



# **Prevention Care Management: A Manual for Improving Breast, Cervical, and Colorectal Cancer Screening Rates for Women in Primary Care**

**A Collaboration between Clinical Directors Network, Inc.,  
Dartmouth Medical School and the National Cancer Institute**

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The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Cancer Institute or the National Institutes of Health.

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  - L. Dietrich AJ, Tobin JN, Cassells A, Robinson CM, et. al, Telephone Care Management to Improve Cancer Screening Among Low-Income Women. Ann Intern Med. 2006; 144:563-571.

## 1. About this Manual

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This manual has been developed by the New York Prevention Care Manager project to help Community Health Centers (CHCs) and other primary care practices improve breast, cervical and colorectal cancer early detection rates among their female patients. It was developed and successfully implemented with women age 50-69. This work represents a collaboration between Clinical Directors Network Inc., Dartmouth Medical School, eleven Community Health Centers in New York City and the National Cancer Institute (NCI Grant # R01 – CA08766, PI: Allen J. Dietrich, MD).

## 2. Acknowledgements

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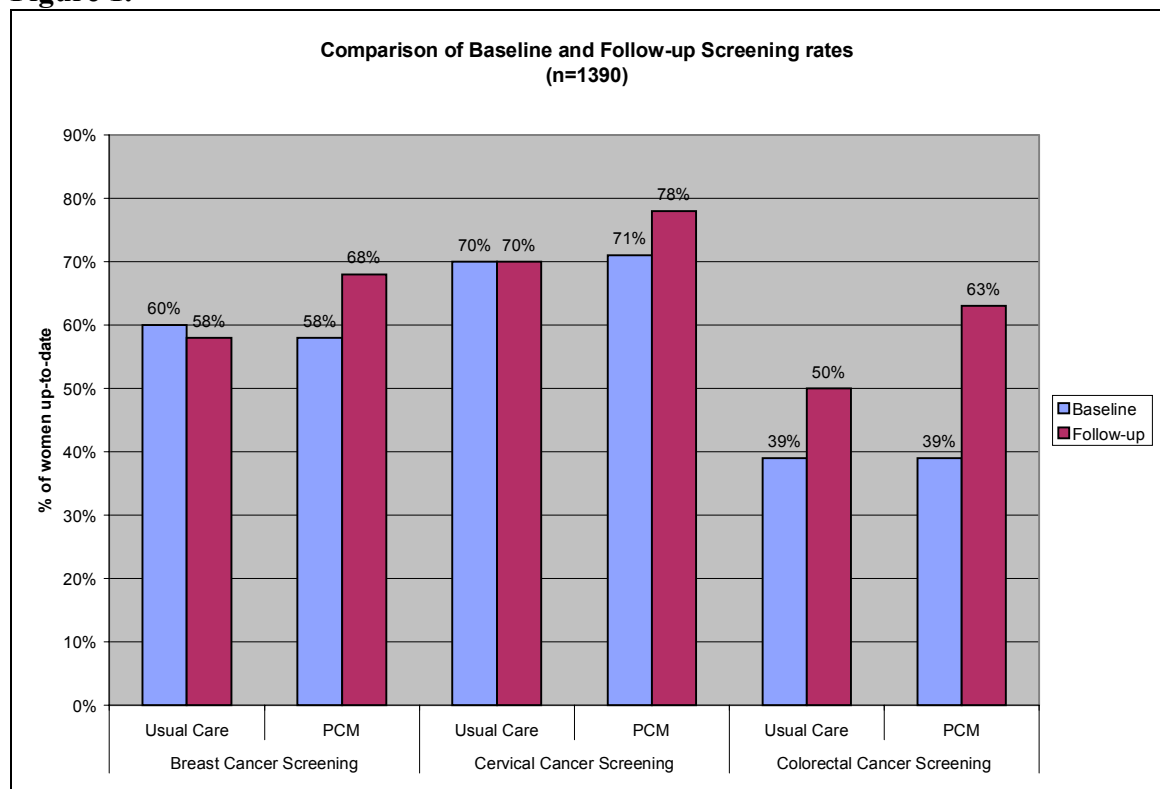
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### 3. The Prevention Care Manager Project: An Overview

Clinical Directors Network (<http://www.CDNetwork.org>) and Dartmouth Medical School conducted a project to measure the impact and costs of using a Prevention Care Manager (PCM) to improve cancer screening rates among ethnically diverse, 50-69 year old female patients of Community Health Centers in metropolitan New York City. This Randomized Controlled Trial, which was conducted between 2000 and 2005, was funded by the National Cancer Institute (Grant # R01-CA-08766, PI Allen J. Dietrich, MD). The PCM intervention used medical records to identify patients who were overdue for services, and then provided culturally and language appropriate (English, Spanish, Haitian Creole) patient advice and support by telephone over an 18 month period. PCM support included assistance overcoming barriers to breast, cervical and colorectal cancer screenings, help scheduling appointments, appointment reminders, and follow-up support for women receiving abnormal screening results. This project tested a new model of enhancing preventive care for special populations in CHCs serving low-income and minority women.

The impact of the PCM project was evaluated by comparing follow-up screening rates for the three cancers between patients randomized to receive PCM support and patients randomized to receive Usual Care. Screening data were collected from patient medical records at least three months after the end of the intervention. The PCM intervention increased cancer screening rates for all three types of cancer, with the largest increase in colorectal cancer screening rates (Figure 1). See Dietrich et al. 2006 (Appendix L) for additional details.

**Figure 1.**



## 4. The Prevention Care Manager Approach

The role of the Prevention Care Manager (PCM) is to activate and educate women, particularly those 50 and older, about recommended cancer screening tests and their benefits, in order to increase cancer screening rates. The patient support and educational materials provided by the PCM can be particularly effective at increasing awareness and consequently screening rates in primary care practices. With exposure to cultural and language-specific educational materials, many women will learn more about cancer prevention and form an opinion for themselves regarding screening. This helps women develop a sense of self-empowerment regarding their health care which should be supported by their primary care clinician and the PCM. Through regular check-ups with their primary care clinician and the support of the practice's Prevention Care Manager, cancer screening rates for women 50 and over can be significantly improved.

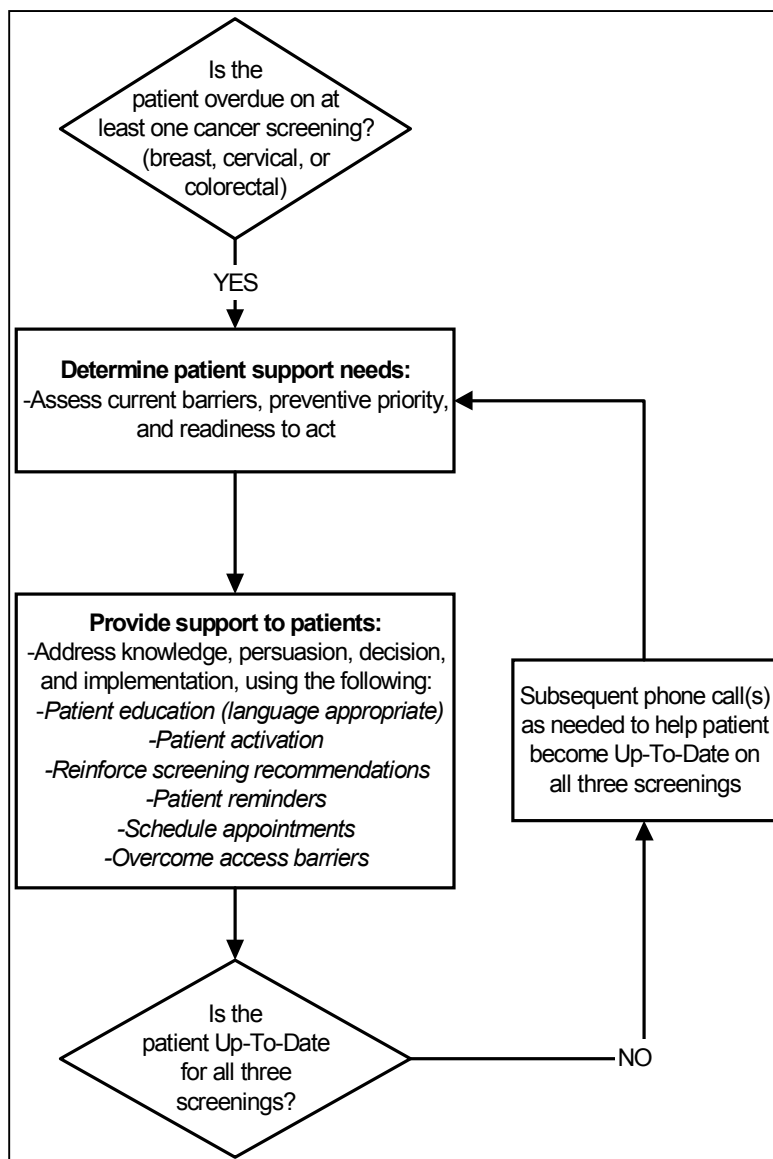
So how does a Prevention Care Manager do her job? The next section of this manual describes in detail the duties of a Prevention Care Manager and provides the tools and strategies that primary care practices can use to improve cancer early detection rates.

The steps that are outlined below

provide a framework for implementing the PCM intervention in your practice. However, as you implement the steps in the process, be flexible and customize the strategies to fit with existing reminder or telephone support systems within your practice.

As shown in Figure 2, the PCM first identifies patients who are overdue for cancer screenings, then contacts each overdue patient to determine the specific types of support she needs. The PCM then provides telephone support along with patient educational materials, PCM tools, and appointment reminders. The PCM continues to call the patient until she is fully up-to-date for all cancer screening tests. Once fully up-to-date, the patient can be moved to the bottom of the list, and contacted only when she is once again overdue for one or more cancer screenings.

Figure 2.



## **5. How to be a Prevention Care Manager**

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This next section provides detailed instructions on how to be a Prevention Care Manager, describing in detail how to:

### **5.1 Identify women who need Prevention Care Manager (PCM) assistance**

### **5.2 Prepare for the first contact**

### **5.3 Initiate contact**

- A. Introduce yourself and the Prevention Care Manager Approach
- B. Determine the Patient's Up-to-date Status
- C. Check for future appointments
- D. Assess Preferences and Determine Readiness to Act
- E. Help overcome specific barriers
- F. Schedule a follow-up call
- G. End the call
- H. Complete Follow-up Plan

### **5.4 Mail materials to patient**

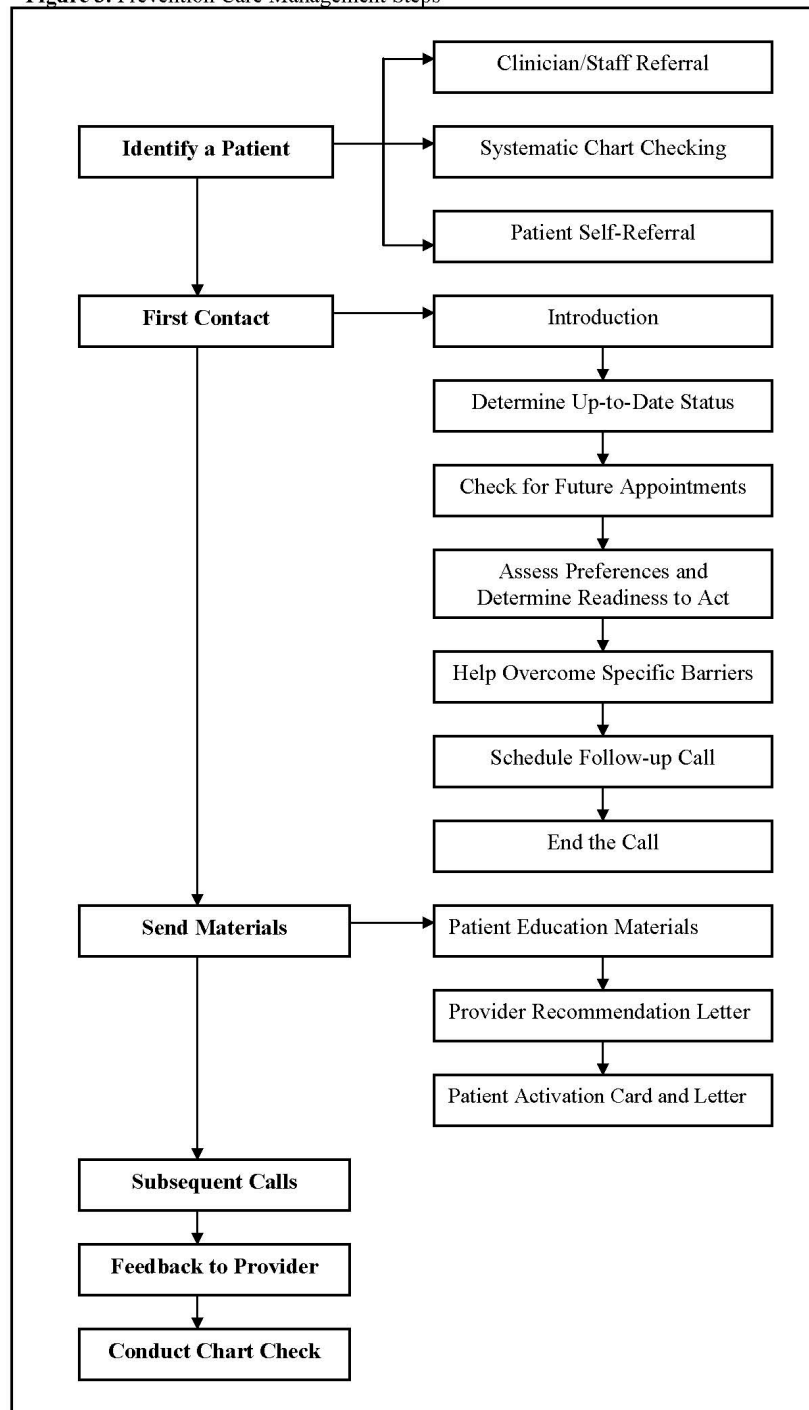
- A. Patient Educational materials
- B. Provider Recommendation Letter
- C. Patient Activation card and letter

### **5.5 Conduct subsequent follow-up calls**

### **5.6 Share feedback with provider**

### **5.7 Conduct periodic chart checks**

**Figure 3.** Prevention Care Management Steps



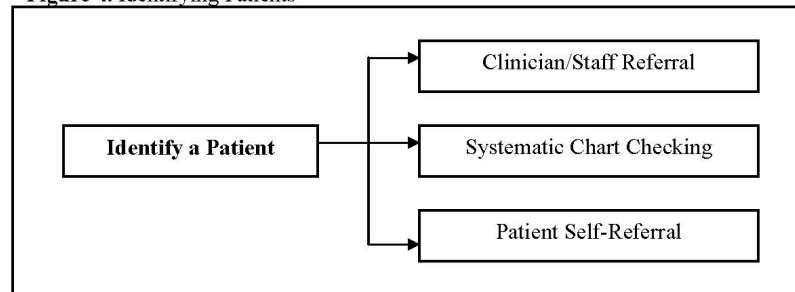
## **5.1 Identify women who need Prevention Care Manager (PCM) assistance**

There are three ways for a PCM to identify patients who could benefit from support:

**A) Clinician/Staff Referral, B) Systematic chart checking, and C) Patient self-referral.**

**A) Clinician/Staff Referral** - Once a practice has decided to implement Prevention Care Management, a system should be set up where clinicians and staff can easily request the help of the PCM for a particular patient. During a check-up with a patient who appears to need the extra help of a PCM to obtain a cancer screening test, a clinician can refer the patient to the PCM for an in-person or phone appointment. A list of “problem patients,” who are particularly resistant to getting screened, should also be generated regularly (weekly or monthly) by clinicians or the Quality Improvement Coordinator, and shared with the PCM for review and action. In addition, the Patient Encouragement Letter (Appendix A) can be given to patients to provide an introduction to the Prevention Care Manager and encourage them to speak with her.

**Figure 4. Identifying Patients**



**B) Systematic chart-checking** - Every month the PCM can perform a certain specified number of chart checks to assess patients’ up-to-date status for mammography, Pap test, and colorectal cancer screening. This strategy should also be used to identify patients who have not been to the practice in a while and are in need of outreach. Section 5 of the Initial Follow-up form (Appendix B) can be used to record patient screening history data from the medical record.

**C) Patient self-referral** - Patients should also be able to reach out directly to the PCM without having to request assistance from their primary care clinician. In order to facilitate this process, the PCM’s services should be marketed to patients of the center through flyers in examining rooms, posters in waiting areas, website postings, and direct mailings. All marketing materials should include the PCM’s name, a direct telephone number to reach the PCM at the practice, the room number in which the PCM is located, and the days and hours that the PCM is on duty. The PCM telephone should be linked to an answering machine, so that patients can easily leave messages for the PCM.

## **5.2 Prepare for the first contact**

Prior to making your first contact with the patient, begin completing the Initial Follow-Up (IFU) form (Appendix B), first write the Patient’s Medical Record number, and your name in the appropriate spaces on the top of the IFU form.



For patients who self-refer or who are referred by a clinician or staff member, review the patient's Medical Record prior to your initial contact with the patient, to determine which tests are needed. For all patients, enter screening information from the Medical Record in item 5 of the IFU form. Refer to Table 1, below, to determine whether the patient is up-to-date for breast, cervical, and colorectal cancer screening. Determine from practice records the name of the patient's primary care clinician and record it in item 4c. Record patient's health insurance information in item 4d.

**Table 1: Cancer Screening Guidelines**

United States Preventive Services Task Force (USPSTF) and American Cancer Society (ACS)			
Cancer	Screening test	Interval	Age group
Breast	Mammography	every 1-2 years	40 and up
Cervical	Pap test	every 3 years (if no history of abnormal screenings)	up to age 65 (if 3 recent normal tests); also discontinue if hysterectomy for benign reasons
Colorectal	Home Fecal Occult Blood Test (HFOBT)	annually	age 50 and up
	Sigmoidoscopy	every 5 years	
	Double Contrast Barium Enema	every 5 years	
	Colonoscopy	every 10 years	

Source: United States Preventive Services Task Force <http://www.ahrq.gov/clinic/uspstfix.htm>  
 American Cancer Society <http://www.cancer.org>

Sometimes when you are doing a chart check, you may find a patient who appears to have had an urgent abnormal result on a cancer screening test which was never followed-up (see Table 2). In this case, an **Abnormal Results Letter** should be sent to the patient's provider, and the patient should not be contacted. Instead, the PCM should contact the provider and the Quality Improvement Coordinator one week after sending the letter to ensure that appropriate follow up care has been provided to the patient. The letter should include the patient's name and medical record number along with the test that was abnormal and the test date. An example of the **Abnormal Results Letter** is in Appendix J.

**Table 2: Urgent Abnormal Results Table**

Results	Mammography	Pap Test	Home FOBT	Sigmoidoscopy	Colonoscopy
<b>Urgent Abnormal Results</b>	<ul style="list-style-type: none"> <li>• <b>ACR 0</b> (Need Additional Imaging)</li> <li>• <b>ACR 4</b> (Biopsy should be considered)</li> <li>• <b>ACR 5</b> (Immediate Action needed) (ACR = American College of Radiology)</li> </ul>	<ul style="list-style-type: none"> <li>• <u>AGUS</u> (atypical glandular of undetermined significance) <b>OR</b> <u>AGC</u> (atypical glandular cells)</li> <li>• <u>HSIL</u>: (high grade squamous intraepithelial lesion), including:               <ul style="list-style-type: none"> <li>* severe dysplasia, moderate dysplasia</li> </ul> </li> <li>• <u>CIS</u>- carcinoma in situ</li> <li>• <u>(ASC r/o SIL) = ASCUS</u> (atypical squamous cells of undetermined significance) <b>cannot rule out SIL</b> (squamous intraepithelial lesion )</li> <li>• <u>Squamous cell cancer</u> (SCC)</li> <li>• <u>Adenocarcinoma</u></li> </ul>	<ul style="list-style-type: none"> <li>• 2 or 3 tests positive out of 3 tests</li> </ul>	<ul style="list-style-type: none"> <li>• Lesion, presumed cancerous</li> </ul>	<ul style="list-style-type: none"> <li>• Polyps biopsied, pathology Cancer <b>OR</b> <ul style="list-style-type: none"> <li>• Worrisome clinical findings noted, but definitive diagnosis deferred</li> </ul> </li> </ul>

Source: National Cancer Institute <http://bethesda2001.cancer.gov/terminology.html>

Next, complete questions 1 – 3 accordingly on the IFU Form. For question 1, indicate if contact was made by the PCM or the patient. If the contact is made in person, note this on item 2. Be sure to change type of contact if you completed the form in preparation for the call but then saw the patient in person and conducted the Initial Follow-up. For each unsuccessful call that is made, indicate in item 3 the date of attempt and the outcome in the appropriate column. Be sure to use only one column per call.

When you successfully reach a woman, record the date of contact.

### 5.3 Initiate contact

#### A. Introducing yourself and the Prevention Care Manager Approach

When you first talk to a patient who has either been referred to you or identified by you as a woman who is overdue for her screening(s) introduce yourself and your purpose in contacting her, using the PCM Introductory Script, below.

If the patient declines to receive PCM support, indicate Refused in item 4a on the IFU form. If the patient agrees to continue talking to you, determine her primary language and record it on item 4b. If you are unable to communicate with the patient, let her know that a PCM who is bilingual in her preferred language will contact her shortly, and follow-up with your practice's Quality Improvement Coordinator to find an appropriate person to serve as PCM.

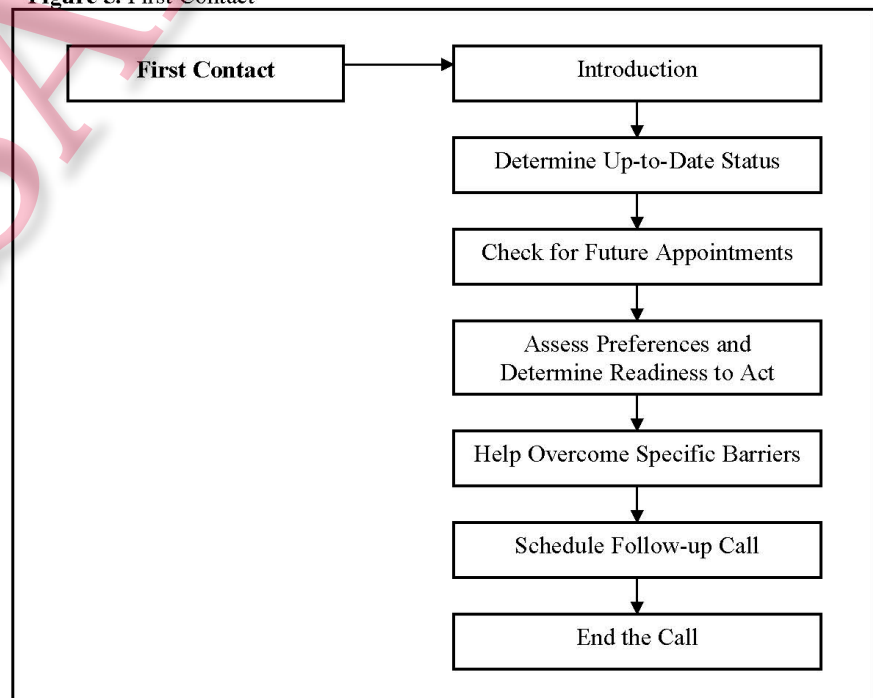
Once the patient agrees to receive support and you have ascertained that you are able to communicate with her, use the following scripts along with the Initial Follow-up form to guide your conversation.

#### INTRODUCTORY SCRIPT

*"Hello, Mrs. Sanchez? My name is Sara Jones and I am a medical assistant at the Greenview Community Health Center.*

*In addition to being a medical assistant, I am also a Prevention Care Manager, and part of my job is working with women who come to this Practice to make sure they are up-to-date with their preventive cancer screening tests. These tests are the mammogram, to screen for breast cancer, the Pap test, to screen for cervical cancer, and a test called the Home Fecal Occult Blood Test (HFOBT), which is a test that you do at home which checks to see if there is blood in your stool,*

**Figure 5. First Contact**



*which can be an indication of a colorectal problem. Do you have five minutes to talk to me?"*

*"According to your medical records at this practice and your doctor, you're overdue for some of the cancer screening tests that your doctor recommends. Your doctor \_\_\_\_\_ thinks it's very important that you have these tests and has asked me to help you obtain them over the next few months."*

### **B. Determine the Patient's Up-to-date Status**

During your first contact with a patient, you will want to determine which cancer screening tests the patient needs to obtain in order to be fully up-to-date for breast, cervical and colorectal cancer screenings. She may only need one, or she may need all three. In most cases you will have information from the medical record and will be able to check with the woman to see if she has had more recent tests than those documented in her medical records.

Begin by reporting on the test(s) for which she is up-to-date, using the information recorded in item 5 of the IFU form. *"Ms. Sanchez, we had a chance to look at your chart and touch base with your primary care clinician and found that you had a mammogram in March of this year. Congratulations, you are up-to-date for this test."* Then continue with the screenings for which she is not up-to-date ... *"For the Pap test, I saw that you had the last one in December 200\_. Is that correct? Have you had a more recent Pap test?"*

If the patient corrects the information from her medical record, be sure to indicate the date and location of the test and any pertinent notes in the corresponding columns on the right hand side of item 5. If the woman reports an upcoming appointment for a cancer screening test, enter this information in item 6c.

### **C. Check for future appointments**

After ascertaining information about the patient's up-to-date status, then determine the patient's next appointment with her primary care provider, as this provider can refer the woman for the three targeted screening tests, and record the date and purpose for the appointment in item 6. Also ask if the patient has any upcoming screening appointments scheduled. If the patient reports appointments for other providers, include this information in the comments section of item 6.

### **D. Assess preferences and determine readiness to act**

Assess Preferences and determine Readiness to Act for those services for which the patient is not up-to-date. Even if the woman has an upcoming appointment for a specific test, you should still assess Preferences and Readiness to Act in order to ascertain if the patient will indeed follow through and obtain the scheduled test.

Gently ask the patient which test she feels that she will be able to do first, followed by the second and/or third, if applicable. Use the "1- 5 scale" to rate the patient's preference (1 = first preference to 5 = last preference) and the "A-D scale" (A = ready to take steps now for scheduling; B = ready to act over next month, but not today; C = ready to act at some non-specific future time; D = reluctant, ambivalent, or not ready to act) to rate the patient's readiness to act. The PCM may use a statement like this *"Mrs. Sanchez, which test would you be willing to do first?"* Then determine her readiness to act by asking, *"When do you think you would be able*

to schedule this test?” Document the patient’s preferences and Readiness to Act Information in item 7 of the IFU form.

### **E. Identify and overcome barriers to prevention**

Assessing barriers is an important part of the PCM approach. Once you know what is specifically preventing the patient from getting certain screening test(s), then you will be better able to help. There are many different barriers that prevent women from getting preventive cancer screenings. Barriers can originate from the patient, provider, or practice.

Assess barriers after you have identified the patient’s preferences and have determined which test(s) she is ready to proceed with. Begin with the test that the woman feels that she will be able to do first. “*What is the main reason that you haven’t had a mammogram in three years, Mrs Sanchez?*” Then, continue with her second preference, if applicable.

Please refer to *Barriers to Cancer Screening Tests, and Appropriate Responses* (Appendix E), for a detailed list of frequently cited barriers to cancer screening tests, and appropriate responses to use to help patients overcome these barriers. Be sure to review Appendix E prior to contacting any patients so that you are familiar with the barriers that women face.

If the patient does not report a barrier, probe by asking about each of the barriers on the table in item 8. For example, you may start by saying “*Mrs. Sanchez, has your primary care clinician told you about the \_\_\_\_\_?*” in order to learn if she had no MD recommendation. To assess whether she has a knowledge barrier, ask “*Have you heard about the \_\_\_\_\_?*” If at the time of the initial contact the patient reports that she is already scheduled for a test, still assess for barriers because she might not follow through and this information will be helpful in your future interactions with her.

Together with the woman, develop a strategy of the specific steps needed for her to obtain the highest priority tests. Ask if she will be able to schedule a primary care or screening appointment. If not, ask if you can help her schedule these appointments. Also identify supportive steps to be taken by you, her Prevention Care Manager. It takes time, patience, and practice to be an effective Prevention Care Manager. But you WILL get there!

### **F. Schedule a follow-up call**

The frequency of contact will vary from patient to patient, depending on a variety of factors such as the patient’s willingness to get tested, the barriers that she is facing, her level of trust with the Prevention Care Manager, etc. You should aim to arrange a follow up contact within a month from the date of the initial contact to determine if the patient has taken at least initial steps. Set a specific date and time for the call, and record it on the PCM Follow-up Plan (Appendix D).

### **G. End the call**

Make sure to let patients know you care about their preventive care and health. Before hanging up, ask the patient if she has anything she would like to add or discuss with you. When completing a call, be sure to share with the patient when you will be contacting her again. Use beginning, middle, or end of the month to denote date of next contact. If the patient has an appointment scheduled for the Pap, mammogram, Home FOBT, barium enema, sigmoidoscopy

or colonoscopy, tell her that you will be calling her a few days before her appointment as a friendly reminder.

Once you have completed the form, take a few minutes to review it to make sure that all items have been completed and to ensure that you have checked for consistency.

#### **H. Complete Follow-up Plan**

The Follow-up Plan (Appendix D) is a tracking tool that should be used in conjunction with the Initial and Subsequent Follow-up Forms. The PCM should update the Follow-up Plan after each call and review it between calls to monitor the patient's progress in becoming up-to-date, and to ensure that PCM support tasks are completed in a timely manner.

After completing the initial call, review the information obtained in item 5 of the IFU and transfer dates of breast, cervical and colorectal cancer screening tests to the Follow-up Plan. Use the Cancer Screening Guidelines in Table 1 to determine when the patient will again be overdue, and denote this date for each of the targeted cancer screening tests. Be sure to fill in the patient's medical record number, the PCM name and date of the first call at the top of the form. Depending on the number of tests that the patient needs and the barriers with which she is faced, you may need to use more than one Follow Up Plan during the period that you work with the woman to get up date. Be sure to number each Follow Up Plan that is used.

Review information documented on the Initial Follow Up form and fill in the appropriate PCM Support Tasks that need to be completed:

**Abnormal Follow-Up:** If urgent abnormal results were found in the chart for one of the targeted screening tests, check "To Do" next to "Abnormal Follow-Up" in the column that corresponds to the test. Then, document the date that the Abnormal Results Letter was sent to the provider in the "Send Abnormal Results Letter to Provider" row.

**Schedule Appointments:** Enter date, time and location of appointments that the patient has scheduled, as well as appointments that the PCM has scheduled. If the PCM has agreed to schedule a primary care appointment for the patient, check the "To Do" box for this item and then fill in the date of the appointment, once it has been made.

**Calls to Patient:** Patients must be called two days before any scheduled primary care or cancer screening appointment. Document the date of each reminder call in the "Appointment Reminder" row. Also document the date that the appointment information was given in the "Give Appointment information" section. Be sure to select the appropriate test column.

**Mailings to Patient:** After each call, indicate the specific tools and materials that need to be sent and then document the date that the materials were sent.

**Feedback to Provider:** Document the date(s) of all reminder and follow notes that were placed in the patient's chart for each of the targeted cancer screening tests.

**Scheduled Calls:** Enter the date of each follow up call that has been arranged. Once the call has been completed, indicate the date of completion.

## **5.4 Mail materials to patient**

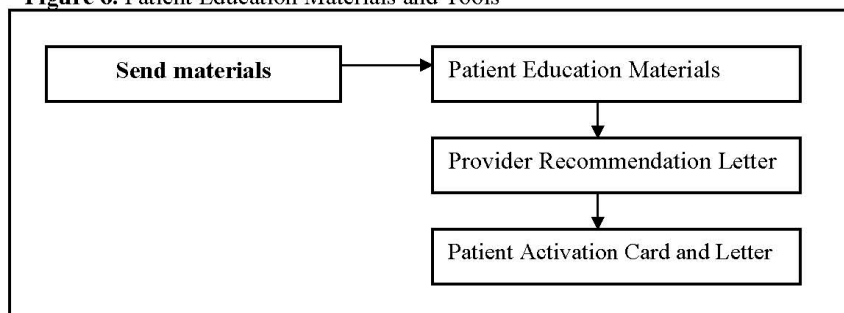
Immediately following the call, prepare and mail the patient educational materials and other PCM tools. Review the patient's up-to-date status and barriers reported by the patient for each test, and send materials accordingly. Indicate on the Follow Up Plan materials that have been sent along with the date that were sent.

### **A. Patient educational materials**

Patient educational materials help women understand specific procedures and tests. The materials are easy-to-read, patient-friendly, language specific brochures with visual aids. Language and culturally appropriate brochures for any overdue test should be mailed to each woman.

Appendix K provides sources of patient educational information which can be ordered or downloaded from the internet; your practice may also already have such material available.

**Figure 6.** Patient Education Materials and Tools



### **B. Provider Recommendation Letter**

The Provider Recommendation letter (Appendix F) is another way to reinforce the fact that you, the Prevention Care Manager, are working with the patient's primary care physician to help her get up-to-date. This letter will be sent to patients after the Initial Follow-up call has been made if it has been determined from the barriers assessment that the patient has not received a provider recommendation for one or more test.

### **C. Patient Activation Card and Letter**

The Patient Activation Card (Appendix G) should be mailed to a woman who is overdue for any screening(s). The accompanying letter (Appendix H) asks her to bring the card to her next primary care appointment and share it with her primary care clinician so he or she can schedule a screening appointment. The Patient Activation Card allows the patient to play an active role in her health care management, which is one important step on the road to feeling empowered!

The letter and Patient Activation Card should be sent to the patient in her primary language. Enter the patient's name and screening status into both the letter and the Patient Activation Card. Multi-lingual practices should print these cards and letters in as many languages as are spoken at the practice to accommodate all patients.

## **5.5 Conduct subsequent follow-up calls**

Before contacting the woman again, check your file to see if she had scheduled any upcoming screenings or primary care appointments. Record date and location of these appointments in the shaded portion of item 6 of the Subsequent Follow up Form (SFU), Appendix C.

Call the woman on the date and time arranged in the initial call. Re-introduce yourself and the Prevention Care Manager program, and then use the Subsequent Follow-up Form, Appendix C, to guide your conversation.

Ask the patient if she has received the educational materials and tools that you sent, and answer any questions that she may have. If she hasn't received them, verify her mailing address and resend the materials. If she has received them but not reviewed them, encourage her to do so.

If there are any scheduled screening appointments recorded in the shaded section of Item 6 of the SFU Form, ask the patient *"Did you receive the mammogram you had scheduled for March 27?"* If she did, congratulate her, *"Mrs. Sanchez, congratulations! You are now up-to-date for breast cancer screening"*. Circle Y(es) in item 6, ask if she knows the results of the screening, and circle the appropriate letter (N = Normal, A = Abnormal, P = Pending, U = unknown). If she did not, circle N(o).

If the patient has scheduled any screening tests, congratulate her and document in item 6 of the SFU form the date and location of the scheduled test.

If the patient is still overdue for any screenings, ask her if she has scheduled an upcoming primary care appointment to speak with her clinician about cancer screening tests. If she has, congratulate her, record the date and time, and the purpose of the appointment in item 7.

Assess barriers for any remaining overdue screenings using the approach outlined above for the Initial Follow-up call. Document barriers reported in item 8, 9 and 10 for the screening tests for which the patient is due.

If the patient remains overdue but has not scheduled either a primary care appointment or a screening, ask if you can help her schedule these appointments.

When completing a call, be sure to share with the patient when you will be contacting her again. Use beginning, middle, or end of the month to denote date of next contact. Aim to arrange a follow up contact within a month from the date of this call. If the patient has an appointment scheduled for the Pap, mammogram, home FOBT or sigmoidoscopy/colonoscopy, tell her that you will be calling her a few days before her appointment as a friendly reminder.

Once you have completed the form, take a few minutes to review it to make sure that all items have been completed and to ensure that you have checked for consistency.

Review the Follow Up Plan after the call and indicate all PCM Support Tasks that need to be completed, based on the information that was obtained during the Subsequent Follow-up call. Document any new appointment information that the patient reported.



**Frequency of calls:** Continue to call the patient on a monthly basis until she becomes up-to-date for all screenings. Be mindful of the patient's particular circumstances and schedule when planning follow-up calls.

**Appointment information calls:** If you have scheduled a screening or primary care appointment for the patient, give her the date, time, and location of the appointment(s) both by phone and by mail. Be sure to document this information on the Follow Up Plan.

**Reminder Calls:** Call the patient two days before any scheduled primary care or cancer screening appointment to remind her of the appointment and see if she has any questions. Record the reminder call on the Follow-up Plan, but do not complete a Subsequent Follow-up form for this call.

## **5.6 Share feedback with provider**

Another important job of the Prevention Care Manager is sharing feedback with the patient's primary care provider.

The **Prevention Post-It Note** (Appendix I) is a tool that is used to inform the provider of a patient's up-to-date status on her breast, cervical, and colorectal cancer screening tests. The Prevention Post It Note is placed in a patient's medical record, in the section of the chart that is used for the primary care clinician's notes. That way, during the woman's next visit, her provider will immediately see the Prevention Post-It Note and be reminded of any cancer screenings for which the patient is overdue.

Providing feedback to the provider is especially important when dealing with abnormal unresolved test results. Sometimes when you are doing a chart check, you may find a patient who appears to have had an abnormal result on a cancer screening test which was never followed-up and appears urgent. In this case, an **Abnormal Results Letter** should be sent to the patient's provider. The letter should include the patient's name and medical record number along with the test that was abnormal and the test date. An example of the **Abnormal Results Letter** is in Appendix J.

## **5.7 Conduct periodic chart checks**

Chart checks should be done on a regular basis to ensure that the woman's progress is documented. Once a patient you have been working with is up-to-date for all her screenings and her results are found in her chart, then her "case is closed." This means she can move to the bottom of the list of patients to be called and you can concentrate on your other patients who need to get screened. But if you look through the medical record of a woman you have been working with who has told you that she has received the screenings and see no evidence of the test, then you need to call her again and tell her the results are not in her chart. Stress the importance of placing test results in the medical chart, and if the patient received the screening off-site, work with her to obtain a copy of the results and have them placed in her chart.

Sometimes when you are doing a chart check, you may find a patient with an urgent abnormal result on a cancer screening test which was never followed-up. In this case, an **Abnormal Results Letter** should be sent to the patient's provider. The letter should include the patient's



name and medical record number along with the test that was abnormal and the test date. An example of the **Abnormal Results Letter** is in Appendix J.

## **APPENDICES**

**APPENDIX A: Patient Encouragement Letter (on Health Center Letterhead)**

---

Dear \_\_\_\_\_

We have a very exciting program at the \_\_\_\_\_, which we think you will be interested in. It is called the Prevention Care Manager Project.

The purpose of this program is to help women aged 50-69 who come to this health center to get screened for breast, cervical and colon cancer. We hope this program will increase the number of women who have these cancer screening tests.

If you agree to sign up for this program, you will work with a Prevention Care Manager who will provide you with education about the specific tests and answer any questions that you may have. The Prevention Care Manager will also work with you to address things that may prevent you from getting the tests, such as the cost or transportation. After you have taken the cancer screening tests, the Prevention Care Manager will make sure that you get the results of the tests. If the test results are not normal, the Prevention Care Manager will make sure that you get the follow up care that is needed.

Because it is important that you get all the prevention tests that you need, we would like you to speak to \_\_\_\_\_, the Prevention Care Manager, before you leave today.

We look forward to working with you to make sure you are up to date for all your preventive services.

Sincerely,

Medical Director

**APPENDIX B Initial Follow-up Form**

Patient Medical Record #: \_\_\_\_\_ PCM Name \_\_\_\_\_

**Prevention Care Manager Project Initial Follow-up Form**

1. Contact initiated by: \_\_\_\_\_ PCM \_\_\_\_\_ Patient  
2. Type of contact: \_\_\_\_\_ Phone \_\_\_\_\_ In person

**3. OUTCOME OF CALL****RECORD DATE OF UNSUCCESSFUL CALLS**

Outcome	Attempt#1	Attempt#2	Attempt#3	Attempt#4	Attempt#5	Attempt#6	Attempt#7	Attempt#8**
No Answer								
Answering machine								
Number incorrect								
Left Message								
Asked to call back								
Busy								
Other (specify)								

**\*\*NOTE : After 8 unsuccessful calls, check with provider to see if patient is still coming to the practice**  
**DATE CONTACT MADE:** \_\_\_\_\_

**Patient Information**

- 4a. Did the patient agree to receive PCM Support? (circle one) Agreed / Refused  
4b. Record Primary language of patient (circle one): English / Spanish / other (specify \_\_\_\_\_)  
4c. Primary Care Clinician: \_\_\_\_\_  
4d. Type of Health Insurance: \_\_\_\_\_

**Report status to patient**

5. Report Up-to-date (UTD) status to patient and confirm or modify (Use the U.S. Preventive Services Task Force (USPSTF) Guidelines table to determine patient's UTD status)

Service	Record date of last test, check status			If patient corrects date of last test, record date as per patient, and location of test	
	Date last test	UTD	Overdue	Date	Location / Notes
Mammogram					
Pap					
Home FOBT					
Colonoscopy					
Sigmoidoscopy					
Double Contrast Barium Enema					

Comments: \_\_\_\_\_

**Patient Medical Record #:** \_\_\_\_\_**Date of Contact:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_**Check future appointments**

6. a) When is your next appt. with your primary care/gyn provider/at the (Practice Name)? Date: \_\_\_\_\_  
b) What is the purpose of this appointment? \_\_\_\_\_  
c) Do you have any upcoming appointments for a cancer screening test? \_\_\_\_\_  
Date: \_\_\_\_\_ Location: \_\_\_\_\_  
d) Comments: \_\_\_\_\_

**Assess Preferences, Readiness to Act, Barriers**

7. Check **Patient Preferences** for ALL OVERDUE TESTS (1 = first preference to 5 = last preference) and **Readiness to Act** (A = ready to take steps now for scheduling; B = ready to act over next month but not today; C = ready to act at some non-specific future time; D = reluctant, ambivalent, or not ready to act.)

Service	Patient Preference(1-5)	Readiness to Act (A-D)
Mammogram		
Pap		
Home FOBT		
Barium Enema		
Sigmoidoscopy		
Colonoscopy		

8. a) Explore barriers identified by patient and comment on barriers below

**Colon Cancer Screening**

Check service: ☐ Mammo ☐ Pap ☐ Home FOBT ☐ Colonoscopy ☐ Sigmoidoscopy ☐ Barium Enema

*Check all that apply. For each item that is checked, please comment. Respond to each reported barrier.*

Barrier (check all that apply)	Comments
<input type="checkbox"/> 1) No MD recommendation	
<input type="checkbox"/> 2) No knowledge of test	
<input type="checkbox"/> 3) Misconceptions about test	
<input type="checkbox"/> 4) No symptoms	
<input type="checkbox"/> 5) No family history	
<input type="checkbox"/> 7) Cost	
<input type="checkbox"/> 8) Lack of family support	
<input type="checkbox"/> 9) No social support	
<input type="checkbox"/> 10) Competing priorities	
<input type="checkbox"/> 11) Worry about test	
<input type="checkbox"/> 12) Chronic condition	
<input type="checkbox"/> 13) Access	
<input type="checkbox"/> 14) Other (Specify)	
<input type="checkbox"/> 15) Other (Specify)	

- b) Any additional comments? \_\_\_\_\_

**Patient Medical Record #:** \_\_\_\_\_

**Date of Contact:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_

9. a) Explore barriers identified by patient and comment on barriers below

**Colon Cancer Screening**

Check service: ☐ Mammo ☐ Pap ☐ Home FOBT ☐ Colonoscopy ☐ Sigmoidoscopy ☐ Barium Enema

*Check all that apply. For each item that is checked, please comment. Respond to each reported barrier.*

Barrier (check all that apply)	Comments
<input type="checkbox"/> 1) No MD recommendation	
<input type="checkbox"/> 2) No knowledge of test	
<input type="checkbox"/> 3) Misconceptions about test	
<input type="checkbox"/> 4) No symptoms	
<input type="checkbox"/> 5) No family history	
<input type="checkbox"/> 7) Cost	
<input type="checkbox"/> 8) Lack of family support	
<input type="checkbox"/> 9) No social support	
<input type="checkbox"/> 10) Competing priorities	
<input type="checkbox"/> 11) Worry about test	
<input type="checkbox"/> 12) Chronic condition	
<input type="checkbox"/> 13) Access	
<input type="checkbox"/> 14) Other (Specify)	
<input type="checkbox"/> 15) Other (Specify)	

b) Any additional comments? \_\_\_\_\_

10. a) Explore barriers identified by patient and comment on barriers below

**Colon Cancer Screening**

Check service: ☐ Mammo ☐ Pap ☐ Home FOBT ☐ Colonoscopy ☐ Sigmoidoscopy ☐ Barium Enema

*Check all that apply. For each item that is checked, please comment. Respond to each reported barrier.*

Barrier (check all that apply)	Comments
<input type="checkbox"/> 1) No MD recommendation	
<input type="checkbox"/> 2) No knowledge of test	
<input type="checkbox"/> 3) Misconceptions about test	
<input type="checkbox"/> 4) No symptoms	
<input type="checkbox"/> 5) No family history	
<input type="checkbox"/> 7) Cost	
<input type="checkbox"/> 8) Lack of family support	
<input type="checkbox"/> 9) No social support	
<input type="checkbox"/> 10) Competing priorities	
<input type="checkbox"/> 11) Worry about test	
<input type="checkbox"/> 12) Chronic condition	
<input type="checkbox"/> 13) Access	
<input type="checkbox"/> 14) Other (Specify)	
<input type="checkbox"/> 15) Other (Specify)	

b) Any additional comments? \_\_\_\_\_

**11. DATE / TIME FOR NEXT CONTACT** \_\_\_\_\_

**APPENDIX C Subsequent Follow-up Form**

Patient Medical Record #: \_\_\_\_\_ PCM Name \_\_\_\_\_

**Prevention Care Manager Project Subsequent FU Form**

1. Contact initiated by: \_\_\_\_\_ PCM \_\_\_\_\_ Patient  
2. Type of contact: \_\_\_\_\_ Phone \_\_\_\_\_ In person

**3. OUTCOME OF CALL RECORD DATE OF UNSUCCESSFUL CALLS**

Outcome	Attempt#1	Attempt#2	Attempt#3	Attempt#4	Attempt#5	Attempt#6	Attempt#7	Attempt#8**
No Answer								
Answering machine								
Number incorrect								
Left Message								
Asked to call back								
Busy								
Other (specify)								

**\*\*NOTE: After 8 unsuccessful calls, check with provider to see if patient is still coming to the Practice****DATE CONTACT MADE:** \_\_\_\_\_**PCM Follow-up**

4. Introduction - Hi \_\_\_\_\_. My Name is \_\_\_\_\_. I am the Prevention Care Manager at \_\_\_\_\_. We spoke recently and I am calling to follow up as we had agreed. I have been looking forward to talking with you again.
5. a) Were educational materials sent to patient? Yes / No  
b) If yes: Were materials reviewed by Patient? Yes / No  
c) Did patient have any questions about the educational materials? Yes / No

**Appointment and Follow-up information**

6. Service follow-up (See previous Follow-up forms to record appt. dates:)

Service (Results: N = Normal, A = Abnormal, P = Pending, U = Unknown.)	A. Did patient get screening on:				B. Did patient schedule appt.	
	Date	Location	Y/N	Results (circle one)	Y/N	Date/ Time
<b>Mammogram</b>			Y/N	N / A / P / U	Y/N	
<b>Pap Test</b>			Y/N	N / A / P / U	Y/N	
<b>Home FOBT</b>			Y/N	N / A / P / U	Y/N	
<b>Colonoscopy</b>			Y/N	N / A / P / U	Y/N	
<b>Sigmoidoscopy</b>			Y/N	N / A / P / U	Y/N	
<b>Barium Enema</b>			Y/N	N / A / P / U	Y/N	

7. a) When is your next appt. with your primary care/gyn provider / at the (Practice Name)? Date: \_\_\_\_\_  
b) What is the purpose of this appointment? \_\_\_\_\_  
c) Comments: \_\_\_\_\_

**Patient Medical Record #:** \_\_\_\_\_ **Date of Contact:** \_\_\_\_/\_\_\_\_/\_\_\_\_

**Explore barriers**

8. a) Explore barriers identified by patient and comment on barriers below

**Colon Cancer Screening**

Check service: ☐ Mammo ☐ Pap ☐ Home FOBT ☐ Colonoscopy ☐ Sigmoidoscopy ☐ Barium Enema

*Check all that apply. For each item that is checked, please comment.*

<b>Barrier (check all that apply)</b>	<b>Comments</b>
<input type="checkbox"/> 1) No MD recommendation	
<input type="checkbox"/> 2) No knowledge of test	
<input type="checkbox"/> 3) Misconceptions about test	
<input type="checkbox"/> 4) No symptoms	
<input type="checkbox"/> 5) No family history	
<input type="checkbox"/> 7) Cost	
<input type="checkbox"/> 8) Lack of family support	
<input type="checkbox"/> 9) No social support	
<input type="checkbox"/> 10) Competing priorities	
<input type="checkbox"/> 11) Worry about test	
<input type="checkbox"/> 12) Chronic condition	
<input type="checkbox"/> 13) Access	
<input type="checkbox"/> 14) Other (Specify)	
<input type="checkbox"/> 15) Other (Specify)	

b) Any additional comments? \_\_\_\_\_

9. a) Explore barriers identified by patient and comment on barriers below

**Colon Cancer Screening**

Check service: ☐ Mammo ☐ Pap ☐ Home FOBT ☐ Colonoscopy ☐ Sigmoidoscopy ☐ Barium Enema

*Check all that apply. For each item that is checked, please comment.*

<b>Barrier (check all that apply)</b>	<b>Comments</b>
<input type="checkbox"/> 1) No MD recommendation	
<input type="checkbox"/> 2) No knowledge of test	
<input type="checkbox"/> 3) Misconceptions about test	
<input type="checkbox"/> 4) No symptoms	
<input type="checkbox"/> 5) No family history	
<input type="checkbox"/> 7) Cost	
<input type="checkbox"/> 8) Lack of family support	
<input type="checkbox"/> 9) No social support	
<input type="checkbox"/> 10) Competing priorities	
<input type="checkbox"/> 11) Worry about test	
<input type="checkbox"/> 12) Chronic condition	
<input type="checkbox"/> 13) Access	
<input type="checkbox"/> 14) Other (Specify)	
<input type="checkbox"/> 15) Other (Specify)	

b) Any additional comments? \_\_\_\_\_



**Patient Medical Record #:** \_\_\_\_\_

**Date of Contact:** \_\_\_\_/\_\_\_\_/\_\_\_\_

10. a) Explore barriers identified by patient and comment on barriers below:

**Colon Cancer Screening**

Check service: ☐ Mammo ☐ Pap ☐ Home FOBT ☐ Colonoscopy ☐ Sigmoidoscopy ☐ Barium Enema

*Check all that apply. For each item that is checked, please comment.*

<b>Barrier (check all that apply)</b>	<b>Comments</b>
<input type="checkbox"/> 1) No MD recommendation	
<input type="checkbox"/> 2) No knowledge of test	
<input type="checkbox"/> 3) Misconceptions about test	
<input type="checkbox"/> 4) No symptoms	
<input type="checkbox"/> 5) No family history	
<input type="checkbox"/> 7) Cost	
<input type="checkbox"/> 8) Lack of family support	
<input type="checkbox"/> 9) No social support	
<input type="checkbox"/> 10) Competing priorities	
<input type="checkbox"/> 11) Worry about test	
<input type="checkbox"/> 12) Chronic condition	
<input type="checkbox"/> 13) Access	
<input type="checkbox"/> 14) Other (Specify)	
<input type="checkbox"/> 15) Other (Specify)	

b) Any additional comments? \_\_\_\_\_

**14. DATE / TIME FOR NEXT CONTACT:**

**APPENDIX D Follow-up Plan**

## Prevention Care Manager Project Follow-up Plan

Plan #

Patient Medical Record #: \_\_\_\_\_ PCM Name: \_\_\_\_\_

Date of first call: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Breast Cancer Screening		Cervical Cancer Screening		Colorectal Cancer Screening (circle test): hFOBT / Flex Sig / Barium Enema / Colonoscopy		Colorectal Cancer Screening (circle test): hFOBT / Flex Sig / Barium Enema / Colonoscopy	
Date last test	Up-to-date until	Date last test	Up-to-date until	Date last test	Up-to-date until	Date last test	Up-to-date until
/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /

<b>PCM Support tasks</b>	<b>Mammogram</b>	<b>Pap Test</b>	<b>Colorectal Screening</b> (circle one) <i>hFOBT / Flex Sig / Barium Enema / Colonoscopy</i>			
	To do	date done	To do	date done	To do	date done
<b>ABNORMAL FOLLOW-UP</b>						
<b>Urgent abnormal results found in chart</b>	___ Abnormal follow up		___ Abnormal follow up		___ Abnormal follow up	
Send <i>Abnormal results letter</i> to provider		/ /		/ /		/ /
<b>SCHEDULE APPOINTMENTS</b> (Enter date, time, and location of appointments)						
Patient to schedule screening appt.		/ /		/ /		/ /
PCM to schedule screening appt.		/ /		/ /		/ /
Appt. Date & Time Appointment Site	/ / : am / pm		/ / : am / pm		/ / : am / pm	
PCM to schedule primary care appt		/ /	Appointment date: / /		Appt time: am / pm	
<b>CALLS TO PATIENT</b>						
Appointment reminder		/ /		/ /		/ /
Give appointment information		/ /		/ /		/ /
<b>MAILINGS TO PATIENT</b>						
Educational materials		/ /		/ /		/ /
Appointment reminder note		/ /		/ /		/ /
Patient Activation card		/ /		/ /		/ /
Provider recommendation letter						
<b>FEEDBACK TO PROVIDER</b>						
Prevention Reminder & FU Note in chart		/ /	/ /	/ /	/ /	/ /
<b>SCHEDULED CALLS</b>	<u>Goal</u>	Done	<u>Goal</u>	Done	<u>Goal</u>	Done
Indicate beginning, middle, or end of month		/ /		/ /		/ /

Comments: \_\_\_\_\_

## **Barriers to Cancer Screening Tests, and Appropriate Responses**

There are many reasons a woman might not get a particular screening test. As a patient's Prevention Care Manager, your job is to help women overcome their specific barriers and become up-to-date. The next section lists the most commonly reported barriers, followed by an explanation of how to address and overcome each barrier, and a sample response.

The barriers are sorted into three categories: Provider barriers, Patient barriers, and Practice barriers.

### **PROVIDER BARRIERS**

#### **Lack of a physician recommendation**

Examples:      "I didn't know I was overdue."  
                     "My doctor hasn't told me to have this test."

- Convey the endorsement of the woman's primary care provider for needed screenings.
- Mail Provider Recommendation letter and Patient activation card to woman.
- If patient has an upcoming appointment, call her prior to the appointment to remind her to bring the Patient Activation card to share with her physician.

Sample Response: *"I know your doctor did not recommend the test, but your doctor is often busy when she sees you and has asked for my help identifying patients who need to get this exam. The next time you see your doctor, please bring the Patient Activation Card I'm going to mail you so that she can schedule the screenings that you need."*

### **PATIENT BARRIERS**

#### **1. No knowledge of the test**

Examples:      "I've never heard of the FOBT exam before."  
                     "A colo what?"

- Share information from fact sheets and brochures about mammograms, Pap testing, and the various colorectal screening tests with women over the phone, and send the woman language-appropriate educational material in the mail.
- Explain the importance of the test and its role in cancer prevention.

Sample response: *"All tests help save lives by detecting cancer at an early stage."  
"The Pap test is a test where your doctor takes a sample of cells from your cervix to see if they are normal. This test is important because if the cells are not normal then that could be an indication of cancer, and the faster cancer is caught the faster it can be treated and cured. Part of being healthy is getting screened for cervical cancer."*

## **2. Misconceptions about the test**

Examples: “I thought the test was for AIDS.”  
“I thought it was only for people who are sexually active.”  
“I didn’t know I needed to get a mammogram every year.”  
“I don’t have any breast lumps or pain so I don’t need a mammogram.”  
“No one in my family had colon cancer so I don’t need to do a HFOBT.”

- Educate. Share information from fact sheets and brochures, and mail language-appropriate educational materials.
- Address the particular misconception held by the patient. For example, a woman might say that because she has not had sex in ten years, she does not need the Pap test. In this case, you would explain that regular Pap tests are recommended to women her age whether they are sexually active or not.

Sample Response: *“Mrs. Sanchez, whether you are having sex now or have not had sex in a long time, it doesn’t matter. Cells can turn into cancer regardless of whether you are sexually active or not. That is why it is important to get a Pap test regularly.”*

## **3. No symptoms**

Examples: “I feel fine.”  
“I am healthy; I do not need this test.”

- Educate. Share information from fact sheets and brochures, and mail language-appropriate educational materials.
- Inform the patient that the role of cancer screening is to find cancer *before* it makes a person feel sick, because the sooner it is found, the easier it is to treat.

Sample Response: *“Mrs. Sanchez, I’m glad you are feeling healthy, but part of STAYING healthy is getting regular mammograms, Pap tests, and colorectal cancer screening tests. A person can develop cancer without experiencing any pain or discomfort in the beginning stages.”*

## **4. No family history**

Examples: “No one in my family has/had cancer.”  
“My family only gets hypertension, not cancer.”

- Educate. Share information from fact sheets and brochures, and mail language-appropriate educational materials.

Sample Response: *“Having a family history of a particular cancer can increase your chances of developing that cancer, but it’s important to remember that EVERYONE, family history or not, is at risk for developing breast, cervical, and colorectal cancer. That’s why it’s important to get screened yearly”*

## **5. Cost**

Examples: “I’m waiting for my Medicaid to be renewed and right now I don’t have insurance.”  
“I can’t afford the metro fare to the Center to see the doctor.”

- Check your local hospital system for low or no-cost screening programs. Colorectal cancer screening home Fecal Occult Blood Test kits are relatively inexpensive, about \$5-10 per kit.
- Make sure your patients do not feel helpless or victimized because of their insurance status. Provide them with information about free services and when possible, schedule the appointments for them and follow-up to make sure they are planning to attend. They will appreciate being remembered and they will feel empowered!
- Develop a table describing Medicaid and Medicare insurance coverage of these screenings, with a list of free and sliding scale screening facilities and how to get referrals and appointments. Include sources of transportation assistance in this table. Share this information with women.

Sample Response: *“Mrs. Sanchez, while you wait for your Medicaid to be renewed, you can take advantage of your health center’s sliding fee scale for those with no insurance. Also, your health center can refer you to free mammogram and Pap programs for uninsured women in your neighborhood. Planned Parenthood and the American Cancer Society often provide helpful resources.”*

## **6. Lack of family support**

Examples: “My husband won’t let me have this test.”

- Make sure the woman’s family is aware of the importance of preventive care.
- Provide language appropriate educational materials to share with family members.
- If support continues to be a problem, suggest that the spouse or family member come to the center to speak with the Prevention Care Manager, or offer to speak with them by phone.

Sample Response: *“Mrs. Sanchez, your health should be of supreme importance to your family. To take care of your family, you have to take care of yourself.”*

## **7. No social support**

Examples: “There’s no one else to take care of my grandchildren.”

“I have no one to talk to about things like this.”

“My friends don’t think I should get that test.”

- Make sure the woman’s family and friends are aware of the importance of preventive care. Ask her to share the educational material you have sent with friends and family members.
- Provide a supportive relationship, and provide answers to any questions she may have about the screening tests.
- Inform the patient about Saturday and evening hours.

Sample Response: *“Mrs. Sanchez, your health is of supreme importance to your family and friends. I am here to help you follow your doctor’s recommendations to take care of yourself.”*

## **8. Competing priorities**

Examples: “My husband is sick and I need to take care of him.”  
“My housing situation is taking up all of my time right now.”  
“I’m too busy!”  
“I missed my mammogram appointment because I had to watch my granddaughter and nobody else could do it”  
“I’m recovering from knee surgery and I’m in a lot of pain”

- Sometimes it’s difficult to concentrate on preventive care when other things in our lives “take over,” like being busy with grandchildren or mourning a family member. Let the patient know that you understand how it feels to be overwhelmed, and remind her that these screenings take relatively little time and if results are normal, only need to be done once every few years.
- Inform patients that many health care centers provide evening and Saturday hours to accommodate busy women such as themselves.
- Offer to call her back at a better time, perhaps in a month.

Sample Response: *“Mrs. Sanchez, I understand how challenging it can be to fit cancer screening into your busy life. But, in the middle of stressful times, it’s essential to stay healthy. When you are healthy, you are able to better deal with all the other ‘priorities’.”*

## **9. Worry about test**

Examples: “The idea of the test makes me nervous.”  
“I’m afraid that it will hurt.”  
“I don’t like getting mammograms because the technicians are mean/the machine is cold/I don’t like removing my clothes in front of strangers.”

- Offer support. Suggest that someone go with her to the screening (family member, friend).
- Try to address the patient’s specific worry and don’t be pushy about scheduling the test. Give her time to think about it and send her educational materials.
- Let her know that it’s normal to be nervous and explain the exact procedure of the (specific) test(s).

Sample Response: *“Mrs. Sanchez, many women are nervous at first about receiving a mammogram. It is the technician’s job to make the test as comfortable as possible.”*

## **10. Chronic condition** (such as asthma, diabetes, or hypertension)

Examples: “My diabetes/asthma/arthritis prevents me from getting the test”

- Offer support. Let the woman know you understand how challenging it can be to fit cancer screening into her busy life. Acknowledge the difficulty of managing a chronic condition, but also remind the woman not to neglect her preventive health.
- If you call at a bad time or the patient is acutely ill, suggest calling back at another time, perhaps in one month.
- Enlist the help of the patient’s primary care physician if necessary.

Sample Response: *“I know you have diabetes, Mrs. Sanchez, and that it is difficult to manage. But it’s very important that you remember to take care of the other parts of your body. I know it’s easy to concentrate on one thing and forget other stuff. Maybe you can make a special appointment for a check-up with your primary care doctor where you can spend the appointment focusing on other needs, such as scheduling your preventive cancer screenings.”*

## **PRACTICE BARRIERS**

**Access barriers** (long waits for appointments, language barriers, and inconvenient hours)

Examples: “I can’t get an appointment.”

“I have to take three buses to get to the screening facility.”

“The Health Center told me that there is a really long waiting list for mammograms, so it may be awhile before they can schedule me an appointment.”

- Develop a table with the locations, hours, payment methods, contact information, type of referral required, if any, and other relevant information about local cancer screening facilities, and share relevant information with women or send them a copy in the mail.
- Speak to the patient’s physician or a Health Center administrator to make an appointment or place high-risk patients (e.g. many years overdue, women with family history) on an urgent screening list.
- Determine whether language is a barrier and explore options for translation with the assistance of a clinician or administrator with translation skills.
- Inform patients that many health centers provide evening and Saturday hours.

**APPENDIX F      Provider Recommendation Letter**

---

Greencreek Community Health Center  
1234 Green Boulevard, Greencreek, New York, 12345  
Phone: (123) 456-7890 Appointments: 1-800-123-4567

RECOMMENDATION FROM DR. SMITH

Date: 7/23/2007

Dear Ms. Carla Sanchez:

The Greencreek Community Health Center is dedicated to providing you with the best possible health care. For this reason, I have asked Ms. Sara Jones, Medical Assistant and Prevention Care Manager, to help you receive this care.

Your records show that you are over due for the following important yearly screenings:

1. Mammogram
2. Home Stool Test (HFOBT)
3. Pap test

Patients who are 50 years or older should have the above test(s) performed once every year.

I have asked Sara to help you receive this/these test(s). Excellent health care includes prevention check ups to detect serious conditions early, when they can best be treated. If you have any questions, don't hesitate to call Sara at (123) 456-7890, ext. 123. We are working together to help you get the best health care possible.

Sincerely,

DR. SMITH  
Greencreek Community Health Center



**APPENDIX G      Patient Activation Card**

---

**NEW YORK PREVENTION CARE MANAGER PROJECT  
TAKE CONTROL OF YOUR HEALTH!**

Dear Dr. \_\_\_\_\_

I am due for the following preventive care screening test(s):

Mammogram

Pap Test

Home Fecal Occult Blood Test

Please help me to get up-to-date for these tests. Thank you.

## **APPENDIX H      Patient Activation Letter**

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Greencreek Community Health Center  
1234 Green Boulevard, Greencreek, New York 12345  
Phone: (123) 456-7890; Appointments: 1-800-123-4567

PREVENTION CARE MANAGER'S OFFICE

Date: July 9, 2007

Dear Ms. Carla Sanchez:

My name is Sara Jones and I am a medical assistant and Prevention Care Manager at the Greencreek Community Health Center. Recently, I spoke with you on the telephone/in person at the Center about the importance of preventive care with regards to the three screening tests that all women, starting at age 50, need to have every year to check for breast, cervical, and colorectal cancer. These three tests are the mammogram, the Pap test (Pap smear), and the Home Fecal Occult Blood Test (HFOBT) (test to check for blood in your stool which may be an indication of colorectal cancer). Your medical records show that you need to schedule the following test(s): STOOL TEST (HFOBT), MAMMOGRAM, PAP TEST.

The next time you visit your doctor, please take the pink reminder card with you to remind yourself and your doctor that you need to schedule these tests. If you have any questions, please feel free to call me anytime at (123) 456-7890, ext. 123. I will be calling you soon to check in with you and see how you are doing.

Sincerely,

Sara Jones  
Prevention Care Manager  
Greencreek Community Health Center

**APPENDIX I      Prevention Post-It Note**

\_\_\_\_ PRACTICE

**Chart ID** \_\_\_\_\_ **Patient's Name** \_\_\_\_\_ **Date** \_\_\_\_ / \_\_\_\_ / \_\_\_\_

TEST	UP-TO-DATE	OVERDUE	URGENT ABNORMAL RESULT FOUND IN CHART – FOLLOW UP NEEDED:
<u>Mammogram</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Date of test: ____ / ____ / ____ Results: _____
<u>Pap Test</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Date of test: ____ / ____ / ____ Results: _____
<u>Home FOBT Test</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Date of test: ____ / ____ / ____ Results: _____
<u>Sigmoidoscopy</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Date of test: ____ / ____ / ____ Results: _____
<u>Colonoscopy</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Date of test: ____ / ____ / ____ Results: _____

**APPENDIX J      Abnormal Results Letter**

---

GREENCREEK COMMUNITY HEALTH CENTER  
1234 Greencreek Boulevard, Greencreek, NY 12345  
(123) 456-7890

PREVENTION CARE MANAGER'S OFFICE

ABNORMAL RESULTS LETTER

Date: 08/01/2007

Dear Dr. Smith:

We recently conducted a record review of the chart of one of your patients to determine her up-to-date status for breast, cervical, and colorectal cancer early detection services. During the record review, we found that your patient Mrs. Carla Sanchez had abnormal results that appear to be unresolved:

	<b>Abnormal Pap</b>	<b>Abnormal Mammography</b>	<b>Abnormal Colonoscopy</b>
<b>Chart ID</b>			
	<b>Date of Test:</b>	<b>Date of Test:</b>	<b>Date of Test:</b>
123456	10-03-98		

We look forward to continuing to work with you to enhance cancer early detection services for women aged 50-69. Should you have any questions or concerns, please contact me at (123) 456-7890 ext. 123 or via e-mail, [sarajones@greencreek.org](mailto:sarajones@greencreek.org)

Sincerely,

Sara Jones  
Medical Assistant, Prevention Care Manager  
Greencreek Community Health Center

**APPENDIX K      Sources of Patient Education Information**

---

<b>Name of Organization</b>	<b>Web Address</b>
American Cancer Society	<a href="http://www.cancer.org">http://www.cancer.org</a>
American Dietetic Association	<a href="http://www.eatright.org">http://www.eatright.org</a>
American Institute for Cancer Research	<a href="http://www.aicr.org">http://www.aicr.org</a>
Cancer Care	<a href="http://www.cancercare.org">http://www.cancercare.org</a>
Mayo Clinic	<a href="http://www.mayoclinic.com/">http://www.mayoclinic.com/</a>
Medline Plus	<a href="http://www.medlineplus.gov/">http://www.medlineplus.gov/</a>
National Cancer Institute	<a href="http://www.cancer.gov">http://www.cancer.gov</a>
WebMD	<a href="http://www.webmd.com">http://www.webmd.com</a>
Put Prevention Into Practice / Agency for Healthcare Research and Quality	<a href="http://www.ahrq.gov/clinic/ppipix.htm">http://www.ahrq.gov/clinic/ppipix.htm</a>

colorectal cancer

between November and December

in New York City

for screening.

the intervention group received usual care, and 91% of the intervention group received usual care.

mammography, and decreased

tion and from 0.39 to 0.50 with usual care. The difference in the change in screening rates between groups was 0.12 for mammography (95% CI, 0.06 to 0.19), 0.07 for Papatoikouou testing (CI, 0.01 to 0.12), and 0.13 for colorectal screening (CI, 0.07 to 0.19). The proportion of women who were up to date for 3 tests increased from 0.21 to 0.43 with the intervention.

Limitations:

Participants were from 1 city and had access to a regular source of care. Medical records may not have captured all cancer screenings.

Conclusions:

Telephone support can improve cancer screening rates among women who visit community and migrant health centers. The intervention seems to be well suited to health plans, large medical groups, and other organizations that seek to increase cancer screening rates and to address disparities in care.

Ann Intern Med 2006;144:563-571.

For author affiliations, see end of text.

www.annals.org

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support for patients who are already enrolled, or they could expand services to others while making minimal additional demands on primary care practices (24). This paper reports the results of a randomized, controlled trial that tested the effect of centralized telephone care management on cancer screening rates among women 50 to 69 years of age who obtained care at community and migrant health centers in New York City.

Methods

Settings

Federally qualified community and migrant health centers provide comprehensive community-oriented pri-

See also:

Print

Editors' Notes

614

Editorial comment

614

Related article

541

Web-Only

Appendix Table

Conversion of figure and tables into slides

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38

**Context**

Minority and low-income women have low screening rates for cancer.

**Contribution**

In this trial from 11 community and migrant health centers in New York City, 1413 women overdue for cancer screening were randomly assigned to receive a telephone-based intervention (delivered by 8 prevention care managers) or usual care. The intervention included information about breast, cervical, and colorectal cancer and motivational and logistical support for obtaining screening. Within 18 months, the screening rates for all 3 forms of cancer increased more with telephone support than through usual care.

**Implications**

Telephone support delivered by trained personnel can improve cancer screening rates among some minority, low-income women.

—The Editors

mary care to over 12 million patients nationally (25) and are uniquely positioned to deliver cancer screenings to underserved and minority populations. We sought participation from 15 of the 21 community and migrant health centers in New York City because of their anticipated ability to provide sufficient patients for the study and their affiliations with tertiary care facilities that conduct mammography and colorectal screening and provide follow-up services for abnormal test results. Of these 15 sites, 2 were involved in competing research projects, 2 had few patients who were likely to be eligible and therefore served as pilot sites, and the remaining 11 participated.

Clinical Directors Network, a practice-based research network in New York City, was responsible for recruiting clinicians, practices, and women and for implementing the intervention and evaluation. The project was approved by the Committee for the Protection of Human Subjects at Dartmouth College, by the institutional review board at Clinical Directors Network, and by all relevant bodies responsible for reviewing research at participating community and migrant health centers.

**Patients****Recruitment**

Women were approached by research assistants during routine visits to the centers or were referred by a clinician. Research assistants explained the study and obtained written informed consent from women who agreed to participate. Women were compensated \$15 for participating in an interview whether or not they met eligibility criteria.

**Eligibility**

Eligible women were 50 to 69 years of age, were overdue for at least 1 cancer screening according to their med-

ical records, were patients of the center for at least 6 months, and had no plans to move or change health centers within 15 months. We excluded women whose primary language was not English, Spanish, or Haitian Creole and those who were acutely ill or currently receiving cancer treatment. After we obtained consent, a research assistant reviewed patient medical records to confirm eligibility. Mammography and Papanicolaou tests that were performed within the past year were seen as evidence of breast and cervical cancer screening, respectively, whereas reports of home fecal occult blood testing within the past year, sigmoidoscopy within the past 5 years, or colonoscopy within the past 10 years were seen as evidence of colorectal cancer screening. Women whose charts indicated that they were up to date on all 3 cancer screenings were excluded. We also excluded women with unresolved abnormal screening results (for example, positive results on home fecal occult blood testing; mammography results that were categorized as American College of Radiology level 0, 4, or 5; and certain Papanicolaou test results) and notified their physicians of these findings.

**Design**

Eligible, consenting women were grouped by center, duration of enrollment at their center ( $\leq 12$  months or  $> 12$  months), and the number of cancer screenings that they had received at recommended intervals (0 or 1 screening or 2 screenings). The New York–based research assistant assigned women in each group to receive the intervention or usual care by using sealed randomization forms that were produced by Dartmouth College staff with a computer-based random-number generator. Patients were informed of their group assignment individually by telephone.

At time of consent, all women received the publication titled *Put Prevention into Practice Personal Health Guide* (26), which contained information regarding recommended preventive services. Women who were assigned to the usual care group received a single telephone call during which trial staff answered questions about preventive care, informed women of their usual care status, advised them to obtain needed preventive care from their primary care clinician, and thanked them for their participation.

Women who were assigned to the intervention group received a series of telephone support calls from a trained prevention care manager who was monitored to ensure quality and consistency. In much the same way that patient navigators guide women through the health care system during cancer treatment (27), prevention care managers facilitated the screening process for each woman by addressing barriers that prevent or delay receipt of cancer screenings. Prevention care managers received 7 hours of training, including an overview of the U.S. Preventive Services Task Force guidelines (28–30); a review of barriers to breast, cervical, and colorectal cancer screenings; and detailed explanations of the targeted screenings. Additional

Table 1. Baseline Characteristics of 11 Participating Community Health Centers\*

Variable	Community Health Center											Mean Value (SD)	Range
	A	B	C	D	E	F	G	H	I	J	K		
Total visits in past year, <i>n</i>	46 448	49 000	73 094	102 185	155 349	41 017	28 215	165 952	55 976	125 117	42 053	80 401 (48 933)	28 215–165 952
Primary language of patients, estimated %													
English	85	25	30	55	80	80	25	50	65	10	40	49.5 (25.7)	10–85
Spanish	12	70	50	43	19	12	35	30	30	90	40	39.2 (23.9)	12–90
Other	3	5	20	2	1	8	40	20	5	0	20	11.3 (12.4)	0–40
Primary care physicians at center, <i>n</i>													
Total	8	8	5	13	6	13	8	14	5	29	7	10.5 (6.9)	5–29
Family practitioners	0	4	0	2	3	1	8	1	1	5	5	2.7 (2.5)	0–8
General internists	5	0	5	4	2	5	0	9	3	7	1	3.7 (2.9)	0–9
Nurse practitioners and physicians' assistants	3	4	0	7	1	7	0	4	1	17	1	4.1 (5.0)	0–17
Part-time clinicians	0	0	0	2	0	9	2	5	0	2	1	1.9 (2.8)	0–9
Mean clinician-years in practice at community health center	6.4	2.5	4.7	10.8	3.6	5.1	5.1	12.9	1.3	3.6	4.4	5.5 (3.5)	1.3–12.9

\* Clinicians indicated the number of years they had been in practice at their community/migrant health center. All remaining data were derived from each center's clinical director.

training included role-playing telephone calls during which the managers used the intervention scripts. Thereafter, logs were reviewed in monthly meetings to ensure fidelity to the intervention.

The 8 prevention care managers were women, and most were college graduates. Their assignments were determined by patient language needs. Each care manager focused most of her work on patients from 1 or 2 sites while supporting smaller numbers of patients from other sites; contact with clinicians was limited.

During the first call with a patient in the intervention group, the prevention care manager answered questions about the health guide and confirmed or updated screening dates found in the woman's medical record. She next determined how ready the woman was to act on each screening (31) and worked with the woman to prioritize overdue screenings. The prevention care manager then provided motivational support, responding to each participant's specific barriers to screening by using a structured script that was developed through an earlier series of interviews with women (32). Some participants had been advised during office visits with their clinicians to undergo screening; those who had not received such recommendations were sent a written recommendation from their clinician. Women who reported that they had difficulty communicating with their physician were sent brightly colored patient activation cards that listed overdue screenings, which they could share with their clinician at their next appointment. Care managers also scheduled appointments, provided accurate information about screenings over the tele-

phone and by mail, prompted women with appointment reminder calls and letters, provided directions to screening facilities, and helped women to find a means of transportation to appointments.

During subsequent calls, which continued for 18 months or until the patient was up to date for all screenings, the prevention care manager asked about future appointments and screenings the patient had received since the last call. The manager then responded to new and ongoing barriers for remaining overdue screenings.

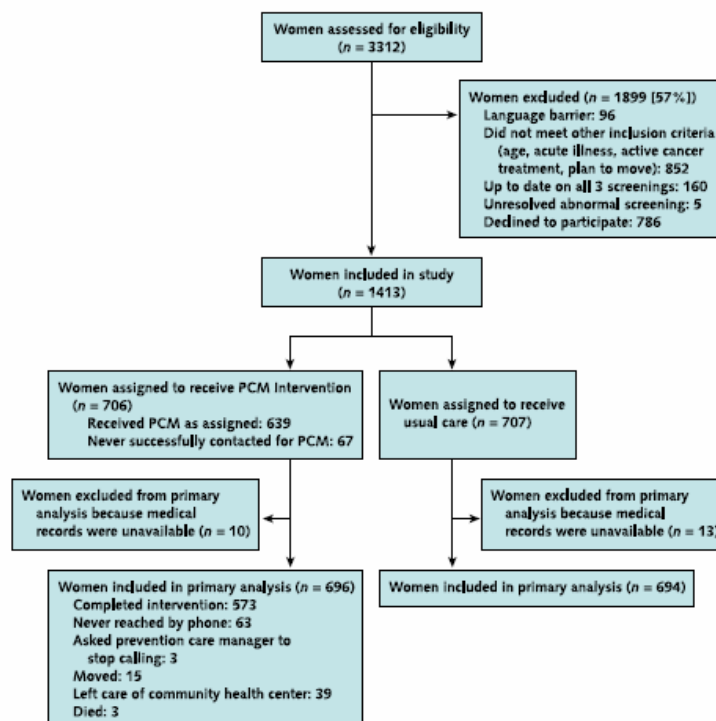
Only clinicians, not care managers, were responsible for ordering screenings at all but 2 centers, which permitted care managers to mail home fecal occult blood test kits directly to women who were willing to perform this test.

### Evaluation

Descriptive data on the centers were gathered from surveys that were completed by clinicians and clinical directors. Outcome data were based on reviews of patient medical records, which were conducted at least 3 months after the intervention period to allow for the time lag between receipt of a service and the availability of documentation. Data included patient demographic characteristics, screening dates and results, chronic illnesses, height, weight, smoking status, and personal and family history of cancer. Data regarding patient ethnicity were primarily collected during the screening interview (33) and supplemented with medical record documentation. Median household annual income was estimated by using U.S. Census Bureau data for each woman's ZIP code (34).



Figure. Flow of study participants through recruitment, eligibility assessment, randomization, intervention, and outcome analysis.



PCM = prevention care management.

Each independent chart abstractor received 4 hours of initial training in medical record review and was given a manual containing coding definitions. Practice reviews were conducted on charts of consenting but ineligible women. Reviewers were blinded to study hypotheses and to group assignment, and reviews were monitored for quality control. Medical records were requested 4 times before they were considered unavailable.

A woman was considered up to date at baseline for mammography, Papanicolaou testing, and home fecal occult blood testing if the screening had been completed within the 18 months preceding consent; the woman was up to date at follow-up if she received these screenings during the 18-month intervention period. This interval provided a 6-month grace period for home fecal occult blood testing (on the basis of the U.S. Preventive Services Task Force's annual recommendation) (30) and is the midpoint of the Task Force's mammography recommendation of every 1 to 2 years (28). Although the Task Force recommends Papanicolaou testing at least every 3 years following a series of normal annual tests (29), shorter intervals

are often recommended on the basis of a woman's risk factors and patient-physician discretion; the 18-month interval is again within this range.

A woman was also considered up to date for colorectal cancer screening if she had received a colonoscopy within the past 10 years or a barium enema or sigmoidoscopy within the past 5 years. Up-to-date status was assessed at the consent date for baseline and at the end of the intervention period for follow-up. A woman who had had total hysterectomy was considered up to date for cervical cancer screening after the date on which the hysterectomy was performed. When medical record data were recorded, no attempt was made to distinguish between screening and diagnostic tests.

#### Prevention Care Management Process Evaluation

During the intervention, prevention care managers kept paper logs in which they recorded details of their interactions with the participants, including their readiness to act, barriers to screening that were identified, and any

actions that were taken. Data from these logs were entered either in Study Manager (an online database that complies with Health Insurance Portability and Accountability Act guidelines) or a locally maintained Microsoft Access database.

#### Adverse Events

Potential adverse events included patient dissatisfaction with any aspect of the study or failure to ensure follow-up of abnormal screening results. A committee to monitor data safety reviewed all patient withdrawals, deaths, and unresolved abnormal results as they became known and ensured their resolution. Three patients in the intervention group asked to receive no additional follow-up calls. Three patients died during the study of causes not related to the study and with no other adverse events reported.

#### Statistical Analysis

All women who were randomly assigned to receive the intervention and whose charts could be located were included in the intervention group for analysis whether or not they were successfully reached by the prevention care manager. Our primary outcome was screening status at follow-up for each of the 3 forms of cancer. Analysis was based on the intention-to-treat principle. Binary variables were analyzed by using chi-square tests, and continuous variables were analyzed by using Student *t*-tests. To ensure that our findings were robust, we calculated outcomes for the unadjusted model; a model adjusted for only up-to-date screening status before randomization; and a model adjusted for up-to-date screening status before randomization and other covariates, including patient age, body mass index, income, primary language, chronic diseases, and insurance (35).

To account for clustering by site, we used standard logistic regression, models that used Pearson residuals to correct for overdispersion, random-effects models, models with site as a fixed effect, and models that used the Huber-White estimate of variance. Although all models were similar, we report CIs derived from the Huber-White estimate of variance because these were the widest and therefore the most conservative. Results for the primary outcome are reported with 95% CIs. A *P* value of 0.0167 (0.05/3 to account for the 3 cancer screening outcomes) was used to indicate statistical significance.

To account for women whose medical records could not be found and who were therefore considered to have withdrawn from the study, we reanalyzed the data while assuming the worst-case scenario. That is, we assumed that all women receiving usual care who had missing charts were overdue at baseline and up to date at follow-up and that all women receiving the intervention who had missing charts were up to date at baseline and overdue at follow-up. In determining sample size, we assumed that the proportion of women screened differed by 0.1 for each of the 3 primary tests with a power of 0.8; to correct for multiple

comparisons, we assumed a type I error of 0.0167 (0.05/3). By assuming a withdrawal rate of 20%, we needed a sample size of 1400 women. Statistical analysis was performed by using Stata, version 9.0 (Stata Corp., College Station, Texas).

#### Role of the Funding Source

This work was supported by the National Cancer Institute (R01 CA-87776). The funding source had no role in the design, conduct, or reporting of the study.

Table 2. Characteristics of Women by Study Group

Variable	Intervention Group (n = 696)	Usual Care Group (n = 694)
Mean age (SD) at consent, y	58.1 (5.3)	58.1 (5.2)
Primary language, n (%)		
Spanish	446 (64.1)	427 (61.5)
English	249 (35.8)	264 (38.0)
Haitian Creole	1 (0.1)	3 (0.4)
Marital status, n (%)		
Married/cohabiting	178 (25.6)	185 (26.7)
Single/divorced/widowed	446 (64.1)	447 (64.4)
Unknown	72 (10.3)	62 (8.9)
Insurance, n (%)*		
Medicaid	553 (79.5)	543 (78.2)
Medicare	143 (20.5)	135 (19.5)
Employer/other	63 (9.1)	67 (9.7)
No insurance	36 (5.2)	36 (5.2)
Unknown	10 (1.4)	9 (1.3)
Years receiving care at community health center before consent, n (%)		
<3	201 (28.9)	195 (28.1)
≥3	471 (67.7)	479 (69.0)
Unknown	24 (3.4)	20 (2.9)
Smoking status, n (%)		
Current	112 (16.1)	132 (19.0)
Former	89 (12.8)	92 (13.3)
Never	450 (64.7)	438 (63.1)
Unknown	45 (6.5)	32 (4.6)
Body mass index		
Mean (SD), kg/m <sup>2</sup>	32.0 (6.8)	32.1 (7.4)
Underweight, n (%)	5 (0.7)	2 (0.3)
Normal, n (%)	84 (12.1)	75 (10.8)
Overweight, n (%)	194 (27.9)	185 (26.7)
Obese, n (%)	351 (50.4)	362 (52.2)
Unknown, n (%)	62 (8.9)	70 (10.1)
Medical history, n (%)		
Baseline cancer history	36 (5.2)	33 (4.8)
Hysterectomy	187 (26.9)	208 (30.0)
Comorbid condition, n (%)		
Asthma	222 (31.9)	205 (29.5)
Hypertension	489 (70.3)	496 (71.5)
Hyperlipidemia	261 (37.5)	290 (41.8)
Diabetes	250 (35.9)	276 (39.8)

\* Women could carry more than 1 type of insurance.

Table 3. Proportion of Women Up to Date for Cancer Screening\*

Measurement Period	Intervention Group (n = 696)	Usual Care Group (n = 694)	Difference (95% CI)†
<b>Mammography</b>			
Baseline, %	58	60	−0.02 (−0.07 to 0.03)
Follow-up, %	68	58	0.10 (0.05 to 0.15)
Change from baseline (CI), percentage points	0.10 (0.05 to 0.15)	−0.02 (−0.08 to 0.02)	0.12 (0.06 to 0.19)
<b>Papanicolaou test</b>			
Baseline, %	71	70	0.01 (−0.04 to 0.06)
Follow-up, %	78	70	0.08 (0.03 to 0.12)
Change from baseline (CI), percentage points	0.07 (0.03 to 0.11)	0.00 (−0.03 to 0.05)	0.07 (0.01 to 0.12)
<b>Any colorectal screening</b>			
Baseline, %	39	39	0.00 (−0.05 to 0.05)
Follow-up, %	63	50	0.13 (0.08 to 0.18)
Change from baseline (CI), percentage points	0.24 (0.20 to 0.29)	0.11 (0.08 to 0.16)	0.13 (0.07 to 0.19)
<b>Up to date for 1 or more screening</b>			
Baseline, %	86	86	0.00 (−0.03 to 0.04)
Follow-up, %	91	87	0.04 (0.01 to 0.08)
Change from baseline (CI), percentage points	0.05 (0.02 to 0.08)	0.01 (−0.02 to 0.04)	0.04 (0.00 to 0.08)
<b>Up to date for 2 or more screenings</b>			
Baseline, %	61	61	0.00 (−0.06 to 0.05)
Follow-up, %	75	62	0.13 (0.08 to 0.18)
Change from baseline (CI), percentage points	0.14 (0.10 to 0.18)	0.01 (−0.04 to 0.05)	0.13 (0.00 to 0.08)
<b>Up to date for 3 screenings</b>			
Baseline, %	21	22	−0.01 (−0.06 to 0.03)
Follow-up, %	43	30	0.13 (0.07 to 0.20)
Change from baseline (CI), percentage points	0.22 (0.18 to 0.27)	0.08 (0.04 to 0.12)	0.14 (0.08 to 0.20)

\* This analysis is based on unadjusted rates.

† All values in this column are percentage points.

## RESULTS

## Study Setting, Sample, and Randomization

Baseline characteristics of the centers are described in Table 1. Participating centers were located in 4 of the 5 boroughs of New York City and were diverse in size, primary language of patients, predominant primary care specialty, number of nurse practitioners, and number of part-time clinicians.

The Figure displays the patient accrual process. Recruitment took place between November 2001 and October 2002. Prevention care managers followed women in the intervention for 18 months after recruitment; all follow-up was complete by April 2004. Of women who were approached and found to be eligible, 64% provided consent. Medical records for 23 women could not be located during the final record review; therefore, these participants were not included in the final analysis but were included in the aforementioned worst-case scenario analysis. The evaluation sample included 696 women in the intervention group and 694 in the usual care group (99% and 98% of those consenting, respectively).

Characteristics of the women in the intervention and usual care groups are provided in Table 2. Nearly 63% of women identified their primary language as Spanish, and most were insured through Medicaid or Medicare. Over two thirds of women (68%) had been receiving care from

their health center for at least 3 years. Many women had chronic disease, and more than half were obese. Ethnicity and income are not presented in Table 2 because ethnicity was unknown for 39% of women and income was inferred from the participants' home ZIP codes. Of those with documented ethnicity, 38% were black and 39% were white. More than one third (34%) of women lived in ZIP codes with a median household income of less than \$25 000, 39% lived in ZIP codes with a median income between \$25 000 and \$40 000, and 27% lived in ZIP codes with a median income of greater than \$40 000.

## Intervention Implementation

Of the 696 women assigned to the intervention group, 63 (9%) were never contacted after as many as 8 attempted telephone calls and 2 letters. Of the 633 women who were reached at least 1 time, 60 (9%) received a partial intervention. For women reached by the prevention care manager, the mean number of contacts was 4 (range, 1 to 20 [SD, 2.7]). Within a subsample of women whose calls were timed, initial calls averaged 17 minutes in length (range, 6 to 48 min [SD, 8.5]) and subsequent calls averaged 14 minutes (range, 1 to 62 min [SD, 8.8]).

## Intervention Effect

Table 3 provides unadjusted baseline and follow-up screening rates. Covariate adjustment did not change the

estimated intervention effect. Compared with women in the usual care group, more women in the intervention group had had all 3 forms of cancer screenings and more were up to date for 1, 2, or 3 tests at follow-up. As specified in our original design, *P* values for the 3 primary comparisons were less than 0.05/3. Between baseline and follow-up, screening rates in the intervention group increased by 0.10 (17%) for mammography ( $P < 0.001$ ), by 0.07 (10%) for Papanicolaou testing ( $P < 0.001$ ), and by 0.24 (>60%) for any colorectal cancer screening testing ( $P < 0.001$ ). Table 3 also shows the proportions of women who were up to date for 1 or more, 2 or more, or 3 screenings on the basis of outcome chart reviews. Some participants are indicated to be up to date for all 3 types of screening at baseline, which seems to contradict study exclusion criteria. This apparent discrepancy is primarily attributable to differences between the enrollment process and the outcome assessment process in the time frames involved (12 and 18 months, respectively). The proportion of women who were up to date for all 3 forms of screening increased by 0.22 (105%) in the intervention group ( $P < 0.001$ ). There was no evidence that the intervention's effect varied by site (Appendix Table, available at [www.annals.org](http://www.annals.org)).

Colorectal cancer screening rates and the proportion of women who were up to date for the 3 forms of screening also increased in the usual care group; however, the increase was substantially less than in the intervention group. The New York Department of Health and Mental Hygiene began a major colon cancer screening initiative during our study (36), which may partially explain this increase. By using the previously described worst-case assumptions for women whose charts were not available for review, the intervention's effect on screening rates typically decreased by 0.01 or 0.02 and remained significant for all comparisons except the percentage of women who were up to date for 1 form of screening.

Whereas breast and cervical cancer screening require a single test, colorectal cancer screening can involve several tests and combinations of tests. Home fecal occult blood tests accounted for most of the increase in the intervention group compared with the usual care group. At baseline, 166 (24%) women in the intervention group had received home fecal occult blood tests within the past 18 months compared with 177 (26%) of those in the usual care group. At follow-up, 296 (43%) women in the intervention group had received home fecal occult blood tests in the past 18 months compared with 213 (31%) of those in the usual care group. Colonoscopy rates showed similar increases in both study groups and accounted for most of the remaining women who were up to date for colorectal cancer screening. Barium enema and sigmoidoscopy each accounted for about 2% of colorectal screening for each time point and group.

Table 4 lists the most common forms of support that were provided by care managers. This study was designed

to assess the effect of the omnibus intervention, not of any particular component. However, by documenting the specific types of support provided, we can provide a clearer picture of those types of support that are most needed by this population. Nearly half of the women received either an activation card or a recommendation letter from their physician, and 241 (34.6%) received both. Of those receiving educational material, more than twice as many women received information on colorectal screenings than received materials regarding Papanicolaou testing or mammography. Care managers also directly distributed home fecal occult blood testing cards to 33 women (4.7%).

## DISCUSSION

We found that a telephone-based intervention increased screening rates for all 3 types of cancer in this sample. Rates of colorectal cancer screening showed the largest increase, but changes in all 3 rates were clinically meaningful. The increases in mammography and colorectal cancer screening of 0.10 and 0.24, respectively, represent improvements of 17% and 60% over baseline; the lower boundaries of these confidence intervals for change were 0.05 or more. The rate of Papanicolaou testing increased by only 0.07, but this still represents a 10% improvement over baseline.

These findings have 5 important implications. First, a modest intervention can increase screening rates in a predominantly minority population; this improvement could potentially save lives through earlier detection (2–4), address health care disparities (37), and favorably affect such quality measures as the Health Plan Employer Data and Information Set (38). Second, this study supports the effectiveness and practicality of telephone support for multiple screenings. In a search of randomized, controlled trials that targeted a low-income, minority population or that used the telephone to increase adherence to recommended

**Table 4. Types of Support Provided by Prevention Care Managers to Patients\***

Type of Support	Patients Receiving Support (n = 696)
<b>Educate and increase awareness, n (%)</b>	
Mail clinician recommendation letter to patient	328 (47.1)
Mail activation card to patient	328 (47.1)
Mail screening test-specific educational material to patient	313 (45.0)
<b>Schedule, remind, and access advice, n (%)</b>	
Schedule screening appointments	148 (21.3)
Provide appointment reminders	208 (29.9)
Call patient	132 (19.0)
Send patient reminder letter	130 (18.7)
Schedule appointment with primary care provider	68 (9.8)
Give patient access advice	16 (2.3)

\* All patients assigned to the intervention group are included in this intention-to-treat analysis.



cancer screening intervals, only 6 studies did both (16, 17, 39–42). Of these studies, all reported improved screening rates; however, they only addressed mammography with or without Papanicolaou testing, not colorectal cancer screening. Third, other needed preventive services, such as lipid testing and smoking cessation counseling, could be incorporated into telephone support to increase its value and efficiency. Fourth, a centrally based telephone intervention could be integrated into care management infrastructures that are already established in many managed care and large group practice settings. Fifth, telephone care management could focus on prevention exclusively, or it could be integrated into established management programs for such chronic illnesses as diabetes, asthma, and congestive heart failure (21–23) to avoid the complexity and expense associated with multiple care managers.

Certain strengths should be noted in this practical clinical trial (43, 44). Study participants from 11 heterogeneous health centers had diverse backgrounds, including a high proportion of ethnic minorities who lived in areas with low household incomes. The setting of the community and migrant health center provides a nationwide point of access for many low-income women. The consent rate was high, and few women were lost to follow-up. The rigorous intention-to-treat analysis provides a conservative estimate of the effectiveness of the intervention because 18% of women in this group received either an incomplete intervention or were never reached by the care manager. We provided each enrolled woman (regardless of group assignment) with a brochure that promoted screening (26) and offered her the opportunity to ask questions about it in a subsequent telephone call; these strategies also support a conservative estimate of the intervention's effect compared with typical care.

Study limitations should be noted. The study took place in 1 city among women who frequently visit community and migrant health centers. The applicability of these findings to women in other regions who are not engaged in receiving primary care or who obtain care from hospital clinics or private practice is unknown. Record review as the source of outcome data may miss some screenings. Finally, the long-term effect of the intervention is unknown. Will women continue to need assistance from a prevention care manager to obtain future screenings in a timely fashion? Or will the effect of the intervention be maintained over time, with patients securing screenings on their own without further assistance? These questions require further research.

The next steps are to focus on translation and sustainability of this evidence-based intervention. Future challenges include the identification of real-world infrastructures that can provide a sustainable base for prevention care management. The intervention needs further refinement to increase its efficiency; perhaps call centers and administrative claims data could be used to identify women who need screening and to evaluate their adherence to recommenda-

tions. Furthermore, it is important to expand access to the intervention to other underserved populations, such as women who are not well engaged in primary care.

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Appendix Table. Outcome by Study Site\*

Test	Site	Patients Up to Date at Follow-up, %		Relative Risk (95% CI)
		Intervention Group	Usual Care Group	
Mammography†				
	A	60.71	67.65	0.90 (0.69–1.17)
	B	75.86	60.00	1.26 (1.02–1.56)
	C	54.05	47.50	1.14 (0.73–1.77)
	D	62.22	60.00	1.04 (0.74–1.46)
	E	66.88	57.14	1.17 (0.98–1.40)
	F	50.00	58.82	0.85 (0.47–1.54)
	G	69.57	57.14	1.22 (0.77–1.93)
	H	73.38	50.00	1.47 (1.22–1.76)
	I	58.70	59.57	0.99 (0.70–1.38)
	J	74.51	68.29	1.09 (0.84–1.42)
	K	78.26	69.57	1.13 (0.80–1.59)
Papanicolaou testing‡				
	A	78.57	70.59	1.11 (0.91–1.37)
	B	81.61	63.53	1.28 (1.06–1.55)
	C	37.84	65.00	0.58 (0.36–0.93)
	D	75.56	75.00	1.01 (0.79–1.29)
	E	81.82	71.43	1.15 (1.01–1.30)
	F	80.00	64.71	1.24 (0.82–1.87)
	G	73.91	61.90	1.19 (0.79–1.81)
	H	86.36	75.32	1.15 (1.03–1.28)
	I	58.70	65.96	0.89 (0.65–1.22)
	J	74.51	70.73	1.05 (0.82–1.36)
	K	91.30	78.26	1.17 (0.91–1.50)
Colorectal cancer screening§				
	A	73.21	63.24	1.16 (0.91–1.47)
	B	58.62	43.53	1.35 (1.00–1.82)
	C	51.35	57.50	0.89 (0.59–1.35)
	D	66.67	50.00	1.33 (0.92–1.94)
	E	74.03	50.65	1.46 (1.22–1.75)
	F	40.00	35.29	1.13 (0.49–2.62)
	G	56.52	66.67	0.85 (0.53–1.36)
	H	57.79	40.51	1.43 (1.13–1.80)
	I	39.13	55.32	0.71 (0.45–1.10)
	J	76.47	56.10	1.36 (1.00–1.86)
	K	73.91	65.22	1.13 (0.77–1.67)

\* This table lists outcomes by site along with estimates of crude and adjusted relative risk by study group for each type of cancer screening. No test of homogeneity is statistically significant.

† Crude relative risk, 1.18 (CI, 1.08–1.28); Mantel-Haenszel combined model, 1.17 (1.08–1.27); test of homogeneity (Mantel-Haenszel)<sup>2</sup> (10) = 13.190, *P* = 0.2138.

‡ Crude relative risk, 1.10 (1.04–1.17); Mantel-Haenszel combined model, 1.10 (1.04–1.17); test of homogeneity (Mantel-Haenszel)<sup>2</sup> (10) = 13.432, *P* = 0.201.

§ Crude relative risk, 1.25 (1.14–1.38); Mantel-Haenszel combined model, 1.26 (1.14–1.38); test of homogeneity (Mantel-Haenszel)<sup>2</sup> (10) = 16.971, *P* = 0.075.