The Manual of Intervention Strategies to Increase Mammography Rates

Developed by:

Faye L. Wong, MPH, RD
Assistant Chief for Policy and Development

Program Services Branch
Division of Cancer Prevention and Control
National Center for Chronic Disease Prevention and Health Promotion
The Centers for Disease Control and Prevention

With:
The Prudential Center for Health Care Research℠

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Prudential HealthCare

PLEASE NOTE: ANY MATERIALS DEVELOPED FROM THE SAMPLES PROVIDED IN THIS MANUAL MUST BE REVIEWED BY PRUDENTIAL HEALTHCARE ADVERTISING COMPLIANCE BEFORE THEY ARE IMPLEMENTED.

The Prudential Center for Health Care Research (PCHCR) and The Centers for Disease Control and Prevention (CDC) have exercised reasonable care in developing the information incorporated into this manual. While PCHCR and CDC believe the Manual provides a reasonable approach to implementing a mammography intervention program, PCHCR and CDC do not make any warranty to that effect. PCHCR and CDC disclaim all other expressed and all other implied warranties.

The appropriate use of this Manual requires professional medical judgment and may require adaptation to consider local processes. The Manual is informational only and is not intended as a substitute for professional medical judgment.

Use of the Center for Disease Control and Prevention's name and logo on this manual does not imply any endosement of The Prudential Center for Health Care Research or of the Prudential Insurance Company of America.

ACKNOWLEDGMENTS

The development of this manual was made possible only with the commitment, support and input of many persons at Prudential HealthCare (PHC) and the Centers for Disease Control and Prevention (CDC). First, thanks goes to Jeff Koplan for offering me the opportunity to collaborate with the Prudential Center for Health Care Research (PCHCR), Chuck Cutler for his support and thoughtful review of the mammography manual, and Nancy Davis for her initial supervision of the project.

The Prudential HealthCare Quality Improvement Coordinators and staff at the San Antonio Health Plan (Cynthia Linkes, Laverne Hall, Pam Evans, Irene Bouchard), Rush Prudential Health Plan (Andy Davis, Colette Blan, Michele Kadlec, Nancy Quhn), Memphis Health Plan (Clydette Powell, Karen Hopper, Liz Smolenski), and Georgia Health Plan (Marilyn Rose, Rosalie Fernandez) and Southern Region (Julia Boren, Cynthia White) provided invaluable information on their mammography service delivery system and quality improvement activities. Additionally, the Quality Improvement Coordinators provided an ongoing "reality check: for the practical usefulness of the mammography manual. Survey information and suggestions provided by the Quality Improvement Coordinators in all the other Prudential health plans was invaluable in initially defining the needs. Additionally, Jane Lewis, a consultant for the PCHCR, and Michelle Tropper with the HMO Group provided practical and thoughtful suggestions.

The Prudential Center for Health Care Research would like to thank the Prudential Health Care plans who participated in the pilot test of the manuals. The Quality Improvement Coordinators and staff at the Austin health plan (Crystal Cantu), California health plan (Kathy Charbonneau, Susan Oertel, Debbie Gray-Phillips), Central Ohio health plan (Patty Long, Lisa Charlton), Cincinnati health plan (Diane Kutcher), Denver health plan (Kaye Music), South Florida health plan (Susan Ragazzo), and Tampa health plan (Ira Mandel, Clarice Harris) provided invaluable insights from their "real world" experience of using the manuals and implementing interventions. They also provided additional templates which will be found in the Resource Manual, and they helped clarify a number of the interventions.

Thanks also goes to Steve Wyatt and Rosemarie Henson from the CDC Division of Cancer Prevention and Control for supporting this collaborative project and my extensive absence from the office as well as to Nancy Lee for her thorough scientific review of the document.

Special appreciation is bestowed upon Tracy Scott at the PCHCR for her substantial contribution in developing the Users Guide, conducting the field trial of the manual and revising the final manual for publication. Without this commitment of effort, this manual would not have been completed for publication. Additionally, special appreciation to Kathleen Farrell, at the CDC for reviewing many drafts of the manual and substantial contribution of valuable content suggestions.

TABLE OF CONTENTS **Page**

TABLE OF CONTENTS *(Cont.)* **Page**

TABLE OF CONTENTS *(Cont.)* **Page**

Purpose and Goal of *The Manual of Intervention Strategies to Increase Mammography Rates*

PURPOSE OF MANUAL

Mammography is effective in the early detection of breast cancer, especially among women 50 years and older. Detection and treatment of breast cancer at an early stage of disease can improve survival and yield substantial savings in medical care costs.(1, 2)

This manual is a source of basic information on mammography and the intervention strategies and tools that health plans may use to help increase the screening rates. The manual is designed to be user-friendly, practical and adaptable to the needs and capacity of different health plans and will assist health plans to:

1. assess existing barriers to mammography.

2. identify the characteristics of members, providers and health care delivery systems for use in tailoring intervention strategies to increase their effectiveness.

3. identify the population(s) and providers(s) to target for intervention as well as the missed and untapped opportunities to increase mammography rates.

4. select and implement appropriate intervention strategies including those aimed at members, the health care (mammography) delivery system and providers, and the community.

5. monitor and evaluate intervention strategies implemented and use these data to further improve mammography screening rates.

GOAL OF MANUAL

To assist health plans to achieve and maintain a 90 percent or higher mammography screening level among women aged 50-69 years.

REFERENCES

1. Parker SL, Tong T, Bolden S, Wingo PW. Cancer Statistics, 1997. *CA-A Cancer Journal For Clinicians* 1997; 47:5-27.

2. Fletcher, SW, Black W, Harris R, et al. Special Article: Report of the international workshop on screening for breast cancer. *J Natl Cancer Inst* 1993; 85(20):1644-1655.

Steps in Planning and Implementing an Intervention Strategy (How to Use This Manual)

There are logical steps to follow in planning and implementing an intervention program. Often, however, only step 2 is completed — and sometimes inadequately — due to the lack of time or other reasons. It is important to recognize that success of an intervention strategy will be maximized if all the steps are completed.

Step 1

ASSESSMENT

Assess the population of women and specific providers to be targeted for improved mammography rates.

Identify barriers to mammography screening.

Select the population sub-groups of women and specific providers to be targeted for improved mammography rates.

For example, it may be helpful *to know some of the following information:*

What are major characteristics of the women served by the health plan?

- Women less likely to obtain a mammogram (pages 7-8)
- Mammography barriers encountered by women (pages 9-11)
- Needs of special populations (pages18-19)
- Readiness of women to adopt new behaviors (pages 20-21)

What are major characteristics of the health plan and providers?

- Mammography HEDIS performance scores (page 116)
- Mammography barriers encountered by physicians (pages 12-16)
- Capacity to perform mammography screening (pages 29-32)

Based on the information obtained and with limited capacity and/or resources, it may be useful to focus the intervention on selected priority groups. Ask yourself:

- Which sub-groups of women have not had a mammogram within the past 1-2 years? Or, will all women receive the intervention(s)?
- Which sub-groups have never had a mammogram?
- Which providers have low mammography HEDIS performance rates?

Step 2

INTERVENTION

Identify appropriate and feasible intervention strategies, targeting your selected members and providers, and addressing identified barriers.

Develop an action plan to implement the selected intervention strategies.

For example, *check out one or more of the optional intervention strategies and resources in the manual for implementation:*

- Review the table of contents and written descriptions of specific intervention strategies (pages 42-43, 62-63, 72-73, 81-82, 86-89) to identify ones that are potentially appropriate for the selected, targeted groups of women.
- Assess the feasibility of the selected intervention strategies, taking into consideration the health plans' capacity for implementation and resources available for quality improvement. For each intervention strategy, the manual identifies activities with different levels of complexity and resource needs (option one, option two, etc.) so that health plans may choose what is appropriate and feasible for them.
- If necessary, modify the selected intervention strategies according to unique needs of the targeted population sub-groups, the health plan's capacity for implementation and available resources.

Do the following to develop an action plan to implement selected intervention strategies:

- Decide what will be done, by whom and the projected implementation timeline. Decide who will supervise implementation of the intervention.
- Select (or purchase, if needed) and develop the intervention materials.
- Conduct staff training to implement the intervention strategies.

Step 3

EVALUATION

Monitor and evaluate the effectiveness of intervention strategies.

Continue or expand successful intervention strategies.
Terminate unsuccessful intervention strategies and try again.

For example, you could do the following:

- Supervise implementation of the intervention strategies. What implementation problems have been encountered? Ask yourself:
- Are the staff roles and responsibilities clear?
- Do staff members need more knowledge and skills training?
- Are the intervention procedures being followed?
- Have identified problems been resolved and in a timely manner?
- What percentage of the women targeted for intervention have obtained a mammogram?
- Did the mammography HEDIS performance rate increase over the previous year?

Step 1
ASSESSMENT

Assess the Health Plan's Population and Mammography Screening Capacity

Barriers to Mammography Screening

Information on the characteristics of women less likely to obtain a mammogram as well as on the barriers encountered is helpful in targeting intervention strategies. It is important to understand both the barriers encountered by women and those encountered by their physicians and providers. Effectively addressing these barriers will increase referrals among physicians/providers and improve compliance by women.

KEY POINTS

1. **Knowledge of the characteristics of women less likely to obtain a mammogram and the barriers they encounter can assist physicians and providers to identify individuals who need more intense intervention. Additionally, appropriate intervention strategies can be identified.**

2. **Knowledge of the barriers encountered by physicians/providers can assist them to implement needed policy, procedural and systems changes to increase the rate of mammography referrals. Additionally, a physician's or provider's skills in addressing barriers encountered can be improved through training.**

   These issues and suggested intervention strategies are addressed in the tables on the pages that follow.

Documented Barriers to Mammography Screening

Women Less Likely to Obtain Mammograms

*The **characteristics of women less likely to obtain screening mammograms** have been documented and reported in peer reviewed journals. These characteristics and suggested intervention strategies for addressing them are summarized in following table.*

Table 1

Women LESS LIKELY to Obtain Mammograms and Suggested Intervention Strategies

Characteristics	Intervention Strategies
✔ **Have less than a high school education.** ✔ **Are from low income households.**	☛ *Target less educated and low income women and women of color for more intense intervention.* ☛ *Use simple educational messages and materials.*
✔ **Are women of color** *(racial and ethnic minorities).*	**For women of color:** ☛ *Use race/ethnic appropriate interventions.* ☛ *Use culturally appropriate interventions.* ☛ *Hire multi-race/ethnic staff.* ☛ *Use translators and bilingual materials.* ☛ *Use peer volunteers to plan, develop and/or conduct interventions.*
✔ **Do not know similar-age women who obtain mammograms.** ✔ **Do not have friends or family members with a history of breast cancer** *(weak association).*	☛ *Use peer (older women) volunteers when appropriate to conduct interventions.* ☛ *Use older women volunteers who are breast cancer survivors when appropriate to conduct interventions.* ☛ *Show videos that use older women to promote mammography screening.* ☛ *Develop or select educational brochures and posters with photo images of age-relevant women.*
✔ **Had not had a previous mammogram.**	☛ *Assure that all women get information on the early detection of breast cancer and the recommended age for initiating mammography screening.* ☛ *Make a referral for a mammogram within 6 months after a woman reaches the recommended age for initiating screening.*

Table 1

Women LESS LIKELY to Obtain Mammograms and Suggested Intervention Strategies

Characteristics	Intervention Strategies
✔ **Have not had a recent clinical breast exam or Pap test.**	**Provide basic information and education on the importance of:** ☛ *breast and cervical cancer screening.* ☛ *an annual clinical breast exam and Pap test.* ☛ *related screening practices:* ☛ *mammography and the recommended screening age and interval* ☛ *monthly breast self-exams* ☛ *Assess the woman's status at every clinic encounter and perform a clinical breast exam and Pap test (if needed). Also,* refer her for a mammogram (if needed).
✔ **Are unaware of breast self-exam.**	**Provide basic information and education on:** ☛ *importance of monthly breast self-exam.* ☛ *how to perform a breast self-exam.* ☛ *importance of related early detection practices:* ☛ *annual clinical breast exam* ☛ *mammography and the recommended screening age and interval*
✔ **Are smokers.** ✔ **Do not exercise regularly.**	☛ *Use this information as clues to identify older women who may need more intensive intervention to obtain their mammograms.* ☛ *Integrate a message about the importance of mammography screening into tobacco and physical activity intervention programs.*
✔ **Are self-reported to have fair or poor health.**	☛ *Assess whether a mammogram is appropriate given the woman's other health problem's.*

Mammography Barriers Encountered by Women

*The mammography **barriers encountered by women h**ave been documented. These barriers include 1) knowledge/attitude barriers, 2) physician/provider barriers and 3) access barriers. The barriers and suggested intervention strategies for addressing them are summarized in the following three tables.*

Table 2

Knowledge/Attitude Barriers Encountered by Women and Suggested Intervention Strategies

Barriers	Intervention Strategies
✔ **Are not aware that breast cancer risk increases with age.** ✔ **Are not aware that a woman can have breast cancer but not have any symptoms at the time she is diagnosed by mammogram.** ✔ **Do not know about the need for screening mammogram.** ✔ **Have fears associated with screening.** ✔ **Believe that being healthy now means not having to worry about breast cancer.** ✔ **Believe that regular breast cancer screening is not important or needed.** ✔ **Do not believe in the efficacy of breast cancer screening.**	**Provide basic information and education about:** ☛ *increasing age as a risk factor for breast cancer.* ☛ *benefits of early detection.* ☛ *mammography procedure (how does it work?)* ☛ *efficacy and safety of mammograms.* ☛ *recommended frequency and importance of rescreening.* ☛ *important related screening practices:* ☛ *annual clinical breast exams* ☛ *monthly breast self-exams* ☛ *how and where to obtain a mammogram from the health plan.* ☛ *available support systems:* ☛ *health plan sources* ☛ *family sources* ☛ *community sources* ☛ *benefit coverage by the health plan.*
✔ **Some prefer a woman physician.**	☛ ***Refer patient to a woman physician or nurse practitioner.***

Table 3

Physician/Provider Barriers Encountered by Women and Suggested Intervention Strategies

Barriers	Intervention Strategies
✔ **Woman feels that a mammogram is not needed because her physician has never recommended that she have one.**	☛ *Inform and empower women to be their own advocate for prevention services including being proactive in asking their physician for a mammogram referral.* ☛ *Provide women with educational material or a letter from a respected health authority (e.g., the health plan's medical director) that recommends regular mammograms at appropriate intervals.* ☛ *Provide a woman with a screening diary that shows she is due for a mammogram, to take with her to see her provider.* ☛ *See also Tables 5-7 in this section on the mammography barriers encountered by physicians and providers*

Table 4

Access Barriers Encountered By Women and Suggested Intervention Strategies

Barriers	Intervention Strategies
✔ **Have concerns about the high cost of getting a mammogram.** ✔ **Have concerns about the financial burden of diagnostic procedures and treatment for breast cancer if it is needed.**	☛ *Assure that all women know their benefits coverage for mammography and the health plan's recommended screening interval.* ☛ *Assure that all women know their benefits coverage for diagnosis and treatment for breast cancer.*
✔ **Do not have an identified, routine source of health care.**	☛ *Encourage new members to get established with a primary care physician and have a routine physical exam. Include a Pap test, clinical breast exam and mammogram referral, if needed.*
✔ **Lack of time.** ✔ **Are low income and concerned that they must take time off from work to be screened.** ✔ **Live a far distance from the screening site.**	☛ *Assist all members to identify the clinic and mammography sites most conveniently located to their home or jobs* ☛ *Offer evening and weekend hours.* ☛ *Ensure that a woman's mammography status is assessed at every health encounter (e.g, annual health exam, sick visit) and that a mammogram is ordered when indicated.* ☛ *Coordinate the appointments to see a provider for a clinical breast exam and obtain a mammogram on the same day. Alternatively, arrange appropriate staffing for the radiology facility to perform clinical breast exams onsite.* ☛ *Use mobile mammography vans at the worksite or clinic sites.* ☛ *Add conveniently located screening sites.* ☛ *Establish "one-stop" comprehensive breast health centers.*

Mammography Barriers Encountered by Physicians/Providers

The failure of physicians to recommend a mammogram is a well documented barrier to a woman obtaining one. The mammography ***barriers encountered by physicians/providers*** *have also been documented. These include 1) provider knowledge/attitude barriers, 2) provider skill barriers, and 3) health care (mammography) delivery system barriers. These barriers and suggested intervention strategies for addressing them are summarized in the following three tables.*

Table 5

Knowledge/Attitude Barriers of Physicians/Providers and Suggested Intervention Strategies

Barriers	Intervention Strategies
✔ **Some patients refuse a mammogram referral.** ✔ **Older women who have never had a mammogram are more likely to express negative attitudes.**	☛ *Assess her personal barriers (see separate tables in this section on mammography barriers encountered by women).* ☛ *Provide information and counseling at a more intensive level.* ☛ *Write a mammogram referral on a prescription pad and give it to the patient.* ☛ *Offer to have the office staff make her a mammogram appointment before she leaves.* ☛ *Follow-up with a phone call or personal letter to reinforce the mammogram recommendation.* ☛ *If the patient is unreceptive, refer her to a peer counselor.*
✔ **An assumption is made that the patient was already referred for a mammogram by another physician.**	☛ *Make it a standard practice to assess the mammography status of all women 50 years of age and older who present for care.*
✔ **Physicians perceive that they are doing a good job of routinely recommending mammograms for women who need them.**	☛ *Assess and provide physicians with regular feedback on their performance at ordering mammograms for all women who need one.* ☛ *Provide physicians with individualized data on the rate of mammography among their patients in comparison with their peers.*

Table 5

Knowledge/Attitude Barriers of Physicians/Providers and Suggested Intervention Strategies

Barriers	Intervention Strategies
✔ **Physicians do not routinely follow-up to see if their patients obtained a mammogram when referred for one.**	**Assess and provide physicians with:** ☛ *a list of women who did not follow through on their mammogram referral.* ☛ *regular feedback on the percentage of women who followed through on their mammogram referrals.*
✔ **Physicians are unclear about the current mammography screening guidelines.**	**Provide basic information and education and/or conduct seminars during grand rounds for physicians about:** ☛ *breast cancer and risk factors.* ☛ *benefits of early detection and rescreening.* ☛ *efficacy of mammography for women 50-69 years.* ☛ *scientific controversies and recommendations regarding mammography screening for women aged 40-49 years and 70 years and older.* ☛ *Prudential HealthCare's prevention guidelines for mammography screening.* ☛ *clinical interpretation of a radiologist's mammogram findings/recommendations.* ☛ *important related screening practices:* ☛ *annual clinical breast exams* ☛ *monthly breast self-exams*
✔ **Physicians are less likely to order mammograms as women get older.** ✔ **Physicians are less likely to order a mammogram if an older woman never had one before.**	**Provide basic information and education about:** ☛ *association of age to higher breast cancer mortality rates.* ☛ *Prudential HealthCare's prevention guidelines for mammography screening.* ☛ *US Preventive Services Task Force recommendations for screening women aged 70 years and older.*

Table 5

Knowledge/Attitude Barriers of Physicians/Providers and Suggested Intervention Strategies

Barriers	Intervention Strategies
✔ **Physicians are less likely to order a mammogram when they perceive that a woman would not comply with their recommendation.**	**Provide basic information and education about:** ☛ *importance of individualizing counseling for women about their barriers if any reluctance is perceived. The identified barriers may be minor and easily resolved.* ☛ *available support systems:* ☛ *health plan sources* ☛ *family sources* ☛ *community sources*
✔ **Physicians are concerned about the high cost of a mammogram.**	☛ *Assure that physicians know that mammograms are included in the member's benefits package at no additional cost to her.*

Table 6

Skill Barriers of Physicians/Providers and Suggested Intervention Strategies

Barriers	Intervention Strategies
✔ **Some providers feel that they have inadequate skills to screen or counsel patients.**	**Assess the skills of physicians, physician's assistants, nurse practitioners, and nurses, especially those that serve older women, and provide basic skills development as appropriate on:** ☛ *clinical assessment.* ☛ *barriers assessment.* ☛ *assessment of readiness for change (Prochaska).* ☛ *barriers counseling.* ☛ *counseling techniques.* ***(Remember that physicians are most receptive to learning from their peers.)*** **Provide basic skills development to other office staff on effective communication of simple health information.**
✔ **Some providers are uncomfortable with their clinical breast exam skills.**	**Provide basic skills development on the following to physicians, physician assistants, nurse practitioners, and nurses, especially those that serve older women:** ☛ *clinical breast exams.* ☛ *teaching breast self-exams.*

Table 7

Health Care (Mammography) Delivery System Barriers and Suggested Intervention Strategies

Barriers	Intervention Strategies
✔ **Physicians forget the recommended prevention procedures for different age groups of women.** ✔ **A mammogram is not routinely recommended when performing a clinical breast exam.** ✔ **A physician does not regularly see the patient for gynecological care.**	☛ *Make it a standard practice to assess the prevention services status and order a mammogram for age-appropriate women:* ☛ *each time a clinical breast exam is done.* ☛ *at every annual health exam.* ☛ *at non-emergency visits for episodic care.* ☛ *Make this standard practice a requirement for primary care physicians, family physicians, gynecologists, internists and other designated health care providers including physician assistants and nurse practitioners.* ☛ *Use reminder cues (flow sheets, interactive computer cues, posters, etc.).*
✔ **Physicians have time constraints with a heavy patient load.** ✔ **Other, more immediate health problem preempts the time that could be dedicated to prevention messages.**	☛ *Establish an office-based system to promote mammography.* ☛ *Designate someone in the office as the "Prevention Coordinator" with responsibility for overseeing the system the practice has decided to use.* ☛ *Train and utilize all appropriate staff (physician assistants, nurse practitioners, nurses, and office staff) to deliver prevention messages.*
✔ **Some physicians do not have a method for identifying women who are due for their next mammogram.** ✔ **Some physicians do not have a method for contacting patients at home regarding routine screening.**	☛ *Implement a simple, manual tickler system to identify women due or overdue for a mammogram.* ☛ *Implement a computer-based reminder system to* ☛ *generate a list of women due or overdue for a mammogram.* ☛ *generate a list of women who missed their mammogram appointments.* ☛ *generate reminder letters or postcards and address labels for mailing.* ☛ *Implement a telephone reminder intervention.*

REFERENCES

1. AMC Cancer Research Center. *Breast and Cervical Cancer Screening: Barriers and Use Among Specific Populations.* Suppl 3 (review of literature, June 1993-May 1994). January 1995.

2. Davis NA, Lewis MJ, Rimer BK, Harvey CM, Koplan JP. Evaluation of a Phone Intervention to Promote Mammography in a Managed Care Plan. *Am J Health Promot 1*997; 11(4):247-249.

3. Davis NA, Nash E, Bailey C, Lewis MJ, Rimer BK, Koplan JP. Evaluation of Three Methods for Improving Mammography Rates in a Managed Care Plan. *Am J Prev Med* 1997; 13(4):298-302.

4. Goldman DA, Simpson DM. Survey of El Paso Physicians' Breast and Cervical Cancer Screening Attitudes and Practices. *J Community Health* 1994;19(2):69-85.

5. King ES, Ross E, Seay J, Balshem A, Rimer B. Mammography Interventions for 65-69 Year-Old HMO Women. *J Aging Health*, 1995; 7(4)529-551.

6. King E, Rimer BK, Balshem A, Ross E, Seay J. Mammography-Related Beliefs of Older Women: A Survey of an HMO Population. *J Aging Health* 1993; 5(1):83-100.

7. Lantz PM, Stencil D, Lippert MT, Beversdorf S, Jaros L, Remington, P. Breast and Cervical Cancer Screening in a Low Income Managed Care Sample: The Efficacy of Physician Letters and Phone Calls. *Am J Public Health* 1995; 85(6):834-836.

8. NCI Breast Cancer Screening Consortium. Screening Mammography: A Missed Clinical Opportunity? *JAMA* 1990; 264(1):54-58.

9. Pearson RJC, Simon K, Pollard C, Frey-McClung V. Increasing Screening for Breast and Cervical Cancer in West Virginia. *WV Med J* 1994; 90(2):50-51.

10. Rimer, BK. Mammography Use in the U.S.: Trends and the Impact of Interventions. *Ann Behav Med* 1994; 16(4):317-326.

11. Rimer BK, Ross E, Balshem A, Engstrom PF. The Effect of a Comprehensive Breast Screening program on Self-reported Mammography Use by Primary Care Physicians and Women in a Health Maintenance Organization. *J Am Board Fam Pract* 1993; 6:443-451.

12. Taplin SH, Anderman C, Grothaus L, Curry S, Montano D. Using Physician Correspondence and Postcard Reminders to Promote Mammography Use. *Am J Public Health* 1994; 84(4):571-574.

13. Wender RC. Cancer Screening and Prevention in Primary Care: Obstacles for Physicians. *Cancer* 1993; 72:1093-1099.

Needs of Special Populations

Intervention strategies need to be tailored to the needs of special population sub-groups to achieve maximum effectiveness in reaching the goal to increase mammography rates. The key question is, "What special population sub-groups are served by the health plan and what are their unique needs?"

Important distinguishing characteristics to assess are summarized in the table below. It was not feasible to fully discuss in this manual the unique characteristics of individual sub-groups or how to address their special needs. Therefore selected breast cancer and mammography resources for different population sub-groups are listed in the appendixes.

Table 8

The Special Needs of Population Sub-groups

Special Population Sub-groups	General Comments and Suggestions
Age Group ■ 50-64, employed women ■ 65 plus, retired women ■ 70 plus, elderly women ■ Others	Younger, employed women often need less intensive intervention to be motivated to obtain a mammogram and they can be reached through worksite intervention activities in addition to other strategies (e.g., phone call reminders). Elderly women need more intensive one-to-one intervention; mass media and the receipt of a standard reminder letter are less effective in motivating them.

Racial/Ethnic/Cultural Background
■ African Americans
■ Hispanics
■ Asian/Pacific Islanders
  ■ Chinese
  ■ Japanese
  ■ Laotian
  ■ Hmong
  ■ Vietnamese
  ■ Korean
■ American Indians
■ Foreign-born women
■ Recent immigrants
■ Others
	Women who are racial/ethnic minorities or foreign-born are often less informed about the need for breast cancer screening or the importance of obtaining mammograms at prescribed intervals. Some, especially foreign-born women, are also unfamiliar with and distrustful of sophisticated and organized health care systems. The involvement of same- background health providers, peer counselors and respected authorities is useful in motivating these women to obtain a mammogram.

Socio-economic Background ■ Low income status ■ Unemployed ■ Low-income housing ■ Other	Low-income women are often less informed about the need for breast cancer screening or importance of obtaining mammograms at prescribed intervals. They have more difficulties taking time off from work to obtain a mammogram. Additionally, challenges such as how to pay the rent or buy food rank higher in priority in their lives when there are existing concerns for the family. Targeted education efforts and the availability of evening and weekend mammography appointments are important intervention considerations.

Table 8

The Special Needs of Population Sub-groups

Special Population Sub-groups	General Comments and Suggestions
Literacy Level ■ Reading level ■ English is not the primary ■ language	Materials written at a 6th grade or lower reading level that include many picture illustrations are more likely to be read and understood. Written materials translated into the primary languages spoken by major sub-populations served may be needed too.
Living in Rural Communities ■ Isolated geographic area ■ Sparsely populated area	Women who live in cities have greater access to radiology facilities that perform mammograms and to public transportation. Women from rural communities must travel great distances and often in private cars to obtain health care. Mobile mammography vans have been successfully used in isolated communities. Alternatively, a health plan could provide a van to take groups of rural women to obtain their mammograms.

Readiness of Women to Adopt New Behaviors (Diffusion of Innovation Theory and Stages)

No single intervention strategy — regardless of what it is — will work to motivate all women to obtain a mammogram. The unique differences of women and their readiness to adopt new behaviors need to be recognized, respected and considered when planning intervention strategies. This will provide critical information for targeting the strategies to achieve maximum effectiveness.

Diffusion of innovation theory states that the communication of new ideas, products, and technologies diffuse throughout a population in a predictable way. An understanding of this theory and the characteristics of each stage makes it possible to influence the rate of adopting new behaviors such as obtaining mammograms at prescribed intervals. This information can be used to plan intervention strategies to increase mammography rates. Appropriate communicators, channels of communication and health messages can be selected for specific target audiences.

As summarized in the table below, a population can be described by different stages of diffusion of innovation. For example, the predominant use of intervention strategies that are effective for innovators will likely motivate only about 2.5 percent of women to get a mammogram.

Table 9

Stages of Readiness to Adopt New Behaviors (Diffusion of Innovation Theory and Stages)

Stage of Readiness	Characteristics	Percent In Population	Application to Mammography Screening
Innovators	Adopt new behaviors readily with product or service availability.	2.5	These women are the first to obtain mammograms at regular, prescribed intervals once they are provided with information on the 1) value of being screened and 2) availability and coverage of mammograms by the health plan.
Early Adopters	Adopt a product or behavior because of its utility as assessed by experts.	13.5	These women willingly obtain mammograms at regular, prescribed intervals once they are provided with information on the 1) value of being screened and 2) availability and coverage of mammograms by the health plan.

Table 9

Stages of Readiness to Adopt New Behaviors (Diffusion of Innovation Theory and Stages)

Stage of Readiness	Characteristics	Percent In Population	Application to Mammography Screening
Early Majority	Adopt a new behavior or product once it has been advertised through mass media channels, using any persuasive messages.	16-50	These women have had more than one mammogram but not at regular, prescribed intervals. They can be motivated to seek screening through radio or TV advertisements about the benefits and recommended intervals for screening and through reminders from the health plan.
Late Majority	Adopt a new behavior or product based on the recommendation of peers, or newspapers and letters addressed to a group with whom they identify.	51-84	These women have received their first mammogram but not regular, periodic screening. They can be motivated to seek screening by similar-age friends or relatives, peer counselors, and information sent to relevant groups.
Laggards	Adopt a new behavior or product if they are convinced about its utility through one-to-one contact with respected individuals such as friends, pastors, or physicians.	16	These women have never had a mammogram. They need more intensive intervention from their physician, other providers and/or peer counselors.

REFERENCE

Rogers, EM. *Diffusion of Innovations Theory*. 3rd ed. New York: Free Press, 1983.

Tools for Assessment

Assessment of Women in the Health Plan

The purpose of conducting an assessment of the women served by the health plan is to obtain information for targeting intervention strategies. A sample mammography questionnaire (designed for a patient to complete in the clinic) is on the next page. This questionnaire can be modified 1) for another data collection method and/or 2) to include other questions of special interest to a health plan or provider.

Four optional methods are suggested for obtaining this information:

1. **Patient Questionnaire:** Ask women 50-69 years old to fill out a mammography questionnaire (see following pages) before seeing the doctor or nurse on a clinic visit.

2. Conduct **focus group** discussions with selected groups of women 50-69 years old who are served by the health plan. Include participants in the focus group who 1) have never had a mammogram, 2) do not have a mammogram at the prescribed intervals, 3) comply with screening recommendations, and 4) represent the diversity of women served (e.g., age, race/ethnicity, income, other).

3. Conduct a **telephone survey** of a random sample of the women aged 50-69 years served by the health plan (e.g., Behavioral Risk Factor Surveillance System).

   Focus Group or Telephone Survey: Develop a questionnaire that includes questions on 1) preventive health practices, 2) personal mammography barriers, 3) ease of assess, and 4) satisfaction with mammography services.

4. **Analysis of Administrative and Claims Data:** Link the health plan's administrative and claims databases by computer. Then, analyze the data to determine the percentage of women 50-69 years old who:

   a) have never had a mammogram.
   b) do not routinely have a mammogram every 1-2 years.
   c) did not respond to reminder(s) to obtain a mammogram.

The data can be analyzed by 1) different age groups, 2) different providers, 3) race/ethnicity (if available), and 4) other groupings of information useful for describing women served by the health plan (e.g., zip code, income, etc.).

IMPORTANT NOTE

This assessment is not a research study where precise data collection and analysis are required. Because of this, strict, scientifically credible methods of data collection are not expected (e.g., tested questionnaire, true representative sample of women, etc.). However, it is important to recognize that each data collection method has limitations that can be minimized by paying attention to basic principles of scientific research.

For example, with the **patient questionnaire**, information will only be obtained on women who come in for health care. Therefore, the data may not accurately describe women who do not seek health care or obtain mammograms at the prescribed intervals. With a **survey or focus group**, the "mistake" of collecting data only on women who predominantly have certain characteristics (e.g., 50-55 years old, white, good mammography compliance) will not provide much information on the others served by the health plan.

Sample Cover Letter for Mailed Questionnaire

[Date]

[Address]

Dear Prudential HealthCare member:

Even though breast cancer is the second leading cause of death among women, approximately 50 percent of women who should be having regular screening mammograms do not get them. In addition, an estimated 70-75 percent of women who are diagnosed with breast cancer have no known risk factors other than their age and sex.

Prudential HealthCare is committed to encouraging its members to have regular mammograms. For the past four years, we have implemented various proactive interventions aimed at promoting mammograms. Although our efforts have resulted in significant improvements in mammography rates among our members, there is still room for improvement.

In an effort to continue improving mammography use, we would like to hear from you about the reasons that may prevent women from having regular mammograms. This information will help us to work with your physician to assure that all women enrolled in our health plans have regular mammograms. Please take a few minutes to complete the enclosed mammography questionnaire and return it to us in the enclosed self-addressed, stamped envelope.

Thank you in advance for your interest and participation in this project. Your responses will be kept confidential and will be used by the physicians and nurses at Prudential HealthCare to design an effective intervention program for 1997.

Sincerely,

_____

Manager, Health Services

Sample Cover Letter for Mailed Questionnaire

(Letter provided by Patty Long, RN, CPHQ, and Lisa Charlton, RN, BSN, Prudential HealthCare, Central Ohio)

[Date]

[Member Name]
[Member Address]
[Member City, State, Zip]

Dear [Member Name]:

The Prudential HealthCare System ®, as your health plan, has made a commitment to promote the health of its members, and to provide education regarding preventative health measures that you can take to maintain a healthy lifestyle.

To help accomplish this goal, The Prudential HealthCare System's Quality Improvement department routinely evaluates the percentage of our members who seek preventative health services such as mammography.

Our records indicate that you did not have a mammogram performed in 1995. We are asking you to take a few minutes and complete the enclosed survey form and return it to us in the postage paid envelope by [date]. Comments received from this brief survey will help us to better serve our members' needs.

As a reminder, the American Cancer Society's mammography recommendations are as follows:

Baseline Screening Mammogram at age 40
Ages 41 to 49 - every one to two years
*Ages 50 and over - every year

We have enclosed for your reference two informational pamphlets, *"8 Tips For Good Mammograms", and "Cancer Facts For Women".*

If you have any questions regarding the above guidelines, self breast exams or the mammography procedure, please contact your Primary Care or Obstetrics and Gynecology physician who would be the most qualified to answer all your questions.

With October designated as Breast Cancer Awareness month, we would like to take this opportunity to encourage you to discuss the benefits of an annual mammogram with your Primary Care or Obstetrics and Gynecology physician.

Should you have any questions or comments about this survey please contact the Quality Improvement Department *[contact name and phone number].* Thank you for taking the time from your busy day to complete the enclosed questionnaire.

Sincerely,

[Name]
[Title]

Patient Mammography Questionnaire

Patient's Name: _____ Date: _____

A mammogram is an x-ray of each breast to look for breast cancer. Please answer the following questions for your doctor. This will help your doctor decide if you need to have a mammogram.

I. How old are you? Age in Years: _____

II. Have you ever had a mammogram? Please circle YES or NO.

III. If you have had a mammogram before, please answer these questions:

1. How old were you when you got your FIRST mammogram? _____ (Years)

2. Which statement best describes you? Please check ONE answer.
   - ❑ I get a mammogram every year.
   - ❑ I get a mammogram every 2 years.
   - ❑ I get a mammogram every 3-5 years.

3. When did you have your LAST mammogram? _____ 19_____
   (Month) *(Year)*

IV. If you DO NOT get a mammogram every 1-2 years, which of the following statements describe you? Please check ALL answers that describe you.

- ❑ My doctor did not tell me to get a mammogram when I saw him/her.
- ❑ My doctor did not call or send me a reminder to get a mammogram.
- ❑ I did not know I needed a mammogram every 1-2 years.
- ❑ I do not think mammograms work in finding breast cancer.
- ❑ I will not get breast cancer. Nobody in my family has breast cancer.
- ❑ The place I go to get a mammogram is too far away.
- ❑ I do not have transportation.
- ❑ I did not think a mammogram was covered by my insurance company.

V. What kind of reminder would you like to have? Please check ONE.

❑ Telephone call ❑ Letter or postcard ❑ None

VI. What else would you like to tell your doctor?

Prudential HealthCare - [Location]
Mammography Survey

1. **Did you have a mammogram done in 1995?** Yes ❑ No ❑

2. **If yes to #1, who paid for the mammogram?**

The Prudential HealthCare System ❑ Other ❑ Don't Know ❑

3. **Did your Primary Care Physician (the physician you chose to care for you) recommend that you have a mammogram?** Yes ❑ No ❑

4. **Did your Obstetrics and Gynecology Physician recommend that you have a mammogram?**
Yes ❑ No ❑ N/A ❑

5. **If yes to #3 or #4, did you have a mammogram because of the Primary Care or/and Obstetrics and Gynecology Physicians recommendation?** Yes ❑ No ❑

6. **How would you rate the importance of your Primary Care Physician recommending that you have an annual mammogram?**
Important ❑ Not Important ❑ No Opinion ❑

7. **If you did not have a mammogram in 1995, why not?**
Fear of Discomfort ❑ Fear of Radiation ❑ Cost ❑
PCP or OB/GYN Physician did not advise ❑ *Other ❑ No Reason ❑

8. **Have you had a mammogram done in 1996?** Yes ❑ No ❑

9. **Did you receive a Birthday Card from Prudential HealthCare reminding you of the importance of having a mammogram?** Yes ❑ No ❑

10. **If yes to #9, was this reminder of any value to you?** Yes ❑ No ❑

11. **Do you do Self Breast Exams?** Yes ❑ No ❑

12. **If yes to answer #11, how frequently do you do Self Breast Exams?**
Monthly ❑ Every 2-3 Months ❑ Every 4-5 Months ❑
Every 6-7 Months ❑ Every 8-9 Months ❑ Every 10-11 Months ❑
Yearly ❑ Don't Know ❑

13. **Age**_____ **Race**_____**Employed Outside the Home** Yes ❑ No ❑

14. **Highest year of education completed**
10 11 12 13 14 15 16 17 18 19 20

Please feel free to make any additional comments:

_____

_____

_____

Name:_____

****Again, thank you for Taking Time from your Busy Day to Complete This Survey****

(Questionnaire provided by Patty Long, RN, CPHQ, and Lisa Charlton, RN, BSN, Prudential HealthCare, Central Ohio)

Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based telephone survey of noninstitutionalized, civilian adults aged 18 years and older. All states use a standardized core questionnaire and the interviews are conducted monthly. Information is collected on many areas including mammography and used to describe the population, monitor trends and identify health behaviors for intervention programs. Statewide BRFSS data can provide information on the mammography screening and clinical breast exam practices of women in the state. In some states, the data may also be available by regions within the state, county or city if there is sufficient sample size for analysis. Health plans may use the BRFSS standardized questionnaire and telephone-based surveillance method to collect data on members of their own health plan. One advantage in doing so is the opportunity to compare the health plan's BRFSS data with statewide data for similarities and differences between members and the population at large.

The mammography questions in the BRFSS questionnaire include the following:

1. A mammogram is an x-ray of each breast to look for breast cancer. Have you ever had a mammogram?
2. How long has it been since you had your last mammogram?
3. About how many mammograms have you had in the last 5 years?
4. Was your last mammogram done as part of a routine check-up, because of a breast problem other than cancer, or because you've already had breast cancer?
5. A clinical breast exam is when a doctor, nurse, or other health professional feels the breast for lumps. Have you ever had a clinical breast exam?
6. Was your last breast exam done as part of a routine check-up, because of a breast problem other than cancer, or because you've already had breast cancer?

Standard responses have been determined for the questions. Additionally, the BRFSS questionnaire includes important demographic information useful in describing the population surveyed. For a copy of the BRFSS questionnaire and information on the telephone-based data collection methodology, contact the state health department chronic disease program (in your state) or the Behavioral Surveillance Branch, Division of Adult and Community Health, Centers for Disease Control and Prevention, at (770) 488-5269.

REFERENCE

Frazier EL, Jiles RB, Mayberry R. Use of screening mammography and clinical breast examinations among black, hispanic, and white women. *Prev Med* 1996; 25:118-125.

Assessment of the Mammography Delivery System

The purpose of conducting an assessment of the mammography delivery system is to obtain information on the capacity of the health plan's providers to provide screening services. Sample staff/provider focus group questions for assessing the mammography delivery system can be found on the next page. The questions can be modified 1) for another data collection method and/or 2) to include other questions of special interest to a health plan or provider.

Five optional methods for obtaining this information are suggested:

Staff/Provider Focus Groups: Conduct focus group discussions with a diverse group of staff and providers in the health plan's network including 1) administrators, 2) medical directors, 3) quality improvement coordinators, 4) physicians (primary care physicians, family physicians, obstetrician/gynecologists, internists, surgeons), 5) radiologists and radiology technologists, 6) nurses and case managers, 7) physician assistants, 8) clinic receptionists, and 9) others that have a role in the existing mammography delivery system.

Staff/Provider Telephone or Mail Surveys: Develop a questionnaire and conduct a simple survey of a random sample of the health plan's staff and network of providers. The sample staff/provider focus group questions can be modified for this purpose.

Patient Focus Groups or Telephone Survey: Refer to the previous pages on "Assessment of Women in the Health Plan" for information.

IMPORTANT NOTE

The quality of mammogram films, competency of and continuing education training for professional staff, accuracy of equipment, and other quality assurance issues related to compliance with the Mammography Quality Standards Act of 1992 are NOT addressed in this assessment of the mammography delivery system. All radiology facilities performing mammograms must be certified by the Food and Drug Administration (FDA) to legally operate. Additionally, they should be accredited by the American College of Radiology or another organization authorized by the FDA.

Assessment of Mammography Delivery System Staff/Provider Focus Group Questions (Page 1/3)

PHYSICIAN/PROVIDER CAPACITY

1. **What is the performance of providers on the mammography HEDIS indicator?**

2. **Are physicians/providers knowledgeable about the Prudential HealthCare mammography screening guidelines?**

   a) Do physicians have a copy of the current Prudential HealthCare guidelines for mammography screening?

   b) Do physicians follow the current Prudential HealthCare guidelines in making referrals?

   c) How are Prudential HealthCare guidelines disseminated to physicians?

   d) Is continuing education on breast cancer and mammography available?

3. **Do providers have a system to identify when women are due/overdue for a mammogram?**

   a) Do providers use an up-to-date manual tickler system?

   b) Do providers use up-to-date computer listings?

   c) Do providers use on-line interactive medical record or tracking systems?

4. **In a clinic, are women asked when they had their last mammogram?**

   a) Is a woman's medical record reviewed for the date of last mammogram?

   b) Is the date of last mammogram consistently recorded in the same place in a woman's medical record?

   c) Is a mammography flow sheet used?

   d) Who are the staff involved with promoting mammography screening and what are their responsibilities?

5. **Do providers have capacity to meet the needs of special populations they serve?**

   a) Do any providers serve large numbers of women who are racial/ethnic minorities? foreign-born or non-English speaking? low income? inner city poor? rural and isolated? low literate? lesbian?

   b) How are the unique needs of special populations served addressed? Is service adequate?

Assessment of Mammography Delivery System
Focus Group Discussion Questions
(Page 2/3)

RADIOLOGY CAPACITY

1. **Do the providers have onsite radiology services or are these services contracted out?**

2. **Is there sufficient capacity to screen the volume of women who need a mammogram?**

   a) What is the location of the mammography radiology sites?

   b) How many mammography units are available at each site?

   c) How many and what type of staff are available at each site?

   d) Are mobile mammography vans used? When and where?

   e) What is the estimated total number of women 50-69 years old who need a screening mammogram annually?

   f) On average, how many screening mammograms are performed monthly?

   g) On average, how long do asymptomatic women wait for an appointment?

   h) On average, what is the appointment no-show rate?

3. **Does a woman have to see her primary care physician first for a clinical breast exam and mammogram referral or can she make an appointment directly with the radiology site?**

4. **REMINDER SYSTEM CAPACITY**

5. **What methods are used to remind women they are due/overdue for a mammogram?**

   a) Telephone reminder call?

   b) Mailed reminder letter or postcard?

   c) Mailed education materials on breast cancer/mammography?

   d) Physician referral during clinic visits?

   e) Mammogram appointment reminder call?

   f) Missed appointment follow-up call?

6. **Who is responsible for implementation? Who does what?**

   a) What problems have been encountered with implementation?

   b) What percentage of women contacted actually get a mammogram (success rate)?

Assessment of Mammography Delivery System
Focus Group Discussion Questions
(Page 3/3)

FOLLOW-UP CAPACITY

1. **Are up-to-date clinical guidelines available and used to follow up women with abnormal screening mammogram results?**

2. **What procedures are used to follow up women with abnormal screening results and which staff are responsible?**

   a) How are abnormal results communicated by the radiologist to the referring physician?

   b) How are normal and abnormal mammogram results communicated to women and who is responsible?

   c) How are referrals to a surgeon or other specialist physician made and what feedback is provided to the referring physician?

3. **Do providers have a system to track and follow up women with abnormal screening mammograms?**

   a) What is the average length of time between a woman's abnormal screening result and additional diagnostic tests?

   b) What is the average length of time between a woman's breast cancer diagnosis and the initiation of treatment?

   c) Are data routinely available for individual physicians, provider groups and the health plan on their screening and follow-up performance? What data are available and who provides them?

Assessment of Public Health and Community Activities and Partnerships

The purpose of conducting an assessment of the public health and community activities and partnerships is to obtain information on whether, and how the health plan collaborates with employers/businesses and other agencies and organizations to promote mammography among members and women in the community.

___ (Y/N/DK) Are there currently any planned or existing joint activities with the state or local health department related to the promotion of mammography screening in the community? If yes, do these joint activities include the following?

- ___ (Y/N/DK) Cosponsor a public media or education campaign (e.g., for National Breast Cancer Awareness Month in October).
- ___ (Y/N/DK) Cosponsor a continuing education conference for providers.
- ___ (Y/N/DK) Jointly develop and print public education materials (brochures, videos, posters, other).
- ___ (Y/N/DK) Jointly develop and publish professional education materials.
- ___ (Y/N/DK) Serve on the state health department's breast and cervical cancer coalition or another committee.
- ___ (Y/N/DK) Providers in the health plan's network participate in the state health department's breast and cervical cancer screening program.
- ___ (Y/N/DK) The state health department serves on health plan's quality assurance, guidelines development, surveillance, or another committee.
- ___ Other joint activities (describe): _____

___ (Y/N/DK) Has the health plan ever cosponsored a mammography screening program with an employer at the worksite? If yes, briefly describe the health plan's role in the worksite mammography program.

___ (Y/N/DK) Has the health plan ever collaborated with the state/local American Cancer Society (ACS) office on any mammography screening activities in the community? If yes, briefly describe how the health plan worked with the ACS to promote mammography.

___ (Y/N/DK) Has the health plan ever collaborated with the state/local YWCA office on any mammography screening activities in the community? If yes, describe how the health plan worked with the YWCA to promote mammography.

___ (Y/N/DK) Has the health plan ever collaborated with the state HCFA Peer Review Organization (PRO) on any mammography screening activities aimed at Medicare beneficiaries? If yes, describe how the health plan worked with the HCFA PRO to promote mammography.

___ (Y/N/DK) Has the health plan collaborated with other public or private sector agencies, organizations and businesses in the community to promote mammography screening? If yes, identify these organizations and briefly describe how the health plan worked with them to promote mammography.

Select the Target Population(s) and Provider(s)

Women Overdue For a Mammogram

The ability to identify women overdue for their screening mammogram varies among the health plans. Those that have automated administrative and claims data and the capacity to link these two databases are in the best position to conduct a telephone or mailed reminder intervention efficiently and for the least cost. Many health plans may not presently have this capacity, but they will likely have it in the future. The suggestions below are offered with this in mind.

Note that the listing obtained will likely be somewhat inaccurate and include the names of women who are not due for another screening mammogram. This includes women who obtained their screening mammogram out-of-network and those who are covered by a capitated benefits package. Neither of these mammograms will be reported in the claims database.

Table 1

Identification of Women Overdue for Their Mammograms

Identification Strategy (What?)	Suggested Identification Guidelines (How?)
Identify the women overdue for their screening mammogram.	Identify the women who are overdue for their screening mammograms. The feasibility of the suggestions below depends on the availability of information in the database and the degree of automation that exists at a health plan. **OPTION 1.** Using administrative data, identify all the women 50-69 years old (Prudential HealthCare Guidelines) enrolled in the health plan. Then using claims data, identify the subset of women who have not had a screening mammogram within the past 24 months. These are the women who need a reminder to obtain their mammogram. **OPTION 2.** If desired and feasible, subset the list by the race/ethnicity and/or age group of women in order to target your intervention more effectively. For example: ■ *The intervention messages for women aged 50-64 years, who are probably still employed, will be different from those for older women. The two groups have different needs and barriers.* ■ *For older Hispanic/Latino women, a call from someone who speaks Spanish may be more effective.* **OPTION 3:** Some health plans may be concerned about the feasibility of calling a huge volume of women. This is not necessary if multiple intervention strategies are being used. Suggestions follow. **To prioritize the call list, here are some ideas:** ■ *If desired and feasible, subset the list to identify the women targeted by the health plan for other mammography intervention strategies (e.g., women participating in a specific employer-based intervention program). Consider not calling these women since they are being reached through another intervention strategy.* ■ *If desired and feasible, subset the list using claims data to identify the women who had a physical exam or who presented for care two or more times in the past 1-2 years. These women are more likely to voluntarily present again. Consider not calling these women, and target them for a provider office-based reminder.*

Women Turning Age 50

Having had a previous mammogram is associated with returning at the recommended intervals for screening. As women approach their 50th birthday, the recommended age for initiating mammography screening in the Prudential HealthCare guidelines, they could be contacted with information about breast cancer screening and encouraged to obtain their first mammogram.

Many women have already obtained a baseline mammogram or initiated regular screening at an earlier age. For these women, the importance of getting a mammogram every 1-2 years should be emphasized and strongly encouraged.

Table 2

Promotion of Mammography Through Targeting Women Who Are Turning Age 50 Years

Identification Strategy (What?)	Suggested Identification Guidelines (How?)
Identify and proactively contact women who will soon be 50 years of age to schedule a mammogram.	Identify the women who will soon turn age 50 years. The feasibility of options 1-3 below depends on the availability of information in the database and the degree of automation that exists at a health plan. **OPTION 1.** Using administrative data, identify enrolled women who will be reaching their 50th birthday within the next 12 months. Proactively contact all the women on the list and invite those who have not had a mammogram within the past year to make an appointment. **OPTION 2.** If feasible, target this intervention by using claims data to identify the subset of these women who have never had a mammogram or those who have not had one in the past 12 months. Proactively contact only this subset of women for a mammogram appointment. **OPTION 3.** Using claims or other available data, follow up to determine who did not follow through with a mammogram appointment and recontact these women. These women may be considered for more intense intervention strategies such as peer counseling.

New Female Health Plan Members

It is important for new health plan members to become familiar and comfortable with the health care facility, get established with a primary care physician, and obtain their first mammogram (if one is indicated). This provides the basic foundation for patient satisfaction and encouraging the regular practice of health enhancing behaviors including screening mammograms.

Table 3

Promotion of Mammography Among New Health Plan Members

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Get new members established with a primary care physician within first 6 months of membership.	**OPTION 1.** Send all new members information on their health plan coverage: ■ *Include information on the importance of mammography and early detection.* ■ *Include information on mammography and other preventive health services covered.* ■ *Include information on breast cancer diagnostic and treatment services covered.* ***Consider the development of an eye-catching flyer specifically on this topic for distribution with information on the benefits covered.*** **OPTION 2.** Have someone (e.g., quality improvement coordinator, a physician) from the health plan speak to groups of employee members at the worksite about breast cancer early detection, mammography and other preventive and early detection health services that are covered. **OPTION 3.** Contact new members individually by telephone or mail to assist them to identify a primary care physician and conveniently located clinic and to schedule their first physical exam (including a mammogram, if needed). **OPTION 4.** If desired and feasible, follow up to determine which new members did not follow through and recontact them.

Step 2
INTERVENTION

Select and Implement
Appropriate Intervention Strategies

Select and Implement Appropriate Intervention Strategies

INTRODUCTION

Rimer (1) reviewed 6 studies in which single intervention strategies were evaluated and 14 studies in which there were multi-strategy approaches to increase mammography rates. Rimer included in her review only planned interventions in which self-reported and/or validated reports of mammography use were obtained using experimental or quasi-experimental designs and studies that focused on interventions directed at women. She found the following:

- **The most important and consistent barriers to mammography included lack of physician recommendation and not knowing that mammograms are needed in the absence of symptoms.**

- **It is not enough to target interventions at women only, because mammography behaviors are complex.** A physician referral as well as other factors (e.g., ease of access) are needed to enable the behavior.

- **Mammography can be increased through planned interventions.** Among the studies reviewed, these included media campaigns, individual-directed interventions, system-directed or physician-directed interventions, access-enhancing interventions, policy level interventions social network interventions, and multi-strategy interventions.

- The results of controlled studies suggest that **multi-strategy interventions are most effective.** Only 33% of single-strategy interventions showed a significant main effect compared with 85% of multi-component trials. Also, the studies that did not produce a main effect did show, in general, interactions suggesting some degree of effectiveness. Even simple interventions such as letters and prompts increased mammography use substantially above usual care when used in combination with other strategies.

- Among single interventions, the reorganization of a hospital clinic to allow a nurse practitioner to generate names of older, poor black women and approach them to discuss mammography had a main effect (2). Persuasive messages with a focus on internal responsibility for mammography also had a main effect (3).

A variety of intervention strategies have been included in this manual to be used as single interventions or in combination to meet the needs of individual health plans. For additional information on studies of effective intervention strategies, see Appendixes E and F of this manual.

REFERENCES

1. Rimer BK. Mammography use in the U.S.: Trends and the impact of interventions. *Ann Behav Med* 1994; 16(4):317-326.

2. Mandelblatt J, Traxler M, Larkin P, et al. A nurse practitioner intervention to increase breast and cervical cancer screening for poor, elderly black women. *J Gen Intern Med* 1993; 8:173-178.

3. Rothman AJ, Salovey, P, Turvey C, Fishkin SA. Attributions of responsibility and persuasion: Increasing mammography utilization among women over 40 with an internally oriented message. *Health Psychol* 1993; 12:39-47.

Member-Based Intervention Strategies

PLEASE NOTE: ***ANY MATERIALS DEVELOPED FROM THE SAMPLES PROVIDED MUST BE REVIEWED BY PRUDENTIAL HEALTHCARE ADVERTISING COMPLIANCE BEFORE THEY ARE IMPLEMENTED.***

Telephone Reminder Calls

Telephone calls to remind women to obtain their mammogram have been shown to be more successful and less expensive than mailed birthday cards or letters alone (see Appendixes E and F). This intervention strategy can be implemented at varying levels of intensity from a brief reminder call to one that offers counseling to a woman on her expressed barriers to obtaining a mammogram. If appropriate and feasible, subsets of the older women who need more intensive intervention can also be targeted to receive a combined intervention of telephone and mailed reminders.

Table 1

Promotion of Mammography Through Telephone Reminder Calls

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Proactively call women overdue for their mammogram. Offer to schedule an appointment for them.	**Plan and conduct the telephone reminder intervention.** **OPTION 1. Short Reminder Call** ■ Make a short and simple telephone reminder call and offer to make the women called an appointment for a mammogram while you have them on the line. ■ Make another call to remind women 1-2 days before their scheduled mammography appointment. ■ Make a follow-up call to women who missed their mammography appointment and reschedule another date and time before hanging up. **OPTION 2. Intensive Telephone Intervention** Make an intensive telephone reminder call. Ask about barriers encountered and offer correct information, support and/or encouragement as needed. Offer to make her an appointment for a mammogram while you have her on the line. **OPTION 3. Phone Intervention with Mailed Reminder** Some intervention studies show that a telephone call in combination with a written reminder such as a letter or postcard is more effective. See guidelines elsewhere in this manual for mailed reminders including a description of combined telephone and mailed interventions. **Helpful Hints:** ■ *Using non-health staff (such as those in member services) or health professionals (such as nurses) to make the telephone reminder calls have both been shown to be effective. The latter is more expensive, however, due to higher salary costs. With training and written guidance, non-health staff can conduct the intervention calls.*

Table 1

Promotion of Mammography Through Telephone Reminder Calls

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Proactively call women overdue for their mammogram. Offer to schedule an appointment for them.	**Helpful Hints** *(cont.)*: ■ *Provide training to the callers on whom to call, what to say and how to successfully talk with older women.* ■ *To develop the script for staff and suggestions for conducting the conversation, see the sample scripts on the following pages of this section of the manual.* ■ *Older women, especially those who are feeling isolated in their homes, are more likely to welcome phone calls and engage in a conversation. Friendly callers who add a personal touch to the conversation may be more effective in gaining cooperation for a mammogram appointment.* ■ *Women who make an appointment for a mammogram during the call are more likely to follow through in obtaining one.*

Table 2

Tips for Accurate Telephone Numbers and Addresses

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Improve the accuracy of telephone numbers and addresses.	Wrong telephone numbers and addresses are a frequent occurrence. This problem can be costly when a telephone or mailed mammography reminder intervention is used by the health plan. To improve accuracy: ■ *Verify home and work telephone numbers at every encounter with members. Member services could ask for an update each time a member calls the health plan. The receptionist can check each time a member presents for health care.* ■ *Regularly remind members to notify the health plan and their employer about address and telephone number changes using a variety of channels of communication: member newsletters, prerecorded phone messages, reminder message printed on the explanation-of-benefits statements, etc.* ■ *If feasible, routinely obtain a telephone number through which the member can always be reached (e.g., spouse's work number, relative, friend, neighbor, other).*

Tips for Conducting Telephone Calls

The quality of the telephone reminder call is essential to its effectiveness in gaining the cooperation of women in making a mammography appointment and following-through with it. The friendliness, sincerity and competence of the caller is very important in winning the trust of the women called.

Table 3

Tips for Conducting Telephone Calls

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Effectively communicate the mammography message by telephone.	Friendliness, sincerity and competence will keep someone on the line longer and help to effectively communicate the mammography message. With so many telemarketing calls made to homes today, reaching and keeping the woman you call on the phone can be a big challenge! Here are some suggestions: ■ Be prepared! Be prepared! Be prepared! Know the script and have reference materials in front of you. ■ Greet the woman personally by name. ■ Tell her who you are and that you are calling from Prudential HealthCare. If it has been pre-arranged, say that you are calling from her doctor's office and give his/her name. ■ Ask if she has a few minutes to talk with you. ■ Use a friendly upbeat voice (but don't sound insincere). ■ Talk to the woman with a natural tone of voice (avoid "reading" the script word-for-word). ■ Speak clearly but not necessarily louder than usual. ■ Let her know that you care — "Your health is important to us!" ■ Remember that some older women may be shy talking about mammograms. ■ Be prepared to respond to her questions. ■ Be reassuring when concerns about breast cancer or mammography as a procedure are raised.

Table 3

Tips for Conducting Telephone Calls

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Keep the conversation focused on the script or training you received.	It is important to know your own knowledge limitations and follow the script prepared for these reminder calls. This is not a time to share your personal opinions about mammography screening if they are different from the script or your training for these calls. ■ Avoid giving lengthy answers or complicated explanations when asked a question. ■ It is okay to say "I don't know." Giving the woman no answer is better than giving an incomplete or wrong answer. ■ If the woman has many general questions you cannot answer, refer her to the National Cancer Institute's Cancer Information Service at 1-800-4-CANCER or offer to have someone else from Prudential HealthCare call her back. ■ Avoid the discussion of other health questions and concerns raised. Refer the woman to her physician, if needed. ■ Be friendly but avoid extended personal conversations (without being rude).

Sample Script for Short Reminder Call (Page 1⁄2)

Introduction

"Hello, this is _____ *(caller's name)* and I am with _____ *(name of plan or provider).* May I speak to Ms. _____ *(member name)* please?"

Member Is Not Available:

Ask: "When would be a good time to reach her?" Record the date and time. Then say, "Thank you for this information. I will try to call back to talk to her at this time." [Terminate this call.]

Date: _____ Time: _____

Member Is Home:

When she comes to the phone, say: "Ms. _____, I am calling to remind members of _____ *(name of health plan or provider)* to get a mammogram to check for breast cancer. Are you currently a member of our plan?"

If NO, say: "I am sorry to hear that because that means you will not be able to come to us for your mammogram if you need to have one. However, be sure to contact you current doctor and ask about getting a mammogram. Thank you for talking to me. Have a nice day/evening. " [Terminate this call.]

If YES, say: "A mammogram is an x-ray to help your doctor look for early signs of breast cancer. Have you had a mammogram in the past 1 to 2 years? "

- **If YES, say:** "That's great because it is important for you to have a mammogram every 1 to 2 years. The chance of getting breast cancer increases with age so getting a mammogram every 1 to 2 years is important, especially for women 50 and older. Can you tell me approximately what month and year you had your last mammogram?

  _____(Month) _____(Year)

  Thank you for talking to me. Have a nice day/evening." [Terminate this call.]

Sample Script for Short Reminder Call (Page 2/2)

- **If NO, ask:** "Do you currently have an appointment for a mammogram?"

  - **If YES, say:** "That's great because it is important for you to have a mammogram every 1 to 2 years. The chance of getting breast cancer increases with age so getting a mammogram every 1 to 2 years is important, especially for women 50 and older. Can you tell me when your appointment is?

    _____(Month) _____(Year)

    Thank you for talking to me. Have a nice day/evening." [Terminate this call.]

  - **If NO, say:** "Thank you for taking the time to talk with me. I would like to encourage you to call your doctor to make an appointment for a mammogram. Have a nice day/evening."

OR (If you have the capability to schedule appointments):

- **If NO, say:** "I can make an appointment for you today. Can I go ahead and do that for you?"

  - **If YES:** Skip to ***"How to Set-up an Appointment"*** (next page).

  - **If NO, say:** "Thank you for taking the time to talk with me. I would like to encourage you to think about what we talked about today and call your doctor for an appointment to have a mammogram soon. Have a nice day/evening."

How to Setup an Appointment

- **Say:** "We saved some mammogram appointments at all the different places where members of _____ *(name of health plan or provider)* can go to get one. If any of these times is convenient for you, we can schedule your appointment today. Is there a particular location that you would like to go to for a mammogram?"

    - **If she knows a particular location:** Check to see if an appointment is open at the location and on the date/time she is available.

    - **If she does not know a location:** Review the list of radiology facilities and help her to find a location close to her home (or work). Check to see if an appointment is open on the date/time she is available.

- **If an appointment date/time is identified:** Schedule her mammogram appointment.

- **Then say:** "Do you have a pen or pencil to write down your appointment? Your appointment is at *(name of radiology facility)* at *(location)* on *(date/time)*. The telephone number there is _____. You can call them to get directions on how to get there. I will send you a referral form to take with you to your appointment. Your address is _____, correct? Okay, you are all set for your mammogram appointment. Thank you for taking time to talk with me today. Have a nice day/evening." [Terminate the call.]

- **If an appointment date/time is not identified, say:** "It looks like I can't find a convenient open appointment for you at this location right now. Would you like me to check what's available at another location?"

    - **If NO, say:** "There are plenty of other appointment openings at *(name of facility)* but you will have to call them to schedule it yourself. Do you have a pen or pencil to write down the telephone number to call? The telephone number at *(name of radiology facility)* is _____. Don't forget to call them right away. Thank you for taking time to talk with me today. Have a nice day/evening." [Terminate the call.]

    - **If YES:** Repeat the steps above to identify another location and open appointment.

Sample Script for Longer Reminder Call With Counseling on Barriers (Page 1⁄2)

Introduction

"Hello, this is _____ (caller's name) and I am with _____ (name of plan or provider). May I speak to Ms. _____ (member name) please?"

Member Is Not Available:

Ask: "When would be a good time to reach her?" Record the date and & time. Then say, "Thank you for this information. I will try to call back to talk to her at this time." [Terminate this call.]

Date: _____ Time: _____

Member Is at Home:

When she comes to the phone, say: "Ms. _____, I am calling to remind members of _____ *(name of health plan or provider)* to get a mammogram to check for breast cancer. Are you currently a member of our plan?"

If NO, say: "I am sorry to hear that because that means you will not be able to come to us for your mammogram. However, be sure to contact your current doctor and ask about getting a mammogram. Thank you for talking to me. Have a nice day/evening. " [Terminate this call.]

If YES, say: "A mammogram is an x-ray to help your doctor look for early signs of breast cancer. Have you had a mammogram in the past 1 to 2 years?"

- **If YES, say:** "That's great because it is important for you to have a mammogram every 1 to 2 years. The chance of getting breast cancer increases with age so getting a mammogram every 1 to 2 years is important, especially for women 50 and older. Can you tell me approximately what month and year you had your last mammogram?

  _____(Month) _____(Year)

  Thank you for talking to me. Have a nice day/evening." [Terminate this call.]

Sample Script for Longer Reminder Call With Counseling on Barriers (Page 2/2)

- **If NO, ask:** "Do you currently have an appointment for a mammogram?"

  - **If YES, say:** "That's great because it is important for you to have a mammogram every 1 to 2 years. The chance of getting breast cancer increases with age so getting a mammogram every 1 to 2 years is important, especially for women 50 and older. Can you tell me when your appointment is?

    _____(Month) _____(Year)

    Thank you for talking to me. Have a nice day/evening." [Terminate this call.]

  - **If NO, say:** "A mammogram is an x-ray to help your doctor look for early signs of breast cancer. The chance of getting breast cancer increases with age so getting a mammogram every 1 to 2 years is important, especially for women 50 and older. I can make an appointment for you today. Can I go ahead and do that for you?"

    - **If YES:** Skip to "How to Setup an Appointment."

    - **If NO, ask:** "Can you tell me the reasons you don't want to make an appointment for a mammogram?"

      - **If she mentions specific barriers:** Refer to ***"Responses to Barriers on Mammography"*** and respond to her questions and concerns.

      - **If she is vague, say:** "Some women think they do not need to have a mammogram unless they have symptoms. Other women are too busy or concerned about the cost of the mammogram. Is this what you think or are you concerned about these things?"

        - **If she mentions specific barriers:** Refer to ***"Responses to Barriers on Mammography"*** and respond to her questions and concerns. When you are finished, ask: "Do you have any other concerns?"

          - **If YES:** Respond to her additional question/barriers. After you have finished, proceed to "***Offer to Schedule an Appointment."***

          - **If NO:** Skip to "***Offer to Schedule an Appointment."***

          - **If she appears vague and does not want to talk anymore, say:** "Thank you for taking the time to talk with me. I would like to encourage you to think about what we talked about today and call your doctor for an appointment to have a mammogram soon. Have a nice day/evening."

OFFER TO SCHEDULE AN APPOINTMENT

- **Say:** "If you have more questions later, be sure to ask your doctor. I can go ahead and schedule an appointment for you right now. Can I do that for you?"
  - If YES: Skip to "How to Set-Up an Appointment."
  - In NO, say: "Thank you for taking the time to talk with me. I would like to encourage you to think about what we talked about today and call your doctor for an appointment to have a mammogram soon. Have a nice day/evening."

HOW TO SET-UP AN APPOINTMENT

- **Say:** "We have saved some mammogram appointments at all the different places where members of _____ (name of health plan or provider) can go to get one. If any of these times is convenient for you, we can schedule your appointment today. Is there a particular location that you would like to go to for a mammogram?"
  - **If she knows a particular location:** Check to see if an appointment is open at the location and on the date/time she is available.
  - **If she does not know a location:** Review the list of radiology facilities and help her to find a location close to her home (or work). Check to see if an appointment is open on the date/time she is available.
- **If an appointment date/time is identified:** Schedule her mammogram appointment.

  Then say: "Do you have a pen or pencil to write down your appointment? Your appointment is at *(name of radiology facility)* at *(location)* on *(date/time).* The telephone number there is _____. You can call them to get directions on how to get there. I will send you a referral form to take with you to your appointment. Your address is _____, correct? Okay, you are all set for your mammogram appointment. Thank you for taking time to talk with me today. Have a nice day/evening." [Terminate the call.]
- **If an appointment date/time is not identified, say:** "It looks like I can't find a convenient open appointment for you at this location right now. Would you like me to check what's available at another location?"
  - **If NO, say:** "There are plenty of other appointment openings at *(name of facility)* but you will have to call them to schedule it yourself. Do you have a pen or pencil to write down the telephone number to call? The telephone number at *(name of radiology facility)* is _____. Don't forget to call them right away. Thank you for taking time to talk with me today. Have a nice day/evening." [Terminate the call.]

    If YES: Repeat the steps above to identify another location and open appointment.

Sample Script for Reminder Call With Prompt for Barriers Counseling

For health plans with no facility for scheduling appointments

(Adapted by Susan Oertel, Prudential HealthCare, California)

INTRODUCTION
"Hello, this is (caller's name) and I am with Prudential HealthCare. May I speak to Ms. ***(member's name)*** please?"

MEMBER NOT AVAILABLE:
"When would be a good time to reach her?" Record date and time *(on flow sheet*). "Thank you for this information. I will try to call back to talk to her at this time." *[Terminate this call.]*

MEMBER IS AT HOME:
"Ms.***(member's name)*** I am calling to remind members of Prudential HealthCare to get a mammogram to check for breast cancer. Are you currently a member of our plan?"

If NO: "I am sorry to hear that because that means you will not be able to come to us for your mammogram, if you need to have one. However, be sure to contact your current doctor and ask about getting a mammogram. Thank you for talking to me. Have a nice evening." *[Terminate this call.]*

If YES: "A mammogram is an x-ray to help your doctor look for early signs of breast cancer. Have you had a mammogram in the past 1-2 years?"

- **If YES:** "That's great because it is important for you to have a mammogram every 1-2 years. Breast cancer increases with age so getting a mammogram every 1-2 years is important especially for women 50 and older. Can you tell me approximately what month and year you had you last mammogram?" *Document month and year on flowsheet*. "Thank you for talking to me. Have a nice evening." [Terminate call]

- **If NO:** "Do you currently have an appointment for a mammogram?"

  - **If YES:** "That's great because it is important for you to have a mammogram every 1-2 years. Breast cancer increases with age so getting a mammogram every 1-2 years is important especially for women 50 and older. Can your tell me when your appointment is?" *Document month and year.* "Thank you for talking with me. Have a nice evening." *[Terminate call.]*

  - **If NO:** "A mammogram is an x-ray to help your doctor look for early signs of breast cancer. Breast cancer increases with age so getting a mammogram every 1-2 is important especially for women 50 and older. Many medical groups make it very easy to obtain a referral for a mammogram. Do you think you may call your primary care physician in the next few weeks to discuss whether you need a mammogram?"

    - **If YES:** "That's great! We have sent a list of members who may need a mammogram to each Prudential HealthCare Primary Care Physician. They should be expecting a call from you. How ever, if you have any problems working with your physician's office to schedule a mammogram referral, please contact the Member Services number on the back of your membership card. Thank you for talking with me. Have a good evening. " *[Terminate call.]*

- **If vague or Hesitant:** "Some women think they do not need to have a mammogram unless they have symptoms. Other women are too busy or concerned about the cost of the mammogram. Do you have concerns like these?"

  - **If the member mentions specific barriers:** refer to ***Responses to Barriers on Mammography*** *and respond to her questions and concerns.* **After discussion:** "I hope you will call your doctor soon and make an appointment for mammogram. Thank you for talking with me. Have a good evening. *[Terminate call.]*

  - **If the member does not want to talk anymore:** "Thank you for taking the time to talk with me. I would like to encourage you to think about what we talked about and call your doctor for an appointment to have a mammogram soon. Have a nice evening." *[Terminate call.]*

- **If NO:** "Can you tell me the reasons why you don't think you will initiate a referral for a mammogram?"

  - **If the member mentions specific barriers:** *refer to* ***Responses to Barriers on Mammography*** *and respond to her questions and concerns.* **After discussion:** "I hope you will call your doctor soon and make an appointment for mammogram. Thank you for talking with me. Have a good evening. [Terminate call.]

  - **If the member does not want to talk anymore:** "Thank you for taking the time to talk with me. I would like to encourage you to think about what we talked about and call your doctor for an appointment to have a mammogram soon. Have a nice evening." *[Terminate call.]*

Responses to Barriers to Mammography

Identify the barriers mentioned using the index below and refer to appropriate responses in the table beginning on the next page.

MAMMOGRAPHY BARRIER	RESPONSE NUMBER
Don't have time/too busy	1
Doctor never recommended mammogram	2
Don't need - no symptoms	3
Don't need - check my own breasts	4
Don' need - doctor examines my breasts	5
Don't need - no family history	6
Don't need - age	7
Won't get breast cancer	8
Fear of radiation/x-rays	9
Discomfort/pain	10
Have other medical problems	11
Don't know what a mammogram is	12
Confused about guidelines	13
Never thought about it	14
Afraid of finding something wrong/don't want to know	15
Family history - afraid	16
Do not like to go to doctors	17
Embarrassed to have mammogram	18
Quality and accuracy of mammograms	19
Cost	20

Responses to Barriers to Mammography

No.	Barrier	Response
1	**Don't have time/ too busy**	I realize you are busy, but having a mammogram only takes about 30 minutes. We have many radiology facilities that you can go to for a mammogram. I would be happy to make an appointment for you at the location closest to your home (or work). We even have evening or weekend appointments if this would be more convenient. [**Important Note:** *Modify this response as needed to reflect the access and appointment options available.*]
2	**Doctor never recommended mammogram**	All the doctors at _____ (name of health plan or provider) — including your doctor — agree that having a mammogram every 1 to 2 years is important for women 50 and older. The doctors know that we are calling you and other women in our health plan to schedule appointments for a mammogram. In fact, your doctor will be given the results of your mammogram and s/he or a nurse will contact you to explain it. [**Important Note:** *Modify this response as needed to reflect the actual arrangements agreed to regarding the notification and follow-up of patients with normal and abnormal mammogram results.*]
3	**Don't need—no symptoms.**	I'm glad to hear that you are not having any breast health problems now. But, did you know that the chance of getting breast cancer increases with age and that many women do not have any symptoms when they are first diagnosed? This is why all women 50 and older need to have a mammogram every 1 to 2 years. The purpose of a mammogram is to find breast cancer early—before it spreads to other parts of the body. That is when there is the best chance for a cure. A mammogram can find breast cancer very early—up to 2 years before it can be felt by your doctor when she or he examines you.
4	**Don't need—check my own breasts.**	It's great that you are checking your own breasts. Checking yourself every month is an important health practice. But that is not enough to help you to find breast cancer early. Did you know that a breast cancer has to grow to at least the size of a pea before you or your doctor can feel it? Mammograms can find most breast cancers about 1-1/2 to 2 years before they can be felt by touch, and, also, before they spread to other parts of the body. The smaller the breast cancer is when it is found, the greater the chances it can be cured.

Responses to Barriers to Mammography

No.	Barrier	Response
5	**Don't need—doctor examines my breasts.** *(This could also be another trained health professional in the doctor's office.)*	Examination by your doctor *(or another health professional)* is very important but did you know that a breast cancer has to grow to at least the size of a pea before you or your doctor can feel it? Mammograms can find most breast cancers about 1-1/2 to 2 years before a lump can be felt by touch. Also, before it spreads to others parts of the body. The smaller the breast cancer is when it is found, the greater the chances it can be cured.
6	**Don't need—no family history.**	Many women think they don't need mammograms if no one in their family ever had breast cancer. But, did you know that 3 out of 4 women who get breast cancer do not have a strong family history of it? As women get older, their chance of getting breast cancer increases even if no one in their family ever had breast cancer.
7	**Don't need—age.**	As women get older, their chance of getting breast cancer increases. Most breast cancer occurs in women over the age of 50 and about half the women with breast cancer are 65 and older. That's why it's important for all women aged 50 and older to have regular mammograms. That is the best way to find breast cancer early, before it spreads to other parts of the body and when there is the best chance for a cure.
8	**Won't get breast cancer.**	I have talked to other women who think they won't get breast cancer. But the fact is there is no way to tell who will get breast cancer. We do know that 1 out of 9 women will get breast cancer sometime during their lifetime, and most breast cancer occurs in women 50 and older.
9	**Fear of radiation/ x-rays**	I can understand your concern about getting too much radiation, but the mammography equipment used today is very safe compared to old x-ray machines of the past. The amount of radiation you would receive is very small. If it wasn't safe, medical authorities would not recommend that women have a mammogram every 1 to 2 years. A woman's chance of getting breast cancer increases with age, so regular mammograms are very important for finding it early.

Responses to Barriers to Mammography

No.	Barrier	Response
10	**Discomfort/pain**	Some women experience discomfort, but most women do not describe mammograms as painful. The procedure requires pressing your breasts between the two plastic plates, which slightly flattens the breasts. This is very important because that is how we can get a good x-ray picture of your breasts to find any abnormal growth present. There are some things you could do to make the mammogram less uncomfortable. Are you still having periods or taking hormones? If you are still having periods, it is best to have the mammogram right after your period. Women taking hormones may also notice certain times of the month when their breasts are less tender and should have their mammograms during those times.
11	**Have other medical problems.**	I'm sorry to hear that. Your own doctor knows your medical condition the best and will be able to tell you if you should have a mammogram. Be sure to ask your doctor about it.
12	**Don't know what a mammogram is.**	A mammogram is an x-ray of the breast. Usually, two pictures are taken of each breast - one from the top and one from the side. The x-ray is taken by a technologist who has special training in doing mammograms. After the x-rays are developed, they are examined by a doctor (a radiologist) whose specialty is reading x-rays. The purpose of a mammogram is to find breast cancer early. Mammograms can find most breast cancers about 1-1/2 to 2 years before you or your doctor can feel it by touch. Women 50 years and older need to have a mammogram every 1 to 2 years.
13	**Confusion about guidelines.**	There is no disagreement among medical experts that mammograms are effective in identifying breast cancer in women 50 years and older. That is why they recommend mammograms every 1 to 2 years for women in this age group. The controversy is about women 40 to 49 years. It is unclear if mammograms are effective in finding breast cancer in these women. This is because younger women have denser breast tissue, so cancer growths do not show up clearly on their mammogram x-ray films. But, as I said, all medical experts agree that women in your age group need to have mammograms every 1 to 2 years.

Responses to Barriers to Mammography

No.	Barrier	Response
14	**Never thought about it.**	You may not have thought about having a mammogram before, but it is important for you to have one every 1 to 2 years. The chance of getting breast cancer increases with age and most cases of breast cancer are in women over the age of 50. Mammograms can find breast cancer early - often 1-1/2 to 2 years before it can be felt and before it spreads to other parts of the body. That's the reason why women aged 50 or older should have a mammogram every 1 to 2 years.
15	**Afraid of finding something wrong/ don't want to know.**	I can understand how it can be scary to think about getting an abnormal mammogram result, but not having one won't make a breast health problem go away if it is present. Eight out of 10 times, an abnormal mammogram doesn't even turn out to be breast cancer. The problem could be caused by cysts or other changes in the breast, which are usually harmless and may not even require treatment. Also, if breast cancer is found, treatment can be started immediately before it spreads to other parts of the body.
16	**Family history-afraid.**	It is true that if other women in your family have had breast cancer, you may have a greater chance of getting it too. This is one reason why it is so important for you to have a mammogram and breast exam every 1 to 2 years. A mammogram can find breast cancer often 1-1/2 to 2 years before it can be felt, and that means a head start on treating it.
17	**Do not like to go to doctors.**	You're not alone in feeling that way. I have talked with other women who don't like to go to the doctor either. But, did you ever think about how going to see your doctor for a check-up periodically would help to find your health problems early and get them treated? Waiting until your health problem becomes serious is what usually requires more visits to the doctor or hospital for treatment. Having a mammogram helps to identify breast cancer early — usually 1-1/2 to 2 years before a lump can be felt with your hands. This is why mammograms are important.
18	**Embarrassed to have mammogram.**	We are sensitive to your feelings of embarrassment too. That is why all the x-ray technicians who perform mammograms are women. Also, you will only have to take your clothes off down to your waist. Because of this, you might want to wear a skirt or pants rather than a dress to your appointment. The technician will also give you an examination gown to wear so you are covered up most of the time.

Responses to Barriers to Mammography

No.	Barrier	Response	
19	**Quality and accuracy of mammograms.**	Quality and accuracy is very important to us too and we routinely check our equipment and procedures. All of our mammography equipment, procedures, and staff qualifications have been certified by the Food and Drug Administration (FDA). The FDA certification is required by law before a radiology facility can perform mammograms. The mammogram x-ray films are processed by qualified technicians and carefully examined by a doctor who specializes in reading x-rays. We are also accredited by the American College of Radiology (ACR). Accreditation by ACR, or another approved organization, is required before FDA certification can be granted.	
20	**Cost.**	**For HMO members:** We pay the full cost of the mammogram; there is no charge to you. However, if you have a doctor's visit on the same day that you have a mammogram, you will have to pay the co-pay for the doctor visit. But, as I said before, the mammogram is free. [**Important Note:** *Modify this response according to the actual allowed coverage for mammograms.*]	**For POS members:** The amount you have to pay out-of-pocket for your mammogram depends on your benefits. Benefits for preventive care are at the highest level when authorized by a doctor. However, I can tell you that you will probably only have to pay a small percentage of the cost of the mammogram and we pay for the rest. [**Important Note:** *Modify this response according to the actual allowed coverage for mammograms.*]

REFERENCE

Davis NA, Lewis MJ, Rimer BK, Harvey CM, Koplan JP. Evaluation of a phone intervention to promote mammography in a managed care plan. *Am J Health Promot* 1997; 11(4):247-249.

Telephone Intervention Documentation Form

1997 Mammography Intervention Documentation Form

Member Name:_____

Calls: Date_____ Date_____ Date_____
Time ①_____ Time ①_____ Time ①_____
②_____ ②_____ ②_____
Call Back: Date_____ Time_____ am/pm *(per member/family request)*

❑ No personal contact made with member:

❑ Invalid phone number ❑ Unable to connect after 6 phone calls

❑ Person no longer a member:

❑ Member refused to participate:

Mammogram within the past 2 years: ❑ Yes Month_____ Year_____ ❑ No*

❑ Member doesn't remember if she had a mammogram

* Appointment for Mammogram scheduled: ❑ Yes Month_____ Year_____ ❑ No

❑ Member requests additional information:

(Given National Cancer Institute's Cancer Information Service Number

❑ Member requests call back from Prudential Professional

(Call Returned by_____ Date_____ Time_____am/pm

Additional Comments:

_____

_____

_____

_____

_____

To Manager for Follow-up: ❑ Yes Date_____ Time_____am/pm

Member Information/Call Complete: ❑ Yes Date_____ Time_____am/pm

Caller's Name:_____

(Form provided by Patty Long, RN, CPHQ, and Lisa Charlton, RN, BSN, Prudential HealthCare, Central Ohio)

Mailed Reminders

Mailed reminders have been shown to be successful in encouraging women to obtain their mammograms in some but not all research studies (see Appendix E). It is worth noting that telephone calls were found to be more effective than mailed reminders in the two mammography studies conducted by the Prudential Center for Health Care Research. All intervention strategies implemented should be evaluated. They can be continued or expanded if successful or terminated if not effective.

If a mailed reminder intervention strategy is used, it can be implemented at varying levels of intensity. If appropriate and feasible, subsets of the older women who need more intensive intervention can be targeted to receive more than one mailed reminder or a combination of mail and telephone reminders.

Table 1

Promotion of Mammography Through Mailed Reminders

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Mail a reminder letter or postcard to women overdue for their screening mammogram.	**Plan and conduct the mailed mammography reminder intervention:** **OPTION 1.** Mail a **standard postcard** or birthday card reminder to women on the list of those overdue for a mammogram and include two simple, action-oriented messages: 1) You are overdue for your next mammogram. 2) Call *(name of provider organization and phone number*) to make an appointment today. This intervention is less effective than others described below. **OPTION 2.** Mail a **standard one-page** letter to women signed by the medical director or her primary care physician. Include the information from Option 1 above plus this additional message: The risk for breast cancer increases with age. Getting a mammogram every 1-2 years *(Prudential HealthCare guidelines)* is important for early detection. This intervention is less effective than others described below. **OPTION 3.** Implement a **double reminder intervention** by sending a second postcard or letter, or following up with a telephone call. This has been shown to be **more effective** than a single standard mailing; however, it requires more resources to implement. See elsewhere in this manual for guidelines for telephone reminders. **OPTION 4.** For women who did not make a mammogram appointment during a telephone reminder call, mail them a **tailored one-page letter.** In addition to the messages noted above, individually address one to three of the woman's personal beliefs and barriers. A PC software program can be set-up with simple message responses to specific misbeliefs and barriers to mammography. The relevant messages can be merged into one letter for individual women. Tailored letters have been shown to be **more effective**, especially with low income and minority women; however, preparing them for mailing is also more labor intensive and costly.

Table 1

Promotion of Mammography Through Mailed Reminders

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Mail a reminder letter or postcard to women overdue for their screening mammogram.	**Helpful Hints:** ■ To develop the letter or other education materials, see the sample letters and templates on the following pages of this manual. ■ As an alternative to tailored letters, consider developing and including with the standard letter a simple and concise fact sheet on the top three or four misbeliefs and barriers encountered by older women served by the health plan. ■ Some clinics have women fill out their own reminder postcard at the time they have a mammogram. It is filed by the date she is due for her next mammogram and mailed to her 2 months before she should return. This offers some savings in staff time; however, the downside is name and/or address changes and the need to keep the postcards on file.

Sample Postcard Message

I t i s t i m e !

[Insert member's name and address here.]

It is time
for your next mammogram!
Call for your appointment today!

Call for more information.

_____

[Insert name of Health Plan]

[Insert address/telephone number]

Adapted from: WELL WOMAN HEALTHCHECK, New Mexico Department of Health, Breast and Cervical Cancer Prevention and Control Program, 1996.

Sample Reminder Letter

[Date]

[Address]

Dear Ms. _____:

I am writing to remind you to CALL TODAY for an appointment to get your next mammogram and have your breasts examined by your doctor. A mammogram is an x-ray that helps to look for early signs of breast cancer.

Did you know that the chance of getting breast cancer increases with age? It does! Or, that many women do not have any symptoms when they are first diagnosed with breast cancer? That is true too. An abnormal growth in your breast has to grow to at least the size of a pea before your doctor can feel it when you are examined.

The good news is that a mammogram can help your doctor to find breast cancer early — often 1-1/2 to 2 years before a lump is big enough to be felt. This is why it is so important for women 50 and older to get a mammogram every 1-2 years. By getting mammograms regularly, breast cancer can found and treated early when the chances for a cure are good.

It is important to take care of your own health. If you have not had a mammogram in the past year and do not have an appointment to get one, CALL US TODAY.

Mammography Appointment

To schedule an appointment, CALL US TODAY at _____ (telephone number) between _____ (time) on _____ (days).

For your convenience, evening and weekend appointments are also available. Be sure to ask about them.

We look forward to seeing you soon!

Sincerely,

(Medical Director or Doctor)

Sample Tailored Reminder Letter

(to woman who has no family history and dislikes going to doctors)

[Date]

[Address]

Dear Ms. _____:

In follow-up to our phone call, I am writing to remind you to CALL TODAY for a mammogram appointment and to have your breasts examined by your doctor.

As we discussed, a mammogram is an x-ray that helps to look for early signs of breast cancer. The chance of getting breast cancer increases with age and many women do not have any symptoms when they are first diagnosed. An abnormal growth in your breast has to grow to the size of a pea before you or your doctor can feel it by touch. The good news is that a mammogram can help your doctor to find breast cancer early — often 1-1/2 to 2 years before a lump is big enough to be felt!

Many women think that they don't need mammograms if other women in their family never had breast cancer. But, in fact, 3 out of 4 women who get breast cancer do not have a strong family history. As women get older, their chance of getting breast cancer increases even if no one in their family ever had it. Waiting until health problems become serious is what usually requires more visits to the doctor or hospital for treatment. Having a mammogram helps to find breast cancer early so treatment can be started. This is why they are so important.

It is smart to take care of your own health including getting a mammogram every 1-2 years. If you have not already made an appointment, CALL US TODAY!

Mammography Appointment

To schedule an appointment, CALL US TODAY at _____ (telephone number) between _____ (time) on _____ (days). For your convenience, evening and weekend appointments are also available. Be sure to ask about them.

Sincerely,

(Medical Director or Doctor)

Sample Tailored Reminder Letter

(with breast cancer Fact Sheet and list of radiology facilities)

(Letter provided by Diane Kutcher, RN, Prudential HealthCare, Cincinnati)

[Date]

[Member Name]
[Member Address]

Dear [Member Name]:

Breast cancer is the most common type of cancer among American women. In fact, each year more than 175,000 women are diagnosed with breast cancer—that's equivalent to one woman every three minutes learning she has breast cancer. An estimated 44,000 women will die from the disease in 1997 alone.

Your best defense against breast cancer is having **screening mammograms on a regular basis, breast self-examination, and annual examinations by a physician**. Prudential HealthCare recommends screening mammograms every 1-2 years for women age 50 or over. If you have not had a mammogram in the past year, we strongly encourage you to call for your appointment **TODAY**. Mammograms are covered under your plan for women age 50 and over (some plans do require a nominal co-payment).

Here is all you need to do!

- You do not need a referral from your physician to schedule a screening mammogram. You will need to designate a physician that you would like the results sent to (usually your OB/GYN or Primary Care Physician).
- Choose a mammogram facility from the enclosed list that is convenient for you. Many of them offer evening and Saturday appointments.
- Call the mammogram facility and tell them you would like to schedule a screening mammogram.

Taking care of your own health is important. This includes seeing your doctor for a breast exam and having a mammogram every 1-2 years. It is also a good idea to periodically have a medical check-up to make sure you don't have other problems that require treatment. For example, you could have a Pap test to check for cervical cancer at the same time you see your doctor for your breast exam.

If you have any questions about this or other benefits of your health plan, please call our Member Services Department at (XXX) XXX-XXXX or (800) XXX-XXXX. We are available to assist you Monday to Friday from ____ AM to _____ PM.

Sincerely,

_____
Medical Director

[Date]

[Member Name]
[Street Address]
[City, State, Zip]

Dear [Member]:

In follow-up to your recent phone call from a Prudential HealthCare associate regarding the importance of obtaining a mammogram, I would like to reiterate the importance of regular screening. If you have scheduled an appointment, or have had a mammogram since you were last contacted, ***Congratulations!*** You have made an important health decision. If you have not scheduled or had a mammogram yet, please take a few minutes to review the enclosed materials and call for an appointment today.

As we discussed, a mammogram is an X-ray that helps to look for early signs of breast cancer. Breast cancer ***does*** increase with age and many women do not have any symptoms when the disease first appears. An abnormal growth in your breast has to grow to the size of a pea before you or your doctor can feel it by touch. The good news is that a mammogram can help your doctor find breast cancer earlier, often 1 1/2 to 2 years before a lump is big enough to be felt! This is why a mammogram is so important.

Many women think that they don't need mammograms if other women in their family have never had breast cancer. But, in fact, 3 out of 4 women who get breast cancer do not have a strong family history of breast cancer. It is now known that as women get older, their chances of getting breast cancer increase even if no one in their family ever had it. Mammograms can identify breast abnormalities early, and when breast cancer is diagnosed, appropriate treatment may be started.

A mammogram does not require a physician referral, but your primary care physician will be happy to answer any questions you may have regarding your need for a mammogram. This is a covered service but a small co-insurance payment may apply, depending on your particular benefit plan, so please contact the Member Services Department at (XXX) XXX-XXXX to verify your coverage.

To assist you, we are including with this letter a list of Prudential HealthCare participating mammography facilities in [*city/area*]. The list includes addresses, phone numbers and hours of operation, to help you select a site that would be most convenient. Remember, this exam only takes a few minutes and requires no special preparation.
So please, take care of yourself and make that important call **today** to schedule a mammogram.
Cordially,

_____
Medical Director

FACTS ABOUT BREAST CANCER

Who is at Risk?

The greatest risk factor for developing breast cancer is being female. A prior history of the disease increases the risk, as well. Here are some other factors associated with risk:

- **AGE.**
  About 75% of all breast cancers are found in women over the age of 50.

- **FAMILY HISTORY.**
  Risk increases if a woman has a mother or sister who has had breast cancer before menopause.

- **LATE MENOPAUSE.**
  Having started menopause after the age of 55.

- **DELAYED CHILDBEARING.**
  Never having had a child or having the first child after the age of 30.

How Mammograms Help

An abnormal growth needs to increase to the size of a pea before it can be felt by touch. The good news is that mammograms can find breast cancer 1-1/2 to 2 years before a lump can be felt by your doctor!

Early detection and prompt treatment have increased the survival rate for breast cancer. The five year survival rate for localized breast cancer has risen from 78% in the 1940's to 94% in 1995. If breast cancer has not spread to other areas, the survival rate approaches 100%.

(Developed by Diane Kutcher, RN, Prudential HealthCare, Cincinnati. **Sources:** The American Cancer Society, Breast Cancer Facts and Figures, 1997; The National Cancer Institute, The Facts About Breast Cancer and Mammography, 1996.)

Month, 1997

Breast Cancer, Mammography and You

Important Information for Members

Provided by Prudential HealthCare - _____

What are Mammography and Mammogram?

Mammography is the process of taking an X-ray picture of the breast and Mammogram is the X-ray film image itself.

This test can identify abnormalities such as very small lumps, areas of calcification, or other changes before they can be felt by a woman or her physician.

Why is it important?

A mammogram is an important part of your routine health care because it can detect abnormalities that may lead to cancer.

The *American Cancer Society* estimates that nationwide in 1997:

- 180,200 new cases of breast cancer will be diagnosed
- 42,900 women will die from breast cancer.

Who needs a Mammogram?

Recommendations:

- Women ***less than 50*** years old are encouraged to discuss the need for a mammogram with their primary care physician.
- Women ***50 and over*** are strongly encouraged to have an annual mammogram.

How do I prepare for a mammogram?

- **Don't** wear deodorant, powder, perfume or cream under your arms or on the breast on the day of your exam. These may interfere with the quality of the image.
- **Do** wear a blouse with a skirt, shorts or slacks. You will have to undress above the waist for the exam.
- Please take previous mammography films to your appointment.

When is the best time to have a Mammogram?

Anytime is truly a good time, but if you have sensitive breasts, try having your mammogram at the time of the month when your breasts will be less tender. Try to avoid the week right before your period.

How is a Mammogram done?

A trained radiology technologist positions one breast between two plastic plates that compress the breast, spreading it out so that the X-ray can produce as precise an image as possible. The technologist then takes the X-rays from above the breast and from the side. This procedure is repeated on the other breast and takes only a few minutes.

A specially trained physician, called a radiologist, will read the mammography films to determine if any suspicious areas exist.

Will the Mammogram hurt?

The pressure caused by flattening of the breast may be slightly uncomfortable, but should not be painful.

Risk Factors

The following are factors that increase risk for developing breast cancer:

- ✔ Being Female.
- ✔ Simply getting older.
- ✔ A history of breast cancer in the family.
- ✔ Having never had children.
- ✔ Having first child after age 30.
- ✔ Menstruating before age 12.
- ✔ Completed menopause after age 55.

Warning signs of breast cancer.
Often there aren't any warning signs of breast cancer until the condition has progressed beyond its early stages. That is why mammography is important.

Detectable Warning Signs

- ✔ A lump or thickening felt in the breast.
- ✔ Change in the size or shape of the breast.
- ✔ Discharge from the nipple.
- ✔ Change in color or texture of the skin of the breast or areola (skin around the nipple).

When should I call my doctor?

If you experience any of the above warning signs, contact your doctor immediately.

Mammography and Early Detection

The most effective way to detect breast cancer is by mammography. There is no proven way to prevent breast cancer, so finding the disease as early as possible is the goal. Studies have shown that, for women ages 50-69, having regular mammograms (with or without breast exams) could reduce death from breast cancer by one-third.

Note:
Prudential covers mammograms but a small co-insurance payment may apply depending on your benefit plan. No physician referral is needed.

Questions?

For additional information about the latest, most accurate information on cancer, call the National Cancer Institute at **1-800-4-CANCER**

(Developed by Patty Long, RN, CPHQ, and Lisa Charlton, RN, BSN, Prudential HealthCare, Central Ohio. **Sources:** The Amercian Cancer Society, Breast Cancer Facts and Figures, 1997; The National Cancer Institute, The Facts About Breast Cancer and Mammography, 1996.)

Educational materials and brochures

(see also Appendix C)

THE NATIONAL CANCER INSTITUTE

The National Cancer Institute will soon have new mammography educational materials available—booklets, pamphlets, posters and bookmarks for distribution to the general public. Health professionals can use these educational resources to encourage patients, friends and colleagues to get regularly scheduled mammograms.

Understanding Breast Changes: A Guide for All Women —a booklet that explains how to evaluate breast lumps and other normal breast changes that often occur and are confused with breast cancer. It recommends regular mammograms and breast exams by a health care provider, and describes diagnostic procedures for women with suspicious mammograms.

***Mammograms* ... Not Just Once, But For a Lifetime!** A 2-page easy-to-read pamphlet that describes what a mammogram is, who needs this important examination, and the step-by-step procedure. Available in English and Spanish.

The Facts About Breast Cancer and Mammography An 8-page booklet that explains the risk and factors that increase a woman's chance of getting breast cancer, and the benefits and limitations of mammography.

Over Age 40? Consider Mammograms Five posters each featuring a woman from a special population—African American, Hispanic, Asian, Native American, and White with the *Over Age 40? Consider Mammograms* message.

Mammograms ... Not Just Once, But For a Lifetime! A series of five bookmarks (25 to a pack). Each pack features a woman from a special population, including African American, Hispanic, Asian, Native American, and White with the Mammograms ... *Not Just Once, But For a Lifetime!* message.

Mail or fax order requests to:
National Cancer Institute
Publication Ordering Service
PO Box 24128
Baltimore, MD 21227
Fax to: (301) 330-7968

For general information on NCI, call (800)-4CANCER, or www.cancernet.nci.nih.gov on the Internet.

AMERICAN CANCER SOCIETY

The American Cancer Society produces a number of booklets and brochures which are suitable for sending to health plan members, including:

Eight tips for Good Mammograms

New Guidelines for the Early Detection of Breast Cancer.

Additionally, the ACS also publishes a very useful annual resource booklet, *Breast Cancer Facts and Figures.* For more information on publications and ordering, call: 1(800)-ACS-2345, or www.cancer.org on the Internet, or contact your local ACS office (see Appendix C).

General Dissemination of Information

There are many channels for the dissemination of written information on prevention and early detection screening practices. Information on breast cancer and mammography screening could be disseminated regularly through these channels. Identify and tap into all potential channels for communicating simple messages about breast cancer and mammography screening to older women.

Table 1

Promotion of Mammography Through General Dissemination of Health Information

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Member Newsletters	**Each year, feature one or more stories about the early detection of breast cancer. For example:** ■ Personal testimonials of survivors who identified their breast cancer early through getting a mammogram. ■ Personal stories of women and why they think it is important to be screened regularly. ■ Article written by a respected health authority (e.g., primary care physician or radiologist) about breast cancer and the recommended frequency for screening. ■ Article written about a physician and his/her meeting with an older women's group to talk about breast cancer and mammography screening including the barriers frequently encountered. **Helpful Hints:** ■ Include an action step in the article, specifically, information to help an older woman recognize if she needs a mammogram (e.g., a check list) and to tell her how she can call for an appointment. ■ Older women identify most with other women who are of similar age and background. ■ Focus on the stories of women 50 years and older, the target age group for mammography screening. ■ Include stories and photos of older women from different racial/ethnic backgrounds served by the health plan. ■ If the number of members 50 years and older is high, consider initiating a large print newsletter targeted specifically to address their unique health needs and concerns. ■ Refer to the guidelines in this manual for how to design written messages.

Table 1

Promotion of Mammography Through General Dissemination of Health Information

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Prerecorded Health Messages	**When members are put "on hold, it is an opportunity for them to listen to simple prerecorded health messages. One of the messages could be about breast cancer and mammography screening.** **Helpful Hints:** ■ Ask a health authority (e.g., physician, national breast cancer expert or famous older woman) to record the messages. ■ Keep it short, positive and to the point. ■ Include an action step in the message. For example, if the call is to member services, suggest that the caller ask about making an appointment for a mammogram when someone comes on-line to speak with her.
Prevention Message of the Month	**One- or two-sentence health messages about prevention and early detection can be developed and printed on a variety of regular mailings sent to members. One message could be on the early detection of breast cancer and mammograms.** An example of where the message can be printed is on the member's explanation-of-benefits statement.

Tips on Key Educational Messages

For maximum effectiveness, educational messages that encourage women to seek mammography screening need to take into consideration their personal beliefs and information needs. For older women, King et al., identified six important areas of focus for mammography education messages. Examples of educational messages are provided below; please note, however, that they may need to be simplified or modified for the actual population of women served by the health plan or in the community. Conducting focus groups to obtain feedback on the example or other education messages is appropriate.

Emphasize the importance and benefits of mammography screening.

- ***Example:*** *"The prevention and the early detection of health problems are two of the smartest things we can all do for ourselves. They help to lower our risk for developing a health problem and to diagnose a medical condition for treatment before it gets serious. As a woman, your chance of getting breast cancer increases as you get older. Mammograms can find breast cancer 1-1/2 to 2 years before you or your doctor can feel a lump. This is why medical experts recommend a mammogram every 1 to 2 years for women 50 and older."*

Explain a woman's age risk for breast cancer,

- ***Example:*** *"The most important risk factor for breast cancer is a woman's age. As a woman, your chance of getting breast cancer increases as you get older. This is true for all women even if no relatives in their family ever had breast cancer. This is why medical experts recommend a mammogram every 1 to 2 years for women 50 and older."*

Explain that a mammogram is not a one-time cancer test.

- ***Example:*** *"As a woman your chance of getting breast cancer increases as you get older. Mammograms can find most breast cancers before they spread in the body. This is why medical experts agree that women 50 and older need to have a mammogram every 1 to 2 years."*

Explain the connection between the asymptomatic nature of early-stage breast cancer and the need for regular screening before symptoms appear.

- ***Example:*** *"Most women do not have any symptoms when they are first diagnosed with breast cancer. This is probably because an abnormal growth needs to increase to the size of a pea before it can be felt by touch. The good news is that mammograms can find breast cancer 1-1/2 to 2 years before a lump can be felt by you or your doctor! Also, before it spreads in your body. This is why women 50 and older should get a mammogram every 1 to 2 years even if they do not notice any symptoms."*

Describe the actual mammogram experience.

- ***Example:*** *"To get a mammogram you only need to undress down to your waist. You can put on the examination gown given to you. Mammograms are performed by women technicians who have received special training. The technician will help you to get into the correct position on the mammography machine. She will press your breasts—or slightly flattened them—between the two plastic plates for the mammogram. This may be uncomfortable for a few minutes but the correct positioning of your breasts is very important to get a good x-ray picture to find any abnormal growth present. When the x-ray pictures of your breasts are developed, they are closely examined by a specialist who is a doctor called a radiologist. The results of your mammogram will be given to your personal doctor to follow-up with you."*

Remind women that they need to take care of themselves too — not just others.

- ***Example:*** *"Taking care of your own health is important. That includes seeing your doctor for a breast exam and having a mammogram every 1 to 2 years. It is also a good idea to periodically have a medical check-up to make sure you don't have other health problems that need treatment. Doing these things will help you to stay healthy. For example, it is a good idea to have a Pap test to check for cervical cancer at the same time you see your doctor for a breast exam."*

REFERENCE

King E, Rimer BK, Balshem A, Ross E, Seay J. Mammography-related beliefs of older women: A survey of an HMO population. *J Aging Health* 1993; 5(1): 82-100.

Tips for Writing Telephone Scripts, Letters and Other Materials

The design of an effective mammography reminder message is central to whether the intended audience of women understands the action being requested of them and their willingness to follow through with a mammogram appointment.

*For a **telephone reminder**, a script or outline of key messages is important to have, especially if the calls will be made by multiple individuals. This will help to ensure the accuracy and consistency of the health message delivered.*

*For a **mailed reminder**, the clarity of the written message and its visual presentation will influence whether or not it is read and motivates the women to action. Here are some guidelines for development and presentation of the message.*

Table 2

Tips for Writing Telephone Scripts, Letters and Other Materials

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Keep it simple!	A mammography message that is positive and simple will likely be most effective. In contrast, a message that is too clinical or academic may leave the woman scared and confused about breast cancer and her own risk for the disease. ■ Focus on a single mammography message. ■ *Use nonmedical terminology.* ■ *Use culturally appropriate words.* ■ Use a spoken language style. **Don't sound bureaucratic or patronizing.** ■ Give just enough information for action to be taken. ■ Avoid offering too many action choices. ■ Humanize the message: "We care about your health!"
Make the message action oriented!	Action messages are most likely to produce the desired behavior. In contrast, a mammography message without an action focus will leave the woman uncertain about whether she needs a mammogram or confused about what to do. ■ Tell her **WHAT** you want her to do *(make a mammography appointment)*. ■ Tell her **HOW** to do it. ■ For **telephone calls**, encourage her to **TAKE ACTION DURING THE CALL**: ■ Offer to schedule an appointment.

Table 2

Tips for Writing Telephone Scripts, Letters and Other Materials

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Make the message action oriented!	■ Select the most convenient location. ■ Select the most convenient date and time. ■ Praise any action taken. ■ Before terminating the call, repeat the date, time and location of the appointment you made for her to have a mammogram. Ask her to write it down and repeat the information to you. ■ If an appointment is not scheduled, give her a telephone number to call for one later. For **mailed reminders**, include a telephone number to call for an appointment and encourage her to **TAKE ACTION AS SOON AS SHE FINISHES READING THE LETTER OR POSTCARD**.
Package written mammography reminder messages to CAPTURE ATTENTION!	A **mailed reminder** from the health plan can easily be lost in the information-driven world that we live in today unless it captures the attention of the recipient. ■ Use large print (especially for elderly women). ■ Include fewer words, e.g., leave a lot of blank space on the page. ■ Include simple drawings, illustrations or photos. ■ Use bright colored paper for fact sheets and flyers. ■ Ensure good visual contrast between the printed words and the paper color.
Target the message for increased effectiveness!	If desired, the mammography message can be targeted to the unique needs of various sub-populations of women. For example: ■ Specific age groups ■ *Age 50-64 years, possibly employed women.* ■ *Age 65 and older retired women (e.g., Medicare).* ■ Specific race/ethnic groups ■ *Consider cultural health beliefs and practices.* ■ *For **telephone calls,** consider using the woman's primary spoken language (if needed).*

Table 2

Tips for Writing Telephone Scripts, Letters and Other Materials

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Target the message for increased effectiveness!	■ For written reminders, translate the message into other languages (if needed). ■ Special health access needs of lesbian women. ■ Disadvantaged groups ■ Consider the special concerns of low income women. ■ Consider the literacy level of the women.
Test the message and its delivery.	Ideally, the clarity and appropriateness of the mammography reminder message should be pretested with women from the intervention target group. For telephone calls, here are some sample questions to ask the test group after they have observed some practice calls: ■ **Does the caller sound friendly, sincere and knowledgeable?** ■ *Why or why not?* ■ *Did she sound natural or like she was reading a script?* ■ *Did she provide too much or too little information?* ■ *Was she helpful in addressing specific questions?* ■ **Do you understand what the caller told you?** ■ *What do you think you were told about mammography?* ■ *What action do you think you were asked to take?* ■ **Would you comply with the suggested action?** ■ *Why or why not?* ■ *What aspects of the message content were motivating versus not?* ■ *What aspects of the message delivery were motivating versus not?* ■ *What would you like to see changed?* ■ **Would it make a difference if the caller is a woman or a man?** ■ **Would it make a difference what the background of the caller is?**

Table 2

Tips for Writing Telephone Scripts, Letters and Other Materials

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Test the message and its delivery.	**For written reminders and education materials**, here are some **sample questions** to ask the group asked to provide feedback: **Does the written presentation capture your attention?** ■ *Why or why not?* ■ *Is the presentation visually attractive?* ■ *Is the print size adequate?* ■ *Do you identify with the intended audience for the message (e.g., appropriateness of the person photos or drawings)?* ■ *Is there too much or too little information?* ■ *Are the colors used appealing?* **Do you understand the message?** ■ *What do you think it tells you about mammography?* ■ *What action do you think is asked of you?* **Would you comply with the suggested action?** ■ *Why or why not?* ■ *What aspects of the message are motivating versus not?* ■ *What aspects of the presentation are motivating versus not?* ■ *What would you like to see changed?*

Mammography Delivery System and Provider-Based Strategies

Organizational Incentives for Quality Improvement

Quality services can be achieved if quality is valued and a priority at the highest levels of an organization. The active and visible involvement of a health plan's administrator and medical director in quality improvement activities is important. The persons in these positions represent the values and policies of the organization. Their leadership will raise the value of quality improvement among staff and providers alike. Priority for quality—quality improvement—can be communicated in numerous ways including: (1) quality improvement budgeting, and (2) periodic onsite quality performance audits.

Table 1

Organizational Incentives for Quality Improvement

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Prepare a quality improvement budget with dedicated funding.	**Quality Improvement Budgeting** Develop a short (1-year) and long (3- or 4-year) budget with dedicated funding for quality improvement activities. The budget should be based on a plan developed by the quality improvement committee and appropriate others. ■ ***Example:*** *A 1-year budget could include dedicated funding for staff to make telephone mammography reminder calls throughout the year — or for a contract with an additional radiology facility to increase access to mammography screening.* ■ ***Example:*** *A 3- or 4-year budget could include dedicated funding for the development and implementation of a computerized medical record system with tracking and reporting capability.*
Conduct periodic onsite quality performance audits of providers.	**Periodic On-Site Quality Performance Audits** Complete an onsite quality audit on a percentage of all the providers in the network annually, example: 20 percent of all providers each year ■ **Medical Record Review.** Periodically, review randomly selected medical records based on objective measures of quality for mammography screening. For each provider audited, review 5-10 medical records of women 50-69 years old and evaluate measures of quality such as: How many women due for a mammogram have documentation in their chart that a referral was made? ■ **Mammography Services.** Review the quality of mammography services. For example, observe the quality of mammography counseling (e.g., was the information accurate? culturally appropriate?) or review the effectiveness and efficiency of reminder systems used. ■ Consider using information from onsite quality audits in employee performance evaluations (e.g., staff model HMOs) or the specifications in provider contracts for medical/health services.

Provider Reminders and Incentives

Simply improving physicians' awareness of the mammography screening guidelines is inadequate to improve rates. Cues-to-action are needed to alert providers to assess the status of mammography and refer women for a mammogram (if needed). This is also true for other recommended clinical preventive health services.

Table 2

Provider Reminders and Incentives	
Intervention Strategy (What?)	**Suggested Intervention Guidelines (How?)**
Provider Reminders	■ Letter to physicians on the importance of mammography and the effectiveness of physician recommendations in increasing mammography rates. Encourage recommendations to all women age 50-69 for mammography screening. ■ Provide physicians with a list of their patients who are due or overdue for a mammogram, outline the health plan's interventions, and encourage providers to schedule mammograms. ■ Develop a provider newsletter outlining the results of any assessment of women's barriers to mammography and providing education about overcoming these barriers.
Performance Feedback for Providers	■ Provide data feedback quarterly (or more often) on the rate of mammography screening by individual physicians compared with their peers or the health plan's average. Where possible, present quantitative data in graphic format. ■ Have the medical director send a letter to physicians with data on their mammography performance; then, have the medical director follow up with a telephone call to discuss the performance and goals for improvement. ■ Feature high performing physicians—by name—in the health plan's advertising for new members. These physicians could be showcased as examples of the excellent medical staff and high quality patient care available from the health plan. ■ For clinic/office-based teams (or individual physicians): 1) publicly acknowledge them with a plaque or framed "Certificate of Achievement," 2) have the successful team present "how they did it" at a meeting of providers or employer purchasers, 3) feature the team in a newsletter for providers or employer purchasers, 4) publish the team's successful procedures in a peer reviewed journal, and/or 5) throw a party to celebrate.
Offer provider incentives.	■ Provide a year-end bonus or higher reimbursement rate for physicians who achieve their goal for mammography screening. "One screening goal for all" or incremental goals with different amounts of monetary reward can be offered as incentives. Incremental goals may work better in a situation where the screening performance varies widely among providers—rewards can be given for achieving a certain level of progress toward improvement.

Sample Provider Reminder Letter

(Letter provided by Prudential HealthCare, Cincinnati)

[Date]

Dear Office Manager:

In _____*(Month, Year)*, we conducted a study of mammography rates among female members in our Plan, aged fifty years and above. We identified members from our eligibility and claims systems, and during the HEDIS (Health Plan Employer Data Information Set) data collection, identified women who may be have an above average risk of breast cancer and according to our records, have not obtained mammograms.

At a focus group meeting, representatives from our network provider offices suggested that we provide them the names of any patient(s) we identify. The staff could verify that our information is correct and contact those women who need mammograms.

Attached to this letter we have provided you with a list of the name(s) of your patient(s) that have not had a mammogram. We have provided boxes for you to check off the status of each of these patients. Please fax the completed list back to us at the above listed fax number with your verification and any comments so that we can update our records. We appreciate your assistance with maximizing our efforts by the following:

- Verify with your records to determine whether the patient(s) had a mammogram in 1995; if so, please indicate this and the date next to the patient's name.
- Contact the patient(s) without mammogram and recommend annual mammograms.
- Let us know if there is anything we can do to help you encourage members to obtain mammograms.

Our goals for this program include the education of our members concerning preventive breast care, the increased compliance of women fifty and over having annual mammograms, identification of breast cancer at an earlier disease stage, and improved outcomes.

I have enclosed a copy of our Preventive Health Care Guidelines for adults to serve as a reference for you. Please feel free to contact me if you have any questions or comments.

Sincerely,

_____
Medical Director
Prudential Health Care Plan

Sample Performance Feedback Letter

(Letter provided by Prudential HealthCare, Tampa)

[Date]

Dear Doctor:

Mammograms for Women Over the Age of 50 Save Lives.

I would like to help you to reach 100% of your Prudential female members over the age of 50 to:

- Determine if they are due for mammograms
- Provide you with the support you need to motivate women who are due (or overdue) to have mammograms by providing:
  - Mailed reminders to these women
  - Reports of women who may be overdue for mammograms
  - A telephone script your staff can use to motivate reluctant members to have their mammograms

The first step of this process is your review of the enclosed report listing the Prudential HealthCare female members over the age of 50 who are assigned to your practice for at least 6 months. In this report, I have listed the mammography claims status for these women so you can identify who is up-to-date and who **may not** be due to the absence of a mammogram report in our claims data.

Many reasons exist to explain why Prudential HealthCare might not have a claim for a member's mammogram. Examples include:

- The mammogram was done just prior to joining Prudential HealthCare.
- The mammogram was done at a free screening so Prudential HealthCare was not billed.
- The radiologist group is prepaid so it does not send bills to Prudential HealthCare.
- The claim was submitted or entered into the computer incorrectly.
- The mammogram was not ordered or performed.

Please check your records for the women on your list without a mammography claim in the past two years. If your records show that they, indeed, did have a mammogram, please send us a photocopy so we may update our records.

We will also send these women letters informing them that we do not have a mammography claim for the past two years. They, likewise, will be encouraged to give us the details of their mammograms done in the past two years so we can update our data and avoid sending further reminders incorrectly to them and to you.

To assist you in motivating women who **have not** had a mammogram in the past two years, I have enclosed a script your staff can use to conduct telephone outreach to motivate these members to let you schedule their mammograms.

This script has been field tested by The Prudential Center for Health Care Research. Prudential is now working with the Centers for Disease Control in Atlanta to roll this effective "tool" out to primary care doctors such as yourself to assist you in providing optimal preventative care for your patients.

If you have any questions about the use of this script, please let me know.

I will forward updated reports to you on a quarterly or bi-annual basis to assist you in identifying women as they come due for their mammograms. These updates should also help you focus your efforts in improving your rates over time.

Thank you in advance for your interest and participation in this very worthwhile effort.

Sincerely,

_____

Medical Director

P.S. - *I have also enclosed a bar graph depicting your "known" rate of mammograms for your female Prudential HealthCare members over the age of 50 years compared to the rates of your peers. I thought you'd like to know how your practice compares to others.*

Provider Education

The goal of provider education is to ensure that providers are aware of the importance of breast cancer screening through mammography and the age-appropriate recommendations for mammography screening. Continuing education also provides opportunities to communicate information about effective intervention strategies to increase the rates of mammography screening, especially the value of a physician's recommendation to a woman. (See also pp. 12-16.)

Table 3

Provider Education	
Intervention Strategy (What?)	**Suggested Intervention Guidelines (How?)**
General Dissemination of Information	■ Ensure that the Prudential HealthCare mammography guidelines are distributed to providers. ■ Include information on mammography screening in the provider orientation notebook. ■ Include updates on mammography screening in periodic issues of provider newsletters.
General Education	■ Provide updates on mammography screening at monthly meetings with the directors of internal medicine, obstetrics and gynecology, etc. ■ Conduct an inservice session for new providers in the network on the priority of mammography screening and interventions; include in the training the Prudential HealthCare Preventive Services Clinical Guidelines for mammography screening.
Continuing Education	**Offer continuing education on breast cancer and mammography screening:** ■ Invite experts on breast cancer and mammography to speak at meetings of providers. ■ Support attendance at breast cancer professional conferences and meetings. ■ Jointly sponsor a breakfast or dinner symposium with a participating hospital; invite an expert on mammography to be the keynote speaker. ■ Jointly sponsor breast cancer conferences with the state health department and community groups.
Develop and implement organizational and health services policies that support mammography screening.	■ Conduct an inservice training session for new providers in the network on the Prudential HealthCare Preventive Services Clinical Guidelines for mammography screening. ■ Include mammography policies and information on mammography screening in the provider orientation notebook. ■ Include mammography policies and updates on mammography screening in periodic issues of provider newsletters.

Mammography Health Services Policies

Formal organizational and health services policies can help to communicate to providers the importance of mammography screening for older women and to integrate reminders into the health care delivery infrastructure. The policies need to be simple and clear. They need to be communicated to providers in writing annually and at appropriate face-to-face meetings or encounters during the year. Monitoring compliance with these policies will also better ensure follow-through by all those who are responsible.

Suggested organizational and health services policies that support mammography screening include the following:

- All women should be informed in writing of their benefits coverage for screening mammograms and any diagnostic tests and treatment for breast cancer at enrollment and annually.
- All women should be given written information annually on the early detection of breast cancer including 1) breast self-exams, 2) clinical breast exams, and the 3) recommended age and intervals for mammography screening.
- All providers should be given written information annually on Prudential HealthCare's 1) guidelines for mammography screening, 2) organizational and health services policies which support mammography screening, and 3) benefits coverage for mammograms, diagnostic tests and breast cancer treatment.
- All providers should assess mammography status of every woman aged 50-69 years (Prudential HealthCare Mammography Screening Guidelines) and make a referral for a mammogram if one is indicated:
  - each time a clinical breast exam is done;
  - at every annual health exam;
  - at non-emergency visits for episodic care.
- All women with a normal mammogram should be notified of these results at the time of their appointment—or—in writing or by phone call within 2 weeks. Messages should not be left on an answering machine.
- All women with abnormal mammogram results should be followed up immediately and actively tracked to ensure the timely receipt of a repeat mammogram, needed diagnostic tests and treatment for breast cancer, as clinically indicated.
- All women 50-69 years old should be actively recalled for their next mammogram every 1-2 years (Prudential HealthCare Mammography Screening Guidelines).
- All new health plan members should become established with a primary care physician within their first 6 months of membership. Women 50-69 years old (Prudential HealthCare Mammography Screening Guidelines) should be referred for a mammogram, if one is indicated.

Office-Based Tracking Systems

Women who are asked by their physician or a clinic employee about their family history of breast cancer or who are told about the importance of mammography screening are more likely to obtain a mammogram. Office-based tracking systems are integral to identifying appropriate women and encouraging them to get a mammogram. Clinic/office-based systems that utilize all appropriate staff to assess a woman's mammography status, make a mammography referral, and reinforce her follow-through have been shown to be effective. The team approach frees time for the physician to personally counsel women who need added encouragement to obtain a mammogram or to attend to their other health problems.

Table 4

Promotion of Mammography Through Office-Based Tracking Systems

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Office Manager Education	Educate office staff on the procedures for tracking preventive care for their patients. Provide flow charts to track and prompt preventive services, and stickers to flag the charts of women due or overdue for a mammogram. ■ Hold a seminar for office managers to discuss the importance of mammography and demonstrate the benefits of tracking systems. ■ Develop and distribute a mammography prompt form for use as a reminder to inquire about a woman's mammography status, make a mammogram referral, document the results, and follow up as needed
Develop and implement an clinic/office-based team to promote mammography screening.	This strategy is adapted from a mammography intervention study conducted by Kohatsu in a provider clinic/office setting (described in Appendix E). In partnership with the clinic/office staff, plan a team approach to promote mammography screening. Together, decide the goal (percentage of women to be routinely screened), what needs to get done and who is responsible for carrying out the various tasks. Develop written procedures and train staff to implement the team-based intervention. *For example:* ■ **Clinic/Office Team.** Develop a mammography prompt form for use as a reminder to inquire about a woman's mammography status, make a mammogram referral, document the results, and follow up as needed. ■ **Clinic Nurse.** Display posters in the waiting and examination rooms to encourage older women to get a mammogram or ask their doctor about getting one. Have appropriate pamphlets, brochures, fact sheets, and other educational materials available in the clinic/office. ■ **Medical Records Clerk.** Identify women aged 50-69 years with a scheduled clinic/office appointment and attach a mammography prompt form to their medical charts 1 day prior to their date of visit.

Table 4

Promotion of Mammography Through Office-Based Tracking Systems

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Develop and implement an clinic/ office-based team to promote mammography screening.	■ **Intake Nurse.** Obtain and record on the prompt form the woman's family and personal history of breast cancer and the date of last mammogram. ■ **Primary Care Provider:** Record whether a woman was due for a mammogram and document if one was ordered. If a mammogram was indicated but not ordered, record the reason. ■ **Clinic Nurse:** Review all follow-up recommendations with each woman at the conclusion of her visit. The purpose is to improve her understanding, acceptance and adherence to the provider's referral for a mammogram. Help her schedule a mammogram appointment before she leaves. ■ **Clerk.** Enter the woman into a tracking system (manual or computer-based) to monitor abnormal test results and missed mammography appointments, and to routinely schedule the next mammogram. ■ **Nurse or Clerk***(as appropriate).* Make follow-up phone calls or send reminder letters as needed. ■ **Clinic/Office Team.** Meet no less than quarterly to 1) assess performance in increasing mammography rates by doing a sample chart audit to see if the screening goal was met; 2) review and resolve why the screening goal was not met (e.g., office structure or roles not clearly defined tools not being used, etc.); and 3) share new information on breast cancer and mammography. Provide progress report to appropriate others (e.g., administrator, medical director).

Tracking System Resources

"Put Prevention into Practice"

*One tracking system available and promoted by several professional organizations is **Put Prevention into Practice**. It is important for health plans to assess their needs and whether this program will adequately address them. Selected components or the entire program may be useful to some health plans.*

IMPORTANT DISCLAIMER

*The listing of **Put Prevention into Practice** in this manual **DOES NOT** imply an endorsement by Prudential HealthCare.*

Put Prevention into Practice is a campaign developed by the Public Health Service of the U.S. Department of Health and Human Services to improve the delivery of preventive care by primary care providers. This campaign includes a kit of materials for providers, office/clinic staff and systems, and the health care consumer, as listed below.

PROVIDERS

- *Clinician's Handbook of Clinical Preventive Services* —Contains two sections: adults/older adults and children/adolescents. Each section addresses disease burden, the recommendation of major authorities, basic steps for performing preventive services, and a listing of patient and provider resources.

OFFICE/CLINIC STAFF AND SYSTEMS: This set includes office system materials designed to involve clinic staff in the delivery of timely and comprehensive clinical preventive services:

- Patient chart flow sheets to track and prompt preventive services (one each for adults, children, and childhood immunization).
- Prescription pads to prescribe preventive services ("Put Prevention Into Practice").
- Reminder postcards to remind consumers of appointments and needed preventive services (one each for adults and parents).
- Temporary self-sticking Post-It™ notes to remind providers to deliver preventive services even if the visit was scheduled for other reasons.
- Permanent alert stickers for patient charts to remind providers of needed preventive services that need to be addressed at every encounter.
- Waiting room posters ("We Put Prevention Into Practice — Please Ask Us For Details").
- Colorful wall charts of preventive care timelines (one each for adults and children)

HEALTH CARE CONSUMERS

- **Personal Health Guide** (adults) and **Child Health Guide**. These guides are pocket-sized booklets with brief explanations of prevention topics and risk factors. Consumers can record services received and use the information to prompt needed preventive care.

TO ORDER MATERIALS:

The education and action kit or any individual component of the kit is available for purchase from:

Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954
202-512-2250 (fax)

IMPLEMENTATION PARTNERS

The professional organizations listed below are promoting *Put Prevention Into Practice* with their constituents and conducting training sessions for members that want to use the materials in their practices.

American Academy of Family Physicians
Jackie B. Admire, MSPH
8880 Ward Parkway
Kansas City, MO 64114
(816) 333-9700 ext. 5510

American Academy of Nurse Practitioners
Jan Towers, PhD, CRNP
P.O. Box 40013
Washington, DC 20016
(202) 966-6414

American Academy of Pediatrics
Ed Zimmerman, MS
141 Northwest Point Boulevard
Elk Grove Village, IL 60009
(708) 981-7917

EXPERT RESOURCE ON OFFICE-BASED SYSTEMS

Allen Dietrich, MD
Dartmouth Medical School
Department of Community & Family Medicine
Hanover, NH 03696
(603) 650-1763

American College of Physicians
Betty Nelson, RN, MSN
Independence Mall West
Sixth Street at Race
Philadelphia, PA 19104
(215) 351-2848

American Nurses Association
Kay Campbell
600 Maryland Ave., SW, Suite 100 West
Washington, DC 20024-2471
(202) 651-7072

National Association of Pediatric Nurse Associates and Practitioners
Mavis McGuire, MS, CPNP
1101 Kings Highway North, Suite 206
Cherry Hill, NJ 08034
(609) 667-1773

REFERENCES:

1 Dietrich AJ, Woodruff CB, Carney PA. Changing office routines to enhance preventive care: The preventive GAPS approach. *Arch Fam Med* 1994; 3:176-183.

2. McPhee SJ, Bird JA, Fordham D, Rodnick JE, Osborn EH. Promoting cancer prevention activities by primary care physicians. *JAMA* 1991; 266(4):538-544.

3. Melville SK, Luckmann R., Coghlin J, Gann P. Office systems for promoting screening mammography. *J Fam Pract* 1993; 37(6).

4. Walsh, JME, McPhee, SJ. A systems model of clinical preventive care: An analysis of factors influencing patient and physician. *Health Educ Q* 1992; 19(2):157-169.

Computer-Based Tracking, Reminder and Medical Records Systems

The automation of tracking and medical records systems greatly increases the feasibility of conducting interventions targeted at particular sub-populations of women due or overdue for their mammogram. It increases the potential effectiveness of interventions implemented by making it possible to address the special and unique needs of particular sub-groups of women. Additionally, the availability of automated data makes it possible to track screening, diagnostic and treatment results and evaluate the effectiveness of intervention strategies.

Each health plan and/or provider office has different needs for an automated system. In selecting a commercially available system, modifying it, or developing one from scratch, it is important to consider the health plan's or provider's 1) specific information needs, 2) unique clinic/office infrastructure, and 3) resources. Remember, the initial investment of resources to purchase the computer hardware and software and to convert the office or clinic from a manual to a computer-based system can be expensive. However, users praise the resulting increased efficiency and their enhanced capacity to provide quality health care and preventive services to patients.

The American Cancer Society's Advisory Group on Preventive Health Care Reminder Systems has published guidelines that will be helpful to providers in developing or selecting computerized health maintenance tracking systems (Computerized Health Maintenance Tracking Systems: A Clinician's Guide to Necessary and Optional Features, J Am Board Fam Pract 1995, 8[3]).

Available Commercial Vendors

Several commercial vendors of computer-based tracking or medical records systems are available. Four (known at the time this manual was developed) are listed and described below **based on the information in the marketing materials provided by the vendor.** For the purpose of this manual, these computer-based tracking systems have NOT been independently evaluated for their practical usefulness in facilitating mammography referrals among physicians or tracking mammogram results and follow-up care.

IMPORTANT DISCLAIMER

*The listing of commercial vendors of computer-based tracking or medical records systems in this manual **DOES NOT i**mply an endorsement of them by Prudential HealthCare or the Centers for Disease Control and Prevention.*

Sources of Commercial Computer-Based Tracking, Reminder and Medical Records Systems

HEALTH STATUS TRACKER SYSTEM

Available from:
Bruce Block MD
5215 Center Avenue
Pittsburgh, PA 15232
(412) 623-6636

PRACTICE PARTNERÆ SOFTWARE SERIES

Available from:
Physician Micro Systems, Inc.
2033 Sixth Avenue, Suite 707
Seattle, WA 98121
(206) 441-8490
(800) 770-7674
(206) 441-8915 (fax)
raya@pmsi.com (e-mail)

OTHER SOURCES OF SOFTWARE INFORMATION

Medical Software Reviews
Healthcare Computing Publications, Inc.
462 Second Street
Brooklyn, NY 11212-2503
(718) 499-5910

CARE4TH PRO FOR MACINTOSH

Available from:
Med4th Systems Limited
1165 West Green Tree Road
Milwaukee, WI 53217
(414) 351-1988
351-1954 (fax)

HTRACK TRACKING SYSTEM

Available from:
Paul S. Frame MD
Tri-County Family Medicine
Box 112
Cohoton, NY 14826
(716) 384-5310

REFERENCES

1 Block B, Brennan JA. Automated health maintenance. *Fam Med* 1988; 20(5):377-380.

2. Fordham D, McPhee SJ, Bird JA, Rodnick JE, Detmer WM. The cancer prevention reminder system., *M.D. Computing* 1990; 7(5):289-295.

3. Frame P. Computerized health maintenance tracking systems: A clinician's guide to necessary and optional features: A report from the American Cancer Society Advisory Group on Preventive Health Care Reminder Systems. *J Am Board Fam Pract* 1995; 8(3):221-229.

4. Frame PS, Zinner JG, Werth PL, Hall JW, Eberly SW. Computer-based vs. manual health maintenance tracking: A controlled trial. *Arch Fam Med* 1994; 3:581-588.

5. Garr DR, Ornstein, SM, Jenkins RG, Zemp LD. The effect of routine use of computer-generated preventive reminders in a clinical practice. *Am J Prev Med* 1993; 9(1):55-61.

6. Grubb D. Is paperless practice just a dream? *Calif Physician* 1994.

7. Orenstein SM, Oates RB, Fox GN. The computer-based medical record: Current status. *J Fam Pract* 1992; 35(5).

8. Orenstein, SM, Garr DR, Jenkins RG, Musham C, Hamadeh G, Lancaster C. Implementation and evaluation of a computer-based preventive services system. *Fam Med* 1995; 27(4):260-266.

9. Sumner R. A family physician's guide to computerized medical records (an opinion). *Harin Healthnotes* Fall 1992.

Worksite and Community Partnership Intervention Strategies

Worksite Intervention Programs

Worksite health promotion and education programs can contribute to cost containment, improved employee relations and increased productivity. Such programs promote communication and health partnerships between employees, employers and health care providers. A worksite mammography promotion program can be offered to employees, spouses and retirees.

Worksite intervention programs offer health plans an efficient way to reach many of their members with information and services. Some large employers have an onsite health promotion program and staff. As interest in prevention, early detection and health promotion rises among employers, the demand for health plans to offer worksite intervention programs will likely increase in the future.

Positive incentives work in encouraging desired behaviors. Employers could encourage women employees 50 years and older to obtain a screening mammogram every 1-2 years by being more flexible with work hours, allowing them paid time off to be screened, offering tangible incentives and rewards, or building incentives into a worksite intervention program.

Table 1

Promotion of Mammography Through Worksite Intervention Programs

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Engage employers as partners in encouraging prevention and early detection practices.	■ Approach the benefits director of employer purchasers to discuss the ■ *importance of prevention and early detection of health problems.* ■ *need to motivate employees to routinely practice prevention and early detection behaviors including periodic mammography screening.* ■ If requested, help employers develop a worksite intervention program. A health plan's role can vary from minimal involvement (e.g., teaching a few classes on breast cancer and mammography) to the planning, implementation and evaluation of the entire worksite intervention program.
Member education at Worksite	**Offer prevention and health promotion classes at the worksite including one on breast cancer and mammography.** **Helpful Hints:** ■ *Design a class tailored to the employees' needs or partner with the American Cancer Society and offer one of their existing programs.* ■ *Don't forget to invite spouses and retirees. It is useful for men to know about this important health issue and promote it with their wives, family members and/or significant others.*

Promotion of Mammography Through Worksite Intervention Programs

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Member education at Worksite	■ *Invite the class participants to join the "crusade" and spread the word about the importance of mammograms to their older women friends and family members.* ■ *Invite women employees with a personal history of breast cancer to participate in educating their peers about the importance of obtaining mammograms at the recommended intervals.* ■ *If it is not feasible to schedule the classes during the day, offer them before work, at noon and/or after work. Alternatively, plan shorter health updates (e.g., 15-minute video) and offer them as a part of regularly scheduled meetings with employees.* ■ *Establish a "library" of books, health magazines or key articles, brochures and other materials on breast cancer and mammography for loan to employees.*
Worksite coordination of mammography screening	A worksite mammography screening program could be offered several times a year to employees, their spouses and retirees. Note: One-third of all new cases of breast cancer diagnosed since 1991 at the *First National Bank of Chicago* were identified through a worksite program. **Helpful Hints:** ■ *Arrange for a block of appointments to be available with the health plan's radiology facility on one or more specified dates. Invite women to schedule a mammogram appointment. Provide transportation for the women to **go together** for their mammogram. This provides the peer support needed by some women to get a mammogram.* ■ *Schedule a mobile mammography van to come to the worksite. Invite women to schedule an appointment. Ask for a nominal $15 deposit to guarantee the appointment and inform each woman that it will be refunded when she presents for her mammogram. This will be an incentive to comply with the appointment. As an extra incentive, the employer could even offer to return $20!* ■ *In addition to the mammogram, offer the women education on breast self-exam and complete a clinical breast exam.* ■ *Establish an effective communication system to provide mammogram results to the employee and her primary care provider. This system can also be used to track women with abnormal mammogram results to ensure that follow-up diagnostic services and treatment (if needed) are obtained in a timely manner.* ■ *For women who are not members of the sponsoring health plan, the employer could provide the mammogram at no cost or arrangements could be made to bill the woman's insurer. Two or more health plans serving the same employer purchaser could also collaborate to offer a worksite mammography program.*

Promotion of Mammography Through Worksite Intervention Programs

Intervention Strategy (What?)	Suggested Intervention Guidelines (How?)
Work with employers to provide incentives for workers to get mammograms	**Option:** In situations where being away from work is a disincentive for getting a mammogram: ■ *flexible work hours could be allowed on the day a woman is scheduled for a mammogram, thus allowing her to work a full day.* ■ *paid time off to obtain a mammogram could be offered as an employee benefit.* ■ *a mobile mammography van could offer mammograms at the work site.* **Option:** For employees who participate in worksite health promotion program activities, the employer could reward them with a specified amount (e.g., $100) to use as they choose toward their health benefits packet, including getting a mammogram. For example, the money could be used to ■ *offset the employee's co-pay for preventive services where there is one.* ■ *pay for transportation to obtain a mammogram.* ■ *pay for health promotion classes (e.g., breast cancer and mammography) where there is a cost to attend.* **Option:** The employer could offer prizes to employees who participate in preventive health programs, including women who obtained their mammograms. **Helpful Hints:** ■ *Tote bags, mugs, grocery coupons, T-shirts, movie tickets, dinner coupons, the AVON breast cancer ribbon pin, or other similar items could be offered as prizes. Alternatively, a single big prize drawing could be held for a radio, television, VCR, CD player, trip, cash, or other items of value to employees.* ■ *An employee group could be given the responsibility to manage the program.* **Option:** Incentives could be built into the worksite intervention program itself. The items offered are viewed as "value added" for participation in the program. ***For example:*** ■ *Issue employees a certificate for completing prevention and health promotion classes such as one on breast cancer and mammography.* ■ *Offer participants a personal self-care booklet to record and monitor their own participation in preventive health services. Include a place for them to record the dates they obtained a mammogram.* ■ *Include a notebook or packet of attractive and appropriate educational information and materials on breast cancer and mammography.* ■ *Distribute buttons, refrigerator magnets, brochures, posters, AVON breast cancer pins and other, similar fun items.*

Partnership-Based Intervention Strategies

Participation in activities that increase the mammography screening rate of age-appropriate women in the entire community has benefits for all managed care organizations. For example, health plan members are exposed to community-based public information or education campaigns. These may help to reinforce the early detection and mammography screening messages that they receive directly from the health plan and may make the difference — for some members — between getting screened or not getting screened. A high mammography screening rate in a community contributes to early detection for breast cancer and, thus, less costly and more effective treatment. Additionally, participation in community-based activities to promote mammography screening provides public visibility and added value for the health plan as one that cares about the health of its members.

Partnerships with other agencies and organizations in the community can both enhance the effectiveness of the mammography intervention efforts within the health plan and benefit the community.

Some benefits include:

- consistent public education messages about mammography screening.
- added value for health messages because they are supported by multiple credible health and community organizations.
- opportunities to learn and access the expertise of partners to strengthen the effectiveness of a health plan's intervention program.
- opportunities to coordinate available mammography screening services.
- opportunities to share expertise, experiences and costs to conduct jointly sponsored programs.
- opportunities to share access to established networks that reach women in the community and providers

Partnership opportunities include jointly sponsored media campaigns and continuing education conferences, jointly developed public and professional education materials and training programs, and collaboration in quality assurance, guidelines development, surveillance and other program areas.

Within many communities, existing public and private sector organizations are potential partners for the health plan to promote mammography screening. Some widely available potential partners throughout the United States include the following.

CDC National Breast and Cervical Cancer Early Detection Program

The Centers for Disease Control and Prevention (CDC) has a National Breast and Cervical Cancer Early Detection Program established by Congress in 1990 (Breast and Cervical Cancer Mortality Prevention Act of 1990). Comprehensive program funding has been awarded to the 50 states, DC and 13 American Indian tribes. A comprehensive program includes screening, referral and follow-up; quality assurance; public education; professional education; coalition building/partnerships; and tracking, surveillance and evaluation. Reimbursement for screening services is limited to under- and uninsured women. However, all other program components benefit the general population of women and many providers. For more information, contact your state health department breast and cervical cancer early detection program. The program's are an excellent resource for information on activities and potential partners within the state.

Numerous national organizations and professional associations have received cooperative- agreement funding from CDC to develop breast and cervical cancer programs for their constituencies and in partnership with state-based programs. Contact the Division of Cancer Prevention and Control at the Centers for Disease Control and Prevention in Atlanta, GA, for information on the activities of these organizations (770-488-4880).

CDC's National Breast and Cervical Cancer Early Detection Program Contact List Spring 1997

ARIZONA
Bobbie O'Neil, BSN, MSHA
Program Director

Women's Cancer Control Project
Arizona Department of Health Services
1400 West Washington, Suite 330
Phoenix, AZ 85007
(602) 542-7534
Fax (602) 542-7520

ARKANSAS
Lynda Lehing, BSN, MBA
Program Director

Breast and Cervical Cancer Control Program
Arkansas Department of Health
4815 West Markham Street, Slot #11
Little Rock AR 72205
(501) 661-2231
Fax (501) 661-2009

CALIFORNIA
David Ginsburg
Program Coordinator

Breast and Cervical Cancer Control Program
California Department of Health Services
601 North Seventh Street, MS-434
PO Box 942732
Sacramento, CA 94234-7320
(916) 327-0761
Fax (916) 445-2536

COLORADO
Sharon Michael
Program Director

Colorado Department of Public Health and Environment
Cancer Prevention
Building A, Fifth Floor
4300 Cherry Creek Drive
South Denver, CO 80222-1530
(303) 692-2505
Fax (303) 782-0095

CONNECTICUT
Christine Parker, MPH
Program Director

Connecticut Department of Public Health
Cancer Early Detection Program
410 Capitol Avenue, MS# 11HLS
PO Box 340308
Hartford, CT 06134-0308
(860) 509-7804
Fax (860) 509-7854

DELAWARE
Frances M. Smith
BCCEDP Manager

Division of Public Health
Delaware Department of Health and Social Services
655 Bay Road Blue Hen Corporate Center
Dover, DE 19901
(302) 739-4651
Fax (302) 739-2352

DISTRICT OF COLUMBIA
Barbara Baldwin
Program Coordinator Breast and Cervical Cancer Prevention

PHSA/CPH
800 Ninth Street, Southwest, Third Floor
Washington, DC 20024
(202) 645-5573

Kurt Brandt, MD
Program Director

Deputy Administrator of Preventive Health Services Administration
(202) 673-5573
Fax (202) 645-4533

FLORIDA
Margo C. Blake
Program Manager

Florida Department of Health and Rehabilitative Services
HSFHG
1317 Winewood Boulevard, 404
Tallahassee, FL 32399-0700
(904) 414-5638
Fax (904) 922-9321

GEORGIA
Carol B. Steiner, RN, MN
Program Director

Division of Public Health
Georgia Department of Human Resources
Cancer Control Section
Two Peachtree Street, NE, Sixth Floor
Atlanta, GA 30303
(404) 657-6606
Fax (404) 657-4338

INDIANA
Dena L. Watts
Program Director

Breast and Cervical Cancer Early Detection Program
Indiana State Department of Health
2 North Meridian Street, Sixth Floor
Indianapolis, IN 46204-1964
(317) 233-7901
Fax (317) 233-7127

KANSAS
Paula Marmet
Director

Bureau of Chronic Disease & Health Promotion
Kansas Department of Health and Environment
Lardon State Office Building
900 Southwest Jackson, Room 901N
Topeka, KS 66612-1290
(913) 296-8126
Fax (913) 296-8059

Julia Francisco
Director
Kansas Breast and Cervical Cancer Initiative
(913) 296-1233

MARYLAND
Main Office # (410) 225-5281
John W. Southard, MD, MPH
Director

Office of Chronic Disease Prevention
Maryland Department of Health and Mental Hygiene

Maryland Breast & Cervical Cancer Program
Local & Family Health Administration
201 West Preston Street, Room 306
Third Floor
Baltimore, MD 21201
(410) 767-6787
Fax (410) 333-7279

Ginny Gaumer, RN
Program Director

(410) 767-5281 or 767-6728
Fax (410) 333-7279

NEW JERSEY
Doreleena Sammons-Posey
Program Coordinator

New Jersey State Department of Health and Senior Services
Division of Family Health Services
50 East State Street, Sixth Floor
Capital Plaza, CN 364
Trenton, NJ 08625-0364
(609) 292-8540 or 984-1302
Fax (609) 292-3580

NEW MEXICO
Lydia Pendley
Project Director

Anital Salas
Program Manager

Breast and Cervical Cancer Project
New Mexico Department of Health
2329 Wisconsin Street, NE, Suite A
Albuquerque, NM 87110
(505) 841-8330 ext. 20
Fax (505) 841-8333

NEW YORK
Susan True
Acting Director

Bureau of Chronic Disease Services
Corning Tower, Room 584
New York State Department of Health
Empire State Plaza
Albany, NY 12237-0678
(518) 474-1222
Fax (518) 473-2853

NORTH CAROLINA
Joseph L. Holliday, MD, MPH
Program Director

Breast & Cervical Cancer Control Program
Division of Adult Health Promotion
PO Box 29605
Raleigh, NC 27626-0605
(919) 715-0125
Fax (919) 733-0488

OHIO
Frank S. Bright, MS
Program Director
Chief

Bureau of Health Promotion and Risk Reduction
Ohio Department of Health
246 North High Street
Columbus, OH 43266-0118
(614) 466-2144
Fax (614) 644-7740

Lois Hall, MS
Program C 752-2464
Fax (614) 644-7740

OKLAHOMA
Adeline Yerkes, RN, MPH
Program Director
Chief

Chronic Disease Service
Oklahoma Department of Health
1000 Northeast Tenth Street
Oklahoma City, OK 73117-1299
(405) 271-4072
Fax (405) 271-5149

PENNSYLVANIA
Peter Archey
Program Director

Pennsylvania Department of Health
Cancer Control Program
Health and Welfare Building
Commonwealth and Forster Street, Room 1011
Harrisburg, PA 17120
(717) 783-1457
Fax (717) 772-0608

TENNESSEE
Tammylee LeBouef, RN
Program Director

Breast and Cervical Cancer Prevention and Control
Community Health Services Section
Tennessee Department of Health
426 Fifth Avenue, North, Sixth Floor
Nashville, TN 37247-5210
(615) 532-8480
Fax (615) 532-8478

TEXAS
Margaret C. Mendez, MPA
Director

Breast and Cervical Cancer Control Program
Texas Department of Health
Bureau of Chronic Disease Prevention and Control
1100 West 49th Street
General Building, Room G407
Austin, TX 78756-3199
(512) 458-7644
Fax (512) 458-7650

VIRGINIA
Becky Hartt, MA
Program Director

Breast and Cervical Cancer Early
Detection Program
Division of Women's and Infant's Health
Virginia Department of Health
PO Box 2448, Suite 106
Richmond, VA 23218
(804) 786-7569
Fax (804) 371-6032

AMERICAN CANCER SOCIETY

The American Cancer Society is a resource for information and education materials and programs on breast cancer and mammography screening as well as for support services for women diagnosed with breast cancer. General information and education materials are available by calling 1-800-227-2345. The Reach to Recovery Program provides individual support for women with breast cancer. The Reachout Program provides group support. Low cost mammograms are also available at some ACS divisions. For additional information, contact the ACS division in your state or the ACS national headquarters in Atlanta, GA (404-816-4994). See also, Appendix C.

YWCA OF THE USA

For 17 years, the YWCA of the USA, through its ENCORE Program, has provided women who have undergone breast cancer surgery the support to manage the recovery process. Through a cooperative agreement with CDC, the YWCA has expanded the ENCORE Program to include outreach and breast health education services to medically underserved women. For information, contact the YWCA in your community or CDC in Atlanta, GA.

NATIONAL CANCER INSTITUTE (NCI)

NCI is a resource for information and education materials on breast cancer and mammography. General information and education materials are available by calling 1-800-FOR-CANCER.

HCFA PEER REVIEW ORGANIZATIONS

Among other responsibilities, the HCFA Peer Review Organizations have responsibility for promoting the use of prevention and early detection services among Medicare beneficiaries. Although mammography screening every other year is covered in the Medicare benefits, the utilization level is very low. The promotion of mammography to increase the rate of screening among Medicare beneficiaries is a high priority for HCFA. Many HCFA PRO's already have activities underway to promote mammography use or will be planning new activities. Contact the HCFA PRO office in your state for more information on their mammography promotion activities.

See also Appendix C.

Inventory of Partnership Activities

Partnerships with other agencies and organizations offer many advantages for managed care organizations, their members and the entire community. The following inventory can be a good starting point for expanding your collaborations with community groups and increasing your effectiveness.

___ (Y/N/DK) Has the health plan ever contacted the state health department for information about the breast and cervical cancer early detection program funded by CDC?

___ (Y/N/DK) Are there currently any planned or existing joint activities with the state health department related to the promotion of mammography screening in the community? If yes, what are these joint activities?

- ___ (Y/N/DK) Cosponsor a public media or education campaign (e.g., for National Breast Cancer Awareness Month in October).
- ___ (Y/N/DK) Cosponsor a continuing education conference for providers.
- ___ (Y/N/DK) Jointly develop and print public education materials (brochures, videos, posters, other).
- ___ (Y/N/DK) Jointly develop and publish professional education materials.
- ___ (Y/N/DK) Serve on the state health department's breast and cervical cancer coalition or other committee.
- ___ (Y/N/DK) State health department representative serves on health plan's quality assurance, guidelines development, surveillance or other committee.
- ___ Other (describe) _____

___ (Y/N/DK) Are any providers in the health plan's network participating in the state health department breast and cervical cancer screening program?

___ (Y/N/DK) Has the health plan ever cosponsored a Susan G. Koman Foundation Race for the Cure event to raise funds for breast cancer screening, education or research?

___ (Y/N/DK) Has the health plan ever collaborated with the state/local American Cancer Society office on any mammography screening activities?

___ (Y/N/DK) Has the health plan ever collaborated with the state/local YWCA office on any mammography screening activities?

___ (Y/N/DK) Has the health plan ever collaborated with the state HCFA Peer Review Organization on any mammography screening activities?

___ What are other collaborations? Please describe them.

Step 3:

Evaluation

Evaluation of Outcome, Impact, Quality and Organizational Barriers

Data provide the foundation for developing, conducting and evaluating intervention programs to improve the rates and quality of mammography screening. With data, the needs can be defined, intervention strategies can be appropriately targeted, implementation progress and problems can be monitored, and success can be evaluated. In the case of mammography screening, data also provide motivation to increase physician referrals and allow tracking and follow-up of women with abnormal results to ensure that diagnostic tests and treatment are received if needed.

The evaluation of intervention strategies tells us which ones are effective in increasing mammography rates among the population served by the health plan. This makes it possible to focus resources on effective intervention strategies as well as to identify the factors contributing to ineffective approaches that could be improved. The sources of information needed for the evaluation of intervention strategies will vary by health plan but may include administrative data, claims data, automated tracking (surveillance) or medical record systems, medical record audits, log sheets, tickler systems, specially collected data, and other sources. It is important to consider how to evaluate an intervention before it is implemented, to ensure that the baseline data are available and that a mechanism for collecting data to measure improvements is in place.

Health plans and providers have different capacities to collect, analyze and utilize program data. In most cases, computerized tracking or medical record systems are not yet widely used; thus, data are not readily available. The "golden rule" in this situation is to 1) manually collect data or obtain it from any credible source(s) available and 2) make plans to enhance the health plan's present data collection capacity. Some evaluation data can be obtained through assessment of the health plan's performance on the HEDIS (Health Plan Employer Data and Information Set) mammography measure or a HEDIS focus review. A HEDIS focus review evaluates performance on a more in-depth level. A periodic survey can also be used to collect data.

Key questions to ask in evaluating intervention strategies to improve mammography rates should address outcome, impact, quality and the organizational barriers to success.

Table 1

Evaluation of Interventions to Increase Mammography Rates

Types of Evaluation Questions	Suggested Evaluation Questions
What *outcome* resulted from the intervention?	For the purposes of this manual, **outcome** refers to the number and rate of women diagnosed with breast cancer who were identified by a screening mammogram. Key questions to answer include: ■ What percent of screening mammograms performed were abnormal? ■ What percent of women with abnormal screening mammograms com pleted diagnostic testing to confirm the absence or presence of breast cancer? ■ How many cases of breast cancer were identified? What percent of breast cancers were identified at stage 0, stage I, stage II, stage III, or stage IV? These data can be analyzed by specific age and racial/ethnic group to show whether there was a better outcome among certain sub-populations served by the health plan. The data can be used to target future intervention strategies.
What *impact* resulted from the intervention?	For the purpose of this manual, impact refers to the number and percentage of age-appropriate women who obtained a mammogram. Key questions to answer—depending on the specific intervention strategies implemented—include: ■ What percentage of women receiving a telephone call (or a reminder) obtained a mammogram among ■ *women due or overdue for a mammogram?* ■ *women turning age 50 years?* ■ *women 50 years and older who are new health plan members?* ■ What percentage of women given a mammogram referral by their physician during a health/medical visit obtained a mammogram? ■ What percentage of women scheduled a mammogram appointment during a telephone reminder call? ■ Was there an increase in mammogram appointments directly following a newsletter article on breast cancer or other special informational or awareness campaign? What was the percentage increase in mammogram appointments? ■ Other intervention-specific impact evaluation questions?

Table 1

Evaluation of Interventions to Increase Mammography Rates

Types of Evaluation Questions	Suggested Evaluation Questions
What was the *quality* the intervention?	An intervention could improve the quality of the health delivery system without achieving the desired impact within the targeted timeframe. Such improvements can be important and necessary to support a successful impact that may take longer to achieve. Viewed in another way, if an intervention strategy was "not effective," it is important to assess its quality. **Depending on the objectives of the intervention strategies implemented, some questions that could be asked include:** ■ Has the percentage of physicians (and other authorized medical staff) making referrals for mammograms increased? Did 95 percent of age-appropriate women receive a mammogram referral? ■ Is an efficient system for tracking women who need a mammogram (and following up on abnormal results) now available and is it practical and useful? ■ Has the percentage of physicians and other health care providers adequately informed about the importance of mammography screening and their role in promoting it increased? If so, what is the percentage increase? ■ Is a simple mammography flow sheet available now and is it being used consistently and accurately? ■ Did the intervention include clear information on the importance of mammography screening and the action to be taken by women? ■ Was the intervention tailored to the unique needs of specific age, racial/ethnic, geographic, or other population sub-groups? ■ Were information and education materials available in other languages for non-English speaking women? ■ Other intervention-specific quality (process) evaluation questions?

Table 1

Evaluation of Interventions to Increase Mammography Rates

Types of Evaluation Questions	Suggested Evaluation Questions
Were there *organizational barriers* to achieving a successful outcome?	Organizational barriers can exist that will compromise the successful outcome of an intervention. Some organizational barriers need to be resolved before intervention strategies are implemented. For example: ■ Is the average wait for a screening mammogram appointment unreasonably long? ■ Is the average wait to get a mammogram at the radiology facility unreason ably long once women get there? ■ Are two separate appointments needed; one to see the doctor for a clinical breast exam and mammography referral, and another to get a mammogram? Is this a barrier for members? ■ Is it an organizational priority to improve mammography rates? If so, are the physicians and other health staff aware of this? ■ Are radiology facilities conveniently located in the community? ■ Are the radiology facilities “user-friendly”? ■ What are organizational barriers that need to be resolved?

Examples of Useful Mammography Screening Data

A variety of types of data are useful in improving mammography screening. Data can be collected for individual providers and aggregated for the health plan as a whole. Trends can also be monitored over time. The purpose of the table below is not to be a fully developed guide for immediate use, but rather to illustrate different types and uses of data as well as examples of information to collect or obtain. Interested health plans need to bring together appropriate expert and experienced individuals to design their data and tracking system.

Table 2

Examples of Useful Mammography Screening Data

Types of Data	Uses of Data	Example of Information to Collect/Obtain
Effectiveness of Reminder System(s)	To measure the yield (increased number of mammograms) that can be directly attributed to the reminder system used. ***Example:*** *If the yield is low and the quality of the reminder system is good, the strategy used may be ineffective or inappropriate for the women targeted to receive it.*	**Telephone Reminder Intervention** Percentage of women receiving a reminder telephone call who subsequently had a mammogram **Data Elements:** ✔ *Number of women called* ✔ *Number of women called who had a mammogram* ✔ *Date of birth* ✔ *Date of mammogram* ✔ *Race/ethnicity* **Appointment No Show Rate** Percentage of women who missed their scheduled mammogram appointments *(by age and race/ethnicity, if feasible).* **Data Elements:** ✔ *Number of mammogram appointments* ✔ *Number of missed appointments* ✔ *Date of birth* ✔ *Date of appointment* ✔ *Race/ethnicity*
Description of Women Screened	To characterize the women screened by demographic descriptors for the purpose of targeting intervention strategies. ***Example:*** *If particular groups of women (age, race/ethnicity, geography, provider) have low rates of mammography screening, a health plan can initiate an investigation to determine why and resolve the barriers identified.*	Total number of women screened **Date Elements** ✔ *Number of women screened* ✔ *Date of birth* ✔ *Date of mammogram* ✔ *Race/ethnicity* Percentage of total women 50-69 years due for a mammogram who received one ✔ ***Data Elements*** ✔ *Number of women 50-69 years due for a mammogram* ✔ *Number of women 50-69 years screened* ✔ *Date of birth* ✔ *Date of mammogram*

Table 2

Examples of Useful Mammography Screening Data

Types of Data	Uses of Data	Example of Information to Collect/Obtain
Screening Results	To describe the mammography results of women screened for the purpose of identifying unusually high (or low) rates of abnormality which may indicate a quality control problem or high risk population served. ***Example:*** *A quality control problem may be indicated if a particular radiologist has a substantially higher rate of abnormal mammograms. A health plan could follow up with this provider to assess the equipment and procedures, conduct an independent review of a sample of mammogram films, and take the necessary steps to correct the problems or terminate the contract with this provider.*	Distribution of mammogram results by the American College of Radiology BI-RADS final reporting categories. **Data Elements** Number of women screened with results in each of the following BI-RADS categories: ✔ Negative ✔ Benign ✔ Probably benign/short term follow-up ✔ Suspicious abnormality ✔ Highly suggestive of malignancy ✔ Assessment incomplete Percentage of abnormal mammograms **Data Elements** Number of women screened with results in the following BI-RADS categories: ✔ Suspicious abnormality ✔ Highly suggestive of malignancy ✔ Assessment incomplete ✔ Date of birth ✔ Date of mammogram ✔ Race/ethnicity
Follow-up of Abnormal Screening Results	To track women with abnormal screening mammograms to ensure timely diagnostic follow-up and cancer treatment, if indicated. ***Example:*** *If the average time between screening and follow-up diagnostic tests is over 60 days, the health plan could initiate an evaluation of the referral system or clinic procedures to recall women, and then make the procedural changes necessary to correct the problem.*	Percentage of abnormal diagnostic tests (e.g., fine needle aspirations, biopsies) **Data Elements** ✔ *Number of diagnostic tests completed* ✔ *Date of birth* ✔ *Date of diagnostic test* ✔ *Race/ethnicity* Rate of breast cancer **Data Elements** ✔ *Number of breast cancer cases* ✔ *diagnosed* ✔ *Date of birth* ✔ *Date of cancer diagnosis* ✔ *Race/ethnicity*

Table 2

Examples of Useful Mammography Screening Data

Types of Data	Uses of Data	Example of Information to Collect/Obtain
Follow-up of Abnormal Screening Results	To track women with abnormal screening mammograms to ensure timely diagnostic follow-up and cancer treatment, if indicated. ***Example:*** *If the average time between screening and follow-up diagnostic tests is over 60 days, the health plan could initiate an evaluation of the referral system or clinic procedures to recall women, and then make the procedural changes necessary to correct the problem.*	Average time between screening and follow-up diagnostic testing (for women with abnormal screening results) **Data Elements** ✔ *Date of screening mammogram* ✔ *Date of diagnostic tests* Average time between diagnostic testing and treatment (for women diagnosed with breast cancer) **Data Elements** ✔ *Date of diagnostic tests* ✔ *Date of treatment initiation for cancer*

Mammography Data Available From Radiology Contracts

The radiology contract specifications can be written to meet the specific mammography data needs of a health plan. For example, at Rush Prudential, the following requirements are in their radiology and imaging services contract:

To identify who is due/overdue for a screening and monitor the volume of mammograms performed, include a contract requirement for the radiology facility to provide:

- A listing of female covered persons due for a routine mammogram in the next 60 days.
- A listing of female covered persons who missed their routine mammogram appointment and did not reschedule within 4 weeks of this date.
- A summary of the number of female covered persons who received routine mammograms each quarter by primary care physician, medical office, and age (under 40 years, 40-64 years, and 65 and older).

To facilitate timely follow-up on abnormal mammograms, include a contract requirement for the radiology facility to:

- Provide a biweekly report of the results of all mammograms performed advising the health plan of the following: biopsy, additional views, and 6-month follow-up; and the rate of exams in each of these categories per number of women seen for mammography screening during the 2-week period.
- Work with the health plan to develop a system for adequate communication regarding abnormal results, such as the initial telephone or fax contact to the referring primary care physician.
- Provide positive results of initial positive radiology and imaging studies directly to the referring primary care physician via telephone or fax within 24 hours (Saturdays, Sundays and holidays excluded). Provide radiology reports to the health plan within 48 hours.
- Provide the referring primary care physician with a written report of the radiologist's evaluation and recommendations in a timely manner. This is defined as within 48 hours in ordinary cases, excluding Saturdays, Sundays and holidays. In urgent cases, the written report should be provided on the same day the mammogram was performed.

To improve access and convenience for women, include a contract requirement to:

- Cooperate with the health plan to streamline the process by which female covered persons can directly schedule routine mammograms.
- Routinely monitor convenience and accessibility.

Source: Andrew Davis MD and Michele Kadlec, Rush Prudential HealthCare, Chicago, IL.

HEDIS Mammography Measure

The National Committee for Quality Assurance (NCQA) Health Employer Data Information Set (HEDIS) includes a mammography measure. HEDIS measures were developed to help employer purchasers evaluate health plan performance in a standardized way. They are an attempt to address the concerns voiced by employer purchasers about the costs and quality-or value-of health services purchased for employees.

The assessment of a health plan's achievement of the mammography HEDIS measure provides one approach to evaluate the impact of intervention strategies to improve mammography rates. An individual health plan's performance can be compared with the performance of other health plans, the entire managed care organization, or a competitor managed care organization.

HEDIS 3.0 Mammography Measure:

The percentage of Medicaid, commercial, and Medicare risk women age 52 through 69 years, who were continuously enrolled during the reporting year and preceding year, and who had a mammogram during the reporting year or the preceding year.

Specifications are provided by NCQA on how to calculate the measure and determine the denominator and numerator for several approaches of data collection: analysis of administrative data, review of medical records, and a hybrid method.

RESOURCE

The National Committee for Quality Assurance
2000 L Street, N.W.
Washington, DC 20036
955-3500
(202) 955-3599 (fax)

REFERENCE

1. National Committee for Quality Assurance. HEDIS 3.0, *Technical Specifications*, Volume 2, January 1997.

HEDIS Focus Review
Mammography Study — 1997

An increase in the percentage of physicians who recommend a mammogram and women who follow through to get one provides evidence of the positive impact of intervention strategies on improving mammography rates. The Prudential HealthCare focus review study collects the data listed below to evaluate the quality of mammography services provided to women. The results of a HEDIS focus review can provide information on areas for targeted quality improvement. The data are collected by medical record reviews.

- **Mammography Service:** Did the physician recommend it? date of recommendation? date of mammography?
- **Mammography Results:** Negative/positive? stage of detection? tumor size? lymph node involvement? extent of distant metastases?
- **Patient Follow-Up:** Date patient notified? how notified?
- **Follow-Up Procedures:** Which procedures, date of procedures and negative/positive results (repeat mammogram, ultrasound/sonography, biopsy, diagnostic surgery, aspiration, mastectomy, lumpectomy, wedge)?
- **History:** Mammogram prior to 1995? date of mammogram prior to 1995? negative/positive results of this mammogram? history of breast cancer or breast surgery (breast cancer, mastectomy, lumpectomy, wedge)? year of occurrence of breast cancer or breast surgery?
- **Risk Factors:** Presence of risk factor (history of familial breast cancer, history of abnormal mammograms); documentation of breast self exams and clinical breast exams.

REFERENCE

1. *Mammography HEDIS Focus Review.* Prudential HealthCare, 1997.

Appendixes

Appendix A

Background on Breast Cancer and Mammography

BREAST CANCER DISEASE BURDEN

In 1995, there were approximately 182,000 newly diagnosed cases of breast cancer in the U.S. and 46,000 women died from this disease (1, 2). It is the most common non-dermatologic cancer diagnosed in women. The annual incidence of breast cancer increased 55 percent between 1950 and 1991; however, the age-adjusted mortality rate has been relatively stable since 1930 (3).

Major risk factors for breast cancer include female gender and older age (4). The annual incidence of breast cancer increases with age for American women (3). Women aged 65 years and older experience 48 percent of the new breast cancer cases and 56 percent of the deaths. As the "baby-boom" generation of women ages, intervention through early detection is essential to reduce the incidence of breast cancer and mortality from this disease (2).

Other important risk factors include women with a history of breast cancer in a first-degree relative (especially if it was premenopausally diagnosed) and those with previous breast cancer, carcinoma in situ, or atypical hyperplasia on breast biopsy (2). Additional risk factors for breast cancer include a history of proliferative breast lesions without atypia on breast biopsy, late age at first pregnancy, no pregnancies, low parity, high breast density (at least 75% dense tissue), and a history of exposure to high-dose radiation. Although suggested, causal relationships have not been documented between breast cancer and oral contraceptives, long-term estrogen replacement therapy, obesity, or high dietary fat intake.

EFFICACY OF MAMMOGRAPHY

Women ages 50 and older

Mammography screening is effective in the early detection of breast cancer especially among women 50 years and older. Detection and treatment of breast cancer at an early stage of disease can reduce mortality and medical care costs. For women aged 50 and older, mammography screening done every 1 to 2 years, followed by appropriate treatment for women who test positive, can decrease breast cancer mortality by up to 30% (5,7,8)

In February 1993, the National Cancer Institute (NCI) convened the International Workshop on Breast Cancer Screening to review the findings of eight clinical trials on the efficacy of mammography (5). Based on the conclusions from this workshop, NCI issued the following statement of evidence in December 1993: (6)

> There is general consensus among experts that routine screening every 1-2 years with mammography and clinical breast examination can reduce breast cancer mortality by about one-third for women ages 50 and over.

Women ages 40-49

In January 1997, the National Institutes of Health (NIH) convened a consensus conference to assess the current available data on the efficacy of mammography screening for women ages 40-49. They issued a Consensus Statement (9), in which the majority concluded:

> Currently available evidence . . . indicates that for women ages 40-49, during the first 7-10 years following initiation of screening, breast cancer mortality is no lower in women who were assigned to screening than in controls. Summary data indicate a reduction of 16 percent in breast cancer mortality after about 10 years. . . However, although some studies find lower mortality from breast cancer in screened women after 10 years, others do not. . . The panel concludes that data currently available do not warrant a universal recommendation for mammography for all women in their forties. Each woman should decide for herself whether to undergo mammography.

Of the 12 panel jury, two members issued a minority statement (9) in response:

> We believe that the majority statement understates the benefits of mammography for women ages 40-49, and overstates the potential risks. We believe the data show a statistically significant mortality reduction for women in their forties. We further believe the survival benefit and diagnosis at an earlier stage outweigh the potential risks.

The NIH statement is illustrative of the continuing scientific debate on whether research findings support the efficacy of screening among younger women. The application of science is often controversial when the data are equivocal. This is the case with mammography screening among women 40-49 years of age due to the inherent limitations in the studies that have been conducted to date. Two philosophic approaches can be observed in applying the science on mammography to screening guidelines: 1) Women aged 40-49 years should not be screened until scientific evidence strongly supports it; or 2) Women 40-49 years should continue to be screened until evidence shows it is not efficacious. However, there is **universal agreement** among health authorities about the efficacy and potential cost effectiveness of mammography screening of women 50-69 years.

The downside to screening healthy, asymptomatic, low risk women 40-49 years old is that it would yield a higher rate of false positive mammograms. The breast tissue of young women is denser, which makes it more difficult for radiologists to accurately interpret their mammograms. False positive mammograms could lead to other undesirable intervention program outcomes including 1) enormous anxiety and stress, 2) expensive and unnecessary diagnostic procedures to rule out breast cancer, and 3) personal mistrust of mammography as an efficacious screening technique for breast cancer. On the other hand, some health care providers make the case that much has been accomplished in recent years to increase awareness about the importance of mammography screening among women aged 40-49. Thus, not routinely screening these women could be counterproductive in encouraging early detection practices.

The conflicting guidelines from recognized and respected health authorities create confusion for women and providers about mammography screening for women 40-49 years old. Difficult public health decisions need to be made given the science available and practical considerations such as the coverage of mammography screening among high risk populations, impact on program delivery, and appropriate use of limited prevention resources. In this case, until additional scientific data are available, it is appropriate for groups with differing views to “agree to disagree,” justify the mammography guidelines that will be used in their programs, and proceed with screening women. However, on the basis of scientific evidence, **women aged 50-69 years should be given the highest priority in intervention programs to increase mammography rates** (2, 5, 6).

GUIDELINES AND RECOMMENDATIONS

National Cancer Institute

After the NIH Consensus Conference, the National Cancer Advisory Board (NCAB) considered the evidence from new data, and concluded that the benefits outweigh any limitations of mammography screening for women ages 40-49. In March 1997, NCAB made a recommendation to the National Cancer Institute that "women in their forties get screening mammograms every 1 to 2 years if they are at average risk for breast cancer. Women at higher risk should seek expert medical advice about beginning mammography before age 40." (10) NCI has adopted this recommendation.

The National Cancer Institute also recommends yearly mammograms for women over 50, in addition to annual clinical breast exams (6).

American Cancer Society

The American Cancer Society also changed their breast cancer detection guidelines after the January NIH Conference, to include yearly mammography screening for all women 40 years and older. For breast cancer detection in asymptomatic women, the American Cancer Society recommends a mammogram and a clinical breast exam every year for all women 40 years of age and older. (11)

U.S. Preventive Services Task Force

The U.S. Preventive Services Task Force guidelines (2) recommend "routine screening for breast cancer every 1-2 years, with mammography alone or mammography and annual clinical breast exam (CBE)" for women aged 50-69 years. However, they note that "there is insufficient evidence to recommend for or against routine mammography or CBE for women aged 40-49 or aged 70 and older, although recommendations for high-risk women aged 40-49 years and healthy women aged > 70 may be made on other grounds." For high-risk women 40-49 years, they cite factors such as "patient preference, [a] high burden of suffering, and the higher PPV [positive predictive value] of screening, which would lead to fewer false positives than are likely to occur from screening women of average risk in this age group." As for women aged 70 and over who have a reasonable life expectancy, screening may be recommended on grounds such as the "high burden of suffering in this age group and the lack of evidence of differences in mammogram test characteristics in older women versus those aged 50-69."

Other Guidelines

The American College of Radiology (ACR), American College of Obstetrics and Gynecology (ACOG) and others continue to recommend a screening mammogram every 1-2 years and a yearly clinical breast exam for women aged 40-49 years. They recommend a screening mammogram and clinical breast exam annually for women over age 50 years.

REFERENCES

1. Wingo PA, Tong T, Bolden S. Cancer statistics, 1995. CA Cancer J Clin 1995; 45:8-30.

2. Preventive Services Task Force. *Guide to Clinical Preventive Services.* 2nd ed. Baltimore: Williams & Wilkins, 1996.

3. Ries, LAG, Miller BA, Hankey BF, et al., eds. SEER cancer statistics review, 1973-1991: Tables and graphs. Bethesda, MD: National Cancer Institute, 1994. NIH Publication No. 94-2789.

4. Kelsey JL. A review of the epidemiology of human breast cancer. *Epidemiol Rev* 1979; 1:74-109.

5. Fletcher, SW, Black W, Harris R, et al. Special Article: Report of the international workshop on screening for breast cancer. *J Natl Cancer Inst* 1993; 85(20):1644-1655.

6. NCI replaces guidelines with statement of evidence. *J Natl Cancer Inst* 1994; 86(1):14-15.

7. Harris R, Leininger, L. Clinical Strategies for Breast Cancer Screening: Weighing and Using the Evidence. *Ann Intern Med* 1995;122:539-547.

8. Mettler FA, Upton AC, Kelsey CA, Rosenberg RD, Linver MN. Benefits versus Risks from Mammography: A Critical Assessment. *Cancer* 1996;77:903-909.

9. National Institutes of Health, Consensus Development Conference Statement, Breast Cancer Screening for Women Ages 40-49. January 1997.

10. The National Cancer Advisory Board, Recommendations to the National Cancer Institute, March 1997.

11. The American Cancer Society, Mammography Guidelines for Asymptomatic Women, 1997.

Appendix B

Prudential HealthCare Guidelines for Mammography Screening

The Prudential HealthCare Preventive Services Clinical Guidelines for mammography are based on information available in the medical literature, recommendations of the National Cancer Institute, and clinical preventive services guidelines (1st edition) by the US Preventive Services Task Force (1). They have been reviewed by the medical leadership at the national, regional and plan levels and approved by the National Clinical Quality Improvement Committee and the National Quality Improvement Committee.

Average-Risk Healthy Women

Age (Years)	Mammogram	Clinical Breast Exam
19-49*	Not routinely indicated	Every 1-2 years @PHE***
50-69**	Every 1-2 years	Every 1-2 years @PHE***

Notes

* *Experts do not agree on the role of routine mammography screening for women aged 40-49 years. To date, randomized clinical trials have not shown a statistically significant mortality reduction in women under the age of 50 years.*

** *The presence of co-morbid disease should be taken into consideration in determining when to discontinue ordering annual mammograms in elderly women.*

*** *PHE = physical health exam.*

Women at Increased Risk for Breast Cancer

Age (Years)	Mammogram	Clinical Breast Exam
<35*	Individual assessment by physician	Yearly
>35**	Yearly	Yearly

*** Risk Factors, Women <35 Years:**
- *family history of premenopausal breast cancer in first-degree relative*
- *proliferative fibrocystic disease on prior biopsy*

****Risk Factors, Women >35 Years:**
- *family history in first-degree relative*
- *proliferative fibrocycystic disease on prior biopsy*

Special Notes

The physician advisory committee of some individual health plans have expanded the Prudential HealthCare mammography screening guidelines to include women 40 years and older based on their local standards of care.

REFERENCES

Technology and Clinical Practice Assessment Unit. ***Preventive Services Clinical Guidelines Manual***. Prudential HealthCare, September 1996.

Appendix C

Resources for Breast Cancer and Mammography

THE NATIONAL CANCER INSTITUTE

The National Cancer Institute will soon have new mammography educational materials available—booklets, pamphlets, posters and bookmarks for distribution to the general public. Health professionals can use these educational resources to encourage patients, friends and colleagues to get regularly scheduled mammograms.

Understanding Breast Changes: A Guide for All Women — a booklet that explains how to evaluate breast lumps and other normal breast changes that often occur and are confused with breast cancer. It recommends regular mammograms and breast exams by a health care provider, and describes diagnostic procedures for women with suspicious mammograms.

Mammograms ... Not Just Once, But For a Lifetime! A 2-page easy-to-read pamphlet that describes what a mammogram is, who needs this important examination, and the step-by-step procedure. Available in English and Spanish.

The Facts About Breast Cancer and Mammography An 8-page booklet that explains the risk and factors that increase a woman's chance of getting breast cancer, and the benefits and limitations of mammography.

Over Age 40? Consider Mammograms Five posters each featuring a woman from a special population—African American, Hispanic, Asian, Native American, and White with the Over Age 40? Consider Mammograms message.

Mammograms ... Not Just Once, But For a Lifetime! A series of five bookmarks (25 to a pack). Each pack features a woman from a special population, including African American, Hispanic, Asian, Native American, and White with the *Mammograms ... Not Just Once, But For a Lifetime!* message.

Mail or fax order requests to:
National Cancer Institute
Publication Ordering Service
PO Box 24128
Baltimore, MD 21227
Fax to: (301) 330-7968

For general information, and a list of other available publications from the NCI, call (800)-4CANCER, or www.cancernet.nci.nih.gov on the Internet.

THE SUSAN G. KOMEN BREAST CANCER FOUNDATION

The Susan G. Komen Breast Cancer Foundation is a national organization which is dedicated to eradicating breast cancer as a life-threatening disease by advancing research, education, screening, and treatment. The Komen Foundation organizes Race for a Cure® events across the country, and has a network of volunteers working in the community through local chapters. For more information on educational resources and community outreach programs, contact:

The Susan G. Komen Breast Cancer Foundation
National Headquarters
5005 LBJ Freeway, Suite 370
Dallas, TX 75244
Tel: (972) 855-1600
Fax: (972) 855-1605
www.breastcancerinfo.com

The Komen Foundation has a National Toll-Free Breast Cancer Helpline answered by volunteers who provide timely and accurate information to callers with breast health and breast cancer concerns. For immediate response to questions, local resources, or moral support call the following number, from 9:00 a.m. to 4:30 p.m. CST, Monday - Friday:
1-800 I'M AWARE (1-800-462-9273)

THE NATIONAL ALLIANCE OF BREAST CANCER ORGANIZATIONS (NABCO)

The National Alliance of Breast Cancer Organizations maintains a list of services and materials relevant to breast cancer. They also publish a *Breast Cancer Resource List*. For more information about NABCO, call: (212) 719-0154, or www.nabco.org on the Internet.

AMERICAN CANCER SOCIETY

The American Cancer Society produces a number of booklets and brochures which are suitable for sending to health plan members, including:

Eight tips for Good Mammograms

New Guidelines for the Early Detection of Breast Cancer.

Additionally, the ACS also publishes a very useful annual resource booklet, Breast Cancer Facts and Figures. For more information on publications and ordering, call: 1(800)-ACS-2345, or www.cancer.org on the Internet, or contact your local ACS office (see below).

American Cancer Society, Inc.
National Home Office:

1599 Clifton Road NE
Atlanta, GA 30329-4251
For more information call toll free: 1-800-ACS-2345
Chartered Divisions of The American Cancer Society:

Arizona/Southwest Division, Inc.
2929 East Thomas Road
Phoenix, AZ 85016
(602) 224-0524

Arkansas/Mid-South Division, Inc.
901 North University
Little Rock, AR 72207
(501) 664-3480

California Division, Inc.
1710 Webster Street
Oakland, CA 94612
(510) 893-7900

Colorado/Rocky Mountain Division, Inc.
2255 south Oneida
Denver, CO 80224
(303) 758-2030

Connecticut Division, Inc.
Barnes Park South
14 Village Lane
Wallingford, CT 06492
(203) 265-7161

Delaware Division, Inc.
92 Read's Way, Suite 205
New Castle, DE 19720
(302) 324-4227

District of Columbia Division, Inc.
1875 Connecticut Avenue, NW
Suite 730
Washington, DC 20009
(202) 483-2600

Florida Division, Inc.
3709 West Jetton Avenue
Tampa, FL 33629-5146
(813) 253-0541

Georgia Division, Inc.
2200 Lake Boulevard
Atlanta, GA 30319
(404) 816-7800

Illinois Division, Inc.
77 East Monroe Street
Chicago, IL 60603-5795
(312) 641-6150

Indiana Division, Inc.
8730 Commerce Park Place
Indianapolis, IN 46268
(317) 872-4432

Kansas/Heartland Div., Inc.
1100 Pennsylvania Avenue
Kansas City, MO 64105
(816) 842-7111

Maryland Division, Inc.
8219 Town Center Drive
Baltimore, MD 21236-0026
(410) 931-6850

New Jersey Division, Inc.
2600 US Highway 1
North Brunswick, NJ 08902
(908) 297-8000

New Mexico/Southwest Division, Inc.
5800 Lomas Boulevard, NE
Albuquerque, NM 87110
(505) 260-2105

New York State Division, Inc.
6725 Lyons Street
East Syracuse, NY 13057
(315) 437-7025

North Carolina Division, Inc.
11 South Boylan Avenue
Suite 221
Raleigh, NC 27603
(919) 834-8463

Ohio Division, Inc.
5555 Frantz Road
Dublin, OH 43017
(614) 889-9565

Oklahoma/Heartland Division, Inc.
1100 Pennsylvania Avenue
Kansas City, MO 64105
(816) 842-7111

Pennsylvania/Commonwealth Division, Inc.
Rout 422 & Sipe Avenue
Hershey, PA 17033-0897
(717) 533-6144

Philadelphia/Commonwealth Division, Inc.
1626 Locust Street
Philadelphia, PA 19103
(215) 985-5400

Tennessee Division, Inc.
1315 Eighth Avenue, South
Nashville, TN 37203
(615) 255-1227

Texas Division, Inc.
2433 Ridgepoint Drive
Austin, TX 78754
(512) 928-2262

Virginia Division, Inc.
4240 Park Place Court
Glen Allen, VA 23060
(804) 527-3700

Appendix D

Misconceptions About Conducting Interventions

It is not uncommon to let our misconceptions about conducting interventions nudge us into a state of gridlock where the status quo continues for years. More frequently, intervention efforts are minimized such that potential successes are not realized. It is important to recognize misconceptions and not let them sabotage opportunities to continuously improve the quality of prevention and early detection programs. ***Do you recognize yourself below****?*

Table 1

Myths About Conducting Interventions To Improve Mammography Rates

Myth	Fact
MYTH #1: ***"We don't have time to plan and evaluate our mammography intervention strategies. We are too busy just keeping up with the day-to-day deadlines. The research study we talked about will need to wait too."***	■ Both are important! In a busy office or clinic, it is easy to lose sight of the goals and priorities. Managers fall into the trap of being too busy to know the "big picture"— they get "lost in the trees and forget the forest." ■ It is a struggle but vital to periodically MAKE THE TIME to step back, assess the needs, plan activities, adjust priorities, and monitor accomplishments; also to periodically conduct intervention research or evaluation studies. Doing so is not an academic exercise — the process provides information for making management decisions that will result in intervention strategies that are effective, appropriate and feasible.
MYTH #2: ***"We can't do anything about the problem. Not enough is known about what works to bring women in for their mammograms. Not enough research has been done. Besides, solving the problem is so complex."***	■ Not enough is known, but we are not devoid of information to use in making intervention decisions. Research is an ongoing process that continuously adds to the scientific knowledge base. We can build upon what is known and contribute to the knowledge base by evaluating our own intervention efforts. ■ Most important, scientists agree that "mammograms work" in the early detection of breast cancer. Information about mammography barriers among different populations of women and physicians has been documented. More is being published about the effectiveness of reminder systems, inreach and outreach, public and professional education, and community intervention strategies. Much can also be learned from effective intervention strategies for other health promoting behaviors.

Table 1

Myths About Conducting Interventions To Improve Mammography Rates

Myth #3: ***"It would be great if we could find the one intervention that works to bring women in for mammography in all of the health plans across the country. That would be so much easier."***	■ One size does not fit all! The effectiveness of intervention strategies to increase mammography rates is influenced by factors such as the race/ethnicity, cultural background and beliefs, non-English primary language, literacy level, income status and age of the women targeted for screening. ■ The trend toward Medicaid and Medicare managed care, in particular, brings new challenges to health plans in implementing mammography interventions that are effective with underserved and older populations of women.
Myth #4: ***"There are so many suggestions in the manual on how to increase mammography rates. How can we possibly do them all!"***	■ Not every intervention strategy is appropriate or feasible for a particular health plan. Additionally, the capacity of health plans to implement intervention strategies varies widely depending on the member population size, rural vs. urban service-delivery challenges, availability of intervention resources, background and experience of the staff, extent of data automation, presence of competing organizational priorities, and other factors. ■ On the other hand, a single intervention strategy will not be adequate to increase mammography rates. An effective intervention effort will likely include the "right blend" of possible strategies targeted at members, providers, the health plan infrastructure and the community.
Myth #5: ***"We can check to see whether the intervention worked or not when we do HEDIS again next year. That is soon enough to evaluate what's happening."***	■ It is important to distinguish a manager's routine monitoring of a program, to guide it effectively in the short run, from research studies or formal program evaluation efforts such as HEDIS. Research studies are carefully planned and executed to objectively measure the effectiveness of an intervention. With HEDIS, an elaborate data collection effort is often undertaken to measure achievement of the mammography indicator. In program monitoring, routinely available data such as counts of mammograms done can be reviewed to see if there was an increase over previous months. All of these activities are important but serve different purposes!

Appendix E

"What Works?" Intervention Strategies to Improve Mammography Summary of Selected Research Studies

It is important for individual health plans to assess their unique situation and capacity before selecting intervention strategies to implement. It is also important to monitor the impact of the intervention strategies attempted, to gain a measure of their success in improving mammography rates.

Many complex factors influence both the effectiveness of intervention strategies in a real world setting and the results of research studies. The following tables summarize 1) intervention strategies that were found to be effective in increasing mammography rates and 2) the characteristics of providers and patients associated with higher mammography rates as reported in selected, published studies. The intervention strategies from these studies may or may not be effective in other "real world" settings for the following reasons: the study setting (health care delivery system) is different from yours (e.g., type of managed care—group, IPA vs. other model; public health clinic, etc.); the study population is different from your target intervention group (e.g., age, race/ethnicity, income, size of intervention group, etc.); the intervention was conducted using different personnel than you have available (e.g., nurses vs. clinic schedulers); and other important factors. However, such research studies provide important insights and information on what intervention strategies may work in increasing mammography rates.

The design of the various studies may also have affected the degree of success achieved and reported with the interventions examined. For example, an intervention targeted at health plan members continuously enrolled for several years may yield better results than one that also includes many new enrollees. Please refer to the original published studies, listed below, for specific information about the limitations of interpreting the results. Please note, also, that an exhaustive review of the scientific literature was not done in preparing this summary of intervention strategies.

REFERENCES

1. Burack RC, Gimotty PA, George J, Stengle W, Warbasse L, Moncrease A. Promoting screening mammography in inner-city settings: A randomized controlled trial of computerized reminders as a component of a program to facilitate mammography. *Med Care* 1994; 32(6):609-624.

2. Burack RC, Gimotty PA, George J, Simon MS, Dews P, Moncrease A. The effect of patient and physician reminders on use of screening mammography in a health maintenance organization. *Cancer* 1996; 78:1708-1721.

3. Conry CM, Main DS, Miller RS, Iverson DC, Calonge BN. Factors influencing mammogram ordering at the time of the office visit. *J Fam Prac* 1993; 37(4):356-360.

4. Davis NA, Lewis MJ, Rimer BK, Harvey CM, Koplan JP. Evaluation of a phone intervention to promote mammography in a managed care plan. *Am J Health Promot* 1997; 11(4):247-249.

5. Davis NA, Nash E, Bailey C, Lewis MJ, Rimer BK, Koplan JP. Evaluation of three methods for improving mammography rates in a managed care plan. *Am J Prev Med* 1997; 13(4):298-302.

6. Herman, CJ, Speroff, Cebul, R. Improving compliance with breast cancer screening in older women. *Arch Intern Med.* 1995;155: 717-722.

7. King ES, Ross E, Seay J, Balshem A, Rimer B. Mammography interventions for 65-74 year-old HMO women. *J Aging Health* 1995; 7(4):529-551.

8. Kohatsu ND, Cramer E, Bohnstedt, M. Use of a clinician reminder system for screening mammography in a public health clinic. *Am J Prev Med* 1994; 10(6):348-352.

9. Lantz PM, Stencil D, Lippert MT, Beversdorf S, Jaros L, Remington P. Breast and cervical cancer screening in a low income managed care sample: The efficacy of physician letters and phone calls. *Am J Public Health* 1995; 85(6):834-836.

10. Love, RR, Brown RL, Davis JE, Baumann LJ, Fontana SA, Sanner LA. Frequency and determinants of screening for breast cancer in primary care group practice. *Arch Intern Med* 1993; 153:2113-2117.

11. Margolis, KL, Menart, TC.A test of two interventions to improve compliance with scheduled mammography appointments. *J Intern Med* 1996; 11: 539-541.

12. Melville SK, Luckmann R, Coghlin J, Gann P. Office systems for promoting screening mammography. *J Fam Pract* 1993; 37(6):569-574.

13. Mohler PJ. Enhancing compliance with screening mammography recommendations: A clinical trial in a primary care office. *Fam Med* 1995; 27(2):117-121.

14. Page CA. Results of a controlled trial to increase mammography screening rates. *Womens Health Issues* 1996; 6(1):20-23.

15. Skinner CS, Strecher VJ, Hospers H. Physicians' recommendations for mammography: Do tailored messages make a difference? *Am J Public Health* 1994; 84(1):43-49.

16. Taplin SH, Anderman C, Grothaus L, Curry S, Montano D. Using physician correspondence and postcard reminders to promote mammography use. *Am J Public Health* 1994; 84(4): 571-574.

17. Taylor VM, Taplin SH, Urban N, White E, Mahloch J, Majer K, McLerran D, Peacock S. Community Organization to promote breast cancer screening ordering by primary care physicians. *J Community Health* 1996; 21:277-291.

Reference	Study Site	Study Population	Mailing and Source	Phone Call and Source	Intervention vs. Control Group Results	Comments
Davis, Lewis, et.al.	HMO medical group (MacGregor Medical Association in Houston, TX).	Eligible females aged 50-64 years continuously enrolled since 1/1/93 with no mammogram and no diagnosis of breast cancer	**STEP 2** Successful contacts: Reminder card sent 1 week prior to mammogram appointment. Unsuccessful contacts: Letter sent to call scheduler.	**STEP 1** Phone call from 1 of 7 schedulers trained to make intervention calls. Up to 2 call attempts made during daytime and evening shifts.	46% vs. 30% obtained a mammogram. 79% who scheduled a mammogram during the phone call obtained one compared with 11% of those who did not make an appointment.	Have centralized appointment system staffed by 69 schedulers Multicomponent telephone intervention included reminder mammogram is due, barriers counseling following scripted responses, and scheduling of appointment.

Reference	Study Site	Study Population	Mailing and Source	Phone Call and Source	Intervention vs. Control Group Results	Comments
Davis, Nash, et.al.	HMO and PLUS, (Philadelphia)	Females aged 50-69 years without a mammogram in past 2 years, no diagnosis of breast cancer, and who had a primary care physician	**GROUP A** **Step 1** Birthday card reminder sent; 46% recalled intervention when surveyed. **GROUP B** **Step 1** birthday card reminder. **Step 2** Personal letter from medical director; 60% recalled intervention when surveyed. **GROUP C** **Step 1** Birthday card reminder.	**GROUP A** None. **GROUP B** None. **GROUP C** **Step 2** Intensive phone call from 1 of 12 nurses trained for the intervention. Calls made to women whose primary care physician gave prior approval for a mammogram order. 77% recalled intervention when surveyed.	**GROUP A** 15% obtained mammogram; 33% moved from contemplation to preparation stage (Prochaska). **GROUP B** 9% obtained mammogram; 36% moved from contemplation to preparation stage. **GROUP C** 28% obtained mammogram; 59% moved from contemplation to preparation stage.	Letter discussed importance and encouraged mammogram; also included education materials. Phone call included reminder mammogram is due, counseling, and scheduling appointment. Mammography rates did not vary across age groups or type of health plan.

Reference	Study Site	Study Population	Mailing and Source	Phone Call and Source	Intervention vs. Control Group Results	Comments
Lantz et al.	HMO Federally Funded Community Health Center (WI): 700 physicians 80 clinics 11 counties	low income females 40-79 years old	**Step 1** Letter signed by woman's primary care provider *(or medical director of health center).*	**Step 2** Call from health educator *(e.g., nurse, social work intern).*	53% vs. 21% obtained a mammogram.	Calls offered barriers counseling and/or assistance with appointment scheduling. Lower odds of screening among women who needed to take time off from work.
King et al.	HMO/IPA (US Health Care, Philadelphia metropolitan area): 1,200 PCP 4,000 specialists 46 mammography facilities 8,600 women 65-74 years	women 65-74 years old Nonrespondents after 90 days to an annual mammography reminder packet that included a mammogram referral. Annual packet sent to all women aged 50-74 years 11 months after last mammogram and to all new members in year one.	**GROUP A** **Step 2** Updated mammography referral from health counselor. **GROUP B** **Step 2** Personalized letter from health counselor.	**GROUP A** **Step 1** Evening call from health counselors trained 20 hours for intervention. **GROUP B** **Step 1** Evening call from health counselor trained for intervention.	**GROUP A** 27% vs. 13% obtained a mammogram. **GROUP B** 32% vs. 13% obtained a mammogram.	Calls discussed beliefs, attitudes, and concerns based on scripted responses. Large-print letter addressed breast cancer risk, efficacy mammography, benefits of screening, and 1-2 concerns the woman personally mentioned.

Reference	Study Site	Study Population	Mailing and Source	Phone Call and Source	Intervention vs. Control Group Results	Comments
Taplin et al.	HMO/ Staff Model (Group Health of Puget Sound) 369,000 enrollees Higher proportion than nationally of the following: Caucasian, 15-plus years education, and incomes below $15,000 or above $50,000.	Females aged 50-79 years who completed a breast cancer questionnaire more than 1 year before study, not previously invited to a screening center, and without a mammogram in the past year.	**GROUP A** Primary physician invitation only. **GROUP B** Reminder postcard only. **GROUP C** Primary physician invitation and reminder postcard. **GROUP D** Usual care.	**GROUP A** 45.6% obtained mammogram. **GROUP B** 58.5% obtained mammogram; 60% more likely to do so. **GROUP C** 61.7% obtained mammogram; 83% more likely to do so. **GROUP D** 46.8% obtained mammogram.	**GROUP A** None. **GROUP B** None. **GROUP C** None.	Mean age 61 years; average enrollment 10.4 years. Automated reminder system used. Physician recommendation alone not sufficient to ensure women obtain a mammogram in any age group. More likely: women with previous mammogram. Less likely: report of fair or poor health, current smoker, living more than 45 minutes from screening center.

Reference	Study Site	Study Population	Intervention(s)	Results	Comments
Kohatsu et al.	Urban Public Health Clinic (San Francisco): 7 clinicians 4 family practice physicians 2 nurse practitioners 1 physician assistant	Multiethnic population of women 40 years and older with scheduled clinic visits.	Manual chart-based reminder system: **Step 1** Clerk clips blue prompt form to medical record. **Step 2** Intake nurse assesses breast cancer history and date of last mammogram. **Step 3** Physician records whether or not a mammogram is ordered. **Step 4** Nurse reviews and reinforces physician recommendations with patient before she leaves clinic. **Step 5** Patient entered into manual tickler system *(track abnormal results, send reminders for next mammogram).* **Step 6** Providers given individual performance data quarterly.	Ordering rate for screening mammograms increased 55% to 88% across the age spectrum. Largest absolute increase in ordering and completion rates was for women 40-49 years; smallest was for women 70 years and older.	Clinic staff received training through the intervention year to help initiate and reinforce use of the provider reminder system. A manual chart-based reminder system can greatly increase the appropriate use of screening mammogram in a public health clinic serving a multiethnic population.

Reference	Study Site	Study Population	Study Design	Findings	Comments
Love et al.	24 nonacademic primary care group practices in non-metropolitan Mid-west communities:	1,819 women aged 53-62 years with no cancer diagnosis, more than 2 physician visits in past 5 years, 1 in past 2 years. 98 physicians from the 24 group practices; each practice had 3-10 primary care physicians. 79% were family or general practitioners.	**Goal:** *To identify factors predisposing, enabling and reinforcing physicians to perform mammograms over 3-year study period from 1988 through 1991.* **Retrospective audit of medical records.** **Patient questionnaire** - demographics, breast cancer history, behavioral risk factors for cancer, and medical services received in past 3 years. **Provider questionnaire** - demographics, their recommendations for screening tests, perception of their own frequency in providing these tests to women patients 50-65 years, barriers to providing the services, and assessment of how hectic the clinic is. 4 models of analysis were used, which made it possible to examine the mammography performance by 3 components: among patients, physicians and primary care practices.	Mammograms performed: 16 % in all 3 years 49.8% in 2 of 3 years 81.7% in 1 of 3 years Average was 1.7 mammograms in 3 years. Strongest predictor of a woman obtaining a mammogram was the discussion of mammography by clinic staff. Other significant predictors included patient-reported status (family history of breast cancer) and resources to pay for the mammogram. No evidence was found of the influence of predisposing factors such as physician age, gender, year of medical school graduation or specialty.	The discussion of mammography by clinic staff may reflect their consensus about this procedure and risk factor identification. Thus, the development of local consensus and systems problem solving are key factors in increasing mammography rates.

Reference	Study Site	Study Population	Study Design	Findings	Comments
Conry et al.	Family Physicians Associated with the Colorado Sentinel Practice Network. Includes 8 primary care practices and 10 physicians	10 family physicians in a primary care research network	**Goal:** *To identify the factors affecting the ordering of mammogra*ms. **Physician questionnaire** - demographics, current mammography screening practices, belief in benefits and risks of mammography, and estimate of patient compliance. Physicians completed daily data cards on encounters with women presenting for annual examinations, chronic problems or breast related complaints during the study period. Data included patient age, reason for visit, breast cancer history, previous mammogram results, method of payment for mammogram, and physician's perception of indication for mammogram order and expectation for patient compliance.	Patient demographics: 51% > 50 years; 82% > 40 years. Reason for visit: 48% annual exam, 46% chronic condition, 6% breast-related. Factors associated with a mammogram order: first visit, breast-related, annual exam, previous mammogram, breast exam at current visit or within past year, and physician belief about patient's compliance and that a mammogram was indicated. Also, if she had insurance. 13% requested a mammogram; it was ordered for 78% . Breast examinations done at 97% of annual exams but only 22% of chronic visits. Mammogram was 8 times as likely to be ordered when the physician believed the patient would comply (89.2%). Based on ACS guidelines used during the study period, the physicians correctly identified 78% of women >40 years for a mammogram but only 36.7% of women 50 years and older.	Two most important factors that determined if a mammogram was ordered were 1) the physician's perception of the patient's willingness and 2) his/her belief that one was indicated. Physician-patient communication about breast cancer screening, including her concerns and willingness to have one, is important to increase mammogram orders for women perceived to be noncompliant. Simply improving physicians' awareness of screening guidelines is inadequate to improve rates. Office reminder systems, patient initiated questions, record of patient's mammogram history and other cues are needed. An effective strategy is to have women actively solicit a mammogram from their physicians.

Reference	Study Site	Study Population	Study Design	Findings	Comments
Skinner et al.	2 North Carolina Family Practice Groups	Random sample of women aged 40-65 years who visited 1 of 2 North Carolina family practice groups within the past 2 years, had telephones, and had no previous diagnosis of breast cancer.	**Goal:** *To determine whether printed, tailored recommendations addressing women's specific screening and risk status were more effective than standardized printed recommendations in moving them to the action and maintenance stages of behavior (Prochaska).* Study subjects were interviewed at baseline and randomly assigned to receive an individually tailored or standardized letter. After the intervention, second telephone interviews were conducted. Tailored letters addressed individual beliefs and barriers associated with mammography, breast cancer risk factors and screening status. They had digitized photographs tailored by the woman's race, and accompanying captions tailored by her assessed stage of change (Prochaska).	At baseline, 64% of all women in the sample were on schedule and not due for a mammogram; more of these women were white and had higher income and education levels. 63% of women remembered receiving their letters; 23% read most and 24% read all of it; 30% found the information very interesting and 59% found it somewhat interesting. Women who received tailored letters were more likely to remember receiving them and more reported reading most or all of the content (54%) compared with standardized letter recipients (40%). Receiving a tailored letter was significantly associated with stage movement among low income women (below $26,000) and black women. More of these women obtained a mammogram at follow-up. Women who received a tailored letter were less likely than standardized letter recipients to relapse and not get a mammogram when they had done so in the past.	Tailored letters may be more effective because the information has increased relevance to individual women. Also, the tailored letters have a greater chance of capturing a woman's attention with their eye-catching elements. In the context of the Health Belief Model, they may be effective cues to action. Most important finding is that tailored physicians' recommendations effected health behavior change among hard-to-reach populations. This may be because the letters were written using simple vocabulary and clear, one-sided arguments. The higher-than-expected baseline levels of mammography rates limited the ability of this study to measure the post-intervention differences between tailored and standardized groups.

Reference	Study Site	Study Population	Study Design	Findings	Comments
Page	5 health plans from different geographic regions (United HealthCare)	sample of women aged 50-74 years enrolled in 5 different health plans	Multiphase Mammography Outreach Evaluation Project initialized by United HealthCare in 1992. **PHASE 1** **Goal:** *To determine whether a mail campaign motivates women to obtain mammograms.* **Step 1** - A general letter sent to all women 50-74 years about the importance of a mammogram. **STEP 2** **Subgroup 1** - These women were sent a second letter 2 weeks later. **Subgroup 2** - These women were retained from the 1st year and sent another reminder in the 2nd year. **Subgroup 3** - These women self-referred for a screening mammogram. **Subgroup 4** - These women visited their physician to obtained referral for a screening mammogram. **Subgroup 5** - Control group.	**PHASE 1** Overall result was a 12%-15% increase in screening mammography rate for subgroups 1-4 across all 5 health plans No statistical difference was found between **1)** *women who self-referred for a mammogram vs. those who got a physician referral;* **2)** *sending out a reminder for a 2nd year vs. not; or* **3)** *sending out a 2nd reminder 2 weeks after the initial letter vs. not.*	When members had been surveyed in the past to determine their reasons for not obtaining a mammogram, the biggest response was that it was not recommended by their physician. **PHASE 1** A reminder system can increase mammography rates.

Reference	Study Site	Study Population	Study Design	Findings	Comments
Page *(Cont.)*	5 health plans from different geo-graphic regions (United HealthCare)	sample of women aged 50-74 years enrolled in 5 different health plans	**PHASE 2** **Step 1** Survey conducted among providers to learn what they did to improve their mammography rates. **Step 2** A multipronged reminder system was developed including ***1)*** *a targeted reminder letter sent to members due for their mammograms along with a follow-up postcard 4 weeks later. The letter and postcard were developed with the input of a behavioral psychologist.* ***2)*** *a mailing to physicians that included a copy of the reminder letter sent to members, a prototype letter that they can send out themselves, 2 sets of address labels and a set of chart labels.*	**PHASE 2** **Step 1** Most reported giving women a reminder at their annual exam; only 19% had some type of formalized reminder system **Step 2** Another randomized controlled trial to evaluate the impact of this effort has been implemented. Results will be available in 1996.	**PHASE 2** A follow-up reminder postcard was sent out on the advice of the behavioral phycologist about the importance of a “nag” factor,. although this was shown not to be effective in Phase 1.

Reference	Study Site	Study Population	Study Design	Findings	Comments
Page *(Cont.)*	5 health plans from different geo-graphic regions (United HealthCare)	sample of women aged 50-74 years enrolled in 5 different health plans	**PHASE 3** Other ideas planned included the following: ***1)*** *A call-in service for members, Nurseline, will include a pop-up screen that indicates a woman's age and need for a mammogram once her identification has been entered.* **2)** *A paperless billing system, ProviderLink, will have the capacity to identify if a woman needs a mammogram; her physician will be notified at the time care-authorization calls are received.* **3)** *Management bonuses will be given for achieving performance indicators (e.g., increasing mammography rates) chosen by the health plans.* **4)** *Physicians will be publicly acknowledged for providing a consistent quality of care. For example, health plans can take out newspaper ads congratulating their "star performers" for achieving 70%-80% mammogra-phy rates or other performance indicators.*	**PHASE 3** None available. There was no mention of plans to evaluate the effectiveness of these ideas in this publication.	

Reference	Study Site	Study Population	Study Design	Findings	Comments
Burack et al. 1994	3 health care organizations serving inner-city women in Detroit, MI, including 1 inner-city site of a large HMO that predominantly serves Medicaid patients, 2 outpatient sites of a private hospital, and 2 health department primary care practice sites.	2,725 women 40 years and older who visited a primary care physician at one of the study sites during the intervention period. They were 62% of the eligible 4,401 women, defined as those who visited a study site in the preceding year. All 25 study site physicians participated including the following specialties: 13 family medicine, 8 internal medicine and 4 gynecology.	**Goal:** *To assess the effectiveness of a computerized reminder system as a component of a program to increase mammography rates in 3 health care organizations.* The eligible women were randomly assigned to 1 of 2 intervention groups. Interventions for the **limited-intervention group** included a breast cancer awareness program for physicians and staff, installation of a project-dedicated telephone appointment line, telephone reminders to women with scheduled appointments, and reduced mammography patient expenses. Interventions for the **full-intervention group** included 3 additional components: **1)** *a computer generated reminder form placed in the woman's medical chart 1 month before her next mammogram was due;* **2)** *a postcard reminder mailed 1 week before a woman's scheduled appointment; and,* **3)** *for women who missed their appointments, up to 4 telephone contact attempts within 2 weeks and/or a mailed letter to facilitate rescheduling.*	In the 12-month intervention period, 89% of the women who visited had at least 1 visit during which they were known to be due for a mammogram. Approximately 85% of women who made their first mammogram appointment during the initial 6 months successfully completed it. In the **limited-intervention group**, appointments were made by approximately 25% of women visiting the HMO and hospital sites, 11% at health department site 1 and 37% at site 2. In the **full-intervention group**, the appointment rates ranged from 38% to 46% at the HMO site, two hospital sites and one health department site; it was 65% at the 2nd health department site. Full intervention was associated with an absolute increase in appointment rates of 13% to 29% at each site, with the largest increases at the 2 health department sites"? The postcard reminder was effective in only one site. Telephone rescheduling was not effective.	The results demonstrate the effectiveness of a reminder system among inner-city women served by a health department, HMO and hospital. Providing cues-to-action to physicians and women due for mammography was associated with a 12% - 25% increase in the procedure. The major impact of the **full intervention** was an increased rate of referrals among physicians (mammography reminder system). Mammography rates increased substantially and significantly at each site. The **full-intervention** effect was greater among older (50 years and older) than younger women.

Reference	Study Site	Study Population	Study Design	Findings	Comments
Melville et al.	Medical practices affiliated with the Central Massachusetts Health Care, Inc, an IPA-type HMO.	132 primary care and obstetrics and gynecology practices affiliated with an independent practice association model health maintenance organization *(82% of eligible practices).*	**Goal:** *To determine the prevalence of office reminder and scheduling systems and education and counseling services for screening mammography.* A structured telephone survey was administered to nonphysician staff in the practices that had the most knowledge of the office systems and procedures for providing screening mammography. Three areas were included: **1)** *Demographic data on the practice.* **2)** *Office systems for preventive services, counseling and patient education.* **3)** *Specific procedures for mammography scheduling and referral.*	Description of practices: 60% solo and 88% single-specialty practices; 93% affiliated with more than 2 IPA-model HMOs; 69% had 25% of patients enrolled in an HMO. Office systems used: chart flags (30%), flow sheets for mammography (31%), mail or phone reminders (27%), and none (43%). The use of one or more methods was higher among group vs. solo practices for all specialties, except family and general practice. Education provided: printed material (77%), nonphysician counseling (42%), and nurse counseling (27%). Scheduling mammograms: by office staff (80%), appointment reminders (8%), and follow-up contact for no shows (80%).	Although office systems have been shown to be effective, relatively few practices used them. Only the use of printed education materials was used by a clear majority, but such use alone is not effective in increasing compliance. Only 2/3 contacted patients to inform them of normal results. This practice could have detrimental effects on future compliance with screening mammography. Efforts to increase the use of office systems may need to focus on solo practices, group family and general practitioners, and those with a low ratio of clinical staff to providers.

Reference	Study Site	Study Population	Study Design	Findings	Comments
Mohler	Private practice of 5 residency-trained, board-certified, married, white male physicians in a western Colorado city of 33,000. Fifty percent of the patients were insured by a local HMO.	151 women aged 50-59 years	**Goal:** *To evaluate the relative efficacy and cost effectiveness of three interventions designed to increase mammography rates.* Women were randomly assigned to 1 of 4 intervention groups: **GROUP A** **Control Group (no intervention).** **GROUP B** Physician Telephone Group *(physicians called their assigned patients following a common script).* **GROUP C** Medical Assistant Telephone Group *(30-year-old, college-graduated single female who worked in the practice for 10 years as an insurance clerk called her assigned patients following a common script.)* **GROUP D** Physician Letter Group *(patients sent a personalized physician letter).*	**GROUP A** 11% obtained a mammogram. **GROUP B** 29% obtained a mammogram. **GROUP C** 43% obtained a mammogram. **GROUP D** 18% obtained a mammogram.	Script focused on efficacy of mammography and physician's desire for patient compliance. If consent obtained, a mammogram was scheduled. Telephone calls were significantly better than physician letters in effecting a positive response. The medical assistant averaged 4.5 calls per patient; physicians averaged 2.8 calls until contact was made. The medical assistant may have been more effective than the physicians because of the following factors: **1)** *same gender as patient, and* **2)** *60% more time was spent per patient intervention (less hurried, more patient-centered approach).* Widows were particularly resistant to both interventions and warrant special in-office encouragement.

Reference	Study Site	Study Population	Intervention(s)	Results	Comments
Herman et al.	Ambulatory clinic in public hospital (Metro Health Medical Center; Cleveland, Ohio)	Women aged 65 years and older who were residents seen by residents attending the ambulatory clinic from October 1, 1989 through March 31, 1990. There were three groups, the control group, the patient education group, and the Prevention Team group.	Breast cancer screening standards were developed for women 65 years and older. A monograph was also incorporated that included background articles and guidelines related to routine care. Clinical breast examinations were recommended on an annual basis indefinitely and mammography at least every other year through age 75 years. There were as series of lectures for the women as well as educational material handed out in the educational group. This included a pamphlet "What every Woman Should Know About Mammography" and a sheet outlining the specific importance of mammography for the older women. In addition, flowsheets were used in the "Prevention Team" group and staff had their tasks redefined to facilitate compliance.	Women who had received clinical breast examinations were significantly higher among the Prevention Team group than among both the education and control group. The Prevention Team and education groups showed higher rates of mammography screening than the control group, which did not differ from each other. Both the prevention and patient education group had significantly higher compliance rates for mammography than the control group, but did not differ from each other.	The results provide support for patient education and organizational changes that involve non- physician personnel to enhance breast cancer screening among older women, particularly those without previous screening. Refusal rates were low for both clinical breast examinations and mammography. The study also confirms that physician's self perceptions are that they offer preventive services more often than their actual practice.

Reference	Study Site	Study Population	Intervention(s)	Results	Comments
Margolis, et al.	Medical clinic of a public health teaching hospital.	A sample of consecutive women with mammography orders from October 1992 to November 1993. Women were assigned to one of three groups: usual care, mailed reminder, and mailed reminder plus counseling.	In the usual group, patient received a one-page sheet prepared by the radiology dept. Aimed primarily at proper preparation for mammography. No formal teaching curriculum was used. Nurses scheduled appointments for mammograms and if patient failed to attend mammography the physician was notified. Group 2 were sent a reminder timed to arrived 3 to 5 days before the appointment. Group 3 received individual counseling and education by a study nurse at the time of the mammogram was ordered. A low reading level illustrated brochure was also provided and reviewed, along with phone numbers of the nurse and the radiology scheduling desk. If the patient did not show for the mammogram, the nurse contacted them by phone or by mail.	The mammography failure rate in the usual care group was 25.5%. The failure rate in the two intervention groups were 5.2% and 5.8% lower than that in the usual care group, respectively. The failure rate was predictably near zero (3.5%) for the patients that received same-day mammograms and was 24% for the remaining patients. There was not difference in the failure rate for women who were not enrolled in the reduced-cost mammography program.	Of the two interventions tested, neither achieved the desired effect of lowering the mammography appointment failure rate in our primary car clinic from 25% to 15%. Although the postcard reminder reduced the failure rates by approximately 5%, the nurse counseling intervention provided little additional benefit.

Reference	Study Site	Study Population	Intervention(s)	Results	Comments
Taylor, et al.	Four Washington State communities which consisted of a medium-sized city as well as surrounding rural areas . Intervention communities were located in the Puget Sound area of Western Washington.	Community organization efforts targeted primary care physicians and women aged 50-75.	Intervention activities included forming local physician planning groups, mailing out a series of information, training session for medical office staff, establishing a reminder support system. Physician breast cancer screening planning groups were formed in the intervention communities to facilitate involvement of local health care institutions, select and prioritize professional activities targeting physicians and other health workers, develop local intervention plans, and participate in program activities. Mailings included local breast cancer-related data, published breast cancer screening guidelines, and information about insurance coverage for mammography. The content of the training sessions included the provision of local breast cancer data, a discussion of the role of nurses and other office staff members , and the role-playing of patient scenarios designed to provide office staff with effective problem-solving skills . A reminder system needs assessment questionnaire was mailed primary care physicians who were solo or small group practitioners in the two intervention areas.	There was no significant post-intervention differences in the self-reported mammography ordering of physicians practicing in the intervention and control areas. Overall, the proportions of physicians who order regular mammography increased by 36%. By 1993, over 80% of the respondents routinely used mammographic screening. Concerns about the high price of mammograms and inadequate insurance coverage were significantly reduced over time in both community pairs.	Although it is feasible to organize physician communities in areas targeted for disease prevention projects, efforts did not result in changes in mammography ordering that distinguished between the intervention and control areas. Secular trends resulting from diffusion of strategies to promote mammography were responsible for increases in physician ordering of the procedure.

Reference	Study Site	Study Population	Intervention(s)	Results	Comments
Burack, et al. 1996	Two HMO facilities serving a population of whom the majority are Medicaid-eligible Detroit residents.	Women who had visited either of the study sites during the 18 months preceding the intervention period and was 39.5 years of age or older at the beginning of the intervention period.	The intervention included an orientation session for physicians and staff emphasizing the use of mammography and clinical breast examinations as methods of breast carcinoma control and absence of copayment requirement for mammography. There was also a computer-based physician and patient reminder system that sent reminder forms out to both the patient and the physician.	The patient reminder intervention had no effect upon rates of visitation or mammography at either site. The patients at site 2 HMO showed a reduction in the median time to the next visit *(from 12 to 9 weeks)* in association with assignment to patient reminder intervention. The physician reminder was also effective in increasing the rate of completed mammography at site 2.	Patient reminder letters had little impact on visitation in this setting. Physician reminders were more effective but sites vary in the responsiveness.

Appendix F

Cost Effectiveness of Telephone Versus Mailed Reminders

Study 1

Cost Effectiveness of Telephone Versus Mailed Reminders

Intervention Strategy	Cost Per Woman Contacted	Cost Per Woman Screened	Additional Cost Beyond Control Group	Comments
Telephone counseling only by a trained health counselor	$1.08	$4.04	$7.77	The phone calls took approximately 6 minutes at a salary cost of $.18/minute *($10.80/hour).*
Telephone counseling plus letter	$2.88	$9.12	$15.39	It took an additional 10 minutes to compose and send a letter. The telephone intervention alone was effective, well received and relatively inexpensive. Whether or not the additional cost of the letter justifies its use is questionable *(cost of $38.48 per woman screened beyond telephone counseling intervention alone).*

Source: King ES, Ross E, Seay J, Balshem A, Rimer B. Mammography interventions for 65-74 year-old HMO women. *J Aging Health* 1995; 7(4).

Appendix F *(cont.)*

Cost Effectiveness of Telephone Versus Mailed Reminders

Study 2

Cost Effectiveness of Telephone Versus Mailed Reminders

Intervention Strategy	Cost Per Intervention	Cost Per Mammogram	Comments
Physician telephone call	$15.00	$51.82	The cost per mammogram obtained was 94% less with the medical assistant's telephone call than with the physician's.
Physician letter	$2.50	$13.57	The cost per mammogram obtained was 22% less with the medical assistant's telephone call than with the physician's letter.
Medical assistant telephone call	$1.30	$3.00	Telephone calls from a medical assistant ($8/hour) are a cost-effective strategy to encourage mammography adherence.

Source: Mohler PJ. Enhancing compliance with screening mammography recommendations: A clinical trial in a primary care office. *Fam Med* 1995; 27(2):117-121.

Appendix F (cont.)

Cost Effectiveness of Telephone Versus Mailed Reminders

Prudential Center for Health Care Research : Evaluation of a phone intervention *(Houston)*

Study 3

Costs of Generating Additional Mammograms

Component	Assumptions	Cost
Caller training		
trainer's fee	8 hours @ $50/hr	$ 400
training time, 7 callers	8 hours @$7/hr	$ 392
Phone calls (callers' wages)	228 hours @$7 /hr	$1596
Follow-up postage		
reminder cards	525 cards @$.21	$ 110
mammography letters	1172 letters @$.29	$ 340
Total Cost		**$2838**
Cost per additional mammogram generated *(not including the cost of the mammogram)*	Expected percent=.302 Observed percent=.457 Observed - Expected = .155 *1033 = 160 mamms Cost/mamm = $2838 /160= $18	**$ 18**

Source: Davis NA, Lewis MJ, Rimer BK, Harvey CM, Koplan JP. Evaluation of a phone intervention to promote mammography in a managed care plan. *Am J Health Promot* 1997; 11(4):247-249.

Appendix F *(cont.)*

Cost Effectiveness of Telephone Versus Mailed Reminders

Prudential Center for Health Care Research: Evaluation of three interventions
(Philadelphia)

Study 4

Cost Per Additional Mammogram Generated in the Phone Group

Component	Assumptions	Cost
Explanatory Letter to PCPs	1300 PCPs @ $.29	$377
Nurses' calling time	50 hrs; $25/hr	$1250
Nurses' training time	12 nurses; 8 hrs; $25/hr	$2400
Letters of referral	53 referrals; $.29/referral	$15
Total Intervention Cost		**$4042**
Additional mammograms generated	(phone group rate - card only group rate)* 131	$17
Cost per additional mammogram		**$238**

Source: Davis NA, Nash E, Bailey C, Lewis MJ, Rimer BK, Koplan JP. Evaluation of three methods for improving mammography rates in a managed care plan. *Am J Prev Med* 1997; 13(4):298-302.

Appendix G

Needs Assessment for This Manual
Simple Survey of Quality Improvement Coordinators
Prudential HealthCare

INTRODUCTION

Prior to the development of this manual of strategies to improve mammography rates, a simple questionnaire was sent to Prudential HealthCare's quality improvement coordinators in January 1996. The purposes of the questionnaire were to assess the quality improvement coordinators' knowledge of the barriers to mammography, learn about the intervention strategies currently used to improve mammography rates, learn about the challenges encountered in conducting these interventions, and ask what they wanted in the manual. Approximately two-thirds returned the 2-page questionnaire. A summary of the responses follows.

BARRIERS TO MAMMOGRAPHY

Many respondents did not answer the question about barriers to mammography. Others did not rank the entire list of barriers — or did so but added a handwritten comment that they were unsure of their responses. The summary ranking below is based on the number of respondents who ranked each barrier 1 or 2.

RANKING	BARRIER TO MAMMOGRAPHY
1	Lack of time to obtain a mammogram
2	Fears associated with screening (radiation, breast cancer)
3	Lack of concern or apathy about breast cancer screening
3	Lack of a regular source of health care
4	Lack of knowledge about mammography
5	Lack of physician referral for a mammogram
6	High cost of a mammogram

CURRENT INTERVENTION STRATEGIES

The majority of Prudential HealthCare plans reported that they used mailed intervention strategies. Mailed letters have been shown to be more expensive and generally less effective in increasing mammography rates than telephone reminder calls. Office-based reminder systems have been shown to be effective too, yet only one health plan reported using such a system.

FREQUENCY	CURRENT INTERVENTION STRATEGIES
28	Mailed member educational materials or newsletters
19	Mailed postcard, letter or birthday card reminders
16	Reminders to providers to make referrals
7	Phone call reminders and scheduling
7	Computer generated lists of women due for mammogram
6	Contract or quality-improvement requirement for providers
6	Informational posters, education materials or videos in clinics
5	Periodic community-based outreach campaigns (e.g., health fairs)
2	Community partnerships/collaborations
1	Flagged medical records or other tickler reminder system

CHALLENGES ENCOUNTERED IN CONDUCTING INTERVENTIONS

Lack of knowledge about the barriers to mammography, effective intervention strategies, and how to motivate women, as well as difficulties in reaching women by phone or mail were the most frequently mentioned challenges. The responses to the questionnaire were used in planning the content of the manual of strategies to improve mammography rates.

FREQUENCY	CHALLENGES ENCOUNTERED
22	Inadequate knowledge about why women will not come in for a mammogram.
22	Inadequate knowledge about what are effective intervention strategies to improve mammography rates.
18	Difficulty reaching women by phone *(wrong numbers; not home;).*
17	Inadequate knowledge about how to motive older women.
15	Difficulty reaching women by mail *(wrong addresses; moved;).*
9	Inadequate knowledge about how to inform/educate women about the importance of regular mammograms.
9	Inadequate knowledge about how to deal with cultural, language or literacy barriers.
7	Inadequate staff knowledge to conduct interventions *(phone calls; routine inquiry by receptionist about mammography status;).*
4	Inadequate provider resources ($) to perform more mammograms.
4	Inadequate provider capacity to perform more mammograms *(insufficient equipment or staff; not enough screening sites;).*
1	Unclear mammography screening guidelines.
0	Difficulty reaching providers.
0	Lack of provider cooperation.