research question using the patient, intervention, comparison, and outcome, and (sometimes) time PICO (T) technique and undertaking a literature search in pursuit of associated empirical studies (Nilsen et al., 2020; Wahed El Sharkawy, et al., 2019). The following step is to apply the change to a pilot program. Afterward, the outcomes are evaluated and disseminated to stakeholders (Nilsen et al., 2020). At every step of the Iowa model, the institution background, the strength, and significance of the evidence should be taken into consideration Wahed et al., 2019).

The current DNP was guided by the seven steps of the Iowa model to determine the practice problem, implement possible solutions to the problem, and disseminate the outcomes to evaluate the project's impact. The first phase of the framework entailed questioning the prevailing practice via knowledge and problem-centered triggers and determining if patient care can be enhanced through research (Iowa Model Collaborative et al., 2017). For the current project, knowledge regarding ACS guidelines, as well as the lack of sufficient and efficient practice approaches among practitioners regarding recommended screenings for CRC as per ACS's recent guidelines, prompted the need for a health care practitioner-oriented education program guided by the Iowa framework. The current DNP project was designed based on the trigger of the need for improved screening to reduce morbidity and mortality rates arising from ineffective CRC screening practices.

The third step of the Iowa framework supports the necessity to create a team (Gitlin et al., 2020). In this current project, health care professionals and staff at a low-

income primary health care clinical setting were educated as a team to enhance their ACS's recent guidelines regarding CRC screening. The objective is to improve the team's knowledge concerning the risk awareness of the target population in the recommendation for CRC screening based on an education module developed using the current ACS guidelines to reduce the morbidity and mortality rate of CRC. The fourth step entailed the collection of evidence supporting the need for the project, which involved a literature review. The next step of the Iowa model involves changing the practice as an experimental assessment based on the accessible sufficient research evidence. The experimental assessment in the current project will be conducted using the pre- and post-evaluation approach. I used a 15-question test to assess facilitators, professionals, and staff members in a low-income primary health care clinical setting to generate data regarding CRS awareness levels based on ACS guidelines and acquire information regarding the current state of CRS education modules.

The sixth step of the Iowa framework entails an evaluation to support the significance of adopting the project into practice, which in the current DNP was achieved by liaising with the stakeholders of the targeted healthcare institution to recommend the implementation of staff educational modules of the recent ACS guidelines. The last phase of the Iowa framework supports dissemination and publicizing of the project outcomes through observing and assessing the process and the results (Iowa Model Collaborative et al., 2017). The results of the current DNP will be examined using the post-implementation assessment that will in turn indicate the usefulness of this project.

### **Relevance to Nursing Practice**

CRC is the fourth most commonly diagnosed cancer among adults in the United States (Siegel et al., 2018). In 2020, nearly 147,950 Americans were projected to be diagnosed with CRC (Siegel et al., 2020). Further, CRC is the second leading cause of cancer mortality, resulting in more than 50,000 deaths yearly (Siegel et al., 2020). Risk factors linked to CRC risk include physical inactivity, low dietary calcium consumption, dietary fiber, fruits, and vegetables, high consumption of processed meat, red meat, and alcohol, excess body weight, and cigarette smoking (Islami et al., 2018). Accordingly, there is an opportunity to decrease risk across the population via modification of lifestyles. Aspirin use in particular persons has further been determined to reduce the probability of developing CRC (Bibbins-Domingo, 2016). Other risk factors of CRC are linked to various hereditary CRC conditions, including a family CRC history, health care conditions like type 2 diabetes and inflammatory bowel disorder as well as a history of pelvic or abdominal radiation from previous cancer (Giglia & Chu, 2016).

Even though alterations in exposure to risk factors account for a projected half of the decline in prevalence and a third of the drop in mortality before 2000, following accelerated reductions in prevalence and mortality since 2000 are mainly attributable to increased uptake of screening, with enhanced treatment further leading to mortality decreases (Siegel et al., 2020; Wolf et al., 2020). However, for adults not older than 55 years, there was a 51% rise in the CRC prevalence between 1994 and 2014 as well as an 11% rise in mortality due to CRC between 2005 and 2015 (Wang et al., 2019). In persons aged below 50 years, the CRC prevalence rate increased by about 2% yearly for tumors

in the proximal colon, distal colon, and rectum, triggered by trends in non-Hispanic whites (Siegel et al., 2020). CRC mortality rates between 2008 and 2017 dropped by 3% yearly among persons aged at least 56 years and by 0.6% yearly in people aged between 50 and 64 years while increasing by 1.3% yearly in persons aged below 50 years (Siegel et al., 2020). These findings suggest CRC prevalence and mortality continue to be high among adults aged below 50 years as compared to adults aged 50 years and above.

The detection and resulting elimination of precursor lesions detected during screening and CRC detection at an earlier, more desirable stage have been depicted to substantially decrease CRC prevalence and mortality (Wolf et al., 2018). The increased comprehension of the natural history of CRC and predecessor lesions, and the establishment and accrual of evidence on screening equipment, have supported the evolution of screening endorsements and adoption of CRC screening in public health initiatives and clinical practice (Winawer et al., 2019). A substantial proportion of CRC deaths are caused by the lack of screening (Meester et al., 2019). In the United States, ACS guidelines are meant to guide adults at average risk of CRC to health care professionals who advise and refer patients to CRC screening and medical systems to support ideal practices in the early detection and prevention of CRC (Wolf et al., 2018). The first ACS published evidence-centered recommendations for early diagnosis of CRC was issued in 1980 (Wolf et al., 2018). Since then, ACS guidelines have endorsed CRC screening for persons aged 50 years and above (Wolf et al., 2018). Nonetheless, the most recent ACS (2018) update recommends that persons at average risk of CRC begin consistent screening at age 45 (Sur et al., 2019). Increased compliance with CRC

screening guidelines can enhance patients' health and minimize CRC morbidity and mortality rates (Sur et al., 2019).

### **Current State of Nursing Practice in the Area and Recommendations**

Various scholars have explored CRC screening procedures and their alignment to the recent ACS guidelines. Wolf et al. (2018) of the ACS utilized a review of the extant systematic evidence of the CRC screening literature and micro-simulation modeling evaluations, encompassing a new assessment of the age to start screening by gender and race, to provide a guideline update. The findings showed that screening with any of the multiple alternatives is linked to a substantial reduction in CRC prevalence via the detection and eradication of adenomatous polyps and other precancerous lesions and with a decrease in mortality via early detection of CRC and prevalence reduction. Findings from modeling evaluations revealed effective and model-recommendable methods, screening at age 45 years (Wolf et al., 2018). The researchers found that the ACS endorses that adults aged 45 years and beyond with an average CRC risk undergo frequent screening with either a structural assessment or a high-sensitivity stool-centered examination, based on test availability and patient preference. Nonetheless, Wolf et al. (2018) identified that ACS's recommendation to start CRC screening at age 45 years is a qualified endorsement. The recommendation for constant CRC screening in adults aged at least 50 years was identified as a strong recommendation (Wolf et al., 2018). Meester et al. (2019) and Wolf et al. (2018) both recommended that the rising CRC prevalence and shift toward a later phase at diagnosis among adults aged between 40 and 49 years



warrant further research into the primary causes and possible prevention techniques like screening initiation.

According to Wilkins et al. (2018), guidelines for screening and surveillance for persons with increased risk for CRC differs from those of average-risk persons. Persons who have a first-degree relative with advanced adenoma or CRC detected before 60 years of age should begin screening colonoscopy at 40 years or ten years younger than the first diagnosis in their family, the option that comes first (Wilkins et al., 2018). Wilkins et al. (2018) add that, a colonoscopy should be reiterated every 5 years, if the outcome is negative. These findings are congruent to a study that was conducted by Xirasagar et al. (2015) to assess the colonoscopy screening rates among U.S. adults aged 40 years and above with a family history of CRC. Xirasagar et al. (2015) similarly determined that screening of first-degree relatives of CRC patients is recommended to start at age 40 or 10 years following the age at diagnosis of the youngest relative diagnosed with CRC. The findings of Xirasagar et al.'s (2015) study was based on colonoscopy screening rates among the U.S. population reporting a CRC family history utilizing data from the 2005-2010 National Health Interview Study. Xirasagar et al. (2015) recommended promoting screening as a way of addressing the increasing trend of CRC among young individuals.

### **Strategies Used Previously to Address Gap-in-Practice**

The gap-in-practice characterized the identified problem practice in education modules for training staff per the most recent ACS guidelines. Previous attempts have reduce CRC prevalence and mortality by educating healthcare professionals on CRC screenings using diverse strategies. For instance, Kim et al. (2021) created a prototype

strategy modified from the National Cancer Institute's public putting public health evidence in action curriculum in partnership with two rural clinics to facilitate change of systems associated with CRC screening. The study aimed to describe the co-development procedure and provision of a systems-centered approach to enhance the implementation, adoption, and sustainability of CRC screening interventions. The researchers employed a bundle of adoption strategies and primarily focused on education-medical collaboration establishment and Plan-Do-Study-Act cycles to determine medical partner preferences/interests on delivery techniques and content required to facilitate intervention determination and programs-change procedures, enhance CRC screening rates. Seven healthcare professionals at the rural clinics were inquired to appraise the method based on general response and perceptions of innovation features by the use of a 5-point Likert scale. After accomplishing the systems-change procedure, the researchers undertook key-stakeholder interviews to examine acceptability and feasibility on content/delivery format and strategies for ongoing adoption of CRC screening evidence-oriented interventions. Electronic blueprints for CRC screening evidence-centered interventions' selection and adoption, encompassing 8 modules were established and followed by an online live-streaming/forum conference to facilitate tailoring of CRC screenings. The two rural clinics employed diverse learning techniques. The first clinic completed the modules together, while the second one accomplished the modules distinctively to cover material before a team video forum. Across all educational modules, respondents in both clinics recounted positive responses toward the systems-change units. Both clinics recounted enhancements in how they observed the modules

and the participatory technique to tailor designated CRC screening evidence-centered interventions. Through the procedure provided in this study, both clinics created a clear evidence-centered intervention adoption strategy. Interview respondents stated that the technique was acceptable and viable and issued recommendations for further enhancements on the content and design of the process (Kim et al., 2021). Based on the findings, Kim et al. (2021) concluded that the bundle of adoption strategies utilized was acceptable and feasible in rural primary healthcare practices to facilitate the implementation of evidence-oriented techniques to enhance CRC screening.

Navalah, (2020) focused on the gastrointestinal (G.I.) staff knowledge gap concerning the significance of CRC screening to attain improved patient outcomes. The study aimed to address the knowledge gap among the G.I. professionals, links to CRC screening. The health belief framework was utilized as a guide in the educational module. One of the key motives was altering behavior based on perceived benefits, perceived risks, and self-efficacy. A quantitative research methodology was employed via an anonymous pre-and post-test approach to examine the staff knowledge and identify the influence of education on the healthcare professionals. The use of sample proportion statistics appraised quantitative data. The findings indicated that in the pre-test, the least score was 20%, which increased substantially to 60% in the post-evaluation. Generally, there was an average enhancement of 35.33% in the score. The outcomes reveal that the percentage knowledge level of the least performing staff member increased two-fold (Navalah, 2020). Based on these findings, Navalah (2020) recommended biannual staff education/training on screening guidelines and the significance of CRC screening.

Navalah's (2020), focus population was African Americans. The targeted age population for the current DNP comprises adults of races aged between 40 and 49 years. The current project aims, to educate healthcare professionals to enhance CRC screening and decrease the increasing morbidity and mortality rates among adults aged from 40 to 49 years.

### **The Role of Current DNP in Advancing Nursing Practice**

The current DNP will contribute to nursing practice by aligning CRC screening practices to the most recent ACS guidelines. More outstandingly, the project will improve nursing practice by helping create an outline through which can establish the training of nursing staff associated with nursing practice. This is because acquired insights into current knowledge levels, risk awareness of the population targeted by the study, and ACS guidelines required to minimize CRC mortality and morbidity will help create a foundational framework for future development of training and education modules for CRC screening professionals (Ibáñez-Sanz et al., 2021). The present doctoral project can be easily transferred to the area of breast cancer screening. This is because the medical predicament is virtually comparable to colorectal cancer. For example, both cancer typologies have been associated with individuals that are over 50 years, and closely set screening to start at the ages of 49 and 51 years (WHO, 2018) thus the transferability of findings obtained from the current project.

### **Local Background and Context**

The current DNP is more relevant to the national context considering that the target population comprises all adults aged between 40 and 49 years. Nonetheless, consistent with the federal setting, there has been an increase in mortality and morbidity

from CRC of adults, both males and females aged between 40 and 49 in the local context (Siegel et al., 2017). Since ACS guidelines are national recommendations, they are applicable in the local setting for this project. In all levels including the local context for the current project, ACS now recommends the beginning age should be at 45 and age 40 for severe risk associated individuals for CRC screening (Wolf et al., 2018). Studies like the current project have to be conducted by aligning the problem of CRC screening to prevailing practice guidelines. Consequently, even though CRC has become a severe problem, it is possible to develop sustainable and effective screening approaches by considering the current guidelines provided by the American Cancer Society (ACS) (Ibáñez-Sanz et al., 2021). The present DNP will take the form of a research design practice that will help develop an education module with a pre-and post-test evaluation of the staff's knowledge after and before the educational module. Based on the Iowa Model of evidenced-based practice, the project will raise knowledge levels among professionals and staff, leading to enhanced healthcare service delivery for the local community. Accordingly, it is projected that the doctoral project will bring about positive social change implications.

The planned doctoral project will take place in a low-income primary health care clinical setting where I am employed. As a primary healthcare facility, the institution of interest for this project addresses the majority of an individual's health requirements throughout their lifetime. These needs comprise social, physical, and psychological health. The facility is people-centered as opposed to disease-oriented. The healthcare facility adopts a whole-of-society technique, including health promotion, palliative care,

rehabilitation, disease prevention, and treatment. As a low-income healthcare facility, the targeted institution offer low-cost medical coverage to persons of all races and gender in the surrounding neighborhood, encompassing low-income individuals, children and families, people with disabilities, the elderly and pregnant women. Despite being a low-income healthcare facility, the institution is adequately resourced and staffed. The facility offers to assess and refer for CRC screening. Based on the current state of CRC screening, there is a need for enhanced screening for CRC and education to improve healthcare professionals' and staff's knowledge concerning the risk awareness of adults aged between 40 and 49 years in the recommendation for CRC screening based on an education module developed using the current ACS guidelines to reduce the morbidity and mortality rate of CRC.

The federal context applicable to the understanding of the current DNP entails the formulation and implementation of ACS guidelines for CRC screening. The American Cancer Society is a United States national voluntary medical institution dedicated to eradicating cancer (Siegel et al., 2017). ACS guidelines are expected to provide direction to adults at average risk of CRC, to healthcare professionals who advise and refer patients to CRC screening and to medical systems to support ideal practices in the early detection and prevention of CRC (Wolf et al., 2018). The first ACS published evidence-centered recommendations for early diagnosis of CRC was issued in 1980 (Wolf et al., 2018). Since then, ACS guidelines have endorsed CRC screening for persons aged 50 years and above (Wolf et al., 2018). The most recent guidelines, now recommends the beginning

age should be at 45 and age 40 for severe risk associated individuals for CRC screening (ACS, 2018).

### **Role of the DNP Student**

I'm a clinician by profession and is directly connected to the planned DNP. The goal is to enhance healthcare professionals' and staff's knowledge concerning the risk awareness of adults aged between 40 and 49 years in the recommendation for CRC screening based on an education module developed, using the current ACS guidelines to reduce the morbidity and mortality rate of CRC. Secondly, I'm performing this project in a low-income healthcare facility where I am employed. As a clinician, I operate in various divisions of the healthcare facility, including in cancer screening and treatment departments. Therefore, the planned DNP project, has personal importance to me since I will experience the significance of the educational module intended to enhance CRC screening knowledge among healthcare professionals at the medical facility.

My roles in this DNP project, comprise being the project developer, leader, and facilitator and data collector. As the project developer, my function is to formulate the project and an educational strategy to provide knowledge to the healthcare professionals concerning CRC screening. My roles as the project leader include liaising with my university project committee for approval of the project and communicating with the targeted healthcare facility's management team to plan for the project activities and data collection. I will further act as the educator in this project. My responsibility as the educator will be to provide resources and educational modules concerning ACS recent guidelines on CRC screening. I will also be responsible for creating a presentation of the

educational modules and content in PowerPoint slides, and doing the actual presentation. Further, I will be the custodian of all project-connected documents and materials in safeguarded lockers. As a data collector, I will be tasked with gathering pre-and post-evaluation details of participants' knowledge concerning ACS recent guidelines and CRC screening. I will collect these data using fifteen question about colorectal cancer screening developed for professionals by Shaukat et al. (2021). My other roles as a data collector will be to analyze the qualitative gathered from the interviews and questionnaire with the help of NVivo10 Software and to disseminate the findings to relevant stakeholders, including the management team of the targeted healthcare facility.

My experience working at the low-income healthcare facility as a nurse practitioner/clinician, inspired me to undertake this DNP project. In my work setting, I have noted that most of the patients, particularly those below age 50 years, who are diagnosed with CRC, have no previous CRC screening with any of the recommended screening tests. I have further recognized that my colleagues and I have no knowledge concerning the recent ACS guidelines and CRC screening for those adults ages 40-49 years. I want like to help improve healthcare professionals' knowledge on CRC screening and ACS recent guidelines. The lack of adherence to the ACS guidelines and CRC screening triggered me to conduct the current DNP project. . I'm further concerned about the increasing morbidity and mortality rates associated with CRC among young adults aged below 50 years. By undertaking this DNP project, I will help address the rising morbidity and mortality rates associated with CRC, by enhancing among healthcare professionals and staff knowledge about CRC screening and recent ACS guidelines.



Potential bias may arise during the administering education modules to my work colleagues. Some of the targeted participants are my seniors in the workplace, while others are my juniors. I will address this bias by adhering to research procedures such as the typical data gathering from the fifteen questions about colorectal cancer screening.

### **Summary**

The Iowa Model of evidence-based practice will serve as the foundational framework to support this DNP. Based on the Iowa Model of evidence-based practice, the present DNP will raise knowledge levels among professional and staff members, leading to improved healthcare service delivery for the community and reduced CRC morbidity and mortality rates. From the study relevance segment, it has been realized that the prevalence and mortality of CRC have continued to increase among young adults aged below 50 years (Siegel et al., 2020). Even though alterations in exposure to risk factors account for a projected half of the decline in prevalence, and a third of the drop in mortality before 2000, following accelerated reductions in prevalence and mortality since 2000 are mainly attributable to increased uptake of screening, with enhanced treatment further leading to mortality decreases (Siegel et al., 2020; Wolf et al., 2020). This is true since older versions of ACS recommended CRC screening to start at age 50. Attempts have previously been made to reduce CRC prevalence and mortality by educating healthcare professionals on CRC screenings using diverse strategies (Kim et al., 2021; Navalah, 2020). Nonetheless, none of the previous scholars has focused comprehensively on improving CRC screening through education modules to eventually address the increasing CRC incidence and mortality among young adults aged below 50 years. The

in-progress DNP will in anticipation, contribute to nursing practice by aligning CRC screening practices to the most recent ACS guidelines.

The planned doctoral project will take place in a low-income primary health care clinical setting where I am employed. The goal is to enhance healthcare professionals' and staff's knowledge concerning the risk awareness of adults aged between 40 and 49 years in the recommendation for CRC screening, based on an education module developed using the current ACS guidelines, reducing the morbidity and mortality rate of CRC. My roles in this DNP project, comprise being the project developer, leader, facilitator and data collector. My experience working at the low-income healthcare facility as a nurse practitioner is what inspired me to undertake this DNP project. The aim of Section 3 is to present a discussion of the collection and analysis of evidence. It will be grouped into various segments, including the practice-focused question (s), sources of evidence, analysis and synthesis, and a conclusion.

### Section 3: Collection and Analysis of Evidence

There has been an increase in CRC mortality and morbidity rate in men and women 40–49. The rate for this population has increased by 1.3% and 2.3% respectively, in the last two decades (Siegal et al; 2017). Individuals ages 50 years and older continue to have a strong recommendation for colon cancer screening among the primary care providers (PCP) based on the evidence and recommendations (ACS, 2019). A staff educational module developed with a pre- and post-test evaluation of the staff's knowledge after and before the educational module to improve the care they provide.

#### **Practice-Focused Question**

The practice-focused question for the DNP project was “Will a staff education project on recommended CRC guidelines increase the knowledge of the staff for screening high risk patients for CRC?”

#### **Sources of Evidence**

The source of evidence included literature published between 2016 and 2021 to ensure that the latest findings and reports are included in the doctoral project. These sources of evidence will be comprised of current recommendations utilizing EBP, peer-reviewed articles. The following online databases and search engines were used from Walden Library: Google Scholar, EBSCO, ERIC, Journal Seek and JSTOR. Key search terms and combination of search teams include *American Cancer Society (ACS)*, *colorectal cancer (CRC) risk awareness*, *health care providers (HCP)*, and *primary care providers (PCP)*. These terms were used together in multiple combinations with the

assistance of the Walden Library. Only those deemed to be relevant to the study is included in the doctoral project.

### **Participants**

Ten HCPs and staff members in the primary care setting were identified as participants and primary stakeholders, participated in the pretest initially and complete a posttest after the educational is given:

- Participant 1: A board-certified adult practitioner with over 10 years of experience.
- Participant 2: A board-certified endocrinologist with more than 30 years of experience.
- Participant 3: A board-certified physician assistant with over 8 years of experience.
- Participant 4: A board-certified internal medicine physician with over 25 years of experience.
- Participant 5: A board-certified registered nurse with 10 years of experience as a triage nurse.
- Participant 6: A board- certified registered nurse with 8 years of experience as a triage nurse.
- Participant 7: A board- certified registered nurse with over 11 years of experience as a triage nurse.
- Participant 8: A board-certified endocrinologist with over 21 years of experience.

- Participant 9: A board-certified family practitioner with 18 years of experience.
- Participant 10: A board-certified internal medicine practitioner with over 12 year of experience.

### **Procedure**

For my DNP project, after receiving approval from Walden's University Institutional Review Board (IRB), an educational module was developed using resources to include the clinical guidelines on screening of CRC screening based on current EBP. In addition, to the educational, I provided a pre- and post-test evaluation of the HCPs' knowledge after and before the educational module in its entirety (Appendices A & B). A scheduled presentation of the educational module was administered by myself to disseminate the information as well as collect pre- and post-test scores.

### **Protections**

The ethical protections of the participants were maintained according to strict Walden University oversight. The participants were informed about the project and provided verbal consent prior to the educational module. Confidentiality and privacy of all participants during the project was ensured by using anonymous number coded as identifiers of participants. All data collected and analyzed will be stored for 2 years, after which it will be destroyed. Participants were allowed to leave at any time and not participate if they chose.

### **Analysis and Synthesis**

Analysis and synthesis of the results of both the pre- and post-test was done after the completion of the staff education module. The scores were evaluated for growth and improvement in the percentage. For example, if a participant scored 60% on the pretest and a 90% on the post-test, evidence of knowledge improvement would be noted. I also collected descriptive statistics on include job role, experience, and length of service.

If participants did not complete the tests or did not attend the educational session, they were removed from the data collected. The test was assigned a number or better to pair them and make sure the scores are able to be reviewed for knowledge increase or deficit. SPSS and an Excel spreadsheet was used to organize the data and run a simple *t* test to evaluate the p value. However, if the sample size is small, the results may be difficult to validate on a larger scale.

### **Summary**

The doctoral project was in a low-income primary health care clinical setting. I created an educational module concerning ACS recent guidelines on CRC screening to reduce the mortality and morbidity rate. Pre- and post-tests were used to collect data to evaluate the outcomes of the educational program on staff's knowledge. Plans for data collection and analysis were introduced in this section. Section 4 will include the findings from analysis and synthesis of the evidence of the educational project.

#### Section 4: Findings and Recommendations

There is a need to educate staff within the clinical setting to adhere to the following recent ACS guidelines to reduce the mortality and morbidity rate in the target age population (Siegel et al., 2017). Research and educational campaigns about the importance of screening and timely follow-up of CRC symptoms no matter the age are necessary to mitigate premature mortality and morbidity (Siegel et al., 2017). Thus, the practice-focused question was “Will the health care professionals and staff improve their knowledge concerning the risk awareness of the target age population, in the recommendation for CRC screening based on an education module developed, using the current ACS guidelines to reduce the morbidity and mortality rate of CRC?” This section includes a discussion of the descriptive data, assumptions testing, and paired samples *t*-test result. This section also includes the implications of the findings of the project. The discussion of recommendations, contribution of the doctoral project team, and strengths and limitations of the project are also discussed in this section.

#### **Findings and Implications**

A total of 10 participants completed pre- and post-tests, and their responses were gathered for the analysis. Pretest and posttest data were collected to determine whether the knowledge concerning the risk awareness of the target age population of health care professionals and staff improved after the education module developed. The mean pretest score was 67.98 (SD = 16.48) with a range of 46.20 to 92.40. The mean posttest score was 93.72 (SD = 6.82) with a range of 79.20 to 99.00.

Prior to conducting the analysis, the assumption of a paired samples  $t$  test was tested. Shapiro-Wilk's test was conducted to determine whether the pretest and the posttest data follow the normal distribution. Based on the result presented in Table 1, the pretest scores were normally distributed (Shapiro-Wilk's  $s = .917$ ,  $p = .334$ ). However, the posttest scores were not normally distributed (Shapiro-Wilk's  $s = .791$ ,  $p = .011$ ). Therefore, the nonparametric counterpart of the paired samples  $t$  test called the Wilcoxon Signed Rank test was conducted.

**Table 1**

*Normality Test of Pretest and Posttest Scores*

	Shapiro-Wilk		
	Statistic	df	Sig.
PreTest	0.917	10	0.334
PostTest	0.791	10	0.011

The result of the Wilcoxon Signed Rank test between the pretest and the posttest scores are presented in Table 2. The result showed that the mean ranks of pretest and posttest are significantly different ( $Z = -2.816$ ,  $p = .005$ ). As observed, all 10 observations have positive ranks indicating that the posttest scores are significantly higher than the pretest scores. Therefore, the knowledge of participants significantly increased after the education module as opposed to before completing the education module.



**Table 2***Wilcoxon Signed Rank Test between Pretest and Posttest Scores*

		<i>N</i>	Mean Rank	Sum of Ranks	<i>Z</i>	<i>p</i> value
Posttest - Pretest	Negative Ranks	0 <sup>a</sup>	0.00	0.00	-2.816	0.005
	Positive Ranks	10 <sup>b</sup>	5.50	55.00		
	Ties	0 <sup>c</sup>				
	Total	10				

### **Recommendations**

The findings of the current study as well as previous research (Kim et al., 2021; Navalah, 2020) have found that providing professional development on CRC screenings to health care providers is effective at increasing their knowledge of CRC and ACS guidelines. Consistent with the recommendations of Navalah (2020), the findings of the current study suggest that health care providers should receive regular professional development on CRC and ACS guidelines. By increasing health care provider's knowledge, regular professional development can mitigate premature mortality and morbidity of CRC (Siegel et al., 2017). Leaders of health care clinics may consider providing annual or bi-annual professional development for all staff.

As the educational module developed for the current project was found to significantly increase knowledge regarding CRC and CRC screenings, the module in Appendix A can be utilized by clinics to provide the recommended regular professional development on CRC and ACS guidelines. The pre-/post-test available in Appendix B

can be provided to health care clinics to evaluate providers' learning after participating in the module.

Though the educational module in the current study was found to be successful at increasing knowledge of CRC and ACS guidelines, the module was tested on a small sample of health care workers at one clinic. Previous research has also only focused on one health care clinic (e.g., Kim et al., 2021; Navalah, 2020). Therefore, it is also recommended that a standard educational module on CRC and ACS guidelines is developed and shared nationwide with health care providers. This will ensure that health care providers nationwide are being given up-to-date information on CRC and ACS guidelines. Ensuring that all healthcare providers are knowledgeable on ACS guidelines may mitigate premature mortality and morbidity of CRC (Siegel et al., 2017).

### **Strengths and Limitations of the Project**

The current project had several strengths. First, the sample included in the current study included a range of health care professionals in terms of years of experience and specialties. The range of health care providers included in the current study supports the generalizability of the findings to the larger population of healthcare providers in the United States. Second, the current study was focused on a health care clinic that serves a population of individuals who are at a higher risk of CRC (Siegel et al., 2020). By targeting a clinic that serves a high-risk population, the implementation of the education module has the chance to have a high impact on those at risk of CRC. Additionally, it is possible that rural clinics in low-income areas lack access to professional development. As such, the current project provided important access to evidence-based professional

development to the healthcare providers at the clinic. Third, the current project utilized the Iowa model of EBP. The use of this model promoted the inclusion of high-quality information in the education module. The inclusion of high-quality evidence-based information may have contributed to the effectiveness of the module.

The findings of the current project should also be considered within the context of a few limitations. First, the current project included a small sample of 10 health care providers. Though this sample was adequate for the current project, this small sample may limit the generalizability of the current study. Future research may consider evaluating the educational module in the current project using a larger sample of healthcare providers.

Second, the current project collected posttest scores immediately after participation in the educational module. As such, the long-term effects of the educational module on health care providers' knowledge of CRC and ACS guidelines are unknown. Future research may consider including a six-month follow-up to understand if the increased knowledge of CRC and ACS guidelines continues long-term.

Third, the sample included in the current study are coworkers whom I work with on a regular basis. It is possible that our relationship caused the sample to be more engaged in the education module. Future research may examine the effectiveness of the module in increasing knowledge regarding CRC and ACS guidelines when different presenters are used.

Considering these limitations, the current project can provide several recommendations for future research. First, future research may consider including a

larger population of health care providers, specifically providers from multiple clinics. This may provide additional evidence to the effectiveness of the module in increasing knowledge of CRC and ACS guidelines.

Second, future research may consider including a long-term follow-up to evaluate the effectiveness of the educational module at increasing knowledge of CRC and ACS guidelines. The current study only included a posttest immediately after participation. Therefore, it is unknown if knowledge increases associated with participation are maintained.

Finally, future research may consider evaluating the effectiveness of the educational module when given by multiple facilitators. The current study utilized a sample that has a prior relationship with the facilitator. This may have increased their motivation in engaging with the educational module. Evaluating the effectiveness in a sample with no prior relationship between participants and facilitator may provide more generalizable information.

## Section 5: Dissemination Plan

As the current project found that the educational module developed for the project was effective at increasing knowledge of CRC and ACS screening guidelines, the dissemination plan is to provide the educational module to additional health care providers. Primary care clinics will be the primary venue for dissemination. The first step in dissemination of the current project is to provide information on the finding of the current project to the management of the clinic the project was conducted in. I will provide the management team with a short presentation of the findings of the project, and I will also provide the management team of the clinic with the recommendations included in the previous chapter.

Ten local primary care clinics will be identified to disseminate the educational module developed for this project. I will contact the office manager at each clinic to offer to deliver the educational module to the health care providers working there. Once scheduled, I will facilitate the educational module as it was given for the purpose of the current project.

To reach health care providers who are not local, I will record the educational module as a presentation and upload it to YouTube. This recorded video will be published on YouTube for health care providers to utilize. I will also send the link to the recorded educational module to their own professional network. This email will describe the purpose of the educational module, a description of the evidence of its effectiveness, and request that the recipient pass on the video to other healthcare providers who may find it useful. I will also send the same information on the video to professional

organizations, requesting that the video be shared via the organizations' newsletter or resource page.

### **Analysis of Self**

During the completion of the project, I learned much about myself as a practitioner, scholar, and project manager. As a practitioner, I learned the importance of staying up to date on the most recent evidence-based information and guidelines. In my work, I had noticed both that many of the patients diagnosed with CRC under the age of 50 had not received recommended CRC screening and that many colleagues were not up to date on current ACS screening guidelines. Yet previous researchers have noted that by keeping up to date with evidence-based information on CRC, the morbidity and mortality of the disease could be decreased (Siegel et al., 2020). Completing this project highlighted the importance of professional development. It is easy to push off engaging in professional development for the day-to-day tasks of work, but I now have a greater appreciation for making professional development a priority.

Similarly, as a scholar, I learned the importance of providing evidence-based information in easy to access modules for practitioners. Evidence-based information needs to be easily accessible for practitioners to be able to maintain their knowledge and utilize that knowledge with patients. In completing this project, I have developed a new appreciation for the work that it takes to translate research to accessible educational modules for professional development.

I believe that I showed the most growth in my project management skills. My previous experience as a nurse practitioner did not include project management. To

complete this project, I was responsible for the project management from start to end of the project. I learned the importance of scheduling and organization in managing projects. I learned many new strategies for project management and developed a better understanding of the dynamic, complex work associated with project management.

Overall, the completion of the project went according to the proposal. The development of the module, implementation, data collection and analysis, and completion of the current report were conducted without major challenges. During this process, I have gained confidence, increased my skills, and developed an appreciation for translating reach into accessible information for practitioners.

### **Summary**

The current doctoral nursing project addressed the meaningful gap-in-practice characterized by the lack of sufficient and efficient practice approaches among practitioners regarding recommended screenings for CRC as per ACS's recent guidelines. Ten health care practitioners at one clinic serving a low-income population participated in an educational module regarding CRC and ACS guidelines for CRC screenings. Results showed that health care professionals' knowledge of CRC and ACS guidelines increased significantly after participation in the educational module. The findings of the current project show the success of professional development in increasing knowledge of healthcare professionals regarding CRC, which may reduce the mortality and morbidity of the disease. Regular professional development regarding ACS screening guidelines may be implemented to ensure continued compliance with CRC screening guidelines.

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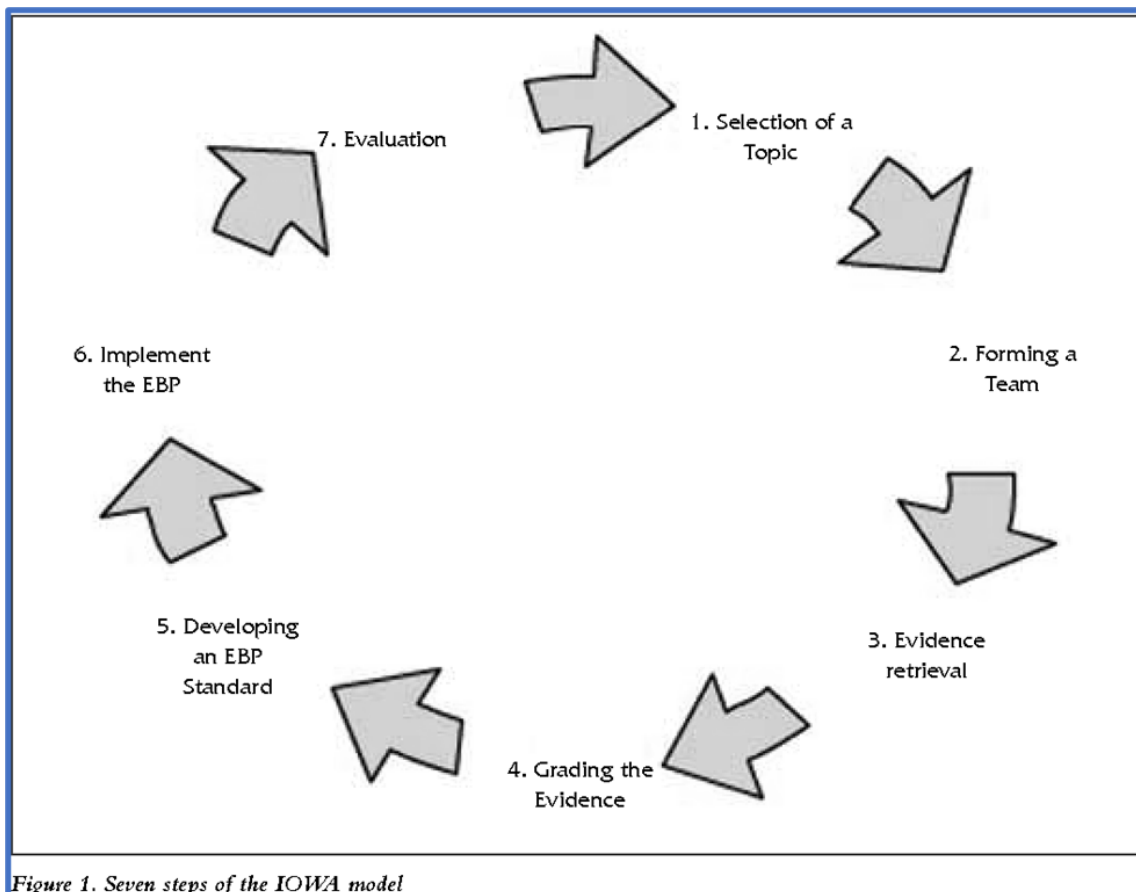
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Appendix A: 7 STEPS IOWA MODEL



## Appendix B: Staff Education Module PPT

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years.

Delores Meleod DNP student

Walden University

a

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years

**The Propose Project**

- Is a staff education on the need to investigate the knowledge and to educate the staff about adhering to
- the ACS guidelines for colorectal cancer screening (CRC) for ages 40-49 years.

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years

**Colorectal Cancer: Overview**

- Colorectal cancer occurs in the colon and Rectum
- Colorectal cancer is the fourth most prevalent cancer in the United States and the second leading cancer related cause of death.
- Most CRC develop as a growth called a polyps. There are many types of polyps, but adenomatous polyps is the most common

(American Cancer Society)

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years

**Colorectal Cancer: Overview**

- Importance of CRC Screening
  - To detect stages of tumors allowing effective treatment
  - reduce CRC-related treatment costs
  - Detects potential precursor lesions for removal, which may prevent CRC
  - Reduces burden morbidity and mortality from colorectal cancer

• (American cancer society)

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 y

- **Colorectal Cancer: Overview**
- - Colorectal cancer is one of the most preventable type of cancer by detection early.
- - Screening tests is the only method to detect pre-cancerous polyps, so they can be removed before they progresses into cancer.

6 ( American Cancer Society)

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years

- **Colorectal Cancer: Overview**
- Symptoms of colorectal cancer:
  - - Few or no symptoms can be seen in the early stages of CRC.
  - - Change in bowel habits (Constipation or diarrhea)
  - - Black or dark stools
  - - Iron deficiency anemia ( excess fatigue, weakness)
  - - Blood in the stool
  - - Unintentional weight loss
  - - Cramping abdominal pain
  - - inability to completely empty the bowel

• ( American Cancer Society)

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years.

**Colorectal Cancer: Overview**

- **Statistics:**
- The rate of CRC in the United states ( U S) for people between the ages of 40-49 years have increased by 1.3% and 2.3 % in the last decades ( Siegal et al., 2020)

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years.

**Background**

- Escalation in colorectal cancer morbidity and mortality in the young adults ages 40-49 years based on the American Cancer Society( ACS).
- The problem has regularly impacted this young population's age for not being screened for CRC due to previous recommendations.
- Individuals that are 50 years and older continues to have strong recommendations for CRC screening among most primary care providers (PCP)

### Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years.

#### **Aim of the project**

- The gap in practice is characterized by the lack of sufficient practice approaches among HCP and staff regarding recommended screening for CRC.
- The aim of the project is to increase the HCP and staff to adhere to the guidelines and the target age populations at risk for CRC.

### Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years.

#### **American Cancer Society Recommendation**

- The American Cancer Society now recommends screening average risk patients age 45
- Beginning age should be at age 40 years for severe risk and age 45 years for high risk associated individuals for CRC screening
- Adults ages 76-85. Screening should be considered by case basis
- Adults over age 85 should no longer be screened
- Assess if the patient has at least a 5-10 years life expectancy

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years.

· **Risk Stratification**

· **Average Risk**

- - No risk factor
- - No sign of symptoms of CRC

· (American Cancer Society).

Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years.

· **Risk Stratification**

· **Increased Risk**

- Personal history of adenomatous polyps.
- Family history of CRC or adenomas in first degree
- Screened 10 years before the youngest case in the family was diagnosed

· (American Cancer Society)

### Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years.

#### • Risk Stratification

- **High Risk**
- - Inflammatory bowel disease such as ulcerative colitis and Chron's disease

( American Cancer Society)

### Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years

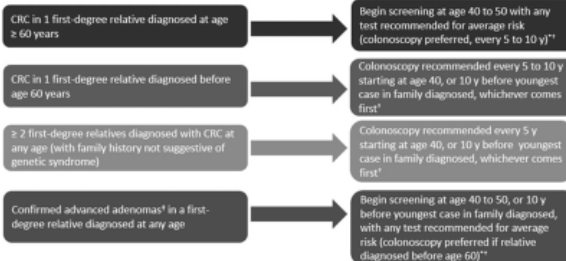
#### • Risk Stratification

- **Severe Risk**
- - Confirmed or suspected genetic syndromes such as familial adenomatosis polyposis (FAP)
- - Recommend screening at age 20 and repeat every 1-2 years for FAP



## Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years

### Risk Stratification: Family History (cont)



\*\*While colonoscopy is preferred in some guidelines, some guidelines recommend screening with any test recommended for average-risk patients. †Evidence was not strong, and some aspects are controversial. Guidelines differ on interval for follow-up colonoscopies and on the age to start screening if FDR  $\geq$  age 60 at diagnosis or if FDR had advanced adenomas. ‡Advanced adenoma defined as adenoma  $\geq 10$  mm, or with villous histology or high-grade dysplasia. Leddin D, et al. *Gastroenterology*. 2018;155:1325-1347.e3; NCCN Clinical Practice Guidelines. CRC screening v1.2020; Rex DK, et al. *Am J Gastroenterol*. 2017;112:1016-1030.

## Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years

- Questions
- Thank you

## Adherence to ACS guidelines for Colorectal cancer screening in ages 40-49 years

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## Appendix C: Staff Education Pre and Posttest Questions

1. A 40 -year-old male present to the clinic with complains of periods of constipation, diarrhea, and abdominal bloating for 6 months. He stated that his Father died at age 50 years of Stage IV colon cancer 10 year ago. Denies history of IBS. When should this patient be screened for CRC according to the ACS guidelines?
  - A. Wait until he is age 45 years
  - B. Refer now at age 40 for colorectal screening
  - C. At age 50 years
  - D. Treat the patient for IBS and no CRC screening
  
2. A 42 -year - old female present to the clinic with complaint of dark stool, constipation, and abdominal bloating. She stated that her brother age 36 was recently diagnosed with stage III colon cancer. Mother died of colon cancer 12 years ago. When should she be screen according to ACS guidelines?
  - A. Refer now at age 42 for colorectal screening
  - B. At age 45
  - C. At age 50
  - D. Do nothing treat symptoms

3. A 45- year- old male diagnosed with anemia, complained of constipation, and feeling of fatigue for 5 months. No active bleeding Patient stated that he was adopted and is unaware of any family history of CRC. When should this patient be screened for CRC according to the ACS guidelines.?
- A. At age 50
  - B. Do nothing, just treat the symptoms
  - C. Now at age 45 refer for colorectal screening
  - D. Don't screen, Patient is low risk
4. A 49 - year - old male present to the clinic with a positive fecal immunochemical test (FIT DNA). No family history of CRC. What evaluation should be done for this patient based on the ACS guidelines?
- A. Refer now at age 49 for colorectal screening
  - B. Order a FOBT Lab
  - C. Treat the symptoms and no screening
  - D. Refer for screening at age 50 years
5. A patient age 43- year- old African American female presented to the clinic for annual physical. Pt is asymptomatic, exercises daily, stated she has been vegan for 10 years. Denies any family history of colorectal cancer. She stated that she has never been screened for CRC. According to ACS guidelines, what should be done for this patient?

- A. Do not screen, patient is low risk
  - B. Recommend colorectal screening at age 45
  - C. Recommend colorectal screening at age 50 years
  - D. Recommend colorectal screening if symptomatic.
6. A 40-year-old male present to the clinic for sudden decreased appetite, abdominal bloating and irregular bowel movements every 5- 6 days. He stated that he has a family history of CRC. His younger brother died at age 39 years of stomach cancer. His father died at age 50 years of colon cancer and his second brother recently was diagnosed 6 months ago, with pancreatic cancer. He refuses colonoscopy screening because he does not want to drink the prep. According to the ACS guidelines select all that apply?
- A. Recommend colorectal screening since the patient is severe risk.
  - B. Tell the patient not to worry he is not at risk for cancer
  - C. Recommend a barium enema
  - D. Recommend colorectal screening using Fecal Immunochemical Test (FIT DNA).
7. An 46 year old female with a history of Transient Ischemic attack (TIA) ambulating with a cane presents to the clinic accompanied by her daughter. She reports that her brother age 65 years is undergoing treatment for stage IV CRC. She has never been screened for CRC. Based on the ACS guidelines you should?
- A. Refer for colorectal cancer screening as the patient is high risk
  - B. Tell the patient to wait until age 50 years

- C. Do not screen. Patient is low risk
  - D. Tell the patient to wait until she is symptomatic to have a CRC screening.
8. Colorectal cancer mortality and morbidity is highest in which ethnic group?
- A. Native American
  - B. Hispanic American
  - C. African American
  - D. Asian American
9. A 46-year-old obese female present to the clinic with complaints of constipation, bloating and feeling of fatigue, iron panel show iron deficiency anemia. The patient is 2 years menopausal. On physical exam, the patient abdomen is distended with positive bowel sounds, no active bleeding is noted during assessment. Patient is unaware of any of family history of CRC. She stated that she was adopted as a child. According to the ACS guidelines, what intervention for this patient.
- A. Refer for colorectal screening immediately
  - B. Recommend an H- Pylori stool test
  - C. Do not recommend CRC, treat the patient's anemia.
  - D. Recommend a Tumor marker blood test

10. What interventions should follow-up of a positive CRC screening test, such as a Fecal immunochemical testing (FIT-DNA) in a age 41years old. According to ACS guidelines what should be done for this patient?
- A. Do nothing wait until the patient the patient is age 50 years for CRC screening
  - B. Refer Patient for Colonoscopy immediately
  - C. Recommend a Fecal Occult Blood Test (FOBT)
  - D. Recommend a Tumor marker blood test
11. Due to the increased of CRC mortality and morbidity rate in ages 40-49 years, ACS guidelines suggest that patients ages 20 and older when present at the clinic should always be assessed during the physical exam for? Select all that apply?
- A. Patients works ethics
  - B. Family history of colorectal cancer
  - C. Family history with first degree relative before or at age 50 (Severe Risk)
  - D. Family History with colorectal cancer at age 60 years or greater (High Risk)
12. A 49- year- old male who has been diagnosed as an average-risk individual for CRC. Presented to the clinic for his annual physical. He asked what are the effectiveness and harms of CRC screening in reducing the incidence of CRC mortality according to the ACS guidelines.
- A. Early CRC screening at age 45 years for Average and high risk
  - B. Early CRC screening at age 40 years for severe risk

- C. Early CRC screening at age 50 years
- D. Colorectal screening whenever he is symptomatic

13. A 44-year -old African American male present to the clinic for his annual physical.

He is asymptomatic with no past medial history. He stated that his father died of CRC at age 63 years and his maternal grandfather died of CRC at age 68 years.

According to the ACS guidelines at what age should he be screened for CRC?

- A. Request colorectal screening at age 50 years
- B. Recommend colorectal screening at age 45 years because he is considered severe risk
- C. Recommend no CRC screening, he is low risk
- D. Recommend CRC when the patient is symptomatic

14. A 43- year - old patient present to the clinic for annual physical. He stated that his mother died at age 50 of colon cancer. He also stated that his brother was diagnosed at age 58 of colon cancer. What is most important to tell this patient according to the ACS guidelines on CRC?

- A. He is considered very severe risk for colorectal cancer and should be referred for CRC screening at age 43 years.
- B. He needs to wait until age 50 years to be screened for CRC
- C. He needs not to worry he may not get Colon cancer
- D. He needs to wait until he is symptomatic, to he screened for colon cancer



15. A morbid obese 46- year male with a history of alcohol abuse, sedentary lifestyle and a family history of colorectal cancer present to the clinic for annual physical. What should the Health Care Provider (HCP) tell the patient according to the ACS guidelines? Select all that apply.

- A. The patient should be informed that he needs to have a colorectal screening at age 46 years because he is considered high risk
- B. To reduce the consumption of alcohol intake as it is a modifiable risk factor for colorectal cancer
- C. To wait until age 50 to have a colorectal screening test
- D. To lose some weight as being obese is a modifiable risk factor for colorectal cancer

## Appendix D: Answer KEY To Test Questions

- 1) B
- 2) A
- 3) C
- 4) A
- 5) B
- 6) A and D
- 7) A
- 8) C
- 9) A
- 10) B
- 11) B, C, and D
- 12) A and B
- 13) B
- 14) A
- 15) A, B, and D