Increasing Fecal Occult Blood Test (FOBT) kit return rate in a Federally Qualified Healthcare Center

Incorporation of a telephone reminder system and patient education flyer into the iFOBT kit critical path along with recommendations for workflow improvement and sustainability at Watts Healthcare Corporation.

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Abstract

Colorectal cancer is one of the most common cancers in men and women; it remains the second leading cause of death from cancer in United States. Annual colorectal screenings has been estimated to decrease mortality rates up to 60 percent if everyone above 50 and older were screened. Although Watts Healthcare Corporation shows 61% of eligible patients having completed the immunochemical fecal occult blood testing kits (iFOBT) annually, which is above national average, this number does not reach benchmark goals (75%). In addition, this percentage does not account for the number of patients who do not to return the FOBT kit upon instructions the first time. This is time consuming and cause increased waste in a FQHC workflow. This project addresses the low return rate of colorectal cancer screening home kits from patients at Watts Health Corporation by testing telephone reminder system and educational flyer. Trials for telephone reminder calls showed to increase the number of patients completing iFOBT kits. The educational/instructional flyer for patient education must be retested due to workflow inefficiencies; however, majority of the patient care team found them useful. Improvements in workflow is recommended to supplement interventions to increase quality healthcare, help eliminate barriers to the patient population at Watts Health Center, and uphold the patient-centered medical home model for improvements. It is recommended that future improvements be focused on increasing patient activation.

Key Words: colorectal cancer screening, Watts Health Corporation, quality improvement, reminder system, iFOBT, immunochemical fecal occult blood test, patient activation
Introduction

This study attempts to solve issues of low return rate in immunochemical fecal occult blood testing (iFOBT) screening through implementation of a reminder system and improving workflow. In 2012, Watts Healthcare Corporation began its improvement efforts in colorectal cancer screening to adopt a patient-centered medical home (PCMH) model of care. The American Cancer Society granted $5,000 towards improving colorectal cancer screening August 2012. Since then, a CDSS alert system alerting providers to place orders on iFOBT kits to every patient over the age of 50 was implemented. Although this increased the amount of patients who receive the screen kits, it did not account for the number of patients who do not return the iFOBT kit back to be completed. In many instances, the care team must take on the responsibility of giving out the iFOBT kits again which creates waste in resources, time, and daily workflow. As a GE-NMF PCLP Scholar for this summer 2014, I chose my project to be part of these improvements. I first performed a root-case analysis to address possible issues for the low return rates through surveys and observations. From these findings, I began testing for improvement strategies using the “Plan, Do, Study, Act (PDSA)” method for improvements. PDSA Cycle 1 included testing a telephone reminder system, while PDSA Cycle 2 included giving an educational and instructional flyer to patients with the iFOBT kit. Furthermore, the workflow for iFOBT kits was analyzed and recommendations based on literature review were presented.

Background

Colorectal cancer is the third most common cancer in men and women and remains the second leading cause of death by cancer in the United States (HRSA, 2014). Screening using sigmoidoscopy, colonoscopy, and annual fecal occult blood testing has been estimated to decrease mortality rates and improve outcome through preventive intervention. The immunochemical fecal occult blood test (iFOBT) is currently the best available method of identifying asymptomatic, average-risk population and proven to be a cost effective method (Bond 2002). Unfortunately, screening using iFOBT kits remain low, specifically in lower income populations. Colorectal cancer screening disparities are linked to a
combination of socioeconomic disadvantages from lower education and income, place of residence, and inadequate insurance (Doubeni et al., 2009). This patient population comprises that of Watts Health Center.

Watts Health Center is a federally qualified health center (FQHC) serving Service Planning area 6 (SPA-6) of Los Angeles, CA; this includes Athens, Compton, Crenshaw, Florence, Hyde Park, Lynwood, Paramount, and Watts. Colorectal cancer mortality rate in SPA-6 is one of the highest compared to the all Los Angeles County at 20 per 100,000 individuals (Los Angeles Department of Public Health, 2009). Majority patient population at Watts include African American/Black (80.8%) and Hispanic/Latino (45.7%), and 99.0% patients are at or below 200% poverty level (HRSA, 2014). According to the Centers for Disease Control and Prevention, African/Black Americans had highest incidence rates of colorectal cancers followed by Whites and Hispanic/Latinos. The iFOBT kit used currently in the facility is the InSureFIT test, which is shown to have 87% sensitivity for colorectal cancer and 33% higher sensitivity than previous guaiac-based FOBT screening test (Enterix Inc, 2013). Accurate results require the patient to collect two samples of their stool on two different days at home and bring it back to the Watts Health Center Laboratory.

In previous studies, reminder telephone calls to patients, both automated and live calls, showed significant improvement in iFOBT return rates (Morsen et al, 2010). In addition, community preventive services task forces concluded strong evidence for the effectiveness of client reminders for increasing iFOBT completion. Therefore, this method will be tested for the patient population at Watts Health Center. There is no current reminder system in the iFOBT workflow, and if testing proves effective, further implementation will be advised. Furthermore, emphasis will be placed on patient education in order to increase patient activation.

In 2013, 61% of eligible patients have current iFOBT completed (HRSA 2014). This remains below Healthy People 2020 plan goals of 70.5% and Watts Health Corporation goals of 75%. By increasing the amount of patients that return completed iFOBT kits, the overall number of eligible
patients successfully screened annually and the current colorectal cancer screening workflow at Watts Health Center may be improved.

Methods

Root Cause Analysis Model

Root-Cause Analysis was performed in order to find a problem to fix. Providers, medical assistants, and nurses from Adult Medicine Department were given surveys (Appendix A) in order to assess the current workflow.

Plan Study Do Act (PDSA) Model

The PDSA template used was from the Institute for Healthcare Improvement. This is a “trial-and-learning” method to test for changes quickly to see how they work and if there were improvements. This was used because of the time constraints of this project.

PDSA Cycle 1 Reminder Telephone Calls 7-10 days after initial

Research Design: Randomized trials consisting of two colorectal screening interventions: (a) Patients without reminder phone calls; and (b) patients receiving colorectal screening kits with reminder phone calls one week after colorectal home kits are disbursed.

• Group A consisted of 80 randomly selected English- and Spanish-speaking patients who did not receive telephone reminder calls about returning the iFOBT kits. These 80 random patients had appointments between June 16 and June 27 of year 2014. Return rate was measured in percentage and calculated by dividing the number of patients with a completed iFOBT results by the total number of patients receiving the iFOBT kits during their appointment. All data was collected from the eClinical Works, the electronic health record system at Watts Health Center.

• Group B consisted of 80 eligible randomly selected English- and Spanish-speaking patients who received telephone reminder calls 7-10 days after receiving FOBT kit.
These 80 random patients had appointments between July 7 and July 23 of year 2014, and eligibility meant reminder messages were reached by patients or their answering machines. Messages and telephone conversations were in specific languages (English or Spanish) to eliminate language barriers between patients. Return rate was measured in percentage and calculated by dividing the number of patients with a completed iFOBT results by the total number of patients receiving the iFOBT kits during their appointment. Results were collected using the eClinicalWorks, the current electronic health records used at Watts Health Center.

**Research subjects:** Patient population in this study include patients from Watts Health Center (African American/Black and Hispanic/Latino patients, with majority at 100% or below poverty level) between ages 50 and 75 or those with family history of colorectal cancer.

**Research Setting:** Watts Health Center is a federally qualified health center (FQHC) serving Service Planning area 6 (SPA-6) of Los Angeles, CA; this includes Athens, Compton, Crenshaw, Florence, Hyde Park, Lynwood, Paramount, and Watts. iFOBT kits were given out at the Adult Medicine Clinic.

**PDSA Cycle 2 Educational and instructional flyer handed out with iFOBT kits.**

**Research Design:** The educational and instructional flyer was created based upon observations of PDSA Cycle 1. The flyer included both English and Spanish text about the importance of iFOBT colorectal cancer screens, education about colorectal cancer specific to African/Black Americans and Hispanics, and directions clarifying where and when to bring the kit back.

- Group C will be 80 randomized English- and Spanish- speaking patients who will receive this flyer to bring home with the iFOBT kits. The kits will be given out by the medical assistants and nurses as part of the discharge portion of the workflow (when the patients also receive the iFOBT kits). Results were collected using the eClinicalWorks, the current electronic health records used at Watts Health Center.
Research Subjects: Patient population in this study include patients from Watts Health Center (African American/Black and Hispanic/Latino patients, with majority at 100% or below poverty level) between ages 50 and 75 or those with family history of colorectal cancer.

Research Setting: Watts Health Center is a federally qualified health center (FQHC) serving Service Planning area 6 (SPA-6) of Los Angeles, CA; this includes Athens, Compton, Crenshaw, Florence, Hyde Park, Lynwood, Paramount, and Watts. iFOBT kits were given out at the Adult Medicine Clinic.

iFOBT colorectal cancer screening workflow analysis method

I shadowed the Adult medicine healthcare team and analyzed their current protocols for giving out FOBT kits to patients. A workflow was constructed of the current iFOBT colorectal cancer screening. A literature review was used to find the most efficient and population appropriate recommendations to create an improved workflow for the team to follow.

Results

Root - Cause Analysis (Appendix B)

According to surveys (Appendix A) given out to the Adult medicine team, 5 out of 8 medical assistants stated patients did not return their kit because they simply forget to. 3 out of 8 stated patients lost their kits. Not having a reminder system was chosen to be the problem to be fixed.

PDSA 1 Telephone Reminder System (Appendix C)

Out of the 80 eligible patients who received telephone reminder calls 7-10 days after their initial appointment, 49 patients brought back the iFOBT kit completed. Out of the 80 patients who did not receive telephone reminder calls, 37 patients brought back the iFOBT kit completed. There was a 15% increase in return rate for those who received reminder phone calls versus those who did not. Few observations were noted while speaking with patients: many patients did not know when to bring the
iFOBT kits back, where to bring the iFOBT kits back, or what the iFOBT kits was for. Spanish speaking patients particularly did not understand what the iFOBT kits tested for.

_**PDSA 2 Educational and Instructional Flyer Handed Out with iFOBT kits. (Appendix D)**_

Only 30 patients out of the proposed 80 patients received the flyer with iFOBT kits. Flyer and kits were handed out beginning on July 24, 2014, however, were discontinued because the iFOBT kits ran out. Out of the 30 patients, 6 patients brought the iFOBT kits back in a week.

_**Current iFOBT Workflow, Observations, literature review recommendation (Appendix F, G, H)**_

Current workflow, problematic issues, and recommendations based on literature review is presented via Appendix F, G, H.

**Discussion**

_**PDSA Cycle 1-Telephone reminder call system (Appendix E)**_

The telephone reminder system was shown to be effective for increasing amount of patients bringing their iFOBT kits. 15% is not a significant increase, however, due to the nature of iFOBT kit delivery being multifold, telephone reminders may be used as an additive component to help increase the overall number of patients who complete iFOBT on a yearly bases. Also, this may reduce the amount of waste in clinical workflow created when a patient must come back for another appointment. These, however, are preliminary results performed on only eighty patients. Also, these were live calls. Accurate results may be achieved with data collection over a one year span. Implementation of a sustainable telephone reminder system should be incorporated into the calling campaign to expand these trials. This will require reports from IT every two weeks of those receiving the kits and an active leader to follow up with the process. However, the most sustainable option for Watts Health Center with its current condition may be for generation of computerized messages to be sent out for patients.

_**PDSA Cycle 2 - Educational / Instructional flyer (Appendix E)**_
From PDSA cycle 1 (Appendix C), few problems were noted. Few patients that were spoken to during the reminder calls did not know where or when to bring the iFOBT kits back by. Majority did not understand what the test was for or why it was important to perform this test. Although it was observed while shadowing that the patient care team relayed the correct information, most patients did not retain what was being said during the office visit. From these observations, PDSA cycle 2 (Appendix D) incorporated education and correct instructions on where and when to bring the iFOBT kit back. This half a sheet of paper was given with the kits.

During this trial, however, only thirty patients were given the flyer along with the iFOBT kits. This is because the iFOBT kits supply ran out and there was no agreeable protocol for reordering iFOBT kits. Therefore, these results are invalid. This test must be performed again with a protocol for reordering iFOBT kits when stocks are low. However, these flyers proved to be beneficial for the patient care team and has solved the problems patients had with unclear instructions. In a study on improving FOBT compliance using mailed educational reminder, there was an increase of 16.2% of FOBT care return rate (64.4% versus 48.4%) (Lee et al., 2009). Thus, these trials are worth pursuing.

Using PDSA model for improvement

The “plan, do, study, act” model for testing is an efficient way for testing rapidly for change. This method may be used for other weak operations at Watts Health Center for improvements. As part of the Patient Centered Medical Home concept of continuous quality improvement, PDSA is a cost effective method for testing and implementing improvement.

In normal circumstances, cycles begin on a small scale. If there are small improvements, the next cycle may expand. In this study, however, this improvement project was limited to only six weeks. Rather than starting with one individual or sticking with one type of population, both English and Spanish speaking patients were used in the first PDSA cycle. The PDSA method will be more effective when there is no limitation in time. It is recommended that PDSA cycles are continuously performed for colorectal screening for the future until goals are reached.
Recommendations

Educational Video in Waiting Room

In the waiting room, there is no education about colorectal cancer screening. Currently, patients only hear this from their providers if time permits. According to the study by Sherwin et al (2013), it was shown that educational videos in the waiting room help improve shared decision making and help lessen the time with the physician. This allows patients to take control of their own health and open room for discussion with their providers. In addition, a study performed on ambulatory care patients showed that patients were more satisfied when watching educational video during wait time (Oermann, 2003). In a federally qualified health center, it is difficult for a provider to educate on all medical conditions during an office visit with the massive amount of patients needed to be seen per day to maintain financial stability. A study in rural family practice in the United Kingdom concluded that 23% of patients remembered waiting room poster topics (Wicke et al, 1994); another study by Ward et al (1994) found that 82% of patients attending family medicine clinic took notice of the posters, and 95% of those patients reported reading the poster. These educational videos may help alleviate such limitations. Currently at Watts Health Center, there are televisions in place and educational video campaigns in the waiting will begin in the near future. English and Spanish versions of instructional and education videos found on the InSureFIT site are recommended for waiting room viewing in the future.

Role of Provider in iFOBT workflow

The current workflow for iFOBT in adult medicine consists of the provider advising the patient that it is time for an iFOBT screen. The medical assistant or nurse hands out the iFOBT test kit and explain to the patients how to take the test. Based on literature review, it is recommended that providers at Watts Health Center play a greater role in activating the patient to complete the iFOBT. A study by Davis et al. (2012), rural patients were more likely complete their FOBT screen when receiving the recommendation, education, or the actual FOBT kit from their physician. Rather than having the medical assistants and nurses be the main person giving out the iFOBT and explaining to the patients, they can
reinforce what had already been said during the provider patient interaction. This will require cooperation from leadership to allow for change and physician attitudes to change.

**Patient activation and engagement**

Patient activation refers to a patient’s knowledge, skills, ability, and willingness to manage his or her own health and care. At Watts Health Center, majority of patients are from low socioeconomic backgrounds. Health literacy is an issue that needs to be addressed in these populations. From observations in the study, most patients stated they did not know what the iFOBT kit was for or why they were doing it. It is recommended that the quality improvement team emphasizes patient engagement for future implementation. Although a reminder system increased amount of patients bringing back their iFOBT kits by 15%, it is necessary to focus attention in trying to increase patient activation. A study by Katz et al. (2012) showed that patients in the activated group had more screening test ordered and more completed screening tests. Affecting behavioral changes will relieve the limitations in the clinical setting at a federally qualified health center. Patient care team should be trained with the knowledge and skills to promote patient engagement in clinical practice.

**Addressing Language Barriers**

In the current iFOBT workflow, only English iFOBT kits and instructions are given out. There have been an increased number of Hispanic patients that now use Watts Health Center as their main care. It is important to provide access to this population by providing Spanish speaking tools. In order for implementation plans to be successful, both Spanish and English should be accessible to all patients. In both the educational tool and reminder call trials performed in this study, both English and Spanish languages were used to communicate with patients. In order to maintain sustainability and successful results, these standards must be maintained in future implementation.
Conclusion

From this study, live telephone reminder calls were tested successfully and is now planned for implementation in the near future. Also, educational and instructional flyers were implemented for medical assistants to give out along with the iFOBT kit during discharge. These are preliminary data; thus, accurate results will require continuous monitoring and data collections over a year span. As part of a patient centered medical home model, PDSA cycles should continuously be ran until goals are met for the number of patients screen as well as workflow efficiency.

The iFOBT kit for colorectal cancer screening is different than other screens. It requires a patient to bring the kit home, perform the test on his or her own over the span of two days, and bring it back to the clinic by a certain time. This may seem like a simple task, however in a federally qualified health center, most patients are Medicaid patients and considered in low socioeconomic status. There is low health literacy, lack of transportation, and limited access to resources. In addition Watts Health Center is limited to funds for additional employment or medical resources. Although reminder system help increase numbers of patients that screened, it is an obligation to inform patients of the importance of screening. In order to increase amount of patients to complete the iFOBT based colorectal cancer screening significantly in this population, it is recommended to divert future improvements towards improving patient activation. If there is a way to improve patient behavior while in a clinic, health outcomes may be also improved.
References


Oermann MH. Effects of educational intervention in waiting room on patient satisfaction. J Ambul Care Manage 2003;26(2):150-8


Appendix A

Primary Care Leadership Program Project Surveys

**Colorectal Screening Quality Improvement:**
The main focus of this questionnaire is to access colorectal screening protocol. Currently, Watts Health Corporation is performing at about 61% for colorectal screening. This means 61% of the total number of patients eligible for colorectal screenings (patients ages 50-75) are completing their annual screenings with results. The goal is to increase these numbers to 70%.

QUESTIONNAIRE: Please answer to the best of your ability. These are not evaluations so please be honest. These questions will be crucial in determining a starting point for improvement. We appreciate your help in our projects!

Profession: __________________

1. Do you physically hand patients the colorectal screening home kits? (please circle): Y N
2. Do you explain the how to complete the kit? Y N
3. Do you feel you have time to explain the how to complete the kit? Y N  
   • If YES, please circle the time frame you tell patients they have to bring back the kit
   one week  two weeks  one month  two months  before the next appointment
4. Do you explain the significance of having annual colorectal screenings? Y N
5. Do you feel you have time to explain the significance of having annual colorectal screenings? Y N
6. Do you have patient who forget to complete their colorectal screenings upon return? Y N  
   • If yes to the question above, please circle any of the following reason(s) stated by patients on why they do not complete their exam (if more than one reason, please rank from the most common to the least common):
      Just forgot to
      Lost the kit
      Did not follow directions correctly
      The kit was too hard to use
      Other __________________
Please state any other comments/concerns you have pertaining to the colorectal screenings:
<table>
<thead>
<tr>
<th>Appendix B Root-Cause Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the problem?</td>
</tr>
<tr>
<td>Why?</td>
</tr>
<tr>
<td>Why?</td>
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<tr>
<td>Why?</td>
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<tr>
<td>Why?</td>
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<tr>
<td>Why?</td>
</tr>
<tr>
<td>Possible solution to test:</td>
</tr>
</tbody>
</table>
Appendix C

**PDSA 1 Telephone Reminder System**

**Aim:** Increase iFOBT kit return rates from patients.

<table>
<thead>
<tr>
<th>List the tasks needed to set up this test of change</th>
<th>Person responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inform medical assistants and nurses to advise patients to bring kits back in 1-2 weeks in order for sufficient data to be collected.</td>
<td>The care team to inform patients to bring iFOBT kit back in 1-2 weeks. I will call english patients and the other PCLP scholar will call the spanish speaking patients. I will access EHR to record data.</td>
<td>Reminder calls will be placed 7-10 days after patients receive the iFOBT kits during their appointment.</td>
<td>Performed at Watts Health Center - Adult Medicine Department</td>
</tr>
<tr>
<td>2. Call 80 patients 7-10 days after appointment to remind patients to bring in iFOBT kits within the next week. Record observations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Use eClinicalWorks (EHR) system to access data if iFOBT is returned within 4 weeks.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Compare the percentage of those who brought back the iFOBT kit with reminder calls with that of those without a reminder call.</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Predict what will happen when the test is carried out**

<table>
<thead>
<tr>
<th>Measures to determine if prediction succeeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be an increase iFOBT kit returns with those patients receiving reminder telephone calls about bringing back the iFOBT kits.</td>
</tr>
</tbody>
</table>
**Do**

Describe what actually happened when you ran the test
- Few telephone numbers were not working, showed busy tone, no one to pick up, or mail box was not set up. These calls were omitted from the group receiving reminders.
- Patients did not understand what the iFOBT test was for.
- Patients did not understand where to bring it back. Patients thought they had to mail it in rather than physically bringing it back to the kit. Instructions were either not clear or patients forgot after they leave appointment.
- Some patients thought they did not have to bring the kit back in until their next appointment which was 3 months after previous appointment.
- Spanish speaking patients seem to not like the idea of performing the test.
- Patients did not have any issues with how to collect data.
- Some patients did not know how to get transportation to the Watts Health Center Laboratory.
- The current EHR system (eClinicalWorks) is not always reliable in producing accurate results.

**Study**

Describe the measured results and how they compared to the predictions
- 46.2% patients brought back the iFOBT kit when not receiving a reminder telephone call.
- 61.2% patients brought back the iFOBT kit when receiving a reminder telephone call.
- By calling patients 7-10 days after initial appointment, the return rate went up by 15%.

**Act**

Describe what modifications to the plan will be made for the next cycle from what you learned.
- Reminder phone calls will probably have to be computerized messages because there is currently no sustainable method for live calls until EHR system is proved accurate. The next step is to set up a computerized system for the reminder calls into eClinicalWorks.
- Patients are not clear about importance of iFOBT screening kits and where or when to bring them back. The next step is to create a reminder flyer with clear directions to patients on how to bring back the iFOBT kit. This extra task should be intended to help the care team rather than create extra work.
Appendix D
PDSA 2 Reminder and educational flyer

Aim: Increase iFOBT kit return rates from patients

<table>
<thead>
<tr>
<th>Describe your first (or next) test of change:</th>
<th>Person responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous observations of PDSA cycle 1:</td>
<td>Medical assistants and nurses will give them out with the iFOBT kits.</td>
<td>Time period will vary depending on how many qualified patients receive iFOBT. The goal is to this out to 80 patients.</td>
<td>Performed at Watts Health Center - Adult Medicine Department.</td>
</tr>
<tr>
<td>It was observed that many patients did not have clear directions about how to return the kits. Because Watts Health Center do not have the resources for patients to send their samples back via mailing, patients must physically take it back to the Watts Health Center Lab. Another observation from previous test was that many patients did not understand what the iFOBT kit was testing for.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Next test:</td>
<td></td>
<td></td>
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<tr>
<td>Test the effectiveness of giving patients educational flyer with information on importance of iFOBT colorectal cancer screening kit and clear directions on where and when to bring the iFOBT by.</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
List the tasks needed to set up this test of change

<table>
<thead>
<tr>
<th>Task</th>
<th>Person responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create an educational flyer which includes both english and spanish text about colorectal cancer and the importance of completing annual iFOBT screenings. The information will be specific to African/Black Americans and Hispanics, which comprise mainly of Watts Health Center. On the back side, directions on where and when to bring the kit will be in displayed.</td>
<td>I will be creating the English text on the flyer. I will work with medical assistants and nurses to get input on what is important to put on the flyer. The other PCLP scholar will help with translation into spanish text. The Adult medicine team will pass them out with the iFOBT kits.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Get the flyer approved by the Chief Medical Officer and get feedback from Director of Clinical Operations and Administration, medical assistants, and nurses.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Inform Nurse Manager, medical assistants, and licensed vocational nurses to explain and pass out with the iFOBT kits.</td>
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<td></td>
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</tr>
<tr>
<td>4. Record percentage of those receiving the educational flyer.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Give out a survey to see what the care team thinks about passing out the</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predict what will happen when the test is carried out

<table>
<thead>
<tr>
<th>Prediction</th>
<th>Measures to determine if prediction succeeds</th>
<th></th>
<th></th>
</tr>
</thead>
</table>
This flyer will supplement the reminder telephone call system and help increase the percentage of patients bringing back the iFOBT kits by decreasing confusion among patients. Also, it will help Medical assistants and nurses by eliminating language barriers in information delivery.

If the percentage of iFOBT kit returns increase compared to previous protocols, this method is successful. If the surveys show medical assistants and nurses are willing to adopt this method, this will be a sustainable protocol to be implemented.

**Do**

Describe what actually happened when you ran the test

- This test was limited by time. My PCLP program is only 6 weeks, therefore data will be hard to collect. I only have one week rather than 4 weeks to wait for returns.
- In the middle of the testing, the iFOBT kits were out. There was no system that was sustainable for continuously ordering the test kit. Only 30 patients were able to receive the iFOBT kit

**Study**

Describe the measured results and how they compared to the predictions

- 20% (5/30 patients) bought back the iFOBT kit within one week (July 21)

**Act**

Describe what modifications to the plan will be made for the next cycle from what you learned

- This test needs to be completed again because of insufficient data due to time and lack of resources.
- Also, a protocol for reordering iFOBT kits needs to be addressed and implemented before trying this method again.
<table>
<thead>
<tr>
<th>APPENDIX E</th>
<th>Total eligible patients that were given iFOBT kits at appointment</th>
<th>Total patients that brought back by August 8, 2014</th>
<th>Return rate</th>
</tr>
</thead>
</table>
| **Group A did not receive reminder calls**  
start: June 16, 2014 | 80 | 37 | 46.2% |
| **Group B received reminder calls**  
start: August 15, 2014 | 80 | 49 | 61.2% |
| **Group C received Educational/instructional flyer with**  
start: July 24, 2014 | 30 (invalid amount because adult medicine ran out of kits) | 6 | 20% |
During chart preparations, medical assistants, licensed vocational nurse adds into the CDSS alert system that patient is due for a colorectal screen.

**Current iFOBT Colorectal Cancer Screening Workflow**

1. **Patient comes into waiting room and checks in**
2. **Patient gets called in, sees the medical assistant or nurse to get an initial assessment/vitals**
3. Patient sees provider. Provider gets an alert from CDSS showing that patient is due for their colorectal cancer screening (usually over the age of 50), the doctor puts in an order for the iFOBT colorectal cancer screen kit. Provider explains about colorectal cancer and the importance of iFOBT annual screenings.
4. **Watts Health Laboratory orders InSureFIT kit from Quest Diagnostics and distributes to Adult Medicine**
   - If run out of iFOBT kits, Adult Medicine calls lab to reorder more
5. At discharge, medical assistants or nurses reviews the orders and checks off when kit is given to the patients. This marks on eClinical Works that the lab order is transmitted to the lab.
   - The medical assistant or nurse hands out the iFOBT kit to the patient. The yellow envelope with Quest diagnostic lab address is taken out of the kit.
   - The medical assistant or nurse explains to the patient how to take the sample and when to bring it back.
6. **Problem Here**
   - Patient takes the iFOBT kit home, collects the sample, and brings it back to Watts Health Laboratory.
7. **CRITICALLY ABNORMAL**
   - When Quest receives the sample, they check collected in eClinical/Works (date stamp). After sample is analyzed, report is placed on eClinical/Works and another date is dissolved.
8. **ABNORMAL**
   - Provider reviews labs when they come in during administrative time. Provider changes results status (normal or abnormal) on eClinical Works and checks “reviewed” on eClinical Works.
9. **NORMAL**
   - If normal, patient is not informed and is told at the next appointment by provider.
10. **Lab taxes attention to nurses**

If the result is abnormal, the provider reviews the labs when they come in during administrative time. The provider changes the result status (normal or abnormal) on eClinical Works and checks “reviewed” on eClinical Works.

If the result is normal, the patient is not informed and is told at the next appointment by the provider.
| Appendix G |
|-----------------|-----------------|-----------------|
| **Current Workflow** | **Observations/ opportunities to eliminate waste in workflow.** | **Recommendations based on Literature** |
| During chart preparations, medical assistants, licensed vocational nurse adds into the CDSS alert system that patient is due for a colorectal screen. | This is a good system that reminds providers to order iFOBT kits. | |
| Patient gets called in, sees the medical assistant or nurse to get an initial assessment/vitals | Based on shadowing medical assistant and nurses, nothing is spoken about colorectal cancer screenings during this time. | |
| Patient sees provider. Provider gets an alert from CDSS showing that patient is due for their colorectal cancer screening (usually over the age of 50), the doctor puts in an order for the iFOBT colorectal cancer screen kit. Provider explains about colorectal cancer and the importance of iFOBT annual screenings. | From speaking with patients on the telephone, many seem to not have an understanding of what iFOBT kits are and how important they are. Based on shadowing experience, providers use a traditional approach to advise patients (provider tells patients what to do). | Provider should be the one that physically gives out the FOBT kits, recommendation, and educational flyer. Intense education for colorectal cancer and iFOBT screen should be discussed by provider. |
## Appendix G

<table>
<thead>
<tr>
<th>Current Workflow</th>
<th>Observations/ opportunities to eliminate waste in workflow.</th>
<th>Recommendations based on Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>At discharge, medical assistants or nurses reviews the orders and checks off when kit is given to the patients. This marks on eClinical Works that the lab order is transmitted to the lab.</td>
<td>iFOBT kits: english instructions that come with the kit and given to patients include wrong information. It states to mail to Quest Diagnostics when patients must physically take it to Watts Health Center Laboratory. Based on observations, there is no Spanish instructions for Spanish speaking patients. Based on surveys to medical assistants and nurses, there is no uniform instructions upon when to return the iFOBT kit by. Some patients instructed to bring back in a week or two. Others are instructed to bring in when they get blood work or by their next appointment.</td>
<td>During discharge, medical assistants and nurses should iterate what the doctor says. Ask patients about the iFOBT kit to ensure patients know what it is for, when to bring it in, and where to bring the kit in. Medical assistants or nurses should give Spanish instructions sheet for the InsureFIT test alleviate language barriers. An education and instructional flyer should be given out with the iFOBT kits. Medical assistants should set up reminder system, and let them know they will be reminded to bring their kits back in two weeks by computerized script. They should also let the patient know that if the test is normal, they will not receive a phone call. If it is abnormal, patient will receive a phone call to come in. Reassure the patient that if it is abnormal, it may be a false positive so further evaluation will be needed.</td>
</tr>
<tr>
<td>The medical assistant or nurse hands out the iFOBT kit to the patient. The yellow envelope with Quest diagnostic lab address is taken out of the kit.</td>
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<tr>
<td>The medical assistant or nurse explains to the patient how to take the sample and when to bring it back.</td>
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<tr>
<td>If Run out of iFOBT kits, Adult Medicine calls lab to reorder more Watts Health Laboratory orders InSureFIT kit from Quest Diagnostics and distributes to Adult Medicine</td>
<td>iFOBT ran out with no one to reorder. There is confusion about the protocol with reordering iFOBT supplies. The lab states that they told Adult medicine to order it a month ago. Adult medicine states it is the lab’s responsibility to reorder the iFOBT kits.</td>
<td>The Adult medicine should order their own kits when iFOBT supplies are low. The Nurse manager of adult medicine is first in line to reassure sufficient supplies. The head licensed vocational nurse will be second in line. The head LVN will be in charge of calling for more iFOBT kits from Quest Diagnostics.</td>
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<tr>
<td><strong>Current Workflow</strong></td>
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<tr>
<td>Patient takes the iFOBT kit home, collects the sample, and brings it back to Watts Health Laboratory.</td>
<td>There is no proper envelop to put the iFOBT kits in to bring back to the lab.</td>
<td>Reminder telephone system should be implemented 2 weeks after the patient receives the iFOBT kit. The Director of Clinical Operations will check every 2 weeks to make sure reminders are being sent in the system login.</td>
</tr>
<tr>
<td>When Quest Diagnostics receives the sample, they mark “collected” in eClinicalWorks (date stamp). After sample is analyzed, report is placed on eClinicalWorks and another date is displayed. If critically abnormal, the Lab faxes attention to nurses</td>
<td>No observations made with Quest diagnostics.</td>
<td></td>
</tr>
<tr>
<td>Provider reviews labs when they come in during administrative time. Provider changes results status (normal or abnormal) on eClinical Works and checks “reviewed” on eClinicalWorks,</td>
<td>In the eClinicalWorks, not all results are filled out after providers review them. This is will inaccurate colorectal cancer statistics. There is no uniform way of filling in results. Some are filling in “not detected” rather than “normal”, “detected” rather than</td>
<td>Providers must go back into the system for all of 2014 to fill in results. If providers do not have the time, IT must make the option available for someone from the quality improvement team to enter data in with approved permission from the provider. The results selected should be normal, abnormal, or invalid to mean not detected, detected, or invalid respectively.</td>
</tr>
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<td>If normal, patient is not informed and is told at the next appointment by provider</td>
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<td>If abnormal or if receive critically abnormal from lab, provider informs nurses to call patients to come in for same day appointment or ASAP</td>
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</table>
Appendix H

During chart preparations, medical assistants, licensed vocational nurse adds into the CDSS alert system that patient is due for a colorectal screen.

**Changes to iFOBT Colorectal Cancer Screening Workflow**

Patient comes into waiting room and checks in.

Patient gets called in, sees the medical assistant or nurse to get an initial assessment/vitals.

Patient sees provider. Provider gets an alert from CDSS showing that patient is due for their colorectal cancer screening (usually over the age of 50), the doctor puts in an order for the iFOBT colorectal cancer screen kit. Provider explains about colorectal cancer and the importance of iFOBT annual screenings.

At discharge, medical assistants or nurses reviews the orders and checks off when kit is given to the patients. This marks on eClinical Works that the lab order is transmitted to the lab. The medical assistant or nurse hands out the iFOBT kit to the patient. The yellow envelope with Quest diagnostic lab address is taken out of the kit. The medical assistant or nurse explains to the patient how to take the sample and when to bring it back. Medical assistant or nurse will hand out the educational/instructional flyer to the patient with the iFOBT kit, and write out date to bring it back by. Hand out Spanish instructions if necessary. Medical assistant will go into eClinical Works and select reminder message.

A computerized message reminding patients to bring back the iFOBT kit will be placed one week after patient receives the iFOBT kit.

When iFOBT kit is down to a few boxes, the head LVN will be notified and he/she will reorder more.

Patient takes the iFOBT kit home, collects the sample, and brings it back to Watts Health Laboratory.

**CRITICALLY ABNORMAL**

When Quest receives the sample, they check collected in eClinical Works (date stamp). After sample is analyzed, report is placed on eClinical Works and another date is displayed.

Lab faxes attention to nurses.

Provider informs nurses to call patients to come in for same day appointment or ASAP.

**ABNORMAL**

Provider reviews labs when they come in during administrative time. Provider changes results status (normal or abnormal) on eClinical Works and checks "reviewed" on eClinical Works.

**NORMAL**

If normal, patient is not informed and is told at the next appointment by provider.