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PRINCIPAL INVESTIGATOR: Joni A. Mayer, Ph.D.

CONTRACTING ORGANIZATION: San Diego State University
San Diego, CA 92182-1931

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13. ABSTRACT *(Maximum 200*

Six mammography facilities were recruited by March, 1996. Physician recruitment was completed in June, 1996. In total, 82 physicians are participating; participation rates ranged from 35-67% across facilities. Subject recruitment began in June, 1995 and is ongoing. Women approached to participate: a) have a participating physician, b) are 50-74 years, c) are asymptomatic, d) have no personal history of breast cancer, and e) speak English or Spanish. Subject recruitment procedures involve phone calls before and after initial mammogram, mailing information (when addresses are available), and in-person recruitment at the mammography appointment. To date, 2,806 eligible women have been approached and 1,431 of those have consented to participate. Of the 1,431 consenting women, 102 women subsequently had positive mammograms and were excluded from the study, leaving 1,329 subjects. All subjects are interviewed by phone regarding knowledge, attitudes, and behaviors related to mammography. To date, 1,262 of the 1,329 subjects have completed interviews. To ensure the sample size requirement of 1,560 is met, subject recruitment has been extended through February, 1997.

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FOREWORD

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Jean Mayer 10-3-96

PI - Signature Date

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INTRODUCTION

Description of the Subject

Breast cancer is the most prevalent type of cancer and the second leading cause of cancer-related mortality in American women (1). In 1996, there will be an estimated 184,300 new cases among women in the U.S. and 44,300 breast cancer deaths (1). Although progress has been made in the medical treatment of breast cancer, early detection and treatment continue to be the best predictors of an improved prognosis (1;2). Mammography is clearly the most sensitive and specific method of early detection (3). Results from recent trials have shown a decrease in mortality by up to 33% in women aged 50 and older (4). Currently, the National Cancer Institute (NCI), the American Cancer Society (ACS), and other agencies recommend annual mammograms for women 50 and older.

As noted in a 1992 review of the literature (5), results from surveys conducted over the past decade show positive secular trends in rates of both "ever" mammograms and in mammograms in the past year. However, adherence to the screening guidelines that are needed to reduce breast cancer mortality continues to be low (6,7,8-11). In the four studies that have examined the rates and correlates of interval adherence, the rates of "more than 1" mammogram for women 50+ were 23%, 34%, 45%, and 47% (8-11). In all studies, physician recommendation consistently predicted repeat screening.

Mammography screening at regular intervals involves an interplay between the primary (or referring) physician, the patient, and the mammography provider (12). Following the initial mammogram, the mammography provider has information about the patient, and is able to conduct inreach activities to increase return rates. Mammography facilities routinely use reminder strategies to encourage patients to return. In an urban area where numerous facilities are competing, increased return rates may be crucial to keep revenues up. A collaboration between these facilities and public health interventionists has the potential to serve both public health and business objectives. Moreover, the probability for institutionalizing an intervention is high if the program increases revenues for the facility.

To date, only three studies (excluding a pilot study described in the following section) have evaluated facility-based strategies to increase mammography return rates. In one study (13), return rates for a reassuring letter, an anxiety-provoking letter, and a "standard" hospital reminder letter were 54%, 42%, and 38% (n.s.). Our research group conducted two studies at a hospital-based mammography center comparing the standard reminder letter with other interventions (14). In Study 1, mailed reminder and reminder-plus-incentive subjects had appointment completion rates of 36% and 32%, respectively (n.s.). In Study 2, mailed reminder and telephoned subjects had appointment completion rates of 44% and 48%, respectively (n.s.). In contrast, in a recent meta-analysis, mailed

reminders were consistently useful in reducing broken appointments (15). Reminder letters have been successful in promoting general mammography appointment adherence (16) and cervical screening appointment adherence (17,18) relative to no letters.

In sum, studies have shown that reminder letters can increase medical appointment compliance in general and cancer screening appointments specifically. However, in the area of mammography adherence, there is a lack of trials to evaluate reminder strategies using true control groups and focusing on interval adherence. Because of the importance of physician recommendation as a facilitator in mammography interval adherence, incorporating the physician's endorsement of screening in a reminder strategy appears warranted.

Background of Previous Work

Studies 1 and 2. Two intervention pilots were conducted at the same facility during December, 1991 to March 1992 to evaluate the effects of various strategies on return rates of asymptomatic women, having no history of breast cancer, aged 50+ (14). In Study 1, all 50+ patients seen at the facility in 1-91 (N=187) were randomly assigned to receive the usual facility reminder postcard or the postcard plus a voucher for a small gift (valued at $2.00) the month of the return date. In Study 2, all patients seen at the facility in 2-91 (N=184) were randomly assigned to receive either the postcard or a telephone reminder. During the phone call, patients were given the opportunity to schedule their appointment. Appointment completion rates (i.e., scheduled and kept the appointment) were monitored for the target appointment month plus one additional month.

Within both studies, groups were comparable on age (mean=64). In Study 1, the reminder only and reminder plus incentive groups had return rates of 36% and 32%, respectively (n.s.). The results were not in the predicted direction. Only 10 of 96 coupons were returned. In Study 2, mailed reminder and telephoned reminder subjects had appointment completion rates of 44% and 48%, respectively (n.s.). Only 26% of the phoned subjects scheduled appointments at the time of the call. The added expense of the calls was not justified by the 4% increase in return rates. Given the emerging literature (9-11,19), we reasoned that a mailed prompting strategy that emphasized the primary care physician's recommendation for annual mammography would be more powerful than the standard mailed prompt without being prohibitively labor-intensive. There was also a need to systematically estimate the effects of no reminders on return rates. Consequently, a third intervention pilot was conducted.

Study 3. This intervention was the prototype for the intervention that will be evaluated in the present study (14). The facility, which had been in business for 6 years and was affiliated with a hospital, provided approximately 4224 screening mammograms per year and worked with approximately 428 referring physicians. Prior to the study, physicians who were frequent referrers to this facility were asked for their consent for the facility to prompt their patients using their letterhead and randomly assign their patients to the intervention or control (delayed reminder) group. Of the 19 physicians who were

contacted, 15 (79%) agreed to participate. Within each physician, women aged 50+ without a breast cancer history who had been referred to this facility in November, 1991 and who had a negative screening mammogram were randomly assigned to the two groups, resulting in 32 women in the intervention group and 31 women in the control group. Reminders stating the physician's endorsement of annual screening were mailed to intervention subjects the last week of October, 1992. The facility based reminders that the facility routinely uses were withheld from all subjects; control subjects received them at the end of the study. Return rates during November and December of 1992 were monitored.

The median ages of subjects in the reminder and control groups were 61 and 62, respectively (Range=52-91). Ninety percent were aged 52 to 75. The outcome was encouraging: return rates for the reminder and control groups were 47% and 19%, respectively, $\chi^2(1) = 5.29$, $p<.05$. This was a relative increase of 147%. The chart review 14 month return rate for this facility, which used a "standard" reminder, was 26%. With the exception of two subjects who were both in the reminder group, all subjects who returned did so during November. The success of the intervention in this controlled pilot study warranted a larger trial.

Purpose of the Present Work and Scope of the Research

The primary purpose of this study is to increase annual return rates for screening mammography among asymptomatic women aged 50 and older. Specific project objectives include:

a. To develop an intervention aimed at promoting return mammogram adherence within 12-14 months following the last mammogram. The intervention will consist of an appointment reminder letter mailed by the mammography facility but originating from the referring physician; the physician will endorse the importance of annual screening for the patient.

b. To refine and standardize a comparison reminder letter. Typically used by mammography providers, this letter will originate from the facility to encourage return appointments.

c. To implement and monitor the proposed interventions at six mammography facilities in San Diego, California that have adequate patient volume to meet sample size requirements. Cooperation of primary care providers that refer patients to these facilities will be obtained.

d. To evaluate the effectiveness of the primary care physician's letter in increasing return mammogram adherence relative to the "standard" facility letter and to no intervention. The study will use a three group, randomized design with 1,650 subjects randomized

from within referring physician within mammography facility. We hypothesize that the physician letter will produce significantly higher adherence than the standard letter, and that the standard letter will produce significantly higher adherence than no letter.

A secondary purpose is to increase the understanding of the factors that influence interval adherence to mammography. Specific objectives relevant to this goal are:

a. To assess via a phone interview selected demographic, psychosocial, health-related, health services, and mammography-experience related variables within 4-8 weeks after a screening mammogram.

b. To evaluate prospectively relationships between these variables and subsequent mammogram adherence, controlling for study condition.

BODY

Experimental Methods

Overview of Project

The study is using a randomized three-group design to compare the effects of two interventions and a control condition on annual return rates to mammography facilities for screening mammograms by women who are 50-74 years. The treatments include a) delayed appointment reminder (control), b) "standard" reminder-appointment reminder from the facility that provided last year's mammogram, and c) physician endorsement reminder-appointment reminder to be distributed by the facility (with physician's permission) with physician's prompt to patient to have an annual mammogram at the facility. If the physician endorsement reminder is effective, inclusion of the standard reminder group will allow us to draw conclusions about why (i.e., is it the general reminder element or the physician's endorsement that is important?)

Study procedures are as follows for subjects in a given wave: a) potential subjects are approached by the project at or around the time of the study entry mammogram; b) subject consent forms are completed and collected; c) verification is made that the entry mammogram had negative results; d) the interview is conducted within approximately 8 weeks of the study entry mammogram; e) eleven months after being recruited, subjects are randomly assigned to groups; f) for subjects in the standard reminder and physician endorsement reminder groups, reminder letters are mailed the day before the first day of the targeted appointment month; g) staff monitors facility appointment records to evaluate return rates of subjects within 60 days (of day 1) of the targeted appointment month; h) reminder letters are mailed to control group subjects on the last day of the 60 day monitoring period.

Measurement procedures consist of a) a 43 item telephone interview within 4-8 weeks following the study entry mammogram to obtain information on demographic characteristics, mammography history, perceptions of the mammography experience, selected health history, knowledge of mammography guidelines, health beliefs specific to breast cancer and mammography, intentions to have a subsequent annual mammogram, self-efficacy for obtaining annual mammography, and access to medical care; and b) monitoring facility appointment records to evaluate return rates of subjects within 60 days (of day 1) of the targeted appointment month.

We originally planned to conduct the study at four mammography facility sites (called "original sites"). After several months of subject recruitment at the original sites, we determined that we would not be able to reach the required sample size and decided to recruit two additional facilities. Two additional facilities have been recruited during this grant year (1995-1996). The study is currently conducted at six mammography facilities in San Diego, though subject recruitment ceased at one of the facilities in May, 1996 (see Problems/Challenges section). Random assignment of subjects to groups occurs within each facility and each referring physician. In order to achieve the final sample size of 1,560 subjects, subject recruitment has been extended (see Problems/Challenges section). In the original proposal, we had inflated the required sample size by approximately 19% to offset attrition. However, our attrition following recruitment has proven to be substantially less than the original projection, i.e., 4%. To be conservative, we are allowing for 6-7% attrition. Therefore, we will need to recruit approximately 1,650 women to obtain outcome data on 1,560. The interviews and intervention are implemented in a staggered manner, with each lasting approximately 21 months (with overlap). The project is expected to be completed in 3 years, 8 months in three phases: I. start-up activities, II. assessment and intervention procedures, and III. analysis and report preparation.

Strategies to Enhance Participation

The success of the project is dependent on adequate levels of participation by facilities, referring physicians, and subjects. Moreover, high response rates of each will enhance the generalizability of the findings. Consequently, strategies for encouraging participation at each level have been used. The research team includes a general practitioner, Linda Hill, M.D., M.P.H., who has provided consultation on the intervention from the referring physician's and patient's perspective and a radiologist, Charles Lee, M.D., J.D., who has consulted on quality assurance of mammography and other facility-related issues. The input of these consultants has helped assure that the intervention is acceptable to patients, referring physicians, and mammography providers.

Study Facilities

Inclusion criteria for sites were: a) patient volume can accommodate approximately one-sixth of the sample; b) computerized or manual record keeping system appears accurate and efficient; c) personnel at site agree to follow study protocol (e.g., delay

reminders for control group); d) facility is certified by the California Department of Health Services (CDHS) Radiologic Health Branch, is accredited by the American College of Radiology (ACR), and the Food and Drug Administration (FDA) e) facility uses a fee-for-service model; and f) facility has been in business for at least one year prior to the study's onset.

Generally, facilities are very interested in improving patient services, enhancing relationships with referring physicians, and increasing their revenues. They were told that these are three potential benefits of participating in the study via the introductory packet we mailed. Initially, project staff sent facility directors a packet containing the following: an introductory cover letter, pilot study results, a sample of the physician-endorsed reminder letter, and a chart stating the responsibilities of participating facilities and the project staff (timeline for all activities included). Next, phone calls were placed and face to face meetings were held.

We completed recruitment of the four original sites in January, 1995, and subject recruitment is in progress. South Bay Radiology is located in the southern portion of the county (Chula Vista), has a high proportion of Latinas who primarily speak Spanish (approximately 50% of patient population), and performs 30-35 screening mammograms a day. The Alvarado Breast Center is located in central San Diego county, has a Caucasian, middle class patient population, and performs 15-20 screening mammograms a day. The UCSD Center for Women's Health is also located in central San Diego County, has a diverse patient population, and performs 10-15 screening mammograms a day. Our fourth original site, the Lybrand Mammography and Education Center at Scripps Memorial Hospital, is located in northern San Diego county, has a primarily mid-upper income Caucasian patient population and performs 10-15 screening mammograms a day.

The second phase of facility recruitment was completed in March, 1996. Mercy Hospital Women's Imaging Center is located in central San Diego County, has a diverse patient population, and performs 10 screening mammograms a day. Tri-City Outpatient Imaging Center is located in the northwestern part of the county, has a primarily middle class patient population, and performs 20-30 screening mammograms a day.

Initial recruitment and continued participation by facilities has been assisted by minimizing the burden on facility staff for data monitoring and intervention procedures. A project staff person is responsible to each facility and in frequent contact to insure this, and an ongoing, problem-solving approach is used when complications arise. All procedures that involve the facility's assistance (e.g., sample selection, recruitment, intervention implementation) are as efficient as possible and are coordinated with the facility's schedule. An annual meeting will be held at each of the study facilities as a forum for facility and project staffs to discuss study progress and share ideas for streamlining study procedures. Annual meetings were held at the original 4 sites: Sept. 13, 1995 (Alvarado Breast Center), Sept. 15, 1995 (South Bay Radiology), Sept. 20, 1995 (Lybrand Mammography and Education Center), and Oct. 3, 1995 (UCSD Center

for Women's Health). An annual meeting at Tri-City Outpatient Imaging Center was held August 19, 1996, and a meeting at Mercy Hospital Women's Imaging Center is pending.

Referring Physicians

Prior to the physician recruitment phase of the study, approximately 23 physicians were questioned to assess any concerns with the intervention procedures via one focus group and one conference exhibit (the conference was directed towards primary care physicians). The physicians who provided us with feedback did not have reservations about study procedures, and almost unanimously approved of our physician-endorsed reminder letter, commenting that it was short and to the point. Pilot study physicians were also contacted for feedback. Six physicians responded and all stated that their experience was positive and that they would participate again.

In obtaining the cooperation of referring physicians, facility staff has assisted project staff. Facility staff identified 23-31 of the most frequently referring physicians to their facility. Project staff sent a packet containing the following: an introductory cover letter, letter of support from the facility medical director, pilot study results, a sample of the physician-endorsed reminder letter, and a chart stating the responsibilities of participating physicians and the project staff. In each packet was a self-addressed stamped envelope and form to be signed indicating the physician's participation. Follow-up calls were made until a response from each physician was obtained.

Physicians were encouraged not to modify their patient recall or referral patterns during the course of the study, nor to discuss the study with their patients. They were told they would be providing a blanket consent that potentially covers any of their referred patients who meet the other inclusion criteria. During physician recruitment, we reassured physicians that the control group will receive a reminder delayed by only 2 months. After a physician was recruited, project staff acquired the physician's stationery in an organized manner. During the subject recruitment phase (June 1995 - February 1997) physicians are sent a list of their patients participating in the study every few months. Physicians will receive copies of the letters that were sent to patients in the physician endorsement reminder group at the end of the intervention phase. Physician recruitment was completed in June, 1996.

Subjects

Subjects will be recruited in monthly waves over a 21-month period. Since the facilities vary in the volume of screenings performed, the number recruited from each facility will be in proportion to that volume. Inclusion criteria are: a) age 50-74 (at the time of entry mammogram); b) no history of breast cancer; c) has routine screening mammogram at facility during the course of the study with negative test results; d) referring physician for entry mammogram has agreed to the intervention protocol;

e) consents to participate; and f) speaks either English or Spanish. Criterion c makes the assumption that the woman is asymptomatic. During the recruitment phase, ongoing studies in progress in San Diego that may confound results of the proposed study are determined (e.g., Women's Health Initiative Clinical Trial). Potential subjects who are participating in the other studies, determined by conversations with the investigators of these studies, are excluded from the present study.

Prior to starting subject recruitment four focus groups were conducted with: African American women, Filipino/Caucasian women, Latinas, and Caucasian women. Questions were regarding telephone interview questions, the intervention letter, and subject recruitment strategies. Modifications to the telephone interview were made as a direct result of the feedback we received. For example, women objected to a series of questions regarding reasons for and timing of their three most recent mammograms. In the present version of the telephone interview, women are only asked about one of their prior mammograms. We were told repeatedly to keep the interview as short as possible. Another important finding was that women were split regarding preferences for introduction to the study by mailings versus in person - thus we attempt to reach all potential subjects by letter and phone before their mammography appointments. During the Latina focus group, wording/translations for medical terms like breast lump, clinical breast exam, and breast self-exam were clarified.

Participation rates of women in the study have been maximized by: a) incorporating the recruitment and consent procedures into the mammography appointment and providing comprehensive training for the facility staff; b) both before and if necessary, after, the mammography appointment contacting women by phone and/or mail to explain the project, c) employing mature, sensitive female interviewers who have received comprehensive training, d) pilot testing the survey instrument and script for clarity, sensitivity, and duration and making necessary refinements, e) assuring confidentiality of responses, and f) for Latinas who prefer Spanish, providing Spanish language materials and a bilingual interviewer.

Subjects are recruited and written consent obtained near the time of the initial (entry) mammogram. Prior to this appointment, the appointment schedule containing information about inclusion criteria (e.g., physician consents, age, no breast cancer history) is highlighted. Research assistants attempt to reach all eligible subjects by phone before their appointments to explain the project. At three facilities (UCSD, Lybrand, Tri-City) we have access to eligible women's addresses; packets (containing an introductory letter and consent forms) are mailed in addition to the phone calls. Every afternoon a list of eligible subjects due for mammograms the next day is faxed to each facility. Two times a week research assistants determine which women were eligible but did not fill out consent forms; these women are re-contacted by phone and if still willing to participate, are mailed another consent packet.

The facility receptionists and mammography technologists received training by project staff to: a) briefly describe the study to the potential subject before or after the

appointment, b) encourage the patient to read a brief description of the project (available in Spanish and English), c) provide the consent form (Spanish and English) and address any questions or concerns, and d) obtain written consent and provide a copy of the form to the patient. Although the test results for this mammogram are not available at the appointment, obtaining consent at this time maximizes participation rates and is efficient from a recruitment perspective. Patients whose test results subsequently are found to be positive or inconclusive are excluded as subjects. Women are included in the study if the interpreting radiologist recommends the next screening in one year. Potential subjects also are provided a self-addressed stamped envelope in case they prefer to read the information at home. Facility staffs' rates of recruitment and recruitment style are monitored by staff and feedback is given, as appropriate.

Subjects consent to participate in the study as a whole including a) the phone survey, b) random assignment to study conditions, and c) monitoring of mammography adherence. Women who refuse survey participation at the time of the interview are dropped as subjects. One month prior to the targeted appointment month for a given wave, subjects in the wave (within referring physician within facility) are randomly assigned to one of the three study groups.

Inclusion of Minorities

Because language may be a barrier to participation in the study for San Diego's largest ethnic minority group, Latinos, two subject recruiters and two phone interviewers are bilingual in English and Spanish. The explanatory letter, consent form, and survey have been translated into Spanish and Spanish-speaking women who are contacted for the survey have the choice of being interviewed in Spanish or English. Additionally, subjects who indicate a preference for Spanish in the interview receive their intervention reminder letters in Spanish. Women who speak neither English nor Spanish are excluded as subjects.

Intervention Procedures

The intervention is implemented in monthly waves; the first wave of subjects were due for their targeted mammograms in June, 1996. All subjects in a wave have received their study entry mammogram during the same calendar month. In order to simplify the mailing and monitoring procedures, the following occurs: a) the month of the subject's entry appointment is the designated month of the targeted appointment, irrespective of what day of the month it occurred; b) reminders are timed to arrive on or about day 1 of the targeted appointment month; and c) the interval in which adherence is assessed for all subjects is 60 days, beginning with day 1 of the designated appointment month. The uniform mailing date for each wave dictates the uniform outcome monitoring period for each wave. The procedures for each study group are detailed on the following page.

Group 1. The control group (within each facility and wave) receives no reminder during the outcome monitoring period for that wave. However, after the interval, they receive the "standard" (Group 2) reminder.

Group 2. These subjects receive the standard reminder on the facility letterhead prior to the targeted appointment month, as described above. All participating facilities reached consensus on the wording of the standard facility reminder letter. The letter a) states that it has been a year since the last mammogram, b) encourages the patient to call her physician to schedule a clinical breast exam and obtain a mammography referral c) encourages the patient to call for a mammography appointment, and d) provides the facility's name, address, and phone number. A sample of the standard facility reminder is attached (Appendix A).

Group 3. These subjects receive the "physician endorsement" reminder letter on the referring physician's letterhead with his/her signature prior to the appointment month. In most cases the project purchased signature stamps to facilitate the timely mailings of the letters (some physicians decided to sign the letters). The content is the same as the standard reminder letter; the main difference is that the letter is from the physician rather than the facility. A sample of the physician endorsement reminder letter is also attached (Appendix B).

Project staff collected samples of the reminder letters used by the participating facilities as well as reminder letters used in similar studies. These samples were considered when drafting the final version of the reminder letters.

Measures and Assessment Procedures

The primary sources of data in the proposed study are patient self-report (i.e., the pre-intervention survey) and archival records maintained by the facilities (i.e., patient appointment data for measuring outcome). The measures are described in detail in the following sections.

Pre-intervention Survey

Purpose and content. A telephone interview is conducted with subjects to obtain data for describing the sample and for developing models to predict subsequent mammography adherence. The 43-item survey is attached (Appendix C). The items include:

- demographics: birthdate, education, ethnicity (and language preference, if Latina), marital status, employment status, income;
- provider variables: regular source of medical care, type of practice, is referring physician regular physician, specialty of referring physician;
- insurance coverage: type(s) of coverage;

- breast health history: previous breast complaint, previous breast cancer (exclude), previous biopsy, family history;
- screening history: total number of mammograms, dates of mammograms, reason for mammogram (diagnostic vs. screening), test results (if entry mammogram was diagnostic or had non-negative results, exclude), perceived screening pattern (e.g., sporadically, regularly-not annually, annually), perceived barriers (if not annually), perceived facilitators (if annually), ever had CBE, date of last CBE, reason for last CBE, perform BSE, BSE frequency;
- knowledge/beliefs: ACS mammography guideline for 50+, odds of any woman getting breast cancer, odds of subject getting it, age-related risk;
- intentions to have mammogram next year: likelihood in general, likelihood if doctor recommends;
- expectations for having mammogram next year: confidence in being able to schedule and complete the appointment (i.e., self-efficacy), confidence that annual screening will improve survival (i.e., outcome expectation);
- recent mammography experience: general satisfaction with experience, level of discomfort during compression.

Although women with a history of breast cancer or a non-negative study-entry mammogram are excluded based on facility records, items assessing these criteria are included in the survey as a safety measure. Facility records are used to generate basic demographic data for survey nonresponders (e.g., age). Additionally, all women who decline to participate during the recruitment call or telephone interview are asked to answer seven questions regarding demographics and reason(s) for not participating.

Information regarding the study inclusion mammogram is obtained from facility logs or records. History of mammograms prior to this rely on self-report. Self-report of mammography was found to be highly accurate in one study (20) and fairly accurate but overestimating the recency of the exam (i.e., exam was less recent than reported) in another study (21). Previous interval adherence is assessed both by asking numbers and dates of exams and by asking the subject to describe her pattern. The intervention outcome will not rely on self-report.

Subcontract for Telephone Interviews. We researched six research firms located in San Diego County and asked about their: specializations, interviewer selection process and training, quality control measures, data handling, cost, and references. After conducting informational interviews over the phone, we visited two of the firms. We determined that each firm had more resources to ensure the quality of the interviews than we would at our office and could conduct the interviews at a lower cost than that originally budgeted.

We chose to work with Luth Research, a firm with over 20 years of experience. Luth has a 50 line WATS phone facility supervised by up to three managers at a time. One supervisor walks around the room and listens to interviews in progress and one listens to interviews in progress and has the ability to edit the interview if he/she detects an interviewer error (unknown to the interviewee). Via modem, we have the ability to "listen" to interview in progress as well. Luth Research uses Query software for their Computer-Assisted Telephone Interview (CATI) system. The CATI system guides interviewers through survey questions and allows them to enter data as women answer questions. To date, the quality and efficiency of Luth's work for the project have been excellent.

Procedures. For each subject at each site, the research assistants (R.A.s) generate a telephone interview cover sheet with a woman's phone number and most convenient time to call. Subjects are phoned at the time they specified as most convenient. A minimum of 20 attempts are made to contact each woman whose phone number appears to be current, and attempts are made to update old numbers. If a woman refuses to participate in or complete the interview once it begins, she is thanked politely; no coercion is used.

The interviewer introduces herself and verifies language preference and personal breast cancer history. After the introduction, the interviewer proceeds with the 20-minute interview. The interviewer enters information into the computer as each question is answered, clarifying questions as needed, using the CATI system. Interviewers keep records of completed calls, refusals, and call backs on telephone interview cover sheets provided by the project.

Measurement of Outcome

The dependent variable, mammography adherence, is assessed by the R.A.s from appointment records maintained at each facility. The time frame monitored (for each wave) is 60 days, beginning on day 1 of the target appointment month. (Subjects in Groups 2 and 3 will have received their reminder letters immediately prior to this date.) Appointment records also are used to determine if any subjects schedule an appointment prior to intervention for either a screening or diagnostic mammogram; these subjects' data will be deleted from the analysis. Adherence is coded dichotomously (yes, no) and requires that the appointment be completed (i.e., both scheduled and kept) during the 60-day interval.

R.A.s make monthly visits to the facilities during the adherence monitoring phase to obtain appointment data on an ongoing basis. We will monitor adherence for an additional 4 months for use in secondary data analysis. Facility staff have agreed in advance to the study protocol, including record-keeping procedures, but will be provided feedback from project staff if needed in order to maintain the quality of the data.

Other Measures

Process data include: a) the number of facilities that are approached to reach the quota, b) cooperation rates of referring physicians, c) survey response rates, d) perceptions of facility staff about the intervention procedures (feasibility, etc.), e) perceptions of cooperating referring physicians about the intervention, f) use of systematic reminder strategies (in addition to project's) by physicians, and g) study participation rates by subjects. Additionally, we will note any potential relevant historical events that occur during the study that may influence screening rates.

Statistical Analysis

The primary hypothesis is that the physician endorsement letter will yield the highest adherence rate, followed by the standard letter, and no letter will yield the lowest rate. In addition to the analyses to evaluate this hypothesis, secondary analyses will examine relationships between baseline demographic, psychosocial, health-related, health services, and mammography-experience related variables and subsequent mammogram adherence, controlling for study condition.

First, selected baseline variables will be compared across the three groups to assess comparability. Chi-square tests for categorical variables and one-way analysis of variance for continuous variables will be used. Assuming comparability at baseline, a simple approach to assessing differences across adherence rates for all 1,560 subjects will be to construct a 3x2 contingency table for the two categorical variables, study condition and adherence outcome, and use a chi-square test. If the chi-square result is significant, pairwise contrasts will be performed to assess specific differences using a Bonferroni adjustment. The CATMOD procedure in the SAS statistical package will be employed.

A more comprehensive analysis which might yield greater precision will be to use multiple logistic regression (22) where the outcome variable is adherence/non-adherence to the mammogram. This procedure will allow identification of important baseline variables that may predict adherence, consistent with the secondary goal of the study and, if necessary, adjustment for baseline variables in assessing differences among the study conditions for the survey completers. We also will evaluate possible differences among the six radiology facilities and whether differences among study conditions may vary by facility. The latter analysis will be accomplished by incorporating condition by facility interaction terms into the logistic regression model. The logistic program (LR) in the BMDP statistical package will be used for the above analyses.

Results

Physician Recruitment

At each facility, 23-31 of the most frequently referring physicians were identified by mammography facility staff. Physician recruitment has been completed and physician

participation rates varied across facilities: 67% at South Bay Radiology, 64% at UCSD Center for Women's Health, 48% at Lybrand Mammography and Education Center, 48% at Tri-City Medical Center, 45% at Alvarado Breast Center, and 35% at Mercy Hospital (see Table 1 below). Overall, 82 physicians are participating in the study from various specializations: 25 (30%) Obstetrics/Gynecology, 23 (28%) Internal Medicine, 16 (20%) Family Practice, 6 (7%) General Practice, and 12 (15%) from other specializations. The most common reasons physicians cited for not participating in the study were: "too busy, no time" (even though we explained participation would require approximately 5-10 minutes total) and "not interested."

Table 1
Referring Physician Recruitment Rates

Participation Status	Facility						
	South Bay	UCSD	Lybrand	Alvarado	Mercy	Tri-City	All Facilities
Participating	18 (67%)	16 (64%)	14 (48%)	14 (45%)	8 (35%)	12 (48%)	82 (51%)
Not Participating	9	9	15	17	15	13	78
Total Approached	27	25	29	31	23	25	160

Subject Recruitment

Subject recruitment rates have varied at the six facilities: 75% of eligible women have consented at the Alvarado Breast Center, 62% at UCSD Center for Women's Health, 54% at Lybrand Mammography and Education Center, 47% at Tri-City Outpatient Imaging Center, and 35% at Mercy Hospital. At South Bay Radiology, 42% of English-surname eligible women consented while 19% of Spanish-surname women consented for an overall rate of 29% (see Table 2 on the following page).

To date, we have identified and approached 2,806 eligible women. Of those women, 1,431 consented to participate in the study. Of the 1,431 consenting women, 102 women subsequently had positive mammograms and were excluded from the study, leaving 1,329 study subjects. 1,262 of the 1,329 subjects have completed telephone interviews.

Table 2
Subject Recruitment by Facility

Facility	Participation Status		
	# Approached	# Consented	# Normal Mammograms (Study Subjects)
Facility 1: South Bay Radiology English Surname	412	175 (42%)	154
Facility 1: South Bay Radiology Spanish Surname	502	93 (19%)	81
Facility 2: UCSD Center for Women's Health	701	438 (62%)	420
Facility 3: Lybrand Mammography & Education Center	268	146 (54%)	138
Facility 4: Alvarado Breast Center	525	394 (75%)	355
Facility 5: Mercy Hospital	26	9 (35%)	6
Facility 6: Tri-City Medical Center	372	176 (47%)	175
All Facilities	2806	1431 (51%)	1329

Survey Data

General information regarding subjects recruited to date is summarized in Table 3 below.

Table 3
Characteristics of Sample Interviewed to Date

	N=1262
Age:	
Mean	60 years
Range	50-74 years
Family Income:	
0-$20,000	19%
$20,001-$40,000	42%
$40,000+	40%
Ethnicity:	
White, Caucasian	82%
Hispanic, Latina	9%
African American	4%
American Indian	<1%
Asian	2%
Pacific Islander	<1%
Other	3%
Education:	
0-12th grade	29%
Post high school	71%
Marital Status:	
Married	62%
Not married	38%
Insurance:	
Has insurance	96%
Does not have insurance	4%
Number of Mammograms:	
1-5	39%
6-10	40%
11-15	12%
16+	9%

Outcome Data

The intervention for the first wave of subjects was implemented in June, 1996. The projected date for the completion of data collection is April, 1998. One hundred twenty subjects have been randomly assigned to the control group, 116 to the standard facility reminder group, and 115 to the physician-endorsed reminder group. To date, we have collected outcome data for 3 waves of subjects (n=188).

CONCLUSIONS

Problems/Challenges Encountered and Solutions

1. Subject recruitment at South Bay Radiology

When we approached our facility contact person to coordinate the first wave of intervention letters, we were met with resistance (April, 1996). We were informed that the facility had changed ownership since the time we obtained an agreement from the facility's mammography director to participate in the study. New management was not interested in participating in the study. After multiple conversations with the facility administrator an agreement was reached; we will discontinue subject recruitment immediately but will retain and randomize the 234 subjects already recruited from the site.

2. Meeting sample size requirements

As stated previously, in August, 1995, we began the second phase of facility recruitment. Nine facilities were approached and follow up conversations took place. Due to pending changes in ownership and/or management, several of these facilities declined participation. Another reason cited for not participating was over-burdened staff. Key personnel at three facilities, Mercy Hospital, Paradise Valley Hospital, and Tri-City Medical Center were interested in the study and in-person meetings were held.

At Mercy Hospital the director of the Mercy Women's Imaging Center agreed to participate in the study in September, 1995 and subject recruitment began upon receiving approval from the hospital's Institutional Review Committee in March, 1996. Patient volume to date has been lower than expected; few patients have been recruited from this facility.

In October, 1995 the Director of Lab and Radiology at Paradise Valley Hospital agreed to participate in the study. A meeting was held in late October to discuss details of the collaboration. In late December of 1995, we were informed that the hospital's human subjects committee decided not to participate in the study due to concerns about staff time (there is only one staff person dedicated to mammography).

Tri-City Medical Center Outpatient Imaging Center personnel expressed interest in the study in January, 1996 and a meeting was held in late February. Upon receiving approval from the hospital's vice president in late March, we began physician recruitment in April and subject recruitment in early May. Patient volumes have been high and a large number of subjects have been recruited from this facility. The number of eligible women is higher at this facility than all of the other sites. Also the number of subjects at this facility is exceeding the numbers lost due to the discontinuation of recruitment at South Bay Radiology.

Despite the relatively large number of subjects being recruited at Tri-City Medical Center, and the continued subject recruitment at three of the original study sites, we project that we will need to extend subject recruitment through February, 1997 in order to meet sample size requirements. The pace of recruitment (number of subjects per month) projected in the original proposal had been overly optimistic (i.e., 12 months). Based on our current recruitment figures, it will take an additional 8 months to recruit the targeted number of 1,650. Much of our project costs involve recruitment and survey procedures, with costs incurred at the time of these procedures. Therefore, we are confident that we will be able to accomplish all of our study's aims, including meeting the targeted sample size, with an 8-month, no cost extension of our original timeline.

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APPENDIX A

Standard Mammography Facility Reminder Letter

SBR

SOUTH BAY RADIOLOGY MEDICAL ASSOCIATES, INC.
DEPARTMENT OF MAMMOGRAPHY
BAY MEDICAL PLAZA
450 FOURTH AVENUE, SUITE 212
CHULA VISTA, CA 91910
(619) 585-2940

September 30, 1996

Recommended month for next mammogram: October, 1996

Dear Ms. :

Your last mammogram at South Bay Radiology was approximately one year ago. For women in your age category, the American Cancer Society recommends routine screening mammography each year, along with yearly clinical breast exam and monthly breast self-examination. Currently, you are due for your annual mammogram.

Please call your personal physician at your earliest convenience to obtain a referral for your next mammogram. You also should make an appointment with him/her for your annual clinical breast exam.

We look forward to seeing you.

Sincerely,

South Bay Radiology Mammography Department
(619) 585-2940

APPENDIX B

Physician Endorsement Reminder Letter

Douglas C. Hill, M.D., Inc.
330 OXFORD STREET, SUITE 108
CHULA VISTA, CALIFORNIA 92011
TELEPHONE 426-8222

September 30, 1996

Recommended month for next mammogram: October, 1996

Dear Ms. :

Your last mammogram at South Bay Radiology was approximately one year ago. For women in your age category, the American Cancer Society recommends routine screening mammography each year, along with yearly clinical breast exam and monthly breast self-examination. Currently, you are due for your annual mammogram.

Please call me at 426-8222 at your earliest convenience to schedule an appointment for your annual clinical breast exam and to receive your mammography referral. Once you obtain your referral, call South Bay Radiology at 585-2940 to make an appointment for your annual mammogram.

I look forward to seeing you.

Sincerely,

Douglas C Hill MD

Douglas C. Hill, M.D.

APPENDIX C

Telephone Survey

PICTURE OF HEALTH MAMMOGRAPHY PROJECT
TELEPHONE INTERVIEW

Hello, my name is _____ , with the Picture of Health Mammography Project. May I speak with _____? Hello _____ , this is _____ of the Picture of Health Project. When you had your last appointment at _____ you signed a letter of consent to participate in our study; one part of the study is this telephone interview. At this time we would like to ask you some questions regarding mammography and breast cancer, in general. I expect this telephone interview to take about 15 - 20 minutes. Is this a good time for you to answer these questions?

(If not, ask if there is a better time to call. Thank the subject for her time and let her know we will call her back at the convenient time she specified).

Before I begin to ask you the questions, I would like to confirm that you have never had breast cancer -- for this study we are focusing only on women who have never had breast cancer. Have you had breast cancer?

(If yes, thank woman for her time, politely end interview)

O.K., then let's get started. As you answer, remember that we just want you to answer openly; there are no right or wrong answers.

Provider Variables - DO NOT READ QUESTION HEADINGS

1. **Is there a particular doctor's office, clinic, health center or other place that you usually go to if you are sick or need advice about your health?**

   1=yes
   2=no (GO TO QUESTION #3)
   8=don't know (GO TO QUESTION #3)

2. **What kind of place is it - a doctor's office, a hospital, a clinic, a health center or some other place?** (CHECK ONLY ONE)

01=doctor's office (private office or group practice)
02=hospital emergency room
03=hospital outpatient clinic
04=health center
private health clinic
private neighborhood health clinic
05=public health clinic
06=HMO/prepaid group practice, "group health"
07=Kaiser facility
08=Cigna health plan facility
09=PPO; preferred provider organization
10=medical facility (type not listed above)

3. **Our records show that Dr. _____ referred you for your most recent mammogram. Is he/she your regular doctor?**

1=yes
2=no

4. **What type of doctor is he/she?**

1=family or general practice
2=internist
3=gynecologist
4=other
8=don't know

5. **Are you presently covered by any of the following kinds of health insurance? ARE YOU COVERED BY...?**
(READ LIST AND RECORD A RESPONSE FOR EACH ITEM):

A. Commercial insurance, like Blue Cross, Prudential, or Medigap?
1=yes
2=no
8=don't know
B. A Health Maintenance Organization (HMO) or Individual Practice Association (IPA) like Kaiser or Maxicare?
1=yes
2=no
8=don't know

C. Preferred Provider Option?
1=yes
2=no
8=don't know
D. Medicare?
1=yes
2=no
8=don't know
E. Medical?
1=yes
2=no
8=don't know
F. Secure Horizons?
1=yes
2=no
8=don't know
G. Any other health insurance?
1=yes, specify: _____
2=no
8=don't know

Health History

6. **Has a doctor ever told you that you had a lump or tumor in your breast or breasts?**

1=yes
2=no

7. **Have you ever had a biopsy of your breast, in which a small segment of tissue was removed or a needle was used to extract fluid?**

1=yes
2=no (GO TO QUESTION #9)
8=don't know (GO TO QUESTION # 9)

8. **Did you have a surgical biopsy where a small segment of tissue was removed or was a needle used to extract fluid?**

1=surgical biopsy
2=needle aspiration biopsy
8=don't know

9. **Is there a history of <u>breast cancer</u> in any one of the following members of your family? Remember we are talking only about breast cancer.** (READ):

A. your mother?
1=yes
2=no
8=don't know
B. any sister?
1=yes
2=no
8=don't know
C. any grandmother?
1=yes
2=no
8=don't know
D. any aunt?
1=yes
2=no
8=don't know
E. any daughter?
1=yes
2=no
8=don't know OR
F. any granddaughter?
1=yes
2=no
8=don't know

10. **Have you ever been told by a doctor that you have fibrocystic breasts, a condition that is not cancer but that makes your breasts feel lumpy or sore most of the time?**

1=yes
2=no
8=don't know

<u>Breast Cancer Screening History</u>

11. **Prior to your recent mammogram, had you ever had a mammogram before?**

1=yes
2=no (GO TO QUESTION #17)

12. **Including the last one, how many mammograms have you ever had? _____**
(IF WOMAN CANNOT GIVE AN EXACT NUMBER, ASK FOR AN ESTIMATE)

13. **Prior to the mammogram you had in the past few weeks, when was the mammogram you had before that?**

1=less than 1 year
2=over 1 year ago
3=over 2 years ago
4=over 3 years ago
5=over 4 years ago
6=over 5 years ago
7=6 - 10 years ago
8=more than 10 years ago
9=don't know

14. **Why did you have that mammogram...because you had a breast problem or for a routine check-up, that is, you did not have any symptoms (problems)?**

1=had a breast problem
2=routine check-up

15. **Have you ever had a mammogram where the results were NOT normal or the results were inconclusive?**

1=yes
2=no (GO TO QUESTION #17)
8=don't know (GO TO QUESTION #17)

16. **What happened as a result of the mammogram with abnormal or inconclusive results?**

1=had a second mammogram
2=had a biopsy (negative)
3=other/specify: _____
_____

17. **How would you describe your pattern of having routine mammograms?**
(READ LIST):

1=have had only one or have them sporadically (GO TO QUESTION #18)
2=have had them every 2-3 years on a regular basis (GO TO QUESTION #18), OR
3=have them annually (GO TO QUESTION #19) ?

18. **I'm going to mention several reasons that may explain why you do not have annual mammograms. Please tell me how much each reason applies to you. Your options are: applies to you a great deal, applies somewhat, or does not apply at all. The first reason is...** (READ OPTIONS):

A. "my doctor doesn't recommend it annually"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

B. "someone other than my doctor recommended against annual mammograms"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

C. "I'm concerned about radiation"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

D. "the exam is painful"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

E. "there are financial reasons, cost, my insurance does not cover it at all or not annually"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

F. "it's not necessary, I have no problems, all previous exams have been fine"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

G. "I don't think about it"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

H. "I'm too busy"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

I. "I have no family history of breast cancer"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

J. "I procrastinate"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
K. "I do not think it is important"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
L. "thinking about mammography makes me anxious"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
M. "I fear that they'll find something"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
N. "I'm embarrassed"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
O. "I don't have transportation"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
P. "I'm in poor health"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
Q. Are there any other reasons? (SPECIFY): _____

19. **I'm going to mention several reasons that may explain why you have annual mammograms. Please tell me how much each reason applies to you. Your options are: applies to you a great deal, applies somewhat, or does not apply at all. The first response is...** (READ OPTIONS):

A. "my doctor recommends it"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
B. "organizations such as the American Cancer Society recommend it"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?

C. "my friends, family, others recommend it"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
D. "it is effective in detecting cancer early"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
E. "I want peace of mind"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
F. "it is convenient"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
G. "I have a family history of breast cancer"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
H. "I'm afraid I'll develop breast cancer"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
I. "I have a history of benign breast problems (cysts, etc.)"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
J. "it's the sensible thing to do"
1=applies a great deal
2=applies somewhat, OR
3=does not apply at all ?
K. Are there any other reasons? (SPECIFY): _____

20. I want you to think about the mammogram you had most recently. When the mammography equipment was pressing against your breasts during the X-ray, how did you feel? (READ):

1=no physical discomfort
2=slight physical discomfort
3=moderate physical discomfort
4=substantial physical discomfort OR
5=extreme physical discomfort ?

21. **A physical breast examination is when the breast is felt for lumps by a doctor or other health professional. Have you ever had a physical breast examination?**

1=yes
2=no (GO TO QUESTION #24)
8=don't know (GO TO QUESTION #24)

22. **When did you have your last physical breast examination?**

1=less than 1 year
2=over 1 year ago
3=over 2 years ago
4=over 3 years ago
5=over 4 years ago
6=over 5 years ago
7=6 - 10 years ago
8=more than 10 years ago
9=don't know

23. **Why did you have your last physical breast exam...Because you had a breast problem or for a routine check-up, that is you did not have any symptoms (problems)?**

1=had a breast problem
2=routine check-up

24. **Do you examine your own breasts for lumps or other changes?**

1=yes
2=no (GO TO QUESTION #26)
8=don't know (GO TO QUESTION #26)

25. **How often do you examine your breasts?**

_____ times per _____ day
_____ week
_____ month
_____ year
_____ other/specify: _____
88=don't know

Knowledge/Beliefs

26. **How often is routine mammography recommended for women in your age range (50 and older) by experts such as the American Cancer Society?**

1=never
2=every 2 -5 years
3=annually
4=once
5=only when there's a problem
6=other/specify: _____
8=don't know

27. **What proportion of women do you think will get breast cancer at some time during their lives? Do you think it is...**(READ CHOICES):

1=1 in 4
2=1 in 8
3=1 in 25, OR
4=1 in 50 ?
8=don't know (DO NOT READ THIS ALTERNATIVE)

28. **What are <u>your</u> chances of getting breast cancer sometime during your lifetime? Do you think it is...**(READ CHOICES):

1=1 in 4
2=1 in 8
3=1 in 25, OR
4=1 in 50 ?
8=don't know (DO NOT READ THIS ALTERNATIVE)

29. **Are women 50 years and older more likely, less likely, or equally likely to get breast cancer than women younger than 50?**

1=more likely
2=less likely
3=equally likely
4=other/specify: _____
8=don't know

Intentions

30. **What is the likelihood that you will have another routine screening mammogram next year, even if your doctor does not suggest one? Is it...**(READ):

1=very unlikely
2=somewhat unlikely
3=a 50/50 chance
4=somewhat likely, OR
5=very likely ?

31. **If your doctor recommends one, what is the likelihood that you will have another routine screening mammogram next year? Is it...**(READ):

1=very unlikely
2=somewhat unlikely
3=a 50/50 chance
4=somewhat likely, OR
5=very likely ?

Efficacy and Outcome Expectations

32. **How confident are you that you will be able to schedule a mammogram appointment in the next 12 months (i.e., phone for an appointment, schedule it at a convenient time, etc.)? Are you...**(READ):

1=not at all confident
2=slightly confident
3=somewhat confident
4=fairly confident, OR
5=very confident ?

33. **How confident are you that you will be able to complete the appointment once it is scheduled (i.e., drive yourself or obtain transportation, get the money and/or insurance to pay for the mammogram, etc.)? Are you...**(READ):

1=not at all confident
2=slightly confident
3=somewhat confident
4=fairly confident, OR
5=very confident ?

34. **How confident are you that having annual mammograms will improve your chances of survival if you have breast cancer? Are you...**(READ):

1=not at all confident
2=slightly confident
3=somewhat confident
4=fairly confident , OR
5=very confident ?

<u>Recent Mammography Experience</u>

For the next 3 questions, I want you to think again about your most recent mammogram experience. Please answer these questions openly; your answers will not be shared with mammography facility staff. I will read a statement, and I'd like you to tell me how much you agree or disagree with it...(READ):

35. **"I was very satisfied with the care I received."**
Do you (READ):

1=strongly disagree
2=disagree
3=neutral
4=agree, OR
5=strongly agree ?

36. **"I feel confident that the mammogram was taken properly."**
Do you (READ):

1=strongly disagree
2=disagree
3=neutral
4=agree, OR
5=strongly agree ?

37. **"The person was too rough when taking the mammogram."**
Do you (READ):

1=strongly disagree
2=disagree
3=neutral
4=agree, OR
5=strongly agree ?

Demographic Information

38. In what month and year were you born?

(date: month ___ , year ___)

39. What was the highest level of education that you completed?

1=less than eighth grade
2=8th grade to 11th grade
3=high school graduate
4=post high school, trade or technical school
5=1 -3 years of college
6=college graduate
7=some graduate work or graduate degree

40. Which of the following best describes your ethnic or racial group? (READ):

1=white, or Caucasian, not of Hispanic origin
2=Mexican American, Mexican/Mexicano, Hispanic, Puerto Rican, Cuban, Chicano, other Latin American, or other Spanish
3=African American
4=American Indian
5=Asian
6=Pacific Islander
7=other/specify: _____

41. What is your present marital status?

1=married or living as married
2=widowed
3=divorced
4=separated
5=never married

42. What is your current employment status?

1=working at a full-time job
2=working at a part-time job
3=not working, but looking for work
4=a full-time homemaker
5=a non-salaried volunteer
6=retired
7=unable to work due to disability
8=other/specify: _____

43. **Please stop me when I get to the category that best describes your family's total annual income. Is it...** (READ):

1=less than $10,000
2=10,001 to 15,000
3=15,001 to 20,000
4=20,001 to 25,000
5=25,001 to 30,000
6=30,001 to 40,000
7=40,001 to 50,000
8=50,001 and over
9=don't know (DO NOT READ THIS OPTION)
10=refused (DO NOT READ THIS OPTION)

WE ARE NOW FINISHED WITH THE TELEPHONE INTERVIEW. ON BEHALF OF THE PICTURE OF HEALTH STAFF, I'D LIKE TO THANK YOU FOR YOUR TIME AND INTEREST IN THE STUDY. YOUR INPUT IS VERY VALUABLE TO US.

HAVE A GOOD DAY/EVENING...

DEPARTMENT OF THE ARMY
US ARMY MEDICAL RESEARCH AND MATERIEL COMMAND
504 SCOTT STREET
FORT DETRICK, MARYLAND 21702-5012

REPLY TO
ATTENTION OF:

MCMR-RMI-S (70-1y)

1 JUN 2001

MEMORANDUM FOR Administrator, Defense Technical Information Center (DTIC-OCA), 8725 John J. Kingman Road, Fort Belvoir, VA 22060-6218

SUBJECT: Request Change in Distribution Statement

1. The U.S. Army Medical Research and Materiel Command has reexamined the need for the limitation assigned to technical reports. Request the limited distribution statement for reports on the enclosed list be changed to "Approved for public release; distribution unlimited." These reports should be released to the National Technical Information Service.

2. Point of contact for this request is Ms. Judy Pawlus at DSN 343-7322 or by e-mail at judy.pawlus@det.amedd.army.mil.

FOR THE COMMANDER:

PHYLLIS M. RINEHART
Deputy Chief of Staff for
Information Management

Encl

DAMD17-94-J-4413	ADB261602
DAMD17-96-1-6112	ADB233138
DAMD17-96-1-6112	ADB241664
DAMD17-96-1-6112	ADB259038
DAMD17-97-1-7084	ADB238008
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DAMD17-97-1-7009	ADB252283
DAMD17-96-1-6152	ADB228766
DAMD17-96-1-6146	ADB253635
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DAMD17-94-J-4360	ADB220023
DAMD17-94-J-4317	ADB222726
DAMD17-94-J-4055	ADB220035
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DAMD17-94-J-4391	ADB219964
DAMD17-94-J-4391	ADB233754