Provider Recommendation Influence on Colorectal Cancer Screening Rates

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Abstract

Colorectal cancer is the third leading cause of cancer related death yet is one of the most preventable. The goal of the National Colorectal Cancer Roundtable and the United States Preventive Services Task Force is that 80% of eligible patients will be screened by the year 2018. Provider recommendation has a positive impact on colorectal cancer screening rates. **Methods:** Completion of colorectal cancer screening rates after use of a provider standard scripted recommendation versus usual care was compared. Post intervention retrospective chart review was conducted to evaluate the percentage of patients who completed colorectal cancer screenings. **Design:** A pre- and post -intervention design was utilized to establish a correlation between the standard script recommendation versus usual care on completion rates. **Population/Setting:** A convenience sample of patients ages 50-75 who were reported as noncompliant and seen during a 3-month period in 2017 received the intervention. They were compared to patients who received usual care in a similar period prior to the intervention. **Data Collection/Implementation Plan:** The clinic's information technology department provided a list of all patients between ages 50-75 who had not completed screening confirmed by chart review. **Analysis:** A two-sample chi-square test examining provider recommendation using a standard script and usual care showed no significant difference ($p > 0.005$, 95%), (Fisher's Exact $p = 0.156$, N = 169). Descriptive statistics revealed White men had the highest rates of completing screening after receiving a recommendation from their provider in the usual manner.

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Provider Recommendation Influence on Colorectal Cancer Screening

Colorectal cancer is the third leading cause of cancer related death and is one of the most preventable cancers if detected early (American Cancer Society [ACS], 2016). The goal of the National Colorectal Cancer Roundtable (NCCR), and the United States Preventive Services Task Force (USPSTF) is that 80% of eligible patients will be screened by the year 2018 (NCCR, n.d.). By obtaining 80% screening, early detection will be achieved, survivability will be increased, and health care cost will be decreased. The estimated cost of the first year of colon cancer treatment during 1997 to 2000 was approximately $29,196 per case (Luo, Bradley, Dalman, & Gardiner, 2010). By 2010, the National Institute for Health annualized the mean cost for initial treatment of colorectal cancer, including surgical intervention was $51, 327 for women and $51,812 for men (National Cancer Institute, n.d.). The 2018 ACS new diagnosed case estimates are 97,220 for colon cancer, and 43,030 for rectal cancer.

The American College of Gastroenterology guidelines coincide with the USPSTF guideline that recommends colorectal cancer screening as a class 1A recommendation. Class 1 A recommendations indicate strong evidence, by randomized control trials, supporting the fact that screening clearly outweighs risk (Rex et al., 2016). These guidelines recommend colonoscopy every ten years for patients starting at age 50, or fecal immunochemical immunoassay test (FIT) yearly, or flexible sigmoidoscopy every five years, or computed tomography (CT) colonography every five years (ACS, 2016).

Health care systems value preventive medicine and are continuously striving to improve health and outcomes via prevention. A recent community needs survey of an urban city in Texas included results indicating that the community was not meeting current screening guidelines as recommended by the NCCR. Nearly 40% of adults in Texas, age 50 and older, are not

participating in recommended colorectal cancer screening (CRCS; J. Graham, personal communication, September 12, 2016). In 2015, a community hospital in Texas performed 918 screening colonoscopies on patients who were between the ages of 50-75. Of the 918 screening colonoscopies, 251 patients (27%) had adenomatous polyps removed (D. Valencia, personal communication, October 25, 2016). Colorectal cancer is detected approximately 1% of the time during routine screening colonoscopies while adenomatous polyps are found in 20% of all colonoscopies, allowing for timely removal and thus preventing colorectal cancer (ACS, 2014). By increasing CRCS, patients will be afforded the opportunity to have polyps removed prior to these polyps invading the colon and becoming cancerous. The aim of this project is to examine how provider recommendation, utilizing a standard script, with patients ages 50-75, compared to usual care can increase CRCS rates in eligible patients in a clinic in Baytown, Texas, by the year 2018.

Objectives

- To increase the percentage of completed CRCS by 10%
- To achieve early detection

Review of Literature

Impact of Screening and Screening Options

Morbidity and mortality can be reduced via early detection utilizing CRCS. All types of CRCS modalities have a positive impact on decreasing the detrimental effects of colorectal cancer (Spruce & Tanner, 2012). Fecal occult blood stool test (FOBT) can detect 60-85% of colorectal cancer. Colonoscopy with polyp removal can decrease colorectal cancer mortality by 60-90%. Colonoscopy is the most frequently recommended test for CRCS; however, it is not the only option. It was concluded by Gupta et al. (2014) that “the best test is the one that gets done”

(p. 1). Therefore, the process of shared decision making is an important factor that providers must consider when making recommendations for CRCS. All options and testing modalities should be offered to patients in order to increase screening (Klabunde, Lanier, Nadel, Mcleod, & Yuan, 2009).

The ACS provides a step by step manual to be utilized by community health centers to increase colorectal cancer screening rates. Randomized control trials do not support one method of screening as superior to another; comparatively they all save lives (Sarfaty, 2008). The first essential listed in the ACS step by step manual is provider recommendation (ACS, 2014). Provider recommendation is supported by the fact that most patients do what their providers ask them to do (ACS, 2014).

Compliance with CRCS was analyzed from the 2007 Health Information National Survey (Laivemo et al., 2014). Patients age 50 years and older were evaluated to determine if having a primary care provider (PCP) recommend a specific type of CRCS, such as FIT test versus colonoscopy, affected screening rates. Results indicated that providers who made specific recommendations about screening experienced an increase in screening rates compared to providers who did not make specific recommendations (OR = 2.04; 95%, CI: 1.54-2.68).

Adjuncts to Provider Recommendation

Providers are limited in their time with patients and may not focus the needed attention on making recommendations for CRCS. Patients present with a multitude of chronic diseases and as more emphasis is placed on disease prevention, providers will require additional time with patients to fully review all necessary guidelines (Yarnall, Pollak, Ostbye, Krause, & Michener, 2003). To satisfy the recommendations, set out by the USPSTF, 1773 hours of provider time annually, or 7.4 hours of each work day is needed to appropriately discuss preventive measures

(Yarnall et al., 2003). Therefore, a team approach is important to the overall success of provider recommendation to complete CRCS. The use of staff members and technology can be utilized to empower and educate patients to elicit discussions and complete CRCS. In a study conducted by Davis et al., (2013), medical staff were utilized in a three arm quasi-experimental evaluation that examined the effect of enhanced usual care in which patients were given recommendations and a FOBT kit. In the second arm, patients were provided with a video, a pamphlet, and instructions on completing the FOBT kit. In the third arm, patients were afforded the same care as arm one and two; however, they each received a follow up phone call one week later to assess for patient questions and completion of FOBT. The initial CRCS completion rate for the clinics studied was less than 3%. After the interventions, the rates increased to 38.6%, 57.1%, and 60.6 % respectively; supporting the fact that enhanced care beyond recommendation and education had the greatest impact on increasing screening rates.

Using technology to encourage patients to discuss CRCS plays a vital role in increasing conversations with providers. In a study by Christy, et al. (2013), a computer based video was utilized to encourage patients to discuss CRCS with their providers. Patients who viewed the educational video had discussions with their PCP 63% of the time compared to a 43% discussion rate in patients who did not view the video.

Effect of Provider Recommendation

Provider recommendation has a positive impact on patients' decision to complete CRCS. Lack of physician recommendation was a common barrier to completing CRCS (Klabunde, Lanier, Nadel, Mcleod, & Yuan, 2009). However, patients must be well informed and share in the process of decision making when choosing to participate in CRCS. Patients need routine wellness exams with PCPs to expand opportunities for discussions regarding all types of

preventive medicine including CRCS. A study by Kepka, Smith, Zeruto, & Yabroff (2014) evaluated if, during the prior year, seeing a PCP versus an advanced practice provider influenced CRCS rates. PCP visits, irrelevant of provider type, increased CRCS discussions (Kepka, Smith, Zeruto, & Yabroff, 2014).

Patients willingness to participate in screening and understanding the importance of screening is an additional variable to achieving the goals set out by the NCCR. Costanza et al. (2005), utilized a survey to evaluate items such as patient's readiness to screen, based on the stages of change model. This study evaluated how discussions about CRCS with PCPs lead to screening or increased forward progression through the stages. The researchers found that PCP recommendation in stage five, ready to change stage, had the greatest impact on CRCS and a positive effect on patients' progression through the stages of change. The words used by PCPs can also have an impact on a patient's decisions to complete CRCS. Physicians who were adamant about CRCS and used the words, "I recommend," had higher screening rates (Levy, Nordin, Sinift, Rosenbaum, & James, 2007).

Project Framework

The Iowa Model of Research-Based Practice to Promote Quality Care was used to promote the change supported by this project. This model was developed to assist nurses in evaluating evidence to improve quality care (White, Dudley-Brown, & Terhaar, 2016). The major principles of the model are based on triggers, which are focused on either a clinical problem or new knowledge (Melnyk & Fineout-Overholt, 2014). The Iowa Model seven-step approach allows the researcher to systematically progress through all the stages in an organized fashion. The steps start with selection of a topic, through evaluating literature and progresses to testing the change in a pilot group, and finally evaluation of the practice. The Iowa Model

emphasizes that evidence based practice (EBP) changes are best accomplished when the organization supports the need for change (Melnyk & Fineout-Overholt, 2014). Appendix A provides a schematic of the implementation of the Iowa Model to increase CRCS.

This model was important to this EBP because it allowed for identification of a problem by a clinician in day to day practice, followed by a literature review that produced an evidence based solution. The model allowed the effectiveness of the intervention to be evaluated prior to system wide dissemination.

Project Purpose

The primary purpose of this evidence based project was to evaluate the effectiveness of PCP recommendation, using a standard script, compared to usual care on CRCS rates. The secondary goals include increasing CRCS rates in this primary care practice and dissemination of information to create a system wide standard of practice. The aim of this project was to increase CRCS to allow early detection, thereby, decreasing morbidity and mortality related to colorectal cancer.

Methods

Project Design

A pre-intervention and post-intervention design was utilized to establish a correlation between provider recommendation to complete CRCS and actual patient completion of CRCS. A literature review showed that primary care providers have a positive impact on early detection of all types of cancer by advising patients regarding necessary preventative screenings. A community needs assessment, conducted by the affiliated hospital system revealed this community was not meeting national standards. The information technology department generated a noncompliance report for the practice site where the intervention was undertaken.

The inclusion criteria of average risk patients ages 50-75 who had not completed CRCS was used to generate the report. One thousand six patient names appeared on the list as not having completed CRCS.

The list was utilized to evaluate charts of patients with same day clinic appointments. After confirming the patients had not completed CRCS, each patient's name was placed on a copy of the script. This script was given to the patient at check in and read by the patient while waiting on the provider. The provider then discussed CRCS screening with patients in the usual manner. Four months after the initiation of the intervention, a retrospective chart review was completed to evaluate the charts of patients who received the intervention to determine if CRCS was completed. The data was compared to retrospective chart review from a similar period, in which patients received usual care. In both retrospective chart reviews patients were included if they met inclusion criteria, had an office visit during the period being evaluated, and left the office with a resource for completing a CRCS. A password protected Excel spreadsheet was utilized to document each patient's age, ethnicity, completion of CRCS, and intervention status (received or not received).

Population/Setting

A non-probability convenience sample was used from one primary care group in a metropolitan city in Texas. Patients who were identified on a noncompliance report and had office visits during the intervention time frame became the sample population. The comparison group was a convenience sample of patients who met inclusion criteria and had clinic visits in the 9-week period prior to implementation of the intervention. The provider profile in this family medicine clinic, consists of one family medicine physician and one nurse practitioner. Supporting staff include one office manager, three medical assistants and two front office staff.

Sixty-five patients received the intervention and were compared to one hundred and four patients who received usual care the prior 9 weeks.

Patients ages 50-75 who were non-compliant with CRCS and had office visits during the intervention time frame were included. Patients with a history of colorectal cancer, patients who were compliant with CRCS, and patients who were not seen in the clinic during the intervention period were excluded.

Measurement Methods

The IT department staff generated a list of potential participants from the electronic medical records (EMR). All patients who appeared on the list met eligibility requirements of age, lack of prior history of colorectal cancer, and lack of completed screening. This list was used to review charts of patients who had same day clinic visits to determine eligibility. After pre-intervention data collection, a modified tool based on the ACS 2014 toolkit for community health clinics, was utilized to educate patients regarding the need for CRCS. The tool was a script that highlighted factual data about colorectal cancer and the impact of screening. It allowed for choices of CRCS, thereby supporting shared decision making between patients and providers. The tool is provided in Appendix B.

The post-intervention population data collection utilized chart review four months after the initiation of the intervention. Charts were evaluated for completion of either FIT test or colonoscopy. Patients who were not seen in clinic during the intervention period, left the practice, were deceased, or were terminally ill were excluded. Pre-intervention chart review for the comparison group was conducted with the same inclusion criteria and patients who did not receive either a FIT kit or a referral for colonoscopy were excluded. A chi-square test was used to show comparison between groups.

Data Collection/Implementation Plan Procedure

Data was collected for both the pre-intervention and the post-intervention groups. Data was stored on an Excel spreadsheet that included patient's names, medical record numbers, age, gender, and ethnicity. This table is provided in Appendix C. Patients who did not fit the criteria for routine screening were not included on the spreadsheet. Eligible patients were assigned to one of two groups consisting of, (a) has completed CRCS or, and (b) has not completed CRCS. Post-intervention data was collected utilizing the same coding used in the pre-intervention stage including CRCS completion status. The primary investigator determined eligibility and created a second spreadsheet removing names and medical record numbers of all patients who received the intervention. The post-intervention sample population included eligible patients who were seen in the clinic during the pre-intervention phase but received no information about CRCS during the earlier visit. Pre-intervention data and post intervention data were compared to assess for a correlation between provider recommendation utilizing a script versus usual care on CRCS rates. A two sample χ^2 test was used to examine correlation between provider recommendation and completion of CRCS.

A step by step approach was utilized to implement this project. An email conversation with the Chief Nursing Officer (CNO) took place and buy-in was achieved. The project proposal was submitted and approved by the hospital Internal Review Board (IRB) (Appendix D) and the University of Texas at Arlington IRB (Appendix E). The IT department was contacted and a noncompliance report was generated utilizing the EMR and inclusion criteria. The project was then introduced to the other provider in the clinic. Project details were discussed at a staff meeting. The role of each staff member was discussed and all members of the staff were receptive. Concerns were addressed and the plan was modified as needed. A tick sheet was

maintained utilizing an excel worksheet to track patients who received the intervention and to track patients who had been seen by a provider in the intervention time frame.

Chart review to validate noncompliance of patients who appeared on the noncompliance report was used. After it was determined that the patient had not completed CRCS, the person's name was placed on a script. The script was given to the front office staff member who handed the script to the patient and asked the patient to read the script. The patients were informed that the provider would be discussing CRCS during their visit. The scripts were collected and placed in a folder in the primary investigators office. Each day the list was reviewed and the patient's' medical records reviewed. Documentation on the original noncompliance report was performed indicating receipt of either a FIT kit or a referral for colonoscopy. If the number of scripts returned did not match the number generated at the start of the day the missing scripts were recreated after the chart was reviewed for validation that a recommendation had been made during the visit. Data was collected and stored on an Excel spreadsheet and kept on a password protected flash drive.

Statistical Analysis

Statistical analysis was performed using a two sample χ^2 to determine correlation between provider recommendation utilizing a standard script versus usual care on completion of CRCS. An Excel spreadsheet was utilized to document completion versus non-completion rates. The spread sheet contained patients gender, age, and ethnicity. The primary endpoint was to evaluate if provider recommendation, using a standard script, positively affected completion of CRCS versus usual care. The data was further stratified to determine if age, race or ethnicity impacted CRCS rates.

Results/Project Outcomes

A two sample χ^2 was utilized to assess for a significant difference in the proportion of completed CRCS before versus after implementation of a standardized script. A significant difference was not appreciated ($p > 0.05$, 95%), (Fisher's Exact $p = 0.156$, N = 169). The pre-intervention group, N = 104, had a completion rate of 50%. The post-intervention group, N = 65, had a completion rate of 38.5%. The case processing summary included in Appendix F. Descriptive statistics revealed White men made up the largest portion of the pre- and post-intervention population at rates of 72.1% and 87.7% respectively. These men were more likely to complete CRCS prior to the utilization of a standard script.

Discussion

Sustainability. The findings of this EBP supports the fact that primary care providers can positively impact CRCS rates by making recommendations. Using a script is sustainable and will be more efficiently utilized if embedded in the health maintenance section of the EMR. This will provide an opportunity for all providers system wide to be reminded of the importance of making a recommendation for CRCS.

Strength. The strength of this study is that only patients who needed the intervention received it. The script provided a standard approach for each patient to receive the same message. By handing the script to the patient during the check in process, each patient had an opportunity to read the script and was informed about important facts about colorectal cancer. Patients had an opportunity to formulate questions that could be answered by the PCP during the

visit. Time pressure in primary care is a concern; therefore, using a standard approach allows for better use of the PCP's time during visits and serves as a catalyst to initiate conversations

Opportunities. After the initial intervention a follow, up phone call at a three-week post intervention time frame could further increase CRCS. This could insure that patients have the necessary tools and information needed to be successful. Additionally, it would provide validation to the patient (a) of the importance of completion and (b) that their PCP is expecting completion and will follow up in the future.

Future Project Expansion

Provider education is needed to properly use the health maintenance tab in the EMR to assure noncompliance reports are accurate. Placing this script in a clinic in which usual care does not consistently provide CRCS recommendations may prove to be more successful. Primary care providers should work with other organizations in the community to provide information and tools to individuals who may not have access to primary care visits.

Limitations

This project was limited by many factors. The sample size was small, the location of the project changed as a result of a natural disaster striking the community the week prior to initiation of intervention. The use of a convenience sample did not accurately represent the diversity of the community. The inaccuracies in the IT report limited the sample size to 65 and a pre-intervention versus post-intervention rate report could not be obtained due to the unreliability of the data. Threats to the intervention included patient refusal, lack of privacy, and missed opportunities. The patients were handed the script in the lobby, implying consent to be part of this EBP. Hurricane Harvey caused massive flooding and destruction to the community and patients were displaced and priorities shifted when many were not able to return home. The

providers in the clinic where the intervention was placed consistently make recommendations for CRCS; it would have been interesting to see the impact the script can have in a clinic in which consistency of provider recommendation is unknown.

A perceived barrier is that many patients would prefer conversations about colorectal cancer screening to occur in a private area and only between provider and patient. Having a standard script embedded in the EMR would better accommodate this preference. Ideally the health maintenance data would be accurate and recommendations would be made only when patients need CRCS, thus utilizing clinic time more effectively.

Implications

Despite the drop in completed screening rates, results indicate that provider recommendation has a positive effect on CRCS rates. Using a standard script provides consistency with provider recommendations and can provide standardization among all practices. The use of a standard script that is embedded in the EMR can provide the trigger the busy provider needs to assure conversations are being held with all eligible patients at each encounter.

Future Project Opportunities

Evaluate how follow up phone calls can further increase screening.

Evaluate how provider education on EMR utilization can increase accuracy of reporting.

Future Research Opportunities

Evaluate the use of community outreach utilizing education and home cancer screening tests on CRCS rates.

In conclusion, provider recommendation is one of the most important measures that influences a patient's decision to complete CRCS. Although, most providers make recommendations for CRCS, many times these recommendations are inconsistent and

discussions may not occur with every eligible patient (ACS, 2014). By utilizing a script, provider recommendations will be consistent and CRCS discussions will occur with all eligible patients at each encounter. Although this EBP did not show an increase in CRCS with utilization of a standard script, provider recommendation does have a positive effect on screening rates.

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Appendix A

Iowa Model Seven Steps to Increase Colorectal Cancer Screening

Step 1: Identify a Trigger—Problem Focused—Need to improve colon cancer screening to improve early detection.

Step 2: Form Team—Works best with bottom up approach- Medical Assistants- Nurse Practitioner- Collaborating Physician – Discuss potential solutions.

Step 3: Evidence Retrieval- Search for evidence regarding methods to improve patient willingness to participate in colon cancer screening according to recommendations and national guidelines.

Step 4: Grade the Evidence- Does the evidence support viable methods to increase screening and increase early detection of colon cancer.

Step 5: Developing an EBP Standard- Decision is made on what measures will be put into place. Evidence indicates that provider recommendation has a positive influence on completion of CRCS.

Step 6: Implement the EBP- Pilot- implement the change in one practice.

Step 7: Evaluation- did the intervention increase early detection of colon cancer? If it did proceed to disseminating the strategy to other clinics by developing a protocol to be used by all clinics.

Appendix B

Colorectal Cancer Screening Tool adapted from The American Cancer Society

Colorectal Cancer is the third leading cause of cancer related death and can be prevented through early detection. The American Cancer Society and the United States Preventative task force recommend screening for all patients ages 50-75. **I feel it is important for you to complete colorectal cancer screening! You have several choices:**

1.) **A structural Exam is a test, such as a colonoscopy, that is more likely to prevent cancer because it can find noncancerous polyps that can be removed; which decreases your chance of developing cancer.**

2.) **You may choose a simple take home occult blood stool test. These tests are less likely to find polyps than a structural exam; however, they are mainly effective at detecting cancer early and they are certainly better than not having any type of screening.**

Have you had any type of colorectal cancer screening?

Yes: Which type of screening have you had?

Home testing with Fecal Immunoassay within prior 12 months

or

Colonoscopy in the past 10 years

No: Would you consider colorectal cancer screening?

Adapted from American Cancer Society. (2014). *Steps for increasing colorectal cancer screening rates: A manual for community health centers.* Retrieved from http://nccrt.org/resource/steps-increasing-colorectal-cancer-screening-rates-manual-community-health-centers-2/

Appendix C

Gender	Age	Race	Date of Intervention	Completed CRCS		SCRIPT INTERVENTION	COMPLETED
				Yes	No		
M	68	C	9/26/2017	X		AFTER	YES
F	74	C	9/26/2017		X	AFTER	NO
M	71	C	9/27/2017		X	AFTER	NO
M	71	C	9/28/2017		X	AFTER	NO
F	55	B	9/28/2017		X	AFTER	NO
M	60	C	9/28/2017		X	AFTER	NO
F	54	B	10/2/2017	X		AFTER	YES
M	73	C	10/4/2017	X		AFTER	YES
F	53	C	10/4/2017	X		AFTER	YES
F	74	C	10/4/2017	X		AFTER	YES
M	60	C	10/5/2017		X	AFTER	NO
F	74	C	10/9/2017		X	AFTER	NO
F	68	C	10/9/2017		X	AFTER	NO
F	63	C	10/10/2017	X		AFTER	YES
F	58	C	10/10/2017		X	AFTER	NO
F	73	C	10/10/2017		X	AFTER	NO
F	57	C	10/10/2017		X	AFTER	NO
M	70	B	10/10/2017		X	AFTER	NO
M	65	C	10/11/2017	X		AFTER	YES
F	55	C	10/11/2017		X	AFTER	NO
F	57	C	10/11/2017		X	AFTER	NO
M	62	C	10/11/2017		X	AFTER	NO
F	74	C	10/12/2017		X	AFTER	NO
M	65	C	10/13/2017		X	AFTER	NO
M	71	H	10/13/2017		X	AFTER	NO
M	68	C	10/24/2017	X		AFTER	YES
M	70	H	10/24/2017	X		AFTER	YES
F	62	C	10/24/2017		X	AFTER	NO
F	65	C	10/24/2017		X	AFTER	NO
F	70	B	10/25/2017	X		AFTER	YES
F	69	C	10/26/2017		X	AFTER	NO
M	55	C	10/26/2017		X	AFTER	NO
F	59	C	10/30/2017	X		AFTER	YES
F	64	C	10/30/2017		X	AFTER	NO
F	71	C	10/31/2017	X		AFTER	YES
F	64	B	10/31/2017	X		AFTER	YES
F	68	C	10/31/2017	X		AFTER	YES
M	54	C	10/31/2017	X		AFTER	YES
F	74	C	10/31/2017	X		AFTER	YES
F	52	C	10/31/2017		X	AFTER	NO
M	73	C	10/31/2017		X	AFTER	NO

F	60	C	11/2/2017		X	AFTER	NO
Gender	**Age**	**Race**	**Date of Intervention**	**Completed CRC's**		**SCRIPT INTERVENTION**	**COMPLETED**
				Yes	**No**		
F	53	C	11/2/2017		X	AFTER	NO
M	67	C	11/6/2017	X		AFTER	YES
M	55	C	11/6/2017		X	AFTER	NO
M	57	C	11/6/2017		X	AFTER	NO
M	69	C	11/7/2017	X		AFTER	YES
M	73	C	11/8/2017	X		AFTER	YES
F	67	C	11/8/2017	X		AFTER	YES
F	69	C	11/8/2017		X	AFTER	NO
F	69	C	11/9/2017	X		AFTER	YES
M	57	C	11/10/2017	X		AFTER	YES
F	65	C	11/10/2017		X	AFTER	NO
F	67	C	11/10/2017		X	AFTER	NO
F	60	C	11/20/2017	X		AFTER	YES
F	57	C	11/20/2017		X	AFTER	NO
F	63	C	11/20/2017		X	AFTER	NO
F	61	C	11/22/2017		X	AFTER	NO
F	71	C	11/27/2017		X	AFTER	NO
F	63	C	11/28/2017	X		AFTER	YES
F	65	C	11/28/2017		X	AFTER	NO
F	71	C	11/29/2017		X	AFTER	NO
M	64	C	11/30/2017		X	AFTER	NO
M	62	O	12/1/2017		X	AFTER	NO
F	68	C	12/8/2017	X		AFTER	YES
F	66	C	6/1/2017		X	BEFORE	NO
F	63	C	6/1/2017	X		BEFORE	YES
M	64	C	6/1/2017		X	BEFORE	NO
M	58	C	6/1/2017	X		BEFORE	YES
M	59	C	6/1/2017	X		BEFORE	YES
M	63	C	6/1/2017	X		BEFORE	YES
M	66	C	6/1/2017	X		BEFORE	YES
M	70	H	6/1/2017	X		BEFORE	YES
F	50	C	6/1/2017	X		BEFORE	YES
M	51	C	6/1/2017	X		BEFORE	YES
M	73	C	6/1/2017	X		BEFORE	YES
F	61	C	6/2/2017		X	BEFORE	NO
M	62	C	6/2/2017		X	BEFORE	NO
F	58	H	6/2/2017	X		BEFORE	YES
F	53	C	6/2/2017	X		BEFORE	YES

Gender	Age	Race	Date of Intervention	Completed CRC's		SCRIPT INTERVENTION	COMPLETED
				Yes	No		
M	69	O	6/5/2017		X	BEFORE	NO
M	70	C	6/5/2017		X	BEFORE	NO
M	70	C	6/5/2017		X	BEFORE	NO
M	55	C	6/5/2017		X	BEFORE	NO
M	63	C	6/8/2017		X	BEFORE	NO
F	66	C	6/9/2017	X		BEFORE	YES
F	72	B	6/9/2017	X		BEFORE	YES
F	66	H	6/12/2017		X	BEFORE	NO
F	72	C	6/12/2107	X		BEFORE	YES
F	50	C	6/12/2017		X	BEFORE	NO
F	51	C	6/13/3017	X		BEFORE	YES
M	62	C	6/13/2017		X	BEFORE	NO
M	60	C	6/13/2018	X		BEFORE	YES
M	71	C	6/19/2017	X		BEFORE	YES
M	50	B	6/19/2017	X		BEFORE	YES
F	73	H	6/21/2017		X	BEFORE	No
F	56	C	6/21/2017		X	BEFORE	NO
M	61	B	6/21/2017		X	BEFORE	NO
F	64	B	6/21/2017		X	BEFORE	NO
M	60	C	6/26/2017	X		BEFORE	YES
M	62	C	6/26/2017	X		BEFORE	YES
F	62	H	6/27/2017		X	BEFORE	NO
F	57	C	6/27/2017		X	BEFORE	NO
F	71	H	6/27/2017	X		BEFORE	YES
M	69	H	6/29/2017	X		BEFORE	YES
F	72	C	6/29/2017	X		BEFORE	YES
M	71	C	6/30/2017	X		BEFORE	YES
F	50	H	6/30/2017		X	BEFORE	NO
F	54	C	6/30/2017		X	BEFORE	NO
F	73	C	7/3/2017	X		BEFORE	YES
M	66	B	7/5/2017		X	BEFORE	NO
F	62	C	7/5/2017		X	BEFORE	NO
F	59	C	7/5/2017	X		BEFORE	YES
F	71	C	7/6/2017	X		BEFORE	YES
M	53	C	7/6/2017	X		BEFORE	YES
F	63	C	7/6/2017	X		BEFORE	YES
F	50	H	7/7/2017		X	BEFORE	NO
F	53	H	7/10/2017		X	BEFORE	NO
F	64	C	7/10/2017		X	BEFORE	NO

Gender	Age	Race	Date of Intervention	Completed CRC's		SCRIPT INTERVENTION	COMPLETED
				Yes	No		
M	61	C	7/10/2017		X	BEFORE	NO
M	67	C	7/10/2017		X	BEFORE	NO
M	56	C	7/11/2017	X		BEFORE	YES
M	63	O	7/13/2017		X	BEFORE	NO
M	64	C	7/13/2017		X	BEFORE	NO
F	64	C	7/13/2017	X		BEFORE	YES
F	55	C	7/13/2017		X	BEFORE	NO
M	51	H	7/13/2017	X		BEFORE	YES
F	65	C	7/13/2017	X		BEFORE	YES
F	71	O	7/14/2017	X		BEFORE	YES
M	62	O	7/14/2017		X	BEFORE	NO
F	55	H	7/17/2017	X		BEFORE	YES
F	52	C	7/17/2017			BEFORE	NO
F	65	C	7/17/2017	X		BEFORE	YES
M	55	C	7/19/2017	X		BEFORE	YES
F	71	C	7/19/2017	X		BEFORE	YES
M	57	C	7/19/2017	X		BEFORE	YES
M	56	H	7/19/2017	X		BEFORE	YES
F	73	C	7/19/2017	X		BEFORE	YES
F	69	C	7/19/2017		X	BEFORE	NO
F	71	C	7/19/2017		X	BEFORE	NO
F	59	C	7/21/2017		X	BEFORE	NO
M	57	C	7/21/2017		X	BEFORE	NO
M	56	C	7/21/2017	X		BEFORE	YES
M	53	C	7/21/2017	X		BEFORE	YES
M	65	C	7/21/2017	X		BEFORE	YES
M	63	B	7/24/2017	X		BEFORE	YES
F	58	C	7/25/2017		X	BEFORE	NO
F	59	C	7/25/2017	X		BEFORE	YES
M	52	C	7/25/2017		X	BEFORE	NO
F	68	C	7/26/2017		X	BEFORE	NO
F	54	C	7/26/2017		X	BEFORE	NO
M	51	C	7/26/2017	X		BEFORE	YES
F	58	C	7/26/2017		X	BEFORE	NO
F	62	C	7/26/2017		X	BEFORE	NO
F	57	C	7/26/2017	X		BEFORE	YES
M	53	C	7/26/2017		X	BEFORE	NO
M	54	B	7/31/2017		X	BEFORE	NO
M	54	B	7/31/2017		X	BEFORE	NO

Gender	Age	Race	Date of Intervention	Completed CRC's		SCRIPT INTERVENTION	COMPLETED
				Yes	No		
M	53	B	7/31/2017		X	BEFORE	NO
M	59	B	8/1/2017		X	BEFORE	NO
M	51	C	8/1/2017		X	BEFORE	NO
M	60	C	8/2/2017	X		BEFORE	YES
F	52	C	8/2/2017		X	BEFORE	NO
M	57	H	8/2/2017	X		BEFORE	YES
M	60	C	8/3/2017		X	BEFORE	NO
M	71	C	8/3/2017	X		BEFORE	YES
M	61	H	8/4/2017	X		BEFORE	YES

Appendix D

TO: Trudy Istre, MSN, RN, FNP-C

July 25, 2017

SUBJECT: HMRI Determination of Not Human Subject Research: Provider Recommendation Influence on Colorectal Cancer Screening

Based on the information and protocol provided, the HMRI IRB has determined that the project referenced above does not meet the definition of Human Subject Research per 45 CFR 46 and does not require prior IRB review and approval at Houston Methodist.

If you have any questions, do not hesitate to contact me. Best of luck on a successful evidence-based practice project!

Sincerely, 

Shannan Hamlin, PhD, RN, ACNP-BC. AGACNP-BC, CCRNj NE-BC

Appendix E

DNP Project Approval Template for the Graduate Nursing Department Review Committee

Student completes the top portion only
Student ID number: 63915000 0132 7427

Project Title: Increasing Colorectal Cancer Screening Utilizing Provider Recommendation

Project Summary (Brief): A script adopted from the American Cancer Society (ACS) will be utilized by two primary care clinics to promote and provide consistency of conversations with eligible average risk patients age 50-75 regarding need to complete colorectal cancer screening (CRCS). Patients in the hospitals accountable care organization (ACO) will be utilized as a convenience-sample: —•pre-intervention data will be evaluated by obtaining the percentage of patients in this age group who have completed CRCS. The intervention will be put in place in the two pilot clinics and Post-intervention data will be collected to evaluate if the percentage of patients in the eligible population who received CRCS increased.

Setting: Two primary care clinics.

Population: Average risk patients ; age 50-74 enrolled in the ACO. age 50-7

The project will use the following model Iowa Model. Odel Iowa Model.

Committee Use Only
The results will be disseminated, but they are not generalizable knowledge. The results will include use of the most curr nt research to translate the knowledge into practice, thus it is not new generalizable knowledge. Agree
Disagree

This project is a quality improvement or evidence-based project and will translate the knowledge into the clinical setting. It is not generalizable-because is not generated from a research study that is being conducted.

____Yes, No This project is not considered Human Subjects Research and does not require IRB HSR review.

This quality improvement project did not satisfy the definition of research under 45 CFR 46.102(d). Therefore, it was not subject to the Health and Human Services regulations for the protection of human subjects in research (45 CFR part 46, 2009) or require Institutional Review Board approval.

I recommend approval of this QI project

_____

I recommend approval of this EBP project

GNRC Form 1: January 2017

or
I do not recommend approval of this project for the following:

_____I recommend the student send this project to the University IRB for review

Reason:

_____I do not recommend this project to be implemented

Appendix F

Statistical Test Results

		Script Intervention	
		Before Script	**After Script**
Participants		N = 104 (100%)	N = 65 (100%)
Age (years)			
	Mean	61.06	64.55
	Median	61.00	65.00
	Std Deviation	6.869	6.522
	Range	23	22
	Minimum	50	52
	Maximum	73	74
	Percentiles 25	55.00	59.50
	50	61.00	65.00
	75	66.00	70.00
		N (%)	**N (%)**
Participants		104 (100%)	65 (100%)
Gender			
	Female	50 (48.1%)	41 (63.1%)
	Male	54 (51.9%)	24 (36.9%)
Race/Ethnicity			
	Black	10 (9.6%)	5 (7.7%)
	White	75 (72.1%)	57 (87.7%)
	Hispanic	15 (14.4%)	2 (3.1%)
	Other	4 (3.8%)	1 (1.5%)
Completed CRCS			
	No	52 (50.0%)	40 (61.5%)
	Yes	52 (50.0%)	25 (38.5%)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Script Intervention * Completed CRCS	169	100.0 %	0	0.0%	169	100.0 %

Script Intervention ^ Completed CRCS Crosstabulation

	Complete CRCS		**Total**
	No	**Yes**	
Script Intervention	Count (%*)	Count (%*)	Count (%*)
Before Script	52 (50.0%)	52 (50.0%)	104 (100.0%)
After Script	40 (61.5%)	25 (38.5%)	65 (100.0%)
Total	92 (54.4%)	77 (45.6%)	169 (100.0%)

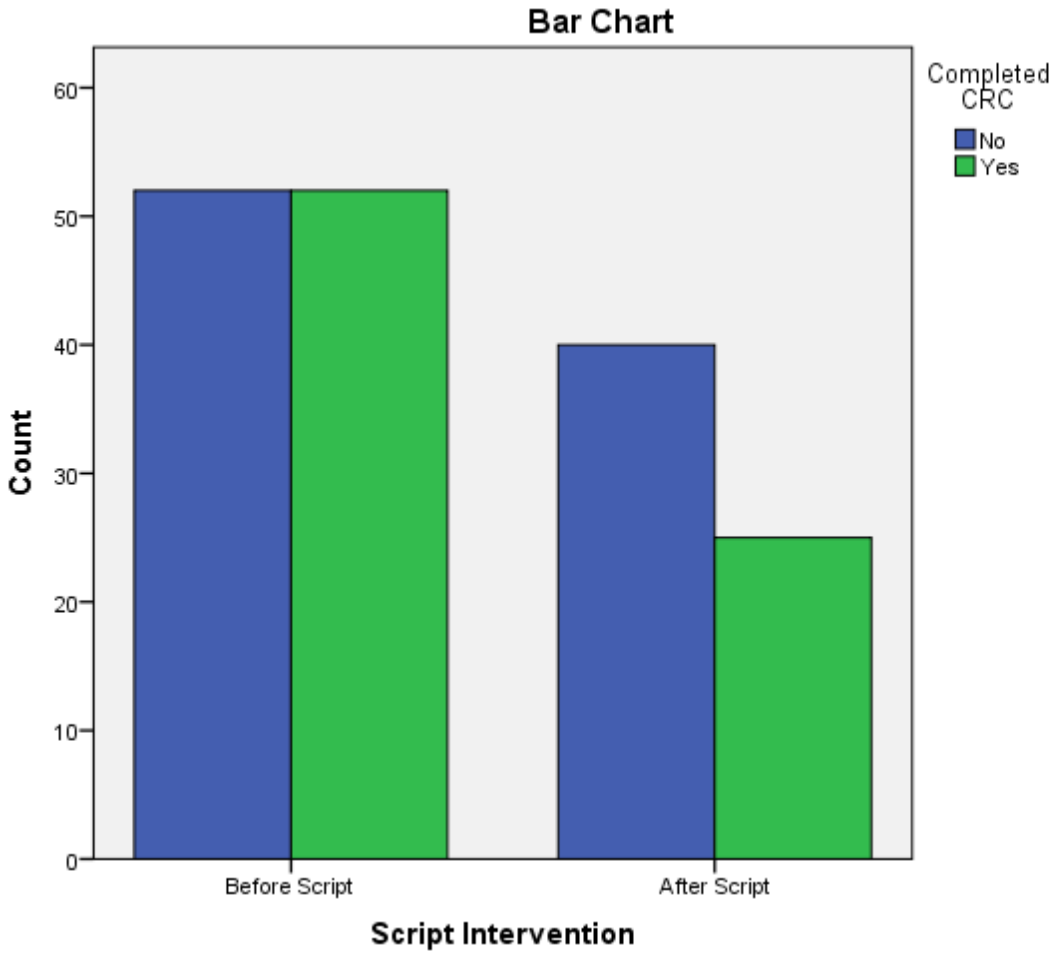
NOTE: * within Script Intervention

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.147[a]	1	.143		
Continuity Correction	1.707	1	.191		
Likelihood Ratio	2.160	1	.142		
Fisher's Exact Test				.156	.095
Linear-by Linear Association	2.134	1	.144		
N of Valid Cases	169				

NOTE: a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 29.62.
b. Computed only for a 2x2 table.

Completed CRCS by Intervention



NOTE: *P* > 0.05 No Significant Difference at 95% confidence between CRCS Completed Before and After Script. (Fisher's Exact *p* = 0.156, N 169)

Completed CRCS by Intervention, Gender, and Race/Ethnicity