Colorectal Cancer Prevention in the North Slope Borough of Alaska Utilizing the Flu-FIT Intervention

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University of Kentucky
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CRC Prevention in the North Slope Borough of Alaska Utilizing the Flu-FIT Intervention

Colorectal Cancer Prevention in the North Slope Borough of Alaska

Utilizing the Flu-FIT Intervention

CAPSTONE PROJECT PAPER

A paper submitted in partial fulfillment of the requirements for the degree of Master of Public Health in the University of Kentucky College of Public Health

By
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Lexington, KY

Lexington, Kentucky

April 8, 2016

Chair: Dr. Vanderpool
Committee member: Dr. Cardarelli
Committee member: Dr. Stone
Abstract

The intention of the Flu-FIT intervention is to increase colorectal cancer screening rates by combing two annual activities into one visit that doesn't necessitate a doctors visit. The original study increased colorectal cancer screening rates by 14 percentage points and this program should be able to show similar results in the North Slope Borough of Alaska. The North Slope Borough has the highest incidence rate of colorectal cancer in the United States, and this proposed intervention could lead to a reduction in that rate by increasing screening and knowledge about colorectal cancer in the community.
A. Target Population and Need

Colorectal cancer is the second leading cause of cancer-related incidence and mortality among both men and women in the United States (U.S.). It is a significant public health problem throughout the country, including Alaska. Alaskan Natives in particular have mortality rates higher than the U.S. average; specifically, colorectal cancer affects this population at a younger age than the U.S. average (see table 1). The Age specific incidence rate of Alaskan Natives aged 40-49 is nearly the same as the 50-59 group for the U.S. white population (see table 1).

Table 1

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Alaska Native Incidence Rate</th>
<th>US White Incidence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-39</td>
<td>200-500</td>
<td>200-500</td>
</tr>
<tr>
<td>40-49</td>
<td>500-600</td>
<td>500-600</td>
</tr>
<tr>
<td>50-59</td>
<td>600-700</td>
<td>600-700</td>
</tr>
</tbody>
</table>

Although the overall 5-year colorectal cancer incidence rate (2008-2012) in Alaska is only slightly above the national average (45.2 per 100,000 compared to the national average of 41.9 per 100,000), several counties in northern Alaska carry an undue burden of the malignancy. Specifically, the 5-year (2008-2012) colorectal cancer incidence rate for the North Slope Borough, Northwest Artic Borough, and Yukon-Koyukuk Census areas was 123.9, 106.5, and 108.5 per 100,000, respectively.
CRC Prevention in the North Slope Borough of Alaska Utilizing the Flu-FIT Intervention

With an incidence rate more than triple the national average, the residents of the North Slope Borough have a tremendous need for an evidence-based intervention to reduce the incidence of colorectal cancer. Annual screening for colorectal cancer can reduce the mortality associated with colorectal cancer.

For the purposes of this grant application, the focus will be on the North Slope Borough. If successful, this plan could be used in all three of the northern counties in Alaska with increased incidence.

There are eight communities in the North Slope Borough; these communities are small, consisting largely of Alaskan Natives. The North Slope Borough is largely (>70%) Inupiat Eskimo. Because of the high percentage of Alaskan Natives living in this area, intervention efforts will be targeted to this population.

Alaskan Natives suffer disproportionately from colorectal cancer, likely due to a combination of genetic predisposition and other dietary and environmental factors. [1]

The eight communities of the North Slope Borough and their sociodemographics are presented in Tables 1 and 2:

Table 2

<table>
<thead>
<tr>
<th>Community</th>
<th>Population (2010)</th>
<th>Clinic/Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaktuvuk Pass</td>
<td>388</td>
<td>Clinic</td>
</tr>
<tr>
<td>Atqasuk</td>
<td>268</td>
<td>Clinic</td>
</tr>
<tr>
<td>Barrow</td>
<td>4,974</td>
<td>Hospital</td>
</tr>
<tr>
<td>Kaktovik</td>
<td>308</td>
<td>Clinic</td>
</tr>
<tr>
<td>Nuiqsut</td>
<td>415</td>
<td>Clinic</td>
</tr>
<tr>
<td>Point Hope</td>
<td>831</td>
<td>Clinic and Senior Citizen</td>
</tr>
<tr>
<td>Point Lay</td>
<td>274</td>
<td>Clinic</td>
</tr>
</tbody>
</table>

Because there is evidence that diet (especially a diet high in red or processed meats), along with smoking, obesity, and lack of exercise, may contribute to increased risk of CRC, we include a table below that supports the evidence found by Hardin-Fanning and Ravens that the costs associated with healthier food items are higher in rural grocery stores than in urban stores. (Hardin-Fanning & Rayens, 2015)

This cost is magnified in the outer reaches of the arctic. Each of the small towns has at a minimum, a small grocery store where the residents can purchase food. These higher food prices likely contribute to the diet of the Alaskan Natives being limited in the recommended daily fruit and vegetable intake.

Table 3

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread (factory made)</td>
<td>Orowheat</td>
<td>1.5 lbs</td>
<td>$7.93</td>
</tr>
<tr>
<td>Eggs</td>
<td>—</td>
<td>1 dozen</td>
<td>$5.25</td>
</tr>
</tbody>
</table>
CRC Prevention in the North Slope Borough of Alaska Utilizing the Flu-FIT Intervention

To increase colorectal cancer screening, we propose to use home fecal immunochemical tests (FIT) given to patients at the time they receive their annual flu shot to assist with detecting cases of colorectal cancer in the North Slope Borough. This evidence-based program is called Flu-FIT and is proven to increase rates of colorectal cancer screening.

Current compliance with annual colorectal cancer screening in 2010 in Alaska was 54.1% to 59.2% while flu vaccine compliance was only 44% in the 2014-2015 flu season, the intent is that the Flu-FIT program will catch those getting their flu shot who are not compliant with colorectal cancer screening and to decrease the travel burden on the patient by offering screening closer to home.

Current colorectal cancer screening guidelines are to test adults aged 50-75, however, given the higher rates of colorectal cancer in Alaskan Natives, the Alaskan Native Medical Center recommends starting at age 40, or 10 years before a relatives’ age at diagnosis – whichever is earlier. (Redwood et al., 2016). See table 1 for age/race disparities in colorectal cancer.

<table>
<thead>
<tr>
<th>Item</th>
<th>Brand</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bananas</td>
<td>—</td>
<td>1 lb</td>
<td>$2.99</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>—</td>
<td>1 lb</td>
<td>$4.79</td>
</tr>
<tr>
<td>Lettuce (Romaine, bagged prewashed)</td>
<td>Fresh Express</td>
<td>9 oz</td>
<td>$5.69</td>
</tr>
<tr>
<td>Salt, Kosher</td>
<td>Morton’s</td>
<td>1 lb</td>
<td>$4.52</td>
</tr>
<tr>
<td>Eggs</td>
<td>—</td>
<td>1.5 dozen</td>
<td>$7.35</td>
</tr>
<tr>
<td>Potatoes (Russet)</td>
<td>—</td>
<td>10 lb</td>
<td>$24.00</td>
</tr>
<tr>
<td>Bottled water (500 mL bottles)</td>
<td>Nestle Pure Life</td>
<td>35 bottles</td>
<td>$40.79</td>
</tr>
<tr>
<td>Cereal (generic)</td>
<td>Malt-o-Meal</td>
<td>2 lbs 6 oz</td>
<td>$11.99</td>
</tr>
<tr>
<td>Butter (unsalted)</td>
<td>Darigold</td>
<td>1 lb</td>
<td>$7.49</td>
</tr>
</tbody>
</table>
In 2010, the Centers for Disease Control and Prevention (CDC) reported Alaska was in the lower quarter of the nation for rates of adherence to preventive testing for colorectal cancer. (“Colorectal Cancer Screening Rates,”) Baker et al. were able to achieve an increased adherence to screening using a method of mailing a FIT kit, followed by calling and texting patients, reminding them to perform the test and to mail it in. (Baker et al., 2014)

Inadomi et al. found in a randomized clinical control trial that patients who were given the option to choose their screening method for colorectal cancer (an at-home test versus a colonoscopy) were more likely to complete an at-home test (FIT or FOBT) compared to those only recommended to have a colonoscopy. (Inadomi et al., 2012) The home FIT test may be a successful strategy to increase adherence to colorectal cancer screening, particularly among Alaskan residents.

We will use the Flu-FIT promotion, whereby we give patients their FIT kit when they come to the local clinic or hospital for their annual influenza immunization. (“Prig Desig.,”) The kits would then be dropped off at the same local clinic or hospital for testing. We will use promotional and educational materials in local clinics and hospital as well as the grocery stores to communicate about our program.

This program has been shown to reach patients who may not have otherwise completed a colorectal cancer screening and we believe it has the potential to have a greater reach in the North Slope Borough due to the geographical barriers that increase the difficulty in maintaining healthy preventative behaviors.
CRC Prevention in the North Slope Borough of Alaska Utilizing the Flu-FIT Intervention

Because of the access difficulties, the Flu-FIT program is a great option for increasing screening for colorectal cancer as it combines two annual prevention behaviors in one visit at a local clinic. The Flu-FIT intervention works by combining an annual flu shot with an annual screening for colorectal cancer. When the patients come to the clinic to get their flu shot they will be assessed for their eligibility to be screened for colorectal cancer. ("What are the risk factors for colorectal cancer?"), ("Prig Desig.")

Because these clinics are already providing the flu shots, this intervention should be easily adapted into their workflow with minimal disruption, only increasing the likelihood this intervention will continue past the end of the grant. Added to this is the fact that most of the individuals in the North Slope Borough qualify for insurance that covers the cost of both the colorectal cancer screening and the colonoscopy.

The FLU-FIT program originally implemented in California was able to show an increase in colorectal cancer screening of 14% in the FLU-FIT arm compared to 4.8% in those who got a flu shot and colorectal cancer screening at separate times. We anticipate seeing a similar increase in our population.

We will be implementing this program with only 2 minor changes. Due to the temperature requirements of the kits, the participants will not be mailing their kits in, they will be dropped off at the local clinic. And the educational materials will be translated into the Inupiat language and any pictures used will be culturally appropriate.

Patients will be recruited mainly with reminders in the mail. An annual mass mailing will send a reminder postcard to everyone to get their flu shot and if eligible,
they could also be screened for colorectal cancer at the same time. This will serve as
the main recruitment and retention plan.

B. Program Approach

Our initial goal is to increase screening for colorectal cancer by collaborating with
established clinics in the target cities. We will use clinics already in place to meet the
needs of the community for routine illnesses and emergencies as a means of
distributing the FIT kits and reaching patients because of the unique Alaskan
geography, which is a barrier to adapting and implementing research performed in other
states.

Access to care in rural parts of Alaska is challenged by geographical isolation,
difficulty traveling, and widely dispersed populations. (Sekiguchi, Guay, Brown, & Spangler, 2005),(Golnick et al., 2012) The North Slope Borough has a population of less than 10,000 people and is
over 94,000 mi². For comparison, Kentucky is just over 40,000 mi². Complicating the
shear distance between the communities is the mountainous terrain in most of the
county and limited access to roads during most of the year means most of the county is
dependent on air travel for long distances. Helicopter travel is the main form of transport
within the communities of the North Slope Borough.

Because of the access difficulties, the Flu-FIT program is a great option for
increasing screening for colorectal cancer as it combines two annual prevention
behaviors in one visit at a local clinic. The Flu-FIT intervention works by combining an
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The FLU-FIT program originally implemented in California was able to show an increase in colorectal cancer screening of 14% in the FLU-FIT arm compared to 4.8% in those who got a flu shot and colorectal cancer screening at separate times. We anticipate seeing a similar increase in our population.

We will be implementing this program with changes aimed to reduce the barriers due to the geography of the North Slope Borough. Due to the temperature requirements of the kits, the participants will not be mailing their kits in, they will be picked up by personal hired by the grant.

The educational materials will be translated into the Inupiat language and any pictures used with be culturally appropriate. Flu shot reminders will be sent to every household to ensure no one in the community will not hear about the intervention.

All results will be called to the patients, and the surveys mailed to the participants after they complete their survey will have a $2 incentive to help ensure completion. This incentive (2 $1 bills) will be included with a preaddressed stamped envelope.

The project will begin six months before we plan to implement the program with the formation of the Community Advisory Group in the North Slope Borough. Community leaders will be chosen from each of the eight communities to form the group for the project.
There will also be a member from the ANTHC on the committee and each community will have a representative who has a stake in the project and promoting the health of the community from a variety of backgrounds representing diverse experience.

The smaller population of many of the communities means there are fewer positions in the communities that are naturally connected and contributing. The schools and the fire stations will be a source connected to most of the community members.

The schools in each community have communicated their support (see-attached letters of support) and one member of each school in Anaktuvuk Pass, Kaktovik, and Point Lay will be on the Community Advisory Group. The other members will come from the fire stations in the communities of Atqusuk, Nuiqsut, and Wainwright (see-attached letters of support). Representatives from Point Hope and Barrow will be from the senior center or hospital, respectively (see table 4).

Table 4

<table>
<thead>
<tr>
<th>Representative from:</th>
<th>Name or Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaktuvuk Pass</td>
<td>Teacher from school</td>
</tr>
<tr>
<td>Atqusuk</td>
<td>Firefighter</td>
</tr>
<tr>
<td>Barrow</td>
<td>Nurse from Hospital</td>
</tr>
<tr>
<td>Kaktovik</td>
<td>Teacher from school</td>
</tr>
<tr>
<td>Nuiqsut</td>
<td>Firefighter</td>
</tr>
<tr>
<td>Point Hope</td>
<td>Nurse from Senior Center</td>
</tr>
<tr>
<td>Point Lay</td>
<td>Teacher from school</td>
</tr>
<tr>
<td>Wainwright</td>
<td>Firefighter</td>
</tr>
<tr>
<td>ANTHC</td>
<td>Daniel Jackson</td>
</tr>
<tr>
<td>NSDHSS</td>
<td>Member</td>
</tr>
</tbody>
</table>

The intervention will begin by forming the Community Advisory Group to make a few initial decisions on the educational materials and informational pamphlets that will be provided to the patients at the time of the intervention, as well
as those that will be used in an educational effort in each community to emphasize the importance of screening.

We will utilize the site MIYO (make it your own) to use evidence based messages culturally adapted to fit our target population. The Community Advisory Group will also decide which of the material will be placed in different locations in the community. Some locations we will suggest to them, as options are the clinics and hospital themselves, the senior center, and the local grocery stores.

After the Community Advisory Group decides on the materials and pamphlets, focus groups will be held in each of the communities to test the efficacy of the materials. Any changes recommended by the focus groups will be brought back before the Community Advisory Group for review and to make any necessary revisions. Those revisions will then be retested in new focus groups.

During the first six months we will also be training the clinic workers to assess patients’ need for a FIT kit as they come in for their annual flu shot. Their training will begin with an informational session to inform them of the importance of colorectal cancer screening and the effectiveness of the Flu-FIT program as an evidence-based intervention.

The staff will be shown all the promotional material that will be available in the community and provided with the information to answer most patients’ questions as well as the ability to assess patients’ eligibility for the program (see appendix).

They will receive training from the ANTHC staff in how the kit works including the collection process so they explain how to collect their samples. They will also attend
mock sessions where their knowledge and delivery of the intervention can be assessed and critiqued.

Once the intervention begins (beginning when the flu shots will be available in September), mailers will be sent to every household in the North Slope Borough with a reminder to get their flu shot at their local clinic and notification they can be screened for colorectal cancer at the same time. During the months when the flu shot is unavailable, the FIT kit will still be available to those who are eligible and data will be collected and compared to previous year as well as the flu season to find if colorectal cancer screening rates are impacted by the flu-FIT intervention specifically, or the general marketing campaign to raise awareness.

Upon arrival at the clinic, patients assessed as eligible for the colorectal cancer screen will fill out a form containing the information of their primary care provider (PCP), gender, age and race along with their preference for being reminded to return the kit. Eligible patients will the be aged 40-75 (or 10 years before a relative was first diagnosed with colorectal cancer, whichever is earlier) who have not had a colorectal screen in the last year, or a colonoscopy within the last ten years.

Any patients who are ineligible for the flu shot, but are eligible for colorectal cancer screening will still receive the FIT kit. It will be noted when collecting data that the patient did not receive the flu shot (and the reason why).

Before they receive their flu shot, the patients will receive a prepackaged FIT kit containing instructions for collection and additional materials on colorectal cancer and colorectal cancer screening. The clinic worker will walk them through the collection
process as well as the return process, and answer any questions before the patient receives their flu shot.

The information will include that they should leave the kit in the bathroom, write the collections dates on each kit completed and to call as soon as possible for a pick up after they have finished collecting the second kit (see appendix for full instructions). Within the materials, they will be given a contact number for the grant worker who will be responsible for picking up the kit in their community.

The FIT kit detects globin in the bowel movement instead of heme as in traditional guaiac-based fecal occult blood test (FOBT) kits, making it ideal for at-home collections since diet causes little interference. ("Offer Your Patients a Colorectal Cancer Screening Test They May Actually Use,"

The collection of the samples is also fairly simple; the patients need to only use the brush provided with the kit to stir in the water after a bowel movement, then place the sample on the card. ("Offer Your Patients a Colorectal Cancer Screening Test They May Actually Use,"

The relative ease of the collection should minimize the difficulty of the collection process.

Due to the fact that the kits must be read within two weeks of the first sample collection, the intervention will send weekly reminders (in the form of phone calls) to the patients to ensure their return. ("Offer Your Patients a Colorectal Cancer Screening Test They May Actually Use,"

Once collected, the patient will contact their local grant worker to schedule a pickup.

All patient results will be called. This will avoid any negative associations with receiving a phone call from the study. Any positive screen results will be navigated to receive a colonoscopy at the hospital in Barrow. Positive screens needing a colonoscopy will be followed-up on a monthly basis.
Patients who choose not to schedule a colonoscopy on the initial phone call, or who miss an appointment, will be followed-up with an additional phone call (within two weeks of the initial phone call or missed appointment). All patients will receive a preaddressed stamped survey upon completion of the intervention to find out how likely they would be to do the Flu-FIT program the following year and if they would recommend it to other friends and family members. This survey will include a $2 incentive to complete it.

Outcome goals are to increase colorectal cancer screening in the community using the promotional posters at locations decided by the Community Advisory Group to get the patients into the clinic, and to increase the follow-up of positive screens with colonoscopies at the hospital. Patients who participate in the first year of the intervention will be contacted and encouraged to receive their annual colorectal cancer screening the next year.

The community advisory group will consist of one existing member of the North Slope Borough Department of Health and Social Services (NSDHSS), one community leaders from each of the eight cities, and a representative of the Alaskan Native Tribal Health Consortium (ANTHC). Each community leader will provide insight into the specific needs of their community, while the NSDHSS leader will know the specific health needs of the towns as well as the overarching needs of the Borough as a whole. The intent of the study will be presented, and the community leaders will be able to voice their thoughts on the best ideas for implementation.

A community needs assessments will be done to identify the specific needs of each community, as well as their resources. After agreeing on the best options for the
study, the community leaders will make any necessary changes to the action plan. The plan will be monitored by the number of eligible patients who agree to use the FIT kit, the number who return it, the number of kits that were not properly collected, and the number of positive screens that successfully follow-up with their PCP for a colonoscopy.

C. Performance Measures and Evaluation

The ANTHC is already working to promote cancer prevention and screening including colorectal cancer screening. These previous and current efforts make us an ideal candidate to implement this evidence-based intervention in the area and this program fits well with our current mission to serve the Alaskan Natives with the highest quality of health care. Because this intervention closely aligns with the goals of the ANTHC and will be using community health workers already meeting the needs of the people in the community, this project should be easily sustainable if proven effective in this community.

The original intervention was done in Northern California and was able to show an increase in screening for patient who were not being tested thru other routes of care. We believe this program will be easily implemented with some adjustments to account for the unique geography, cultural competency, and language.

The intervention will begin by forming the Community Advisory Group to make a few initial decisions on the educational materials and informational pamphlets that will be provided to the patients at the time of the intervention, as well as those that will be used in an educational effort in each community to emphasize the importance of screening. They will also provide the initial review of the translated materials. No materials in the study will be above a 5th grade reading level.
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After the Community Advisory Group decides on the materials and pamphlets, focus groups will be held in each community to test the efficacy of the materials. Any recommended changes will be brought back before the Community Advisory Group for review and change and then retested in focus groups.

Once the materials have been approved by the Community Advisory Group, the flu shot reminder will be sent to each household in the North Slope Borough. Additional educational materials will be placed in locations suggested by the Community Advisory Group and in the local clinics.

The North Slope Health Department provides staffing for the clinics in each community and will be responsible for providing the intervention in to the participants. Each staff member responsible for providing the intervention will undergo training before the start of the program to ensure efficacy in the delivery. There will be annual retraining of the staff to maintain program fidelity.

In addition, the ANTHC Project Leader will be in contact with the NSDHSS members in the clinics to address any issues they may be having. The ANTHC will maintain an “open-door” policy among all team members were and concerns may be brought to the attention of the Project Leader or Project Coordinator when they feel the need.

All members working on the grant will attend monthly progress meetings (either in person or via conference call) to maintain contact through out the grant. The minutes of these meetings will be used to inform the funders and the Community Advisory Group
of the progress and findings. Once the intervention is underway, these meetings will take place via Skype, to allow communication across the community.

Once the program begins, each participant will be screened upon their visit to the clinic for a flu shot. The patients will be asked to fill out a short questionnaire containing their name, date of birth, race, and history of colorectal cancer screening. The health department worker will then double check their colorectal cancer history in the electronic medical record and determine the patients’ eligibility for receiving a FIT kit.

Patients that are eligible will be provided with informational materials on how to collect and return the FIT kits for testing, as well as a contact number for the Project Coordinator if they have any additional question or difficulty in returning the kits.

All patients screened will be entered in a spreadsheet for data collection. The patients who receive the FIT kits will be asked for their preferred method of contact for follow-up. All patients will receive a phone call with the results of their FIT kit. Any patients with positive results will be navigated through the system to receive their colonoscopy.

The patients will receive a satisfaction survey in the mail asking them about their experience, if they would recommend the testing to friends and family, and if they planned on repeating the testing the following year. This data, along with the numbers collected in the intervention in the clinics, will be used to create a report semiannually for the funders and shareholders.

Regardless of the results of the program, the ANTHC will disseminate the findings to the funders, communities of the North Slope Borough, and to the scientific
community. The ANTHC has budgeted to present their findings in years two and three of the grant at the American Public Health Association, and plans to pursue publication.

The data collected will also be reported in the North Slope Borough Economic Profile and Census Report. This data is available to browse on the internet free of charge.

In addition to the data collected from the intervention, we would like to add 2 questions with two additional follow-up questions to the Behavioral Risk Factor Surveillance System (BRFSS) pertaining to colorectal cancer risk.

1. I have been screened for colorectal cancer in the past 12 months.
   a. If no, what prevented you from being screened?

2. I have received a colonoscopy within the past 10 years.
   a. If no, what prevented you from receiving a colonoscopy?

These questions will help to assess the screening rates and what the barriers are to receiving the screening. Data collected could help remove most barriers to receiving a colorectal cancer screen. While this BRFSS data will not likely impact this grant, the data collected could be useful for future prevention efforts.

If the current program is shown to work well and increase adherence to colorectal cancer screening, it should be relatively easy to have the program adopted by ANTHC. ANTHC will be included in this project to prevent a duplication of efforts and to ease the transition of ownership of the program.

Problems we may encounter during the collection of data and FIT kits have been considered and an alternative approach has been considered. Due to the geographic
distribution of the population, there are likely to be delays in the collection of the data/FIT kits. These will be reduced by the use of drivers to collect them from the patients and weekly follow-up phone calls to check on how the participant is doing and if they need a pickup, along with using the regular flights to deliver the kits to the testing facility in Barrow.

Participant data will be collected at each of the clinics/or hospital the patient is seen in. The data will then be sent to the ANTHC to be complied. Because there will be additional tracking of patient and their test results, the data will be updated daily, but contact with the participants will be primarily the responsibility of the local office.

The ANTCH will be responsible for making sure no participants fall through the cracks by following up with the local representative to ensure the participant has returned their FIT kit and have been notified of the results. All data collected will be protected, and will not be used to link the participant beyond the initial purpose of the study. All persons invited to participate are free to refuse. Patients who participate in previous years will be contacted annually with reminders to receive their next screening.

D. Capacity and Experience of the Applicant Organization

The Alaska Native Tribal Health Consortium (ANTHC) is a non-profit Tribal health organization designed to meet the unique health needs of Alaska Native and American Indian people living in Alaska. In partnership with the more than 150,000 Alaska Native and American people that we serve and the Tribal health organizations of the Alaska Tribal Health System, ANTHC provides excellent health services, which include comprehensive medical services at the Alaska Native Medical Center, wellness
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programs, disease research and prevention, rural provider training and rural water and sanitation systems construction.

In agreement with our mission to provide the highest quality health services in partnership with our people and the Alaska Tribal Health, it is the policy of ANTHC to ensure equal employment opportunity without discrimination or harassment on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, age, disability, marital status, citizenship, genetic information, or any other characteristic protected by law.

ANTHC is the largest, most comprehensive Tribal health organization in the U.S., and Alaska’s second-largest health employer with more than 2,500 employees offering an array of health services to people around the nation’s largest state. (Who We Are.)

The colorectal cancer screening program previously coordinated by ANTHC from 2000 to 2010 was able to improve colorectal cancer screening rates in Alaskan Natives from 29% in 2000 to 55% in 2010. (Redwood, Provost, Perdue, Haverkamp, & Espey, 2012)

Table 5

<table>
<thead>
<tr>
<th>Year</th>
<th>ANTHC Highlights: 1997-2014 (Alaskan Native Tribal Health Consortium History,*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>• Indian Health Service opens new Alaska Native Medical Center ANTHC incorporates as a not-for-profit organization</td>
</tr>
<tr>
<td>1998</td>
<td>• Contract with IHS transfers statewide services to ANTHC and expands to include Environmental Health and Engineering work</td>
</tr>
</tbody>
</table>
| 1999 | • ANTHC and Southcentral Foundation assume joint management of ANMC  
• ANMC earns certification as a Level II Trauma Center, a distinction it still holds today AFHCAN telehealth project launches |
| 2000 | • ANTHC completes an Alaska Native Health Campus site and facility plan outlining changes to accommodate growth |
| 2001 | • ANTHC begins administering injury prevention projects with Tribes involving smoke detector installation, car seats and float coats |
The ANTHC Board of Directors brings with them many years of experience and dedication to the health of the people of Alaska. Below are two examples of board members (for a full list, see the appendix).
George Hammond is the Chairman and President of the Kodiak Area Native Association. He is an enrolled member and president of Tangirnaq Native Village (a federally recognized Tribe); Mr. Hammond has served as ANTHC’s chairman and president since 2008 and as president and CEO of the Kodiak Area Native Association (KANA) since 2006. He holds a Master of Business Administration degree from the University of Washington and operates Kodiak Helicopters, LLC. He is active in the community and serves on a many boards, including the University of Alaska Board of Regents; Alaska Federation of Natives; Alaska Community Foundation; Alaska Airlines Community Advisory Board; Tangirnaq Council; and the U.S. Department of Health and Human Services Secretary’s Advisory Committee. ("Alaskan Native Tribal Health Consortium Board of Directors,"

Janet Frasier is a representative from the Arctic Slope Native Association. Originally formed in 1966, Arctic Slope Native Association, Limited (ASNA) is a Tribal health care nonprofit organization. ASNA is governed by a 9-member Board of Directors. It is sanctioned by the Tribal governing bodies of the Arctic Slope: The Native Village of Point Hope, Point Lay, Atqasuk, Wainwright, Barrow, Anaktuvuk Pass, Nuiqsut and Kaktovik. Its mission is to “promote the well being of the people of the Arctic Slope." ("Alaskan Native Tribal Health Consortium Board of Directors,"

During this grant, the data collected from the clinics will be continuously reviewed to determine if any adjustments to the program need to be made. The data will be reported to the Community Advisory Group Monthly. The Community Advisory group will make decisions about any minor adjustments to the program. Any major adjustments will also be reviewed by the entire grant team as well as the funders.
CRC Prevention in the North Slope Borough of Alaska Utilizing the Flu-FIT Intervention

In addition to the great experience our Board of Directors provides our organization, the ANTHC values the contributions of every team member. As such, the Board of Directors has a team within the organization that are especially effective at promoting preventative services.

This team is flexible, allowing it to expand to accommodate the need for additional staff when necessary to scale up a project, but allowing the personal to be redirected to other task during smaller projects.

E. Partnerships & Collaboration

The ANTHC will partner with the North Slope Borough Department of Health & Social Services (NSBDHSS). The NSBDHSS primarily offers programs such as WIC, children and youth services, allied health, and integrated behavioral health, among other services.

ANTHC will use the NSBDHSS infrastructure already in place in the remote areas of Alaska’s North Slope Borough. ("The North Slope Borough.") We will also be collaborating with the Artic Slope Native Association, an organization that provides assistance with child welfare programs and mental health through their base hospital in Barrow Alaska.

NSBDHSS will allow us to use the community health aides already in place to deliver the majority of the program. Each aide will be trained by the project coordinator/project leader in the screening of patients for colorectal cancer screening eligibility along with the necessary skills to explain to patients how to collect the samples and the importance of FIT testing.
ANTHC will form focus groups to test the education materials and the general attitude of the communities toward colorectal cancer screening. ANTHC will also be responsible for informing the patients of positive results and connecting them with the Barrow hospital for colonoscopy.

Community leaders will be chosen to form a Community Advisory Group for the project. The schools in each community have communicated their support (see attached letters of support) and one member of each school in Anaktuvuk Pass, Kaktovik, and Point Lay will be on the Community Advisory Group.

The other members will come from the fire stations in the communities of Atqusuk, Nuiqsut, and Wainwright (see attached letters of support). Representatives from Point Hope and Barrow will be from the senior center or hospital, respectively. The Community Advisory Group will also contain a member of the ANTHC as well as a member of the NSDHSS.

F. Project Management

The project team will consist of:

**George Hammond ANTHC PI-5%** Mr. Hammond has served as ANTHC’s chairman and president since 2008 and as president and CEO of the Kodiak Area Native Association (KANA) since 2006. He holds a Master of Business Administration degree from the University of Washington and has 23 years of experience working on cancer prevention in Alaska. He is active in the community and serves on a many boards, including the University of Alaska Board of Regents; Alaska Federation of Natives; Alaska Community Foundation; Alaska Airlines Community Advisory Board; Tangirnaq
Council; and the U.S. Department of Health and Human Services Secretary’s Advisory Committee. George will be responsible for overseeing all aspects of this grant. He will be informed of the progress on an ongoing basis by the project leader and he will provide general oversight and direction as needed.

Jennifer Jenkins MPH, MLS Project Leader-10% With her background in laboratory science, Ms. Jenkins brings an understanding of the importance of standardized practices to her public health practice. She has 15 years of experience implementing evidence-based programs and has focused for the last 9 years on cancer prevention practices specifically. She will assist with the initial training and ensure everyone has what they need.

Daniel Jackson Project Coordinator-100% Mr. Jackson joined the Epicenter in 2014 as a Program Associate for the Wellness Strategies for Health grant. Proud Yupik Eskimo from the Bristol Bay village of Togiak, AK, his background includes supervisory, administrative, and accounting responsibilities. Daniel holds a BA degree in management, and he is currently working toward his MBA in Business Administration with a specialization in management at Wayland Baptist University. He will be responsible for the day-to-day operations of the grant, including travel to the eight locations of implementation as well as monitoring the data collection and feedback to ensure the program is operating as planned.

Samantha Carter PhD, MPH-Data Analyst-10% Samantha joined the Epicenter in August 2015 as Director of the Alaska Native Tumor Registry. In this role, she also serves as the Principal Investigator for the Alaska Surveillance, Epidemiology and End Results (SEER) Program of the National Cancer Institute. The Tumor Registry conducts
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statewide surveillance of cancer in Alaska Native people, and is also involved in several research partnerships. Samantha holds a PhD in Biological Sciences, and her MPH focused on epidemiologic methods, and nutrition. She will compile the data she receives from each site weekly and ensure patients are being followed up with in a timely fashion.

Rodney McKay, BS-Marketing Media Specialist-20% Rodney joined the Epicenter in January 2015, bringing more than 20 years of graphic design experience. He provides website, graphic design, and social media support. Rodney holds a BS in Visual Communication/Graphic Design. He will with the creation of the marketing material (educational brochures, mailers, and reminders).

Carson Beckett, BS-Translation Services-40% Carson joined the ANTHC in November of 2008, bringing 7 years of translation experience with him. While he is fluent in several languages including French, Spanish, and Russian, he grew up in the North Slope Borough speaking both English and Inupiaq, making him an ideal person to work on our project.
References

Alaskan Native Tribal Health Consortium Board of Directors.

Alaskan Native Tribal Health Consortium History.

Anaktuvuk Pass.

Atqasuk.


Barrow.

Cancer.

Colorectal Cancer.

Colorectal Cancer Screening Rates. (November 27, 2012).


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Kaktivik.

The North Slope Burough.


Nuiqsut.

Offer Your Patients a Colorectal Cancer Screening Test They May Actually Use.

Point Hope.

Point Lay.

Prig Desig.


doi:10.1177/1090198115590781


doi:10.2105/AJPH.2004.053546

State Cancer Profiles.

Wainwright.

What are the risk factors for colorectal cancer?

Who We Are.
Appendix

Budget Narrative

George Hammond ANTHC PI-10% Mr. Hammond has served as ANTHC’s chairman and president since 2008 and as president and CEO of the Kodiak Area Native Association (KANA) since 2006. He holds a Master of Business Administration degree from the University of Washington and has 23 years of experience working on cancer prevention in Alaska. He is active in the community and serves on a many boards, including the University of Alaska Board of Regents; Alaska Federation of Natives; Alaska Community Foundation; Alaska Airlines Community Advisory Board; Tangirnaq Council; and the U.S. Department of Health and Human Services Secretary’s Advisory Committee. George will be responsible for overseeing all aspects of this grant. He will be informed of the progress on an ongoing basis by the project leader and he will provide general oversight and direction as needed.

Jennifer Jenkins MPH, MLS Project Leader-35% With her background in in laboratory science, Ms. Jenkins brings an understanding of the importance of standardized practices to her public health practice. She has 15 years of experience implementing evidence based programs and has focused for the last 9 on cancer prevention practices specifically.

Daniel Jackson Project Coordinator-100% Daniel joined the Epicenter in 2014 as a Program Associate for the Wellness Strategies for Health grant. Proud Yup’ik Eskimo from the Bristol Bay village of Togiak, AK, his background includes supervisory,
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administrative, and accounting responsibilities. Daniel holds a BAS degree in management, and is currently working toward her MBA in Business Administration with a specialization in management at Wayland Baptist University. He will be responsible for the day-to-day operations of the grant, including travel to the 8 locations of implementation as well as monitoring the data collection and feedback to ensure the program is operating as planned.

Samantha Carter PhD, MPH-Data Analyst-20% Samantha joined the Epicenter in August 2015 as Director of the Alaska Native Tumor Registry. In this role, she also serves as the Principal Investigator for the Alaska Surveillance, Epidemiology and End Results (SEER) Program of the National Cancer Institute. The Tumor Registry conducts statewide surveillance of cancer in Alaska Native people, and is also involved in several research partnerships. Samantha holds a PhD in Biological Sciences, and her MPH focused on epidemiologic methods, and nutrition. (from the ANTHC website)

Rodney McKay, BS-Marketing Media Specialist-40% Rodney joined the Epicenter in January 2015, bringing more than 20 years of graphic design experience. He provides website, graphic design, and social media support. Rodney holds a BS in Visual Communication/Graphic Design.

Due to the remote locations we will be administering the program, travel funds are requested for the Project Leader and Coordinator. The Project Coordinator will make biannual visits to each of the eight implementation sites once the program is active (estimated two visits) and quarterly visits in the implementation and training phase (two visits). The Project Leader will visit the eight locations initially during the implementation phase (one visit). The estimated cost of a flight in the North Slope
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Borough is $1,000. 5 visits x 8 sites = 40 visits, or $40,000. Hotel costs for these visits (per trip $195) would total $7,800.

We estimate our partners at the local health department will need an additional 10% work effort to implement the FIT kits during the normal flu season. Ten percent if the salaries of eight clinic workers making approximately $40,000 is $32,000 each year. We will give the local health department $96,000 to defer additional expenses incurred from our program implementation. The drivers we will hire to collect the kits will cost $699,088 and the mileage will be an estimated $11,340. The kits themselves will cost $7 dollars each and we will reach an estimated 300 people per year for a total of 900 kits. An additional 100 will be ordered to supplement for lost or improperly collected kits. We estimate $7,400 for mailing the educational materials per year and $24,227 for the translation service. The person who will be responsible for calling the participants will be $106,607.

<table>
<thead>
<tr>
<th>Role</th>
<th>Percentage</th>
<th>Annual Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Investigator</td>
<td>10% of $90,000</td>
<td>$37,051</td>
</tr>
<tr>
<td>Project Leader</td>
<td>35% of $55,000</td>
<td>$83,676</td>
</tr>
<tr>
<td>Project Coordinator</td>
<td>100% of 50,000</td>
<td>$187,386</td>
</tr>
<tr>
<td>Data Analyst</td>
<td>20% of $75,000 for the first year and 15% of $75,000 for the second and third years</td>
<td>$52,227</td>
</tr>
<tr>
<td>Marketing Analyst</td>
<td>60% of $55,000 for the first year, 50% of $55,000 for the second year, and 40% of</td>
<td>$119,196</td>
</tr>
<tr>
<td>Description</td>
<td>Description</td>
<td>Cost</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Result/reminder caller</td>
<td>75% of $35,000 for the first year and 60% of $35,000 for the second and third years</td>
<td>$106,607</td>
</tr>
<tr>
<td>Translator</td>
<td>40% of $40,000 for the first year and 20% of $40,000 for the second and third years</td>
<td>$48,453</td>
</tr>
<tr>
<td>FIT Kit pickup drivers</td>
<td>60% of $30,000 for 8 drivers</td>
<td>$699,088</td>
</tr>
<tr>
<td>Driver mileage</td>
<td>8 drivers for 3 years</td>
<td>$11,340</td>
</tr>
<tr>
<td>Travel</td>
<td>40 total visits</td>
<td>$27,000</td>
</tr>
<tr>
<td>Educational material, pamphlets and mailings</td>
<td>Approx. 2500 homes x3 years plus 300 returns x3 years</td>
<td>$22,200</td>
</tr>
<tr>
<td>Local Health Department</td>
<td>10% of 8 salaries of $40,000</td>
<td>$32,000</td>
</tr>
<tr>
<td>FIT kits</td>
<td>$7 x 1000</td>
<td>$7,000</td>
</tr>
<tr>
<td>Conference</td>
<td>2 representatives to present last 2 years at the American Public Health Association at $5,000 per person per year (includes registration costs, hotel, flight and meals)</td>
<td>$20,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>$1,496,410</td>
</tr>
</tbody>
</table>
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Colorectal Cancer and FIT/FOBT: Facts and Talking Points for Staff to Use with Patients

Facts about colorectal cancer and screening:
- 2nd leading cause of cancer death in the United States
- More than 50,000 Americans die of colorectal cancer each year
- Colorectal cancer is often preventable with screening
- Early detection and treatment saves lives
- There are more than 1 million colorectal cancer survivors in the United States

Facts about FOBT and FIT kits
- They work by detecting small tiny amounts of blood that can come from colon polyps or early stage colorectal cancer
- If done every year, they can help find polyps and cancers before they become life threatening.
- Studies have shown that high quality FOBT and FIT kits, if done correctly and followed up well, can be similarly effective to colonoscopy for most people.
- They are done at home and mailed into the lab.
- If the FOBT or FIT results are abnormal, you need to get a colonoscopy.
- If you choose to get FOBT or FIT, you need to do it every year, just like a flu shot

Useful Talking Points for Use with Patients
- We have something extra to offer you today!
- It looks like you are due for a home colon test
- Colon cancer screening can save lives
- Just like a flu shot, all our doctors and nurses recommend home colon tests
- It’s very easy -- you can do it in the privacy of your home and mail it in
- We’ll make sure the results get to your doctor

Reminders After Giving the Kit to Patients
- Put the kit in the bathroom so it will be there when you need to use it
- Try to complete the kit in the next week if possible
- Write the collection dates on each competed kit
- Call for a pick up as soon as possible after you finish collecting the stool
- Call us if you have a problem with the kit
- Talk to your doctor if you have any other questions about FOBT or FIT

June 3, 2015
Dear Dr. O’Neill,

The North Slope Borough Department of Health & Social Services (NSBDHSS) is pleased to provide you with our support for an administrative supplement. Using the Health Aides in the communities of interest who would work collaboratively with the ANTHC and other community partners would strengthen ANTHCs ability to develop and disseminate culturally appropriate, evidence-based cancer information that is tailored to the specific needs of this underserved community.

Alaska’s North Slope Borough has high rates of colorectal cancer incidence, morbidity, and mortality. Through this proposed initiative, an ANTHC team would coordinate, integrate, and align the planning and conduct an assessment of education and outreach efforts among cancer prevention and control groups that align with ANTHCs research and outreach priorities. Building on existing partnerships would greatly facilitate the dissemination and adoption of the materials, resources, and programs in the North Slope Borough and other underserved populations.

NSBDHSS primarily offers programs like the WIC program, children and youth services, allied health, integrated behavioral health. The health of the people of this region are of the utmost concern to NSBDHSS, and we are eager to see this initiative succeed.

NSBDHSS strongly supports this application and looks forward to working with you on this important initiative.

Respectfully,

George Hammond, MBA Executive Director
**Goal I: Increase colonoscopies for positive FIT.**

**Objective 1:** See an increase in colonoscopies for positive FIT in the second year of implementation.

**Rationale for Objective 1:** An increase in the second year will allow time to correct any issues we may run into with implementation in the first year.

**Measures of Accomplishment for Objective 1:**

- a. Increase in patients receiving FIT kits.
- b. Accurate and timely callbacks to patients.
- c. Follow-up with providers to ensure patients received a colonoscopy

**Activities in support of Objective 1:**

- a. Promotional advertising in the community.
- b. Follow-up with patients with positive FIT.
- c. Follow-up with providers.

**Person/agency responsible for Activities.**

- a. Jennifer Jenkins PL/ Daniel Jackson PC
- b. Jennifer Jenkins PL/ Daniel Jackson PC
- c. Jennifer Jenkins PL/ Daniel Jackson PC

**Activity Timeline.**

- a. Begin clinic Flu-FIT month 6
- b. Follow up with positive kits (continual)
- c. Hold focus groups to find any issues at months 5, 8, 12, 18, 24.
Goal 1: Increase screening for colorectal cancer.

Objective 1: See an increase in colorectal cancer screening rates in the second year of implementation.

Rationale for Objective 1: An increase in the second year will allow time to correct any issues we may run into with implementation in the first year.

Measures of Accomplishment for Objective 1: a. An increase in patients receiving FIT kits.

b. An increase in completed kits.

c. An increase in clinic visits for eligible patients.

<table>
<thead>
<tr>
<th>Activities in support of Objective 1:</th>
<th>Person/agency responsible for Activities.</th>
<th>Activity Timeline.</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. The development of brochures for the community.</td>
<td>b. Jennifer Jenkins PL/ Daniel Jackson PC</td>
<td>e. Follow up with unreturned (continual)</td>
</tr>
<tr>
<td>c. Follow up from the data collection team in contacting patients</td>
<td>c. Jennifer Jenkins PL/ Daniel Jackson PC</td>
<td>f. Hold focus groups to find any issues at months 5, 8, 12, 18,</td>
</tr>
</tbody>
</table>
Goal I: Train staff in the Flu-FIT program.

Objective 1: Train staff for the Flu-FIT program in two months.

Rationale for Objective 1: The staff will be trained before implementation of the program, but after the community advisory board has formed and met to finalize the project objectives.

Measures of Accomplishment for Objective 1:

a. Staff will participate in a mock demonstration, so they can be evaluated and critiqued on their delivery. (assessment signed by trainers)
b. Staff will participate in an informational session, the need for the intervention and the results seen in previous implementations. (sign-in logs)
c. A checklist will be created and signed off on by all staff members who will deliver the intervention. (checklist)

Activities in support of Objective 1:

<table>
<thead>
<tr>
<th>Activities in support of Objective 1:</th>
<th>Person/agency responsible for Activities.</th>
<th>Activity Timeline.</th>
</tr>
</thead>
</table>
**CRC Prevention in the North Slope Borough of Alaska Utilizing the Flu-FIT Intervention**

**LOGIC MODEL**

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Short-term/ Intermediate Outcomes 1-3 years</th>
<th>Long-term Outcomes &gt;5 years</th>
</tr>
</thead>
</table>
| -Project Coordinator  
-Interpreter  
-Data Analyst  
-Marketing Analyst  
-Clinic Staff  
-Community Advisory Group  
-Fit Kits | -Project Coordinator will train the clinic staff in Flu-FIT  
-Project Coordinator will form the CAG and assist in the focus groups  
-Interpreter will interpret documents into the native language  
-Marketing analyst will assist in the creation of educational materials | -Reminders to receive their flu shot will be sent to every household  
-Flu-FIT kits will be collected and returned  
-Reminders will be called to participants who have not returned kits weekly  
-negative results will be mailed  
-positive results will be called and patients navigated to colonoscopy | -increase in eligible patients being screened for colorectal cancer  
-14% increase in patients being screened for colorectal cancer  
-increase in patients being successfully navigated to colonoscopy  
-increase adherence by retaining patients screened in previous year(s) | -Decrease in colorectal cancer incidence compared to previous years  
-Sustain patients being successfully navigated to colonoscopy  
-Decrease mortality due to increased prevention in early screening (polyp removal) |
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