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Increasing Colorectal Cancer Screening in an Overdue Population: Participation and Cost Impacts of Adding Telephone Calls to a FIT Mailing Program

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Abstract

Many people who live in rural areas face distance barriers to colonoscopy. Our previous study demonstrated the utility of mailing fecal immunochemical tests (FIT) to average risk patients overdue for colorectal cancer (CRC screening). The aims of this study were to determine if introductory and reminder telephone calls would increase the proportion of returned FITs as well as to compare costs. Average risk patients overdue for CRC screening received a high intensity intervention (HII), which included an introductory telephone call to see if they were interested in taking a FIT prior to mailing the test out and reminder phone calls if the FIT was not returned. This HII group was compared to our previous low intensity intervention (LII) where a FIT was mailed to a similar group of veterans with no telephone contact. While a higher proportion of *eligible* respondents returned FITs in the LII (92% vs. 45%), there was a much higher proportion of FITs returned out of those mailed in the HII (85% vs. 14%). The fewer wasted FITs in the HII led to it having lower cost per FIT returned (\$27.43 vs. \$44.86). Given that either intervention is a feasible approach for patients overdue for CRC screening, health care providers should consider offering FITs using a home-based mailing program along with other evidence-based CRC

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screening options to average risk patients. Factors such as location, patient population, FIT cost and reimbursement, and personnel costs need to be considered when deciding the most effective way to implement FIT screening.

Keywords

Colorectal Cancer Screening; Fecal Immunochemical Test; Intervention; Cost Comparison

Introduction

Colorectal cancer (CRC) is the third most common cancer diagnosed in the United States (US) [1]. In 2013, close to 143,000 Americans were diagnosed with CRC, and approximately 51,000 died from this disease [1]. Improving screening rates reduces the economic and health burden of CRC by allowing intervention at an earlier stage of the disease. It has been estimated that if all eligible adults in the US aged 50 and older were offered screening, over 18,000 CRC deaths could be prevented, with a cost-effectiveness ratio of close to \$12,000 per year of life gained [2]. The US Preventive Services Task Force recommends asymptomatic, average-risk adults aged 50–75 years receive a screening colonoscopy every 10 years, sigmoidoscopy every 5 years with high-sensitivity fecal occult blood testing (FOBT) every 3 years, or a yearly high-sensitivity FOBT [3]. Approximately 65% of age eligible adults in the US were screened in 2012, which is below the *Healthy People 2020* target of 70.5% and well below the CDC's Colorectal Cancer Program goal of 80% by 2014 [4].

Receipt of CRC screening is hampered by the presence of many barriers including cost, lack of health insurance, lack of effective communication between healthcare providers and patients, lack of knowledge regarding CRC risk and screening options, discomfort associated with bowel preparation and the test itself (e.g., colonoscopy), and rural residence [5–9]. While approximately 80% of veterans who receive primary care at a Veterans Affairs (VA) facility are up-to-date on CRC screening nationally, rurality is a particularly relevant issue to the VA, given that more than 2 million (36%) of enrolled veterans live in rural and highly rural areas [10, 11]. Veterans living in rural areas face additional challenges to the receipt of CRC screening, such as distance and the need to travel to a VA medical center for colonoscopy. Veterans who live several hours away from the nearest VA medical center may be unable or unwilling to endure the long travel time given the bowel preparation necessary prior to the test, and may also face difficulty arranging transportation to and from colonoscopy as they are not able to drive afterwards due to the use of sedative agents during the procedure [5, 12].

The Fecal Immunochemical Test (FIT), a high-sensitivity fecal occult blood testing (FOBT) that detects human hemoglobin in the stool rather than heme peroxidase activity has been recently approved for use in the VA [13]. While samples for both the FOBT and FIT can be collected at home by the patient, the FIT requires only one sample, and results are not affected by diet or medications [13–15]. In our previous study, we demonstrated a significantly higher percent receiving CRC screening by any method in patients who

received a FIT and educational materials in a single mailing (21%) as compared to those who only received educational materials or usual care (both groups 6%). However, among the group randomized to receive the FIT plus educational materials, only 13% ultimately returned a FIT [16].

The objective of this study was to determine if a high intensity intervention (HII) involving introductory and reminder phone calls from study staff would increase the percent of eligible patients returning FIT tests as well as reduce the percent of unreturned FIT tests, as compared to the low intensity intervention (LII) in our previous study [16]. We also performed a cost-benefit analysis to compare the costs of the introductory and reminder phone calls with the costs of unreturned FIT kits.

Methods

The University of Iowa Institutional Review Board and the Iowa City VA Research and Development Committee approved this study.

Patient population

The study population consisted of veterans ages 51 to 65 years old who had two or more primary care visits at the Iowa City VA Health Care System in the prior 12 months, and had not been randomly selected to be in the FIT, education, or usual care group in our previous study conducted earlier that year [16]. Patients who had a record of colonoscopy within the last 10 years, flexible sigmoidoscopy, or double contrast barium enema (DCBE) within the last 5 years, or FOBT in the last 18 months within the VA system were excluded. Participants who self-reported being up-to-date on screening from outside the VA during the survey were still offered the FIT as we were unable to validate these self-reported CRC screens and wanted to ensure all those eligible received timely screens in case the self-reports were not accurate. Patients who self-reported symptoms of CRC within the past 12 months, current or past history of CRC, or conditions predisposing them to CRC were excluded and received a phone call from the study team physician to facilitate appropriate follow up. Patients over age 65 were also excluded due to the likelihood of using non-VA screening services covered by Medicare.

Study protocol

Low-Intensity Intervention (LII)—The LII, which has been described previously, involved the mail-out of a packet only, with no introductory or reminder phone calls or participation incentives. The packet contained a letter explaining the study, CRC screening educational materials, consent and HIPAA forms, an eligibility screening questionnaire, a brief survey regarding the patient's prior CRC screening experience and opinions regarding the different CRC screening options, a Polymedco OC FIT-CHEK ® (Polymedco, Inc., Cortlandt Manor, NY) kit with instructions, and two postage-paid, self-addressed envelopes, one in which to return the consent, HIPAA form, eligibility questionnaire and survey to the study team, the other in which to return the FIT directly to VA medical center laboratory [16].

High Intensity Intervention (HII)—First, patients were mailed recruitment packets which included: 1) a recruitment/consent letter, 2) CRC education materials, and 3) a small gift as an incentive/token of appreciation for their time (e.g. pen, pad of paper, grocery tote-item worth less than \$5). Approximately a week after the recruitment packet was mailed, a study team member called the patient to be certain they received the packet and if they were interested in participating in the study. Participant consent for the eligibility questionnaire and survey was given over the phone.

Second, consenting patients were screened for study eligibility by asking if they had any of the following: blood in their stools, change in bowel habits, thin/pencil-like stools or great difficulty passing stools in the past two months, personal history of inflammatory bowel disease, colon polyps, or colorectal cancer, or family history of colorectal cancer, adenomatous polyposis or hereditary non-polyposis colon cancer. If patients answered ‘yes’ to any of these questions, they were informed that they were not eligible for the study and were subsequently contacted by a study team physician who encouraged and facilitated appropriate follow-up. Those who answered ‘no’ to all screening questions were asked if they were willing to participate in a brief telephone survey about CRC screening, which included questions regarding: current health status, education, marital status, health care coverage, whether or not they had a non-VA primary care provider, history of colonoscopies, FOBTs, and FITs, and reasons why a colonoscopy or at-home test (either FOBT or FIT) were not taken, as applicable.

Patients who reported they were hard of hearing or preferred a paper version of the survey were mailed the survey instrument. Those agreeing to take the survey (whether or not the survey was ultimately completed) were compensated with a mailed \$10.00 check. Both the eligibility screening questionnaire and survey instrument were developed by a co-investigator (BTL) and used in previous studies of CRC screening interventions in non-veteran populations [7, 17]. The same eligibility questionnaire and survey were used in both the LII and HII.

Third, after survey completion, participants were asked if they were interested in taking a FIT, and if so, were mailed a cover letter, FIT with instructions (Polymedco OC FIT-CHEK®, Polymedco, Inc., Cortlandt Manor, NY), consent document and HIPAA form, and two pre-addressed postage-paid envelopes (one to send the completed FIT to the VA laboratory, and one to send the completed consent and HIPAA form to the study team).

If the FIT, consent and/or the HIPAA forms were not received within two weeks of the completed introductory phone call, reminder phone calls were attempted at various times of the day until the participant was reached or returned the call. Three, two-week call cycles separated by one week in between were employed, with each cycle involving eight calls and a limit of one voicemail message per week.

Analysis

Demographic characteristics between LII and HII groups were examined to ensure comparability between the groups. However, a difference between the number of males and females in the HII and LII was expected due to oversampling of females in the LII, thus

leaving few eligible females for recruitment in the HII. The proportion screened in both the LII and HII (entire sample and among eligible participants only) was calculated. Statistical differences were detected using Chi-Square or Fisher's exact tests as appropriate.

Cost differences between the LII and HII were assessed using the average cost per CRC screening received within six months of the intervention. For both interventions, the total cost (mailing + postage) for each unreturned FIT was estimated to be \$6.20, and the cost of a returned FIT was estimated to be \$7.40. HII telephone call costs were determined by call type and average call type length in minutes (no answer/leave message/reschedule call=1 minute; study introduction/refusal=2 minutes; study introduction + eligibility questions=7 minutes; missing FIT=2 minutes). Time associated with the study's survey administration was not included as this would likely not be part of a FIT screening program in an actual health care practice. Study telephone call minutes were summed for participants, non-participants, and those never reached, multiplied by \$0.25/minute (i.e., \$15/hour - the 2013 base salary for a GS level 5 step 1), and divided by the sample size to estimate a per Veteran telephone cost. All FIT tests were analyzed using the Polymedco OC FIT-CHEK® OC-Auto Micro 80 system; laboratory expenses were not included in our cost estimates.

A sensitivity analysis of the estimated cost per FIT returned was conducted, holding alternately the cost per FIT or hourly salary constant, in order to determine at what point the interventions' costs crossed over, assuming the same FIT return rates as found in our interventions. All analyses were conducted using SAS statistical software version 9.3 (Cary, NC) and Microsoft Excel 2010 (Redmond, WA).

Results

The LII study population has been described previously [16]. In the HII study, there were 2,392 veterans mailed recruitment letters between July and December 2011. Seventy-three percent (n=1,745) were contacted by telephone and 43% (n=742) agreed to participate. Of those eligible (n=414), 46% (n=190) agreed to take a FIT, with 85% (n=161) ultimately returning a FIT. Of the returned FITs, 11% (n=18) were positive (Figure 1).

Table 1 compares the characteristics of the HII and LII study samples. The majority of eligible survey participants in both interventions were male, white race/ethnicity, resided in rural areas, were married/partnered, and had at least some college education. Most participants self-reported their general health as at least "good", and reported having someone to bring them to health care appointments. The only statistically significant difference noted between the HII and LII samples was the frequency of male vs. female participants, due to oversampling of females in the LII as noted in the methods.

Of the 2,392 veterans we attempted to contact in the HII, ultimately 13 % (n=314) were CRC screened by any method within 6 months of the recruitment letter mail out date. This was significantly lower than the 21% who were CRC screened in the LII. The difference was even more pronounced among eligible participants, with 45% of eligible participants in the HII receiving screening within six months as compared to 92% in the LII. Among

eligible HII participants, 39% (n=161) received a FIT, while 5% (n=22) received colonoscopies and 1% (n=3) received FOBT (Table 1).

Three hundred veterans reported up-to-date CRC screening from outside the VA or having a screening scheduled in the near future at initial contact in the HII, and refused to participate in the survey (Figure 1). Among the participants who self-reported up-to-date screening during the survey in the HII (n=209), 6% (n=13) took a FIT test within six months of the study invitation, while 4% (n=8) received a colonoscopy, 1% (n=3) took an FOBT, and 89% (n=185) received no CRC screening within the VA. Of the 13 who reported being up-to-date on screening, but still requested and returned a FIT in the HII, 23% (n=3) reported completing an at home test in the past year but indicated it had likely been close to a full year ago, 46% (n=6) reported having had a colonoscopy seven to ten years ago, 23% (n=3) reported colonoscopy three to six years ago, and one reported colonoscopy within the past two years. As we had no record of these previous screens, we provided FITs to those who expressed desire to take them in case the self-reported information was not accurate. Among the 204 survey participants who did not report being up to date on screening during the HII survey, 73% (n=148) took a FIT within six months of the study invitation, while 7% (n=14) opted instead for a colonoscopy, and 21% (n=42) did not receive a CRC screen within VA (data not shown).

All survey participants who answered 'No' to the survey question, "Have you had a colonoscopy in the last 10 years?" (n=190) were asked about barriers to receiving colonoscopy. Likewise, all who answered "No" to the survey question, "Have you had a take home test (FOBT or FIT) in the last year?" (n=177) were asked about barriers to completing these tests (Table 2). Close to 40% reported CRC screening options as being confusing, while 46% reported that their health care provider had not recommended an at-home test, despite the fact that 57% of participants reported a preference for an at-home test. In addition, nearly 40% reported being too busy and concerns about the painfulness of the procedure as barriers to receiving a colonoscopy.

Table 3 shows the assumptions and results of the LII vs. HII cost comparison. When comparing the proportion of FITs mailed to FITs returned, the HII had a much higher proportion of FITs returned, 161 returned out of 190 mailed (85%), as compared to the LII where only 71 FITs out of 500 mailed were returned (14%). Thirty two veterans in the LII chose instead to receive a screening colonoscopy (n=30) or FOBT (n=2) within six months following the intervention, and were included in the total screened calculation (n=103). Total mailing cost was calculated as follows: [429 unreturned FIT kits × \$6.20 per kit mailed = \$2,659.80] + [71 returned FIT kits × \$7.40 per kit mailed and returned = \$525.40] = \$3,185.20 total LII mailing cost. Therefore, the average cost per FIT returned for the LII intervention = $\$3,185.20/71 = \44.86 and the average cost per CRC screen received = $\$3,185.20/103 = \30.92 .

For the HII, we attempted to contact 2,392 veterans, with the total phone cost being \$3,044.75. One hundred and ninety veterans agreed to take the FIT and were mailed a FIT kit, with 161 of these mailed FITs being returned. 105 FITs were returned with no reminder calls needed, while 34 were returned after one reminder call, 13 after two calls, six after

three calls, three after four calls, while 29 FITs were unreturned despite four reminder calls. The total mailing cost for the HII was: $[29 \text{ unreturned FIT kits} \times \$6.20 \text{ per kit mailed} = \$179.80] + [161 \text{ returned FIT kits} \times \$7.40 \text{ per kit mailed \& returned} = \$1,191.40] = \$1,371.20$ total HII mailing cost. The total cost for the HII was $\$3,044.75$ (phone cost) + $\$1,371.20$ (mailing cost) = $\$4,415.95$. In the entire group of veterans we attempted to contact ($N=2,392$), 153 veterans chose instead to receive a screening colonoscopy ($n=135$), FOBT ($n=17$), or double contrast barium enema (DCBE) ($n=1$), and were included in the total screened calculation ($n=314$). The average cost per FIT returned for the HII was $\$4,415.95/161 = \27.43 and the average cost per CRC screen received was $\$4,415.95/314 = \14.06 .

Finally, Figure 2 shows the sensitivity analysis conducted to determine under what conditions the LII would be lower cost than the HII. Assuming the same FIT return rates, if the employee making the calls hourly salary is $< \$25.00/\text{hour}$ (excluding benefits), the HII will cost less per FIT returned. As shown in Figure 2, only in cases where the employee makes a high hourly salary and the FIT is relatively low cost will the LII achieve a lower cost per FIT returned.

Discussion

The LII had a higher proportion of the full sample and eligible participants screened, but the HII had a much higher proportion of mailed FITs returned, thus leading to fewer wasted FITs and a lower cost per returned FIT. Assuming a similar proportion of returned FITs as in this study, health care practices that pay someone $< \$25.00$ per hour to make telephone calls would achieve a lower cost per FIT returned with the HII protocol. In private sector practices in which completed FITs would be reimbursed via third party insurers/payers, we estimate the LII would cost $\$39.86$ per returned FIT and the HII would cost $\$22.43$, assuming the reimbursement amount covers the full price of the test, but not the mailing costs.

By virtue of having the test and being able to examine it prior to deciding if they wanted to take it or not, a certain proportion of participants in the LII may have been persuaded to complete the test, whereas if they would have been called first to ask their interest in taking the FIT, they may have refused. This is evidenced in the previously described LII study where almost one-third of those in the education-only group indicated that they preferred a colonoscopy to an at-home test, whereas only 6% of FIT group responders indicated they preferred a colonoscopy, which could be a result of being able to examine the FIT prior to responding, and see first-hand that the test is non-invasive and painless [16].

Furthermore, the LII does not exclude patients who could not be reached via telephone. For example, many of the difficult-to-reach patients in the HII reported they were truck drivers, so these types of populations may be easier to reach by mail than by interventions requiring successful telephone contact. An additional difficulty encountered was that the VA issues prepaid cellular telephones with a limited number of minutes to low income veterans, so veterans for whom this was their sole telephone line did not want to use it to participate in the study.

Studies regarding the effectiveness of CRC screening interventions of various levels of intensity have been mixed. A review examining various aspects of participation in CRC screening found that intensive strategies involving mailing FOBTs with telephone follow-up yielded greater than 50% adherence, while low intensity, impersonal interventions yielded adherence ranging from approximately 10%–30% [18]. The LII results were similar to another FIT mail only intervention which did not require the use of informed consent [19]. Other interventions have also found little improvement in overall CRC screening with the addition of telephone calls to a mailed test [17, 20]. Findings from an intervention which also included a mail only and mail plus telephone call(s) arm using FOBT instead suggested there was no difference in self-reported adherence to CRC screening between the group that received an FOBT mail out with no reminders and the group that received FOBT mail out plus reminder letters and telephone calls [20]. Another more recent intervention examining the proportion of FITs returned in a mail only group as compared to a group that also received telephone calls, and found no significant difference in the number of returned FITs between the two groups [17]. However, these studies did not compare costs between the two intervention groups, and rely on overall rates/proportion of screens received as the main outcome.

It should be noted that the HII allowed for patients to report if they had already been screened outside VA. It was often not until after the research team member had explained all of the screening options to the participant that they reported having prior screening within the recommended time period, and even then participants seemed to have difficulty in recalling how long ago they received colonoscopy, as has been found previously in studies of self-reported cancer screening [21]. While we attempted to identify a cohort of patients who were reliant on the VA for health care and would thus receive CRC screening within the VA, patients receiving recruitment letters to our study frequently reported receipt of screening outside the VA. This highlights the potential importance of conducting introductory phone calls within the VA to minimize wasted FITs; other health care systems may not have similar issues of this magnitude.

Our survey revealed that 38% of participants who reported not being up to date on colonoscopy screening endorsed concerns about colonoscopies being too painful, while 57% expressed a preference for an at-home test. These results are consistent with interim results for a large randomized controlled trial demonstrating a higher likelihood of participation in CRC screening using FIT as compared to colonoscopy [22]. Unfortunately, nearly half of all participants reported that they were not offered an at-home test as a CRC screening option.

In addition to the limitations we encountered reaching patients via telephone described above, other limitations should be considered when interpreting the results of this study. As mentioned previously, we were unable to access non-VA data that would have enabled us to capture screening tests performed outside the VA in order to exclude patients up to date on CRC screening and/or validate self-reported CRC screen receipt. In order to mitigate the effect of screening outside the VA, we only included patients not yet eligible for Medicare (by age criteria) and who were seen in the VA primary clinics at least twice in the year prior to the start of each intervention to limit the study population to those receiving a majority of their primary care from the VA. The eligibility questions also relied on self-reported

personal medical history and symptoms as well as family history, which may be subject to errors in recall [21, 23, 24].

For the cost-benefit analysis, not all calls were timed. Therefore, the time per call was assigned based on an estimated average time based on call type (no answer/leave message/reschedule call, study introduction/refusal, study introduction + eligibility questions, missing FIT). Call times varied based on the number and type of comments and questions received from individual patients, and also based on the number of eligibility questions answered (e.g., being deemed ineligible on the first question may have taken fewer phone minutes than going through all the questions, depending on the individual patient). We have erred on the side of assigning call times based on the longer end of estimated call times, which may have led to an overestimation of the total telephone costs in the HII.

In conclusion, our intervention demonstrated that many people overdue for CRC screening are willing to take a FIT, and that the FIT may be a good method to get asymptomatic patients who are reluctant to undergo a colonoscopy screened for CRC. It is likely that the mail only approach would work better for some patients who are difficult to reach by phone or who are likely to refuse to discuss CRC screening via telephone, but who may be amenable to completing a FIT after having the opportunity to examine it first-hand. However, this comes at the cost of more wasted tests. Either approach transcends distance to health care facility barriers, especially in rural populations, and would likely improve CRC screening rates. Those who were ineligible for the FIT due to symptoms or personal or family medical history were made aware they needed to see their health care provider regarding these issues for further guidance and testing, which they may not otherwise have known or sought out. Furthermore, a positive FIT result may motivate those who have previously avoided colonoscopy as a screening test to undergo one. Health care providers should offer FIT along with other evidence-based CRC screening options to average risk patients, particularly to those unwilling to receive colonoscopy, and should consider their location, patient population, FIT cost and reimbursement, and personnel costs when deciding the most effective way to implement FIT screening in their practice.

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Figure 1.
High Intensity Intervention Study Population

Figure 2.
Cost-Benefit Sensitivity Analysis: Cost per FIT Received in the LII and HII by Total Cost per FIT (\$) and Hourly Salary (\$)

Table 1

Entire Sample and Survey Participant Demographics

Entire Sample			
Demographic	HII* (N=2,392) [% , (n)]	LII* (N=500) [% , (n)]	P-Value
Age, mean (SD)	60 (4)	59 (4)	<0.0001
Male	96% (2302)	87% (435)	<0.0001
Rural or Highly Rural	53% (1267)	50% (249)	0.20
Service Connected Disability	39% (934)	37% (185)	0.39
CRC* Screening within 6 months of Study Invitation			
FIT	7% (161)	14% (71)	
FOBT	1% (17)	0% (2)	
Colonoscopy	6% (135)	6% (30)	
DCBE	0% (1)	0% (0)	
TOTAL	13% (314)	21% (103)	<0.0001
Eligible Survey Participants			
Demographic	HII* (n=413) [% , (n)]	LII* (n=60) [% , (n)]	P-Value
Age, mean (SD)	60 (4)	60 (4)	-
Male	96% (397)	87% (52)	0.006
White race/ethnicity	92% (380)	95% (57)	0.78
Rural or Highly Rural	54% (225)	42% (25)	0.06
Married/Partnered	57% (235)	60% (36)	0.68
Number of People Living in Household, mean (SD)	2 (1)	2 (1)	-
At least some college	62% (257)	58% (35)	0.55
General Perception of Health (Good, Very Good, or Excellent)	69% (286)	75% (45)	0.56
Has someone to take him/her to a health care appointment	89% (367)	93% (56)	0.56
Has both VA & non-VA primary care providers	36% (147)	29% (17)	0.25
Other healthcare coverage in past 12 months			
Private	30% (125)	37% (22)	0.32
Military	9% (37)	5% (3)	0.30
Medicaid	5% (20)	3% (2)	1.00
Medicare	15% (64)	8% (5)	0.14
CRC* Screening within 6 months of Study Invitation**			
FIT	39% (161)	90% (64)	

Entire Sample			
Demographic	HII* (N=2,392) [% (n)]	LII* (N=500) [% (n)]	P-Value
FOBT	1% (3)	0% (0)	
Colonoscopy	5% (22)	2% (1)	
DCBE	0% (0)	0% (0)	
TOTAL	45% (186)	92% (65)	<0.0001

* HII = high intensity intervention; LII = low intensity intervention; CRC = colorectal cancer

** n (%) of total eligible to participate, n=414 for HII, n=71 for LII

Table 2

Barriers to Colorectal Cancer Screening

I have not had _____ because....	Colonoscopy ⁺ n=190	At-Home Test ⁺ n=177
CRC screening options are confusing	41% (78)	38% (68)
My healthcare provider did not recommend it	27% (52)	46% (81)
Screening is too embarrassing	22% (42)	12% (22)
I am very low risk for colorectal cancer	31% (58)	26% (46)
I was afraid	31% (58)	8% (15)
I did not know how to prepare for the test	19% (36)	21% (38)
I was too busy	36% (68)	18% (32)
It takes too much time	22% (41)	5% (8)
The VA Medical Center is too far	26% (50)	22% (39)
Asked only in relation to <u>colonoscopy</u>		
I thought it would be painful	38% (73)	
I did not have transportation	16% (31)	
The screening is too difficult to schedule	19% (36)	
I prefer to take an at home test	57% (109)	
Asked only in relation to <u>at-home test</u>		
I prefer to take a colonoscopy		11% (20)

⁺ % (n) agreeing or strongly agreeing

Table 3

High Intensity Intervention vs. Low Intensity Intervention Program Cost Comparison

Assumptions	HII N=2,392	LII N=500
FIT Return Rate	161/190 = 85%	71/500 = 14%
Cost of a single FIT	\$5.00	\$5.00
Mailing costs for each <u>unreturned</u> FIT (one-way)	\$1.20	\$1.20
Mailing costs for each <u>returned</u> FIT (round trip)	\$2.40	\$2.40
Resources related to phone calls:		
-Average length of each introductory or reminder phone call	2 min	--
-Average reminder calls per person	0.92	--
-Hourly wage for personnel to make calls	\$15.00	--
Total cost per FIT returned	\$27.43	\$44.86
Total cost per CRC screen	\$14.06	\$30.92