



## CHAPTER FOURTEEN

# CULTIVANDO LA SALUD

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### Reader Objectives

- Describe the use of community-based planning methods
- Develop performance objectives for lay health workers
- Develop performance objectives, training, and materials for program adoption and implementation

Hispanics represent 13.3 percent of U.S. residents and are the nation's fastest growing minority group, increasing from 22.4 million in 1990 to 39.9 million in 2003. This increase represents a growth almost four times that of the total U.S. population (R. R. Ramirez & Cruz, 2003; United States Census Bureau & Bernstein, 2004). Within the United States, Hispanics who reside in the West and South are mainly of Mexican origin, and counties with the highest proportions of Hispanics (about 80 percent) are found along the Texas-Mexico border (Texas Department of State Health Services, 2003a, 2003b). When compared with non-Hispanics, Texas Hispanics (particularly those living along the Texas-Mexico border) are younger, have lower educational levels, experience higher poverty and unemployment rates, and have insufficient access to primary health care services (Larson, 2002).

Approximately 4.2 million migrant and seasonal farm workers live in the United States, and many reside along the U.S.-Mexico border (National Center

for Farmworker Health, 2002). Along the border, farmworkers often live in *colonias*. *Colonias* are unincorporated, unzoned, and rural or semirural communities characterized by substandard housing; and they lack such basic infrastructure as access to public drinking water or wastewater systems (U.S. Department of Health and Human Services, Health Resources and Services Administration [HRSA], 2005). Approximately 432,000 people (many of them farmworkers) live in twelve hundred *colonias* on the Texas and New Mexico borders. Many *colonia* residents, particularly farmworkers, experience both cultural and logistic barriers to health care service, including poverty, mobility, low literacy, English-language deficiency, and lack of access to health care providers (Coughlin, Uhler, Richards, & Wilson, 2003; National Center for Farmworker Health, 2002). Because of these many barriers, farmworkers often do not obtain health care services, particularly for prevention or early detection such as cancer screening.

Cancer is the second leading cause of death among Hispanic adults in the United States; and the most commonly diagnosed cancers among Hispanics are prostate, colon and rectum, lung, and breast (among women) (American Cancer Society, 2003). Hispanic women are the least likely of all racial and ethnic groups to have Pap tests, mammography, and clinical breast exams (CBE) (American Cancer Society; Gotay & Wilson, 1998; Hubbell, Mishra, Chavez, & Valdez, 1997). Underuse of screening among Hispanic women may contribute to lower survival rates for breast and cervical cancers. Mortality from breast cancer increased twice that of non-Hispanic whites (approximately an 82 percent increase in Hispanics between the periods from 1958 to 1962 and 1983 to 1987) (Ries et al., 2002). Hispanic women have twice the incidence rate of cervical cancer compared with non-Hispanic white women, and some of the highest mortality rates in the United States are observed along the Texas-Mexico border area (American Cancer Society, 2003; Devessa et al., 1999; Ries et al., 2002). Screening for breast and cervical cancer among Hispanics is lower than among non-Hispanic whites, and the disparity is even greater among low-income and border residents (Coughlin et al., 2003).

Despite the burden of cancer and disparities in screening practices among Hispanics, few screening interventions have been developed for these populations. In their literature review of 245 intervention studies of cervical cancer screening, Marcus and Crane (1998) identified only a few developed for Hispanic women. Similarly, information about effective interventions for breast cancer screening among diverse populations is limited (Bonfill, Marzo, Pladevall, Marti, & Emparanza, 2001; Legler et al., 2002). This paucity of relevant interventions suggests a need for carefully planned programs that identify specific determinants of screening and use the most appropriate change strategies in order to increase screening behaviors among Hispanics.

In this chapter we describe how the Intervention Mapping process was used to develop and implement *Cultivando la Salud* (CLS) (Cultivating Health), an intervention to increase breast and cervical cancer screening for U.S. Hispanic farmworker women. The program was developed by the National Center for Farmworker Health, Inc. (NCFH), an organization dedicated to addressing farmworkers' health care needs, in collaboration with the Center for Health Promotion and Prevention Research, University of Texas Health Science Center at Houston, School of Public Health.

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## Perspectives

*Cultivando la Salud* provides an excellent example of the use of participatory community-based planning, lay health workers as an intervention strategy and delivery channel, and early planning for adoption and implementation.

### Community-Based Planning

This case provides an example of a community-based participatory process. The CLS planning team established a coalition to advise program planners and participate in planning decisions. These community members participated in development by providing suggestions concerning performance objectives, determinants of screening, intervention methods and strategies, and program messages and materials. This chapter illustrates how this frequent and continued community participation assisted planners in identifying important and changeable determinants of the screening behaviors and helped them select messages and strategies that would be most acceptable, appealing, and appropriate for farmworker women.

### Lay Health Workers: Intervention Strategy and Delivery Channel

This case illustrates the use of the lay health worker model as a delivery channel for the intervention. (In Spanish the lay health worker is referred to as a *promotora de salud* or simply *promotora*. In this chapter, we will use the Spanish term.) The *promotora* is, however, more than just a channel. The model represents a strategy for operationalizing theoretical methods such as those described in the Social Cognitive Theory (SCT) (Bandura, 1986). These include interpersonal communication, verbal persuasion, facilitation, and modeling. Through her interaction with the priority population, the *promotora* serves as a model of a person who has successfully completed screening. She also uses the program material as she discusses the importance of screening with participants and helps women access low-cost

screening services and make appointments with providers. The impact of the health promotion program then depends on both the strategies and materials that the *promotora* helps deliver (for example, video messages, pamphlets, role-playing activities) and her ability to motivate and facilitate screening behavior through her interaction with the farmworker woman.

## Program Adoption and Implementation

CLS provides an example of the consideration, early in the planning process, of program adopters and implementers and the development of program components specifically designed to enable adoption and implementation. Planners considered specific performance objectives and determinants that would enable reliable and efficient adoption and delivery of the program; they then developed strategies to address these objectives. Intervention Mapping Step 5 describes the adopters and implementers, provides example matrices, and describes program components directed at adoption and implementation behaviors.

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## Intervention Mapping Step 1: Needs Assessment

In this section, we describe the process for the needs assessment and the findings for each element of the PRECEDE planning model.

### Planning Group

Through the innovative application of human, technical, and information resources, NCFH is dedicated to addressing the health care needs and health status of farmworkers and their families as they follow the harvest. NCFH convened a planning group that included university faculty and members of a coalition known as the National Cancer Coalition. Key members of the coalition were *promotoras* who were current or former farmworkers and individuals from migrant health centers, national cancer organizations, and farmworker communities. Representatives from the following organizations participated in the coalition: American Cancer Society; U.S. National Cancer Institute; La Clínica de Cariño–Hood River, Oregon; Texas Department of Health; the Cancer and Chronic Disease Consortium, El Paso, Texas; Brownsville Community Health Center, Brownsville, Texas; and Hudson River Health Care, Peekskill, New York. The National Cancer Coalition worked with NCFH to provide input during the planning process and to assist in the development and testing of program materials. The members reviewed performance objectives, determinants of screening, and ideas for proposed methods

and strategies and provided feedback about the appeal, acceptability, and cultural appropriateness of specific messages and materials.

### Needs-Assessment Methods

This case study exemplifies a program planning effort in which there are few data about the health and quality-of-life problems, behaviors and environmental conditions, and determinants of breast and cervical cancer screening in Hispanic farmworker women. Therefore, we reviewed the literature on screening in Hispanic women in general and collected new data to provide information about the health problem, risk behaviors and environmental conditions, and determinants influencing breast and cervical cancer screening among Hispanic farmworker women.

The U.S. federal definition of *farmworker* is an individual whose principal employment at least 51 percent of the time is in agriculture and who has been so employed within the last twenty-four months (Larson, 2002). We defined our priority population more broadly to include all Hispanic women who had personally or whose immediate family members had done farm work for at least five years at any time during their lives. We assumed that the issues related to cancer screening were similar for all women living in farmworker communities whether or not they met the federal definition. However, because there may be special concerns among women who work in the fields, we also considered the specific behaviors, environmental conditions, and determinants that may be unique to women who traveled to perform farm work each year. The needs-assessment methods included an extensive review of the literature, focus groups, in-depth interviews, and a face-to-face survey.

**Focus Groups.** We conducted five focus group sessions in January 1999 with farmworker women aged fifty years and older. Two groups were conducted with farmworker women who had not had a mammogram or a Pap test in the previous two years (nonadherent to screening guidelines), two with women who had received a mammogram and a Pap test in the previous two years (adherent to screening guidelines), and a fifth group with both adherent and nonadherent women. Women were recruited to the focus groups by posting flyers in *colonias* that included a telephone number that those who were interested in participating could call. Program planners conducted the focus groups using an interview guide that covered the health topics, health care services, prevention, cancer, and cancer screening. The focus groups were audiotaped, professionally transcribed, and analyzed in Spanish to identify themes.

**Survey.** Based on findings from the literature review and focus groups, we developed and administered a survey instrument to a sample of two hundred women aged fifty years and older (mean age 60.7, SD 9.7) living in several *colonias* in the Texas Lower Rio Grande Valley (LRGV). *Promotoras* affiliated with community and migrant health centers in the LRGV recruited women door-to-door. They assessed eligibility, obtained informed consent, and conducted the interview. See Table 14.1 for the demographic characteristics of the survey participants.

**TABLE 14.1. DEMOGRAPHIC CHARACTERISTICS OF SURVEY PARTICIPANTS.**

	N	Percent
Sociodemographic Variables		
Age		
50—59 years	115	57.5
60—69 years	47	23.5
70 years—over	38	19.0
Income		
< \$10,000	147	74.5
≥ \$10,000	48	25.5
Marital Status		
Married	129	64.5
Not married	71	35.5
Education		
≤ 6 years	161	81.5
≥ 7 years	36	18.5
Place of Birth		
United States	44	22.0
Mexico	156	78.0
Length in United States		
< 20 years	52	27.3
≥ 20 years	120	62.8
Entire life	19	9.9

The survey addressed the following constructs: self-efficacy, perceived susceptibility, subjective norms, decisional balance, cancer knowledge, and attitudes about cancer. The independent effects of these constructs on mammography and Pap test screening behaviors were assessed while controlling for sociodemographic and access-to-care variables (Palmer, Fernandez, Tortolero-Luna, Mullen, & Gonzales, 2005).

## Health and Quality of Life

The literature review revealed cancer-related health disparities among Hispanic women, particularly those who were poor and living in border counties. Breast cancer incidence and mortality among Hispanics remains lower than among non-Hispanics; however, breast cancer is the most common cancer among Hispanic women, and they have experienced an almost twofold increase in mortality over the last decades (Devesa et al., 1999). Hispanic women have considerably higher incidence and mortality rates of cervical cancer than do non-Hispanic White women (incidence: 16.2 vs. 7.3 per one hundred thousand; mortality 3.6 vs. 2.5 per one hundred thousand) (Ries et al., 2002). Rates were even higher among Hispanic women living in the LRGV counties: incidence 18.7 per one hundred thousand vs. 8.2 and mortality 6.2 per one hundred thousand vs. 3.4 per one hundred thousand, respectively (Texas Department of State Health Services, 2005b).

The focus group findings helped identify quality-of-life concerns related to cancer. The program planners had initially thought that cancer screening might not be an important health interest for these women given their many needs and responsibilities, such as taking care of their families and ensuring that they have the basic needs of food, water, and shelter. However, we found that the women were very concerned about cancer, feared receiving a cancer diagnosis and recounted numerous stories of friends and family members who had died from the disease. Primary concerns were that cancer would mean that they would be unable to work or take care of their families. The prospect of being a burden to their families and social isolation were also concerns. Many people, particularly older women, living in *colonias* can become socially isolated if they are confronted with chronic illness. Furthermore, women expressed concern that a diagnosis of cancer might require travel to the referral hospital for indigent patients in Texas (several hundred miles from the LRGV) and would result in separation from family members and friends. Travel between the LRGV and the hospital also represents a real deportation danger for those women who are undocumented, because the U.S. Border Patrol often sets up checkpoints on the route.

## Behavior and Environment

The primary behaviors identified in the needs-assessment model were low utilization of breast and cervical cancer screening. Although between 1995 and 2002, an overall high percentage of all women aged eighteen or older with an intact uterine cervix reported ever having a Pap test (94.1 percent to 95.2 percent) (Centers for Disease Control and Prevention, 2003), these trends were not seen among women with less than a high school education, women in the lowest income groups, women without health insurance, and Hispanics. About 85 percent of Hispanic women forty years of age and older living in border counties and 71 percent of Hispanic women fifty years and older living in the LRGV reported ever having had a Pap test (Coughlin et al., 2003; Gonzales, Saavedra-Embese, Fernandez, & Tortolero-Luna, 2001). Weighted estimates from Behavioral Risk Factor Surveillance Surveys (BRFSS) (1999–2000) in border counties indicated that 26.4 percent of Hispanic women reported not having a Pap test in the previous three years versus 11.7 percent of non-Hispanic women in the same counties (Coughlin et al., 2003). In two recent studies that the authors conducted as part of this project, 34.6 percent and 40 percent of low-income Hispanic women fifty years and older reported no Pap test in the previous three years and 54 percent and 66 percent reported no mammogram within the previous year (Gonzales et al., 2001; Gonzales, Fernandez, & Saavedra-Embese, 2003).

Findings from the survey indicated much lower levels of breast and cervical cancer screening among women in our sample than among other Hispanics elsewhere in Texas and nationally. For example, only about half (51.5 percent) of women from the LRGV sample reported mammography screening within the previous two years as compared with 69.4 percent of non-Hispanic whites in Texas and 59.7 percent of Hispanics in Texas, based on 1997 and 1998 BRFSS data (Bolen et al., 2000).

Important environmental conditions that are negatively associated with breast and cervical cancer screening include lack of physician referral, lack of health insurance, cost, lack of access to health care, no regular place of care, restrictive work policies, rigid clinic payment policies, and poor transportation (Chavez, Cornelius, & Jones, 1986; Chavez, Hubbell, Mishra, & Valdez, 1997; Fernandez, Tortolero-Luna, & Gold, 1998; Harlan, Bernstein, & Kessler, 1991; Harmon, Castro, & Coe, 1996; Hayward, Shapiro, Freeman, & Corey, 1988; Hubbell, Waitzkin, Mishra, Dombrink, & Chavez, 1991; Otero-Sabogal, Stewart, Sabogal, Brown, & Perez-Stable, 2003; Perez-Stable, Sabogal, & Otero-Sabogal, 1995; Rimer et al., 1996; Wilcher, Gilbert, Siano, & Arredondo, 1999).

Results from our focus groups revealed that even women who did use health care services did not typically receive recommendations or referrals from their



health care providers to obtain screening. Women also mentioned difficulty accessing screening because of cost and inability to visit the clinics or screening facilities during regular hours of operation. These findings provided evidence of environmental conditions that may be negatively affecting cancer screening at both the interpersonal (providers) and the organizational (clinic) levels. Additionally, we found that the women had low access to a regular source of care and lack of insurance (Palmer et al., 2005).

## Determinants of the Risk Behavior

The planning team used empirical data, theoretical literature, and the collection of new data to develop a refined list of determinants (Table 14.2).

Both internal and external factors negatively influence breast and cervical cancer screening among Hispanic women. Psychosocial factors negatively influencing Pap test screening include embarrassment, discomfort during examinations, a low level of acculturation, fatalism, language barriers, distrust of physicians, lack of child care, fear of the procedure and the results, concern about confidentiality, lack of knowledge, and perceived discrimination (Coronado, Thompson, Koepsell, Schwartz, & McLerran, 2004; Fernandez et al., 1998; Fernandez-Esquer, Espinoza, Ramirez, & McAlister, 2003; Otero-Sabogal et al., 2003; Suarez et al., 1997). Low self-efficacy, low acculturation, lack of knowledge, perceived norms regarding screening, fear of finding cancer, and embarrassment were related to decreased mammography screening (C. Morgan, Park, & Cortes, 1995; A. S. O'Malley, Kerner, Johnson, & Mandelblatt, 1999).

We found few studies on the factors influencing screening behaviors among farmworker women. Two studies of migrant farmworkers in Wisconsin found low levels of knowledge about screening and fatalistic attitudes toward cancer (Lantz, Dupuis, Reding, Krauska, & Lappe, 1994; Lantz & Reding, 1994). Another study reported that cervical cancer knowledge and Pap test screening behavior were low among farmworker women; 44 percent had never heard of a Pap test (Hooks et al., 1996). Fear of the disease and pain associated with cancer, fear of the medical system, and the belief that only God can determine whether someone gets cancer were cited as additional barriers to cancer-screening services reported among a farmworker population (Goldsmith and Sisneros, 1996).

Several external factors such as lack of social support, lack of physician referral, inadequate health insurance coverage, low access to health care services and regular care, cost, restrictive and inflexible workplace policies, strict clinic payment policies, lack of transportation, lack of partner approval, and few social ties have also been shown to influence breast and cervical cancer screening (Bazargan, Bazargan, Farooq, & Baker, 2004; Coronado et al., 2004; Fox & Stein, 1991; NCFH, 2002; M. S. O'Malley, Earp, & Harris, 1997; V. M. Taylor, Taplin,

TABLE 14.2. IDENTIFYING DETERMINANTS OF UNDERUTILIZATION OF BREAST AND CERVICAL CANCER SCREENING.

Original Provisional List	Additions From Empirical Literature	Additions From Theory	Additions From New Data
<i>Personal Determinants</i>			
Embarrassment Lack of knowledge about screening guidelines Fear of cancer Misconceptions about cancer Low perceived benefits High perceived barriers Low perceived risk	Low perceived risk of breast and cervical cancer Fear of radiation Fatalism Perceived group norms Uncomfortable examinations Low acculturation Language barriers Distrust of physicians Fear of the procedure Fear of the results/finding cancer Concerns about confidentiality Lack of knowledge Perceived discrimination Low self-efficacy for screening Perceived social norms	Intention to obtain screening (Theory of Planned Behavior) Subjective norms (Theory of Planned Behavior) Perceived barriers to screening (Health Belief Model) Perceived susceptibility (Health Belief Model) Self-efficacy (Social Cognitive Theory) Decisional balance (Transtheoretical Model)	Perception of time constraints Competing priorities Partner objection to screening Cancer misconceptions Use of folk healing practices common Low self-efficacy Belief that cancer leads to death
<i>External Determinants</i>			
Lack of services High cost of services Lack of health insurance No provider referral Transportation problems Lack of child care Language barriers	Acculturation Lack of knowledge Low perceived norms Fear of finding cancer		Cultural norms Social support

Urban, White, & Peacock, 1995; Otero-Sabogal et al., 2003; Urban, Anderson, & Peacock, 1994). We have mentioned some of these factors in the description of environmental conditions that are negatively associated with screening. Later in the process, we determined which of these factors remained as environmental conditions and thus required their own matrices and which were external determinants.

The theoretical literature provided some additional evidence, particularly regarding the strength of the association between identified constructs and risk behaviors. Some studies, although not exclusively of Hispanic women, measured constructs that were more specifically theory-based. Perceived susceptibility from the Health Belief Model (HBM) has been found to be associated with mammography (J. D. Allen, Sorensen, Stoddard, Colditz, & Peterson, 1998; Bastani et al., 1994; Janz & Becker, 1984); self-efficacy from SCT has been found to be associated with both mammography and Pap testing (J. D. Allen et al., 1998; Kurtz, Given, Given, & Kurtz, 1993), and subjective norms from the Theory of Planned Behavior (TPB) were found to be associated with the intention to complete mammography screening (J. D. Allen et al., 1998; Fishbein & Ajzen, 1975; Montaña, Thompson, Taylor, & Mahloch, 1997).

To better understand mammography and Pap test screening in this population we used the Transtheoretical Model (TTM). The TTM, developed by DiClemente, Prochaska, and colleagues, involves a number of dimensions, including stages of change, processes of change, decisional balance (pros and cons), and self-efficacy (C. C. DiClemente & Prochaska, 1985; Prochaska, Velicer, DiClemente, & Fava, 1988). The pros (perceived positives or benefits) and cons (perceived negatives or barriers) are much like the HBM constructs of benefits and barriers of a target behavior are associated with adoption of the behavior (M. H. Becker, 1974a, 1974b; Janz & Becker, 1988). Decisional balance is a summary index of the pros and cons (Velicer, DiClemente, Prochaska, & Brandenburg, 1985). Precontemplators have a negative decisional balance, reflecting the weight of reasons not to change while persons in action and maintenance have a positive decisional balance. Contemplators are somewhere in between with approximately the same number of pros and cons (Rakowski et al., 1992; Rakowski, Fulton, & Feldman, 1993). Two studies using the TTM to study mammography screening found that as stage of adoption proceeds from not being screened to being screened on a regular schedule, decisional balance becomes more favorable (Rakowski et al., 1992; Rakowski et al., 1993). In a study examining multiple cancer-screening behaviors in a low-income minority community, decisional balance had a strong positive relationship with cancer-screening practices, including Pap test screening (Rakowski et al., 1993; Rimer et al., 1996).

## Community Capacity

The communities identified for implementation of the CLS program had several strengths that made such a program's success more likely. Among these were familiarity with and acceptance of the *promotora* model, community clinics with existing *promotora* programs, and the availability of low-cost screening through clinics that had National Breast and Cervical Cancer Early Detection Program funding administered through the state health department. Additionally, the existence of well-defined neighborhoods (*colonias*) was also considered a strength. Although these *colonias* often had little infrastructure and often lacked even basic services, the community itself was typically united. In fact, some *colonias* had a history of community organizing to lobby for basic services. Residents clearly identify with their *colonia*, partly because they often have strong family ties within *colonias*. This can occur because families frequently pool resources to buy property and then build homes. It was common, therefore, to find individuals who lived next door or very close to other family members. During the implementation of the CLS project, the cohesiveness and personal relationships between women within *colonias* accelerated the dissemination of the program. Women spread the word about the program and would often organize intervention groups at informal community leaders' homes. This made better use of the *promotora*'s time because she could reach several women during one educational session.

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## Step 2: Matrices of Change Objectives

The tasks involved with the development of matrices include stating the health promoting behaviors and environmental conditions, adding specificity to the behaviors by creating performance objectives, choosing evidence-informed determinants of the performance, and combining these elements.

### Health-Promoting Behavior and Environmental Conditions

The health-promoting behaviors were obtaining a mammogram, a CBE, and a Pap test to decrease morbidity and mortality attributable to breast and cervical cancer.

The environmental conditions that influence the participant's ability to obtain the screening behaviors of interest included making mammography and Pap test clinic services more available to women (organizational level).

## Performance Objectives

The next task in Step 2 was to develop performance objectives that specified what the participants needed to do in order to obtain a mammogram and a Pap test and what the agents in the environment (for example, clinic director, receptionist, outreach coordinator) needed to do to bring about the desired change in services. The performance objectives for each of these behaviors included making an appointment for the screening, going to the clinic or screening facility to have the screening, and obtaining the results and any necessary follow-up care. The performance objectives for the environmental conditions included clinic directors seeking funds for screening programs, physicians and other providers referring patient for mammograms, and clinic directors facilitating transportation to screening.

## Determinants

The identification in the needs assessment of factors negatively influencing mammography, CBE, and Pap test screening also often revealed the determinants of the health-related behaviors. For example, we found that compared with women who were adherent to recommended screening guidelines, nonadherent women had lower levels of self-efficacy; influencing self-efficacy might be important to promote screening.

Focus groups information came not only from the nonadherent women, who provided information about barriers to screening, but also from the groups of adherent women who gave us insight into why some women did complete screening. Adherent women mentioned such factors as the outcome expectation of having peace of mind after completing screening, wanting to comply with doctor recommendations (subjective norms), and knowledge about screening guidelines.

## Matrices

To develop the matrices, we listed proposed determinants of the health-related behaviors across the top of a matrix and the performance objectives in the left column. Within the matrix cells, we wrote change objectives based on the question, What do participants need to change related to the determinant in order to accomplish the performance objective? The matrices for mammography and Pap test screening are shown in Tables 14.3 and 14.4.

The planning team's approach to environmental matrix development was twofold:

1. Identify the environmental agents, such as clinic directors, outreach coordinators, receptionists, and providers, responsible for proposed changes

2. Develop specific performance objectives essential to bringing about the desired environmental condition

In-depth interviews with clinic staff (including outreach coordinators and providers) helped the planning team identify the determinants that influenced these performance objectives, which are designed to bring about organizational change. See Table 14.5 for the matrix of environmental change objectives.

Community input was important during this stage. Program planners invited review of the matrices by members of the National Cancer Coalition and by individuals in the priority populations, including a clinic outreach worker, *promotoras*, and others. We asked reviewers to recommend changes in performance objectives, determinants, and change objectives, and we used their comments to refine the matrices. For Step 3 we also enlisted the assistance of women from the priority community to provide advice about which types of intervention methods and strategies would be most appropriate and appealing to women in the community.

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## Step 3: Methods and Strategies

### Working with the Farmworker Women

During the needs-assessment phase, the farmworker women also identified methods and strategies that would be well received by the priority community. For example, women mentioned that they received most of their health information from family and friends, from *promotoras*, and from their providers. They also talked about how others had convinced them to get screened and how they had convinced others to do the same. Based on this information, we identified several potential methods such as verbal persuasion, modeling, and mobilization of social support. These findings complemented information available from the theoretical literature.

### Identifying and Choosing Theoretical Methods

In this step we organized all of the change objectives by the relevant determinants so that we could begin brainstorming methods and matching them with sets of change objectives (Table 14.6). We included a column in the table where we could note ideas about program components and materials that would deliver the methods strategies.

We then examined the theoretical and empirical literature for evidence of methods and strategies that might be appropriate for us to use according to the type of determinant they influence. For example, modeling is an example of a

TABLE 14.3. MAMMOGRAPHY MATRICES FOR FARMWORKER WOMEN.

Personal Determinants					External Determinants			
Performance Objectives	Knowledge	Outcome Expectations	Perceived Barriers and Benefits	Attitude <sup>1</sup>	Self-Efficacy	Perceived Social Norms	Social Support	Availability and Accessibility
<i>Behavior: Women Will Obtain a Mammogram</i>								
PO.1. Call to schedule an appointment	K.1. Describe where to call and where to go	OE.1. Expect to obtain an appointment when they call for one	PBB.1. List a greater number of benefits than barriers to scheduling appointment for a mammogram.	A.1. Believe their role is to request mam-mography if their doctors have not recommended it	SE.1.a. Express confidence in calling and scheduling appointments SE.1.b. Express confidence in setting aside time to obtain a mammogram	PSN.1. Believe that other women like themselves schedule mammograms or ask doctors for referrals	SS.1 Friends and family members encourage them to schedule appointments.	AA.1.a. Clinics arrange convenient appointment times. AA.1.b. Providers make referrals for mammograms.
PO.2. Obtain a mammogram	K.2.a. Discuss what cancer is and why it is a health threat K.2.b. Describe mammography screening recommendations K.2.c. Describe the important reasons to detect cancer early	OE.2. Expect that obtaining a regular mam-mogram will result in better chances of surviving cancer if they develop it	PBB.2.a. List a greater number of benefits than barriers to mammography screening PBB.2.b. Describe mam-mography procedure and express lack of fear and low expectation of pain	A.2.a. Believe that treatment can be effective in curing breast cancer A.2.b. Discuss being optimistic about prognosis of cancer detected early A.2.c. Describe the pain of the test as minimal or bearable	SE.2. Express confidence in obtaining mam-mograms	PSN.2. Believe that other women like themselves obtain mammo-grams	SS.2. Friends or family members accompany them to appointments.	AA.2. Clinics facilitate appointment times.

<p>PO.3. Obtain results of the mammogram and get follow-up care as necessary</p>	<p>K.2.d. Recognize the importance of obtaining previous films if next mammogram will be by a different provider K.2.e. Explain that treatment is available K.2.f. Describe how to get to a screening facility K.2.g. Describe mammography procedure</p>	<p>OE.3.a. Expect to be given the results when they ask for them OE.3.b. Expect that they can obtain follow-up for questionable results OE.3.c. Expect that they can obtain effective treatment for results that show cancer</p>	<p>PBB.3. Express benefits of knowing results of a mammogram</p>	<p>A.3. Describe the relief of knowing that nothing is wrong or being able to get treatment for something that is wrong</p>	<p>SE.3.a. Express confidence in being able to obtain results SE.3.b. Express confidence in being able to understand the results</p>	<p>PSN.3. Believe that other women like themselves can get mammography results</p>	<p>SS.3.a. Friends and family members remind them to get results. SS.3.b. Friends and family members ask them about the results. SS.3.c. Friends and family members accompany them to needed follow-up.</p>	<p>AA.3. Clinics clarify how and when to obtain results.</p>
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†Fear of detection, fear of procedure, and belief that cancer is incurable are strong attitudinal factors found in the assessment.



**TABLE 14.4. PAP TEST MATRICES FOR FARMWORKER WOMEN.**

Personal Determinants						External Determinants		
Performance Objectives	Perceived Barriers and Benefits	Knowledge	Attitude <sup>1</sup>	Outcome Expectations	Perceived Social Norms <sup>2</sup>	Self-Efficacy	Social Support	Access and Availability
<i>Behavior: Women Will Obtain a Pap Test</i>								
PO.1. Schedule a Pap test appointment	PBB.1. Express more benefits than barriers to setting a time for an appointment for Pap test	K.1.a. Recognize their own need for a Pap test (that it is past due) K.1.b. Identify locations where Pap test screening is offered	A.1.a. Believe it is important to schedule a Pap test A.1.b. Believe it is their responsibility to schedule a Pap test	OE.1. Expect to obtain an appointment by calling a clinic	PSN.1. Believe that other women like themselves call to schedule appointments for Pap tests	SE.1. Feel confident to schedule a Pap test appointment	SS.1. Friends and family members encourage them to schedule an appointment.	AA.1.a. Pap test appointments are easily available from clinic. AA.1.b. Providers recommend Pap test screening.
PO.2. Obtain a Pap Test	PBB.2.a. Express greater benefits than barriers to Pap test screening PBB.2.b. Report low levels of embarrassment about Pap test screening PBB.2.c. Recognize that female providers are available PBB.2.d. Recognize the right to ask for a female nurse or companion to be present during the procedure	K.2.a. Describe what cervical cancer is and why it is a health threat K.2.b. Describe Pap test recommendations K.2.c. Discuss the probability of preventing cervical cancer through detection and treatment of precancerous lesions K.2.d. Discuss the fact that treatment is available	A.2.a. Believe that getting a Pap test regularly is important A.2.b. Believe that Pap tests can help prevent cervical cancer by detecting changes before they become cancerous A.2.c. Believe that a yearly Pap test can find cancer early so that treatment can be effective in curing cancer	OE.2. Expect that obtaining regular Pap tests will increase their chances in curing cervical cancer if they develop it	PSN.2. Believe that other women like themselves obtain Pap tests	SE.2.a. Express confidence in obtaining a Pap test SE.2.b. Feel confident that they will understand what the doctor is doing and why	SS.2. Ask partners, friends, or family members to remind them to get a Pap test	AA.2. Clinics provide assistance with transportation.

<p>PO.3. Follow-up on a Pap test with abnormal results</p>	<p>PBB.3. Express greater benefit than barriers to follow-up</p>	<p>K.3.a. Discuss the types of results that are possible and what kinds of treatment can be necessary K.3.b. Recognize that they will be notified if a test is abnormal</p>	<p>A.3. Believe that following up on an abnormal result is important to themselves and their families</p>	<p>OE.3. Expect that by following up they can obtain a good treatment outcome</p>	<p>PSN.3. Believe that other women like them would follow up an abnormal result</p>	<p>SE.3.a. Feel confident in understanding the results of a Pap test SE.3.b. Express confidence in obtaining follow-up care</p>	<p>SS.3. Partners, friends, or family members accompany women to follow-up.</p>	<p>AA.3.a. Clinic providers explain abnormal results in a way women can understand. AA.3.b. Clinics provide rapid appropriate follow-up.</p>
	<p>A.2.d. Express optimism about prognosis of early detected cancer A.2.e. Believe that protecting themselves against cervical cancer through Pap test screening is important for them and for their families A.2.f. View Pap test as a routine medical procedure</p>	<p>K.2.e. Describe the Pap test procedure</p>						

<sup>1</sup>Fear of detection of cancer and belief that cancer is incurable are strong attitudinal factors found in the assessment.

<sup>2</sup>A strong cultural factor from the needs assessment was embarrassment.

TABLE 14.5. MATRICES FOR CLINICS FOR PAP TESTS AND MAMMOGRAPHY.

Performance Objectives	Knowledge	Outcome Expectations	Perceived Barriers and Benefits	Attitude <sup>1</sup>	Perceived Practice Norms and Standards of Care
<i>Environmental Change: Mammograms and Pap Tests Will Be Easily Accessible to Farmworker Women</i>					
<p>PO.1.1. Clinic directors seek funds for screening programs.</p> <p>PO.1.2. Explore becoming a screening site by contacting department of health</p> <p>PO.1.3. Negotiate low-cost screening with providers</p> <p>PO.1.4. Establish policy of providing Pap test for women unable to pay</p>	<p>K.(1.1-1.4).a. Describe excess morbidity and mortality for farmworker women from breast and cervical cancer</p> <p>K.(1.1-1.4).b. Describe inadequate screening rates</p> <p>K.1.1. Describe process for acquiring funding</p>	<p>OE.1.1.a. Expect that acquiring funding for screening will prevent cervical cancer and save treatment costs</p> <p>OE.1.1.b. Expect that acquiring funding will increase early detection of breast cancer</p>	<p>PBB.(1.1-1.4).a. Describe funding and service as worth the hassles of reporting and paperwork</p> <p>PBB.(1.2-1.4).b. Plan how to cope with demand when monies run out</p>	<p>A.(1.1-1.4). Describe cancer screening as a very important part of taking care of their population</p>	<p>PPN.1.1. Recognize that other clinics that serve this population access funds for screening</p>
<p>PO.2.1. Receptionists ascertain farmworker status.</p> <p>PO.2.2. Promotoras provide farmworker women with eligibility assessment.</p>	<p>K.2.1.a. Describe how ascertaining farmworker status can benefit the clinic</p> <p>K.2.1.b. Describe the definition of farmworker and the pointers for scheduling appointments for patients who are farmworkers</p> <p>K.2.2.a. Describe how providing eligibility assessment can benefit the clinic</p> <p>K.2.2.b. List the criteria for eligibility for various programs</p>	<p>OE.2.1. Expect that clinics will value ascertaining farmworker status</p> <p>OE.2.2. Expect that clinics will value eligibility assessment</p>	<p>PBB.2.1. List benefits of making time to ask the patients questions to ascertain farmworker status</p> <p>PBB.2.2. Believe they can make the time to perform eligibility assessment</p>	<p>A.2.1. Believe that it is important and it is their role to assess farmworker status among clients</p> <p>A.2.2. Argue that their role includes eligibility assessment</p>	<p>PPN.2.1. Discuss with other clinics how they ascertain farmworker status among their clients</p> <p>PPN.2.2. Believe that other clinics provide eligibility assessment among their farmworker clients</p>

<p>PO.3.1. Physicians and other providers make referrals for mammograms.</p> <p>PO.3.2. Clinic directors establish referral and tracking systems in clinics.</p> <p>PO.3.3. Outreach coordinators identify screening programs for farmworker women.</p>	<p>K.(3.1–3.3).a. Describe excess morbidity and mortality from breast cancer in this population</p> <p>K.(3.1–3.3).b. Describe referral sources and funding mechanisms</p> <p>K.3.1.c. Discuss how to make a motivational referral</p>	<p>OE.(3.1–3.2).a. Expect that making a referral will result in completed mammography</p> <p>OE.(3.1–3.2).b. Expect that access to screening programs will increase rates</p> <p>OE.3.3. Expect that help with insurance will increase coverage and increase rates</p>	<p>PBB.3.1.a. Believe that they can overcome barriers (time, language) to provide a recommendation</p> <p>PBB.3.1.b. Believe that the benefits of recommending screening now outweigh the barriers</p> <p>PBB.3.3. Believe that identifying low- or no-cost programs is important to facilitate screening</p>	<p>A.3.1. Physicians believe that providing recommendations are an important part of the care they provide.</p>	<p>PPN.3.1. Recognize that other providers meet guidelines for mammography referral</p>
<p>PO.4.1. Clinic directors facilitate transportation to screening.</p> <p>PO.4.2. Establish contract with mobile screening to serve women in <i>colonias</i></p>	<p>K.4.1.a. Recognize transportation as a barrier to screening for some women</p>	<p>OE.4.1. Expect that women will use transportation services to get screened</p> <p>OE.4.2. Believe that collaboration with a mobile van will result in a higher rate of screening</p>	<p>PBB.(4.1–4.2). Believe that providing these services is worth the trouble because women need them</p>	<p>A.(4.1–4.2). Believe that providing access is an important part of the clinic's role in serving the community</p>	<p>PPN.4.1. Recognize that other clinics and screening programs provide support to address transportation barriers</p> <p>PPN.4.2. Recognize that other clinics collaborate with mobile screening programs</p>
<p>PO.5.1. Clinic directors ensure that appointments are readily accessible and hours are convenient.</p> <p>PO.5.2. Clinic directors coordinate provider schedules so that a bilingual provider is available convenient hours or provide for a professional interpreter.</p>	<p>K.5.1. Recognize that appointment availability and times are barriers for some women</p> <p>K.5.2. Describe the need for bilingual staff given the high percentage of Spanish-only speakers in catchment area</p>	<p>OE.5.1. Expect that women will use the service when it is accessible</p> <p>OE.5.2. Expect that providing bilingual providers and interpreters will enhance care</p>	<p>PBB.5.1. Believe that providing accessible appointments and convenient hours is worth the trouble</p> <p>PBB.5.2. Believe that the benefits of providing bilingual staff and interpreter services outweigh the potential barriers</p>	<p>A.5.1. Believe that it is the clinic's responsibility to accommodate community accessibility needs</p> <p>A.5.2. Believe that good communication with patients is essential to provide good care</p>	<p>PPN.5.1. Recognize that other clinics and service organizations provide flexible plans to enhance access</p>

<sup>1</sup>Fear of detection, fear of procedure, and belief that cancer is incurable are strong attitudinal factors found in the assessment.

TABLE 14.6. METHODS, STRATEGY, AND PROGRAM.

Change Objectives	Method	Strategy	Program Component
OE.1, OE.2, OE.3.a, OE.3.b, OE.3.c, SE.1.a, SE.1.b, SE.2, SE.3.a, SE.3.b, PSN.1, PSN.2, PSN.3	Modeling	Modeling of woman scheduling an appointment, obtaining mammogram, and receiving results	Breast cancer screening video (mammography segment)
A.1, A.2.a, A.3.b, A.3.c, OE.2, PBB.1, PBB.2.a, PBB.2.b, PBB.3	Verbal persuasion	<i>Promotora</i> to use convincing language and encouraging remarks	Flip chart
K.1, K.2.f, K.3.a, SE.2, SE.3.a	Individual education and counseling	<i>Promotora</i> to provide list of screening sites with directions  <i>Promotora</i> to explain key information using flip chart	Printed materials Call for Health number Flip chart
PSN.1, PSN.2, PSN.3, SE.1.a, SE.1.b, SE.2, SE.3.a, SE.3.b	Modeling	Testimonials	Breast cancer screening video

theoretical method that influences self-efficacy and outcome expectations (Bandura, 1986). We proposed using *promotoras* as role models and as a way to deliver program strategies including role-model stories of women who had detected cancer early and survived (influencing perceived social norms and outcome expectations). Additionally, program materials were designed to deliver strategies and messages based on such methods as information transmission, persuasion, and facilitation (Bandura, 1986).

### Selecting Practical Strategies

The planning team generated ideas about strategies in two ways: (1) by brainstorming and documenting ideas about strategies, materials, and delivery channels throughout the planning process; (2) and by thinking about each method that was selected and deciding on specific strategies that could operationalize that method. For example, one strategy was to use a role model who would overcome the women's barriers to ultimately carrying out the target behaviors. We noted

the popularity of *telenovelas* or soap opera-type stories among women in the priority community, particularly among women the priority population (fifty years and older).

In Latin America *telenovelas* are extremely popular, and Miguel Sabido has been a pioneer of entertainment educational *telenovelas* in Mexico. Between 1975 and 1997 Sabido produced at least seven educational *telenovelas* based on social cognitive and other theories that addressed issues such as family planning, adult education and literacy, and street children (E. M. Rogers & Antola, 1985; Sabido, 1989; Singhal & Rogers, 1999). The planning group decided to develop short *telenovela*-type scenarios that would be delivered on videotapes and flip charts. The team also considered several important methods such as using role models in the development of video segments. The story lines for the *telenovelas* included women addressing barriers, talking to health care providers, engaging in screening behaviors, and getting support from family members and friends.

The development of a video that included role-model stories; illustrations and descriptions of female anatomy; cancer; and the screening tests; discussion about the barriers to and benefits of screening; testimonials from cancer survivors; and other strategies and messages was a major focus during this phase of the project. We also developed other small media materials including a flip chart and informational brochures and flyers that contained information about screening facilities. The flip chart had many of the same elements (role-model stories, descriptions and images about the screening tests, a discussion about barriers and benefits, and so on) as the video. The video, however, focused on addressing objectives that were better met with moving visual media (such as demonstration of breast self-exam and modeling of good communication with the provider).

From a programmatic perspective, the central strategy was the use of *promotoras*. The *promotora* model is a peer health education model first developed in Latin America. *Promotoras* typically promote healthy living by educating community members in a culturally appropriate manner and by facilitating the connection between community members and health and human services. Although the effectiveness of *promotora* programs have typically been measured in terms of their ability to affect short-term outcomes, such as changing health knowledge, attitudes, and beliefs, some long-term outcomes have also been reported (for example reduction of infant mortality) (Meister, Warrick, de Zapien, & Wood, 1992). *Promotora* programs have been effectively used to educate Hispanics about prenatal care, cardiovascular health, and cancer screening. Morris, Fellner, and McLean (1994) found that it is possible to motivate Hispanic women to obtain Pap screening by using community health workers and informal, active encouragement as tools for motivation. According to Navarro and colleagues (1995), the identification of natural helpers (see Chapter Four) in the Hispanic community and their

subsequent training in interventions using culturally appropriate educational materials provides a viable approach for increasing the use of cancer-screening tests in Hispanic women of low socioeconomic and acculturation levels.

Although the use of *promotoras* to deliver educational materials and messages to the community may be seen as a channel for the intervention, we describe the *promotora* model also as a strategy because it is the *promotoras* who operationalize selected methods. For example, using modeling and verbal persuasion to influence change objectives related to self-efficacy and outcome expectations, *promotoras* themselves modeled appropriate screening behaviors and discussed their experiences with other women. They also provided encouraging messages and reinforcement for women who were taking initial steps toward completing screening. *Promotoras* also offered facilitation services such as helping women enroll in special screening programs, apply for health insurance, identify low- or no-cost screening services, and schedule appointments. *Promotoras* could also be considered a health promotion channel because they were able to deliver other educational materials, such as the video and flip chart, pamphlets, and informational materials about screening resources in the community.

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## Step 4: Program

In Step 4, guided by the matrices and ideas about methods and strategies, the planning team developed specific messages and overall content for each program component (Table 14.7). This table facilitated our producing design documents for each of the program elements.

### Working with the Farmworker Women

The planning team worked closely with community members to develop culturally appropriate program components and messages. We first looked closely at the data to understand the words farmworker women used to describe cancer, screening, lumps in the breast, and other important concepts. We then conducted additional interviews with farmworker women and *promotoras* to gather preferences for pictures, graphics, and wording for messages. Community members participating in these interviews noted that they preferred photographs to drawings. They also preferred images of people similar to themselves rather than images of models or movie stars.

As development of video scripts and messages proceeded, the National Cancer Coalition reviewed materials to assure that members of the priority community could easily understand them. All of the materials, which included audio and

TABLE 14.7. DEVELOPING  
PROGRAM COMPONENTS AND MESSAGES.

Change Objectives	Program Components	Content and Messages
P.O.2. Obtain a mammogram Determinant: Knowledge, Attitude K.2.g. Describe mammography procedures A.2.d. Express low or manageable levels of embarrassment	Video Flip chart Discussion	Feel free to ask for a female nurse or assistant to be present during the exam Demonstrate the procedures and place an emphasis on the respect for modesty Role-model stories: women who obtained a mammogram discuss their initial embarrassment and their decision to get the screenings anyway because of the importance of early detection. Role-model story: another woman says she thought that she would feel very embarrassed, but the actual exam was not as embarrassing as she thought it would be. The woman says that while she was having the mammogram the doctor explained everything she was doing, and it went by very quickly. Now the woman goes every year.
P.O.1. Call to schedule an appointment Determinant: Self-Efficacy SE.1.a. Express confidence in calling and scheduling appointments SE.1.b. Express confidence in setting aside time to obtain a mammogram	Discussion Video	<i>Promotora</i> role-plays with participants calling and scheduling appointments. <i>Promotora</i> sends many "you can do it" messages throughout presentation. Shows a woman like herself scheduling a mammogram with her doctor and shows the doctor's positive response
P.O.2. Obtain a mammogram Determinant: Self-Efficacy SE.2. Express confidence in obtaining mammograms	Discussion Video Flip chart	<i>Promotora</i> sends many "you can do it" messages throughout presentation. The video and flip chart show a farmworker obtaining a mammogram.
P.O.3. Obtain results of the mammogram and get follow-up care as necessary	Discussion Video Flip chart	<i>Promotora</i> role-plays with participant(s) calling and obtaining results of a mammogram. <i>Promotora</i> sends many "you can do it" messages throughout presentation.



**TABLE 14.7. DEVELOPING  
PROGRAM COMPONENTS AND MESSAGES, Cont'd.**

Change Objectives	Program Components	Content and Messages
<p>Determinant: Self-Efficacy</p> <p>SE.3.a. Express confidence in being able to obtain results</p> <p>SE.3.b. Express confidence in being able to understand what will happen and the results</p>	Pamphlet	<p>The video and flip chart will show the actual mammogram. During the exam, the technician or doctor will explain everything that is going on. The farmworker (actor) will obtain the results of her mammogram and ask questions about them, and the health care provider will respond.</p> <p>The pamphlet will show possible results of these tests.</p>
<p>P.O.1. Call to schedule and appointment</p> <p>Determinant: Social Support</p> <p>SS.1. Friends and family members encourage them to schedule an appointment for a mammogram.</p>	Video	<p>Video of a woman's daughter encouraging her mother to get a mammogram</p>
<p>P.O.2. Obtain a mammogram</p> <p>Determinant: Social Support</p> <p>SS.2. Friends or family members accompany them to appointments.</p>	Discussion	<p><i>Promotora</i> talks to woman about including her family in her commitment to call and schedule a mammogram.</p>
<p>P.O.3. Obtain the results of the mammo-gram and get follow-up care as necessary</p> <p>Determinant: Social Support</p> <p>SS.3.a. Friends and family members remind them to check on their results.</p>	Discussion	<p><i>Promotora</i> will tell the woman to let a friend or family member know when she has her appointment scheduled and when she should expect the results. She should ask that person to remind her to get the results.</p>
<p>P.O.1. Call to schedule an appointment</p> <p>Determinant: Barriers and Benefits</p>	<p>Video</p> <p>Discussion</p> <p>Pamphlet</p>	<p>The video shows a woman getting a mammo-gram with no apparent discomfort. Later, the video will show the woman talking to her friend describing how she felt during the procedure.</p>

TABLE 14.7. DEVELOPING  
PROGRAM COMPONENTS AND MESSAGES, Cont'd.

Change Objectives	Program Components	Content and Messages
BB.1.a. Describe procedure and express lack of fear and low expectation of pain		She will say that she felt some pressure, but the mammogram did not really hurt.
BB.1.b. List a greater number of benefits than barriers to scheduling appointment for a mammogram		The video will include statements from women describing how easy it was to call and make the appointment. She shows that she had the list the <i>promotora</i> gave her of everything she would need for the appointment and what to ask for.
P.O.2. Obtain a mammogram	Video Flip chart	The video will include statements from women describing some of the common barriers to screening, such as lack of time, fear of finding cancer, fear of the test itself, and embarrassment. Then the women will talk about how they overcame those problems.
Determinant: Barriers and Benefits		
BB.2.a. List a greater number of benefits than barriers to obtaining mammography screening		The <i>promotora</i> asks the woman to make a list of all of the reasons she should have a mammogram and another list about the reasons she does not want to go or feels that it would be difficult to get one (barriers).  According to the list the woman has made, the <i>promotora</i> will offer suggestions about overcoming these barriers. The <i>promotora</i> will have a script (on the flip chart) to help her know what to say in response to the barriers mentioned.

visual messages, were designed to be appropriate for individuals with low or no literacy skills. Additionally, because *promotoras* delivered the information directly or through small media materials (such as videotape), exposure to the program materials did not require reading skills. However, the terminology and messages had to be ones that the participants could easily understand. Hence, the planning team paid close attention to the literacy level of the materials and confirmed the understanding of these materials by means of pilot testing.

Some members of the National Cancer Coalition who had experience developing materials for low-literacy audiences provided detailed feedback to ensure that members of the priority community would easily understand the messages. To ensure the cultural appropriateness of materials, the team read parts of the script to women to verify that scenarios and language included in the script were

appropriate and reflected the way women in the community communicated with each other. Their feedback allowed us to make changes before production of the video and to avoid costly postproduction changes.

Wherever possible, we used actual farmworker women in the video. When we needed to use actors (for example, in *telenovela* scenes with specific scripting), we solicited feedback about the women about their preferences and who they felt was most like them. A documentary-style video, however, requires featuring people from the community in order to appeal to the priority population. In the CLS video, farmworker women with no training as actors were seen giving a testimonial and making a decision about screening. Whether or not community members participate as actors in a video, however, is not as important as ensuring that they can identify with the characters in the video. We used techniques of behavioral journalism to ensure that this was the case (A. McAlister & Fernandez, 2001). This technique allowed us to use the exact words of farmworker women in the testimonials and in role-model stories included in the flip chart and the video.

All materials were developed and produced in both English and Spanish. They also incorporated graphics and step-by-step guidance; and they addressed farmworker-specific topics such as arranging travel, facing language barriers, and taking time off work. Our materials were the first to be designed for audiences of very low literacy, and they filled a gap in farmworker and migrant health education.

## Scope and Sequence

The scope of this program included the delivery of the health education messages and materials during two one-on-one *promotora* visits with women in the priority communities. During the first session, the *promotora* would determine whether the woman was due for mammography, CBE, Pap test screening, or any combination of these. If she was due, the *promotora's* primary concern was to motivate the woman to obtain screening and help facilitate access. If the woman had obtained screening as recommended, the *promotora* would still offer the educational session to encourage continued regular screening. During the first visit, the *promotora* would show the woman the flip chart and the video and talk with her about any specific barriers she encounters as she considers screening. The *promotora* would then set up another appointment to visit the woman. During the second visit, the *promotora* would show the woman any materials she had not seen during the first visit and help the woman make an appointment for screening.

Consistent with traditional lay health worker services, the CLS *promotoras* often provided information and facilitation services such as identifying modes of transportation to the clinics and low- and no-cost services and helping women apply for insurance coverage, if they were eligible.

## Design Documents

Table 14.6 illustrates one of the early design documents that guided our development of program materials. From each component of this document, we compiled content and draft messages to be included in the program's video, flip chart, pamphlet, and information handouts. We then elaborated the content and refined the messages for each, continually checking that the materials clearly addressed each component's change objectives. Tables 14.8 and 14.9 illustrate portions of design documents at two stages of video development: the draft of ideas about video scenes and relevant content to be covered and a section of the video treatment.

**TABLE 14.8. VIDEO SCENES.**

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*Videos:* two (one English, one Spanish)

*Cast:* Five to six Latina women, various bit parts, extras

*Opening Scene:* The video begins at the fields at the end of a long day's work. As many of the workers leave for the day, four or five female farmworkers are talking by their cars. One of the women (Woman Number One) has just come back to work after a long absence. The other women ask her how she is. Woman Number One explains that she was being treated for breast cancer, but she is fine now. The group begins to talk about cancer. Some of them have questions, some bring up various fears and myths (that cancer is contagious, it is caused by bumps or bruises, and so on). They realize they should know more about cancer and their health. Woman Number Two promises to call and speak to a local *promotora* about cancer detection and treatment. Several of the women know the *promotora* and want to meet with her as well. They all agree to set up a meeting.

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*Promotora Scene:* A woman in the group tells story about her mother dying. Other women listen.

*Content:*

- Testimonial of a woman saying she never thought breast cancer would happen to her, but now she knows anyone can get it
- Understanding what cancer and breast cancer are, what are the risks, and why they are health threats
- Understanding that any woman can develop breast cancer

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*Call for Health Number Scene:* Woman using the Call for Health number

*Content:*

- The woman uses the call for health number and asks about a nearby clinic. She calls the clinic and speaks to the *promotora*.
  - *Promotora* explains how to use the number.
  - Where to call for health flyer and key chain
-

TABLE 14.8. VIDEO SCENES, Cont'd.

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*Continuation Scene:* Several days later, it's lunch time. The women gather at the edge of the field for lunch. The *promotora* arrives, and they begin to talk. The *promotora* leads the meeting, but all of the women participate. Some of the women are more knowledgeable than others and help answer questions or introduce information. Some women bring up barriers, and other women talk about overcoming them. The discussion is very positive and upbeat. Woman Number One shares her experience and gives the message that women can survive breast cancer.

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*Lunch with Promotora Scene:* Women in the group have lunch with the *promotora*.

Content:

- Testimonial of woman who was diagnosed with breast cancer and has been treated and cured. The woman gives messages such as, "I thought that cancer could not be cured, but I am proof that it can. I had never had a mammogram before, but my friend encouraged me to get one. I'm so glad I did because they found the cancer when it was small and easier to treat. They removed the lump, and now I am fine."
  - Express confidence in ability to obtain the CBE and the mammogram. *Promotora* sends many "you can do it" messages throughout the presentation.
  - Mammography screening recommendations: have your breasts examined by a doctor or nurse practitioner every year.
  - If someone in your family has had breast cancer, or you have had breast cancer before, you might need to have breast exams and mammograms more often. Ask your doctor how often you need these exams.
  - Understanding CBE screening recommendations: all women should have their breasts examined by a doctor or nurse every year.
  - CBE, or a breast exam by a doctor, and mammography are two ways to find breast cancer when it is early stage and easy to cure. Doctors can find lumps that are very small when they examine breasts. Mammograms can find lumps as small as a grain of rice. These exams work better when done regularly and correctly. The smaller the cancer is when it is found, the easier it is to treat and cure.
  - Importance of early detection: treatment for breast cancer is more successful if the cancer is found when it is small and has not spread. Also, if the cancer is found when it is small, it is more likely that the doctor can treat it by removing just the breast lump. If the cancer has spread further, more of the breast must be removed. Finding cancer early can help save your breast and your life.
  - Effectiveness of treatment: breast cancer can be cured. Out of every ten women, nine survive breast cancer when it is found early.
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TABLE 14.9. VIDEO TREATMENT.

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Preliminary Video Scenes

*Cast: Four women*

*Scene 1: Lunch in the field*

The video begins at the fields as the women are headed for their lunch break. A woman named Teresa joins them. The women ask Teresa where she was this morning. Teresa explains that she was at the clinic getting her annual exam and check for cancer. The group has a lot of questions about the exams for Teresa, and Teresa explains to them briefly about them until it flashes back to Scene 2: The annual exam.

Ana, Linda, and Margarita are sitting around opening their lunch bags having a conversation about getting ready for lunch.

*Ana:* I'm tired. I was ready for lunch.

*Linda:* Me too, I was hungry! So where's Teresa, she always eats with us, and I haven't seen her today.

*(Teresa enters.)*

*Ana:* Hello Teresa! We were just talking about you. Where have you been?

*Teresa:* I went to the health center for my Pap test this morning. You know, the test for cancer. And while I was there the doctor examined my breasts and explained to me the importance of the Pap test and the clinical breast exam.

*Linda:* A test for cancer. What's that?

*Teresa:* It's an exam that all women over the age of eighteen should get every year. It is a simple test to see if you have cancer in the cervix or neck of the uterus. The Pap test can even find changes before they become cancer.

*Ana:* How do you know all this?

*Teresa:* The doctor talked to me about the importance of the exams.

*Ana:* Why are they so important?

*Teresa:* Because they can help you find cancer early.

*Ana:* But I thought if you had cancer, you'd die.

*Teresa:* Not if it's found early. It can be treated, and you can survive it.

*Linda:* And how do you get breast cancer? I heard that you can get breast cancer from bumps and bruises to the breasts.

*Teresa:* No, you can't get breast cancer from bumps and bruises.

*Margarita:* I heard that breast cancer is contagious. You can catch it from someone who has it.

*Teresa:* It's not like a cold; you can't catch breast cancer from anyone.

*Ana:* So, what about the breast exam you mentioned? What is that?

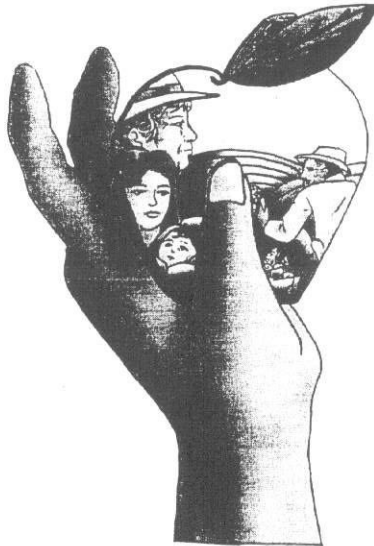
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## Program Materials

The program's theme was *Cultivando la salud* (cultivating health), and it expressed a culturally significant message to farmworker women. During the formative phase, we received many positive comments about both the theme and the logo (see Figure 14.1). We referred to the final program materials, which aimed to influence screening behaviors among women in the priority population, as the breast and cervical cancer toolbox because these materials represented tools that the *promotora* would have at her disposal when conducting educational sessions. The toolbox included a teaching guide, flip chart, video, brochures, and other resource information.

FIGURE 14.1. PROGRAM LOGO.

**Cultivando la Salud**  
**Cultivating Health**



**Cancer**  
**Education**  
**Program**

Source: Cultivando la Salud is a program of the National Center for Farmworker Health, Inc.

**The Flip Chart and Video.** The flip chart and video provided basic information about breast and cervical cancer and about screening recommendations and messages to increase knowledge, influence attitudes, provide cues, and facilitate access to screening services. The flip chart (a large spiral-bound book that could be held or set up on a table) contained photographs and illustrations on one side and information and messages for the *promotora* on the other side. The *promotora* referred to this written information (in English and Spanish) as she described each section.

**Pamphlets.** The toolbox included Spanish-language educational pamphlets from the American Cancer Society and the National Cancer Institute. The pamphlets are free of charge and were made available for *promotoras* to distribute.

**Resource Information.** The outreach coordinator at the health centers compiled lists of resources that gave locations of breast and cervical cancer screening facilities, phone numbers, contact individuals, hours of operation, and cost. Other material such as referral information, maps, and bus schedules were also included in the toolbox.

## Pilot Testing

We solicited feedback from the priority population and from the National Cancer Coalition during the development of these materials. We also conducted a formal pilot test to obtain in-depth information concerning the relevance, acceptability, appropriateness, understandability, and potential impact of the program materials.

We selected pilot-test sites—health centers or clinics—based on the following:

- Experience in developing and implementing a lay health worker program
- Existence of a lay health worker program in the health center
- Knowledge of breast and cervical cancer
- Availability of a high proportion of farmworker women aged fifty years and older living in the clinic catchment area
- Existence of the National Breast and Cervical Cancer Early Detection Program-funded mammography and Pap test services within twenty miles of the clinic

We developed the following research questions to guide the pilot-test design:

- Do the methods and materials address the specific change objectives outlined during the intervention development process?



- Are the methods and materials theoretically based?
- Are the methods and materials appropriate for farmworker women (that is, culturally sensitive, appropriate for low-literacy skills)?
- Do the materials address barriers specific to Hispanic farmworker women that influence breast and cervical cancer screening behavior (for example, fear of detection, embarrassment, lack of time, fear of procedure)?
- Do farmworker women find the materials appropriate and appealing?

During the pilot phase, *promotoras* visited women and conducted educational sessions using the draft materials. Upon completion of the sessions, the planning team conducted six focus groups: two with *promotoras* who had participated in the pilot test and four with farmworker women who had received the education. Based on feedback from the groups, planning team members refined the messages, altered specific language, improved production quality of the flip chart, and edited the video.

We compared content of the materials to the matrices from Step 2 to ensure that they were consistent with determinants of breast and cervical cancer screening for this population and addressed the specific change objectives.

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## Step 5: Adoption and Implementation

### Identifying Potential Program Users

Early in the development effort, we enlisted the participation of the members of various program user groups to serve on the National Cancer Coalition, described earlier. These members included intended program users such as clinic directors, outreach coordinators, lay health workers, and community members. Essentially, this group, in addition to its advisory function throughout program development, formed our linkage system (E. M. Rogers, 1995).

Although different clinics may have varying titles for these positions, program adopters were generally individuals who made decisions about new programs and resources to use for activities. Program implementers included individuals responsible for community outreach, education, coordination of lay health programs, and similar activities. Implementers also included individuals who would deliver the educational sessions to women in the priority population (the CLS lay health workers).

### Performance Objectives for Adoption, Implementation, and Sustainability

To specify performance objectives for program adoption, implementation, and sustainability, we relied on information gathered during our formative work, input

from the linkage system (that is, the National Cancer Coalition), and additional information obtained through new interviews with potential program adopters (clinic directors, clinical coordinators) and implementers (outreach coordinators, *promotoras*). Through these structured interviews, we were able to identify specific performance objectives that would lead to the successful adoption and implementation of the program.

These data helped answer the following questions:

- What does the individual (adopter) need to do in order to successfully adopt the program?
- What does the implementer (that is, the outreach coordinator or lay health worker) need to do to successfully implement the program?

These answers led to development of performance objectives. To adopt the CLS program, clinic directors had to become familiar with its goals and parameters of implementation, obtain clinic and community buy-in, and make a commitment to support a lay health worker program. The clinic outreach coordinators needed to identify, recruit, and train *promotoras*; supervise their educational activities; and develop locally relevant referral information. Performance objectives for lay health workers detailed the activities they needed to perform, including participant recruitment, home visitation, program materials use, visit documentation, and assistance to women in obtaining screening appointments. All of the performance objectives are included in the matrix (Tables 14.10 and 14.11).

## Determinants and Matrices

In order to develop appropriate methods and strategies to increase adoption and implementation behaviors, we identified, as in Steps 2 and 3, relevant determinants and subsequently developed change objective matrices to guide the development of materials. To do this we began with existing data from *promotoras* and outreach coordinators, and we conducted two additional focus groups with clinic staff. We asked participants about likely barriers and facilitators of adoption and implementation and then asked them to suggest strategies to overcoming the barriers. Tables 14.7 and 14.8 provide portions of the adoption and implementation matrices for program users.

Because the *promotoras* were from the priority communities and often had similar levels of knowledge and barriers regarding screening, their matrices included many of the same performance objectives, determinants, and change objectives as the matrices for the intended program recipients. The *promotora* matrices also included objectives related to implementation activities.

TABLE 14.10. SAMPLE CHANGE OBJECTIVES FOR ADOPTION AND IMPLEMENTATION CLINICS.

Performance Objectives (Clinic directors)	and Awareness	Knowledge Social Norms	Perceived Expectations	Outcome Attitudes
<i>Personal Determinants</i>				
PO.1. Adopts Cultivando La Salud Program	K.1.a. Recognize this program as available K.1.b. Recognize that the program will provide resources to the clinic K.1.c. Describe the program as promoting breast and Pap screening for farmworker women over fifty K.1.d. Describe the program as developed from extensive work with the community	PSN.1. Describe other clinics as using this program	OE.1. Expect that, if they use this program, rates of screening will rise	A.1.a. Describe breast and cervical cancer morbidity and mortality as a real problem for farmworker women A.1.b. Argue for increasing screening for farmworker women A.1.c. Describe the program as being better than what they have now, fitting with current services, able to be tried without much risk, not too complex
PO.2. Establish and support <i>promotora</i> program PO.2.1. Obtain staff buy-in PO.2.2. Obtain community buy-in		PSN.2. Describe other clinics in the area as using <i>promotora</i> programs successfully	OE.2. Reflect that <i>promotoras</i> can effectively engage women to participate in clinic services OE.2.1. Reflect that staff members will accept the program if given the opportunity to talk about <i>promotoras</i> , needs and resources, program goals, and agency support OE.2.2. Reflect that involving community leaders in planning will help develop a program that communities will accept	A.2.a. Describe <i>promotora</i> programs as building ties to the community A.2.b. Describe <i>promotoras</i> as a credible source of health information

**TABLE 14.1.1. IMPLEMENTATION MATRIX FOR PROMOTORAS.**

Personal Determinants							External Determinants
Performance Objectives (Promotoras)	Knowledge	Skills and Self-efficacy	Attitudes	Perceived Social Norms	Outcome Expectations	Social Support	
P.O.1. Adopt the role of lay health worker	K.1.a. Describe the role of the lay health worker K.1.b. Describe the challenges involved with being a lay health worker	SSE.1. Express confidence in adopting and fulfilling the role of <i>promotora</i>	A.1. Believe that becoming a <i>promotora</i> is an important contribution to the community	PSN.1. Recognize that other community women have become <i>promotoras</i>	OE.1. Expect that if they adopt the <i>promotora</i> role they will be successful at providing education to the community	SS.1. Existing <i>promotoras</i> encourage new <i>promotoras</i> and express their availability to help them.	
P.O.2. Locate farmworker women ages fifty and over P.O.2.1. Post flyers P.O.2.2. Identify community leaders to help with recruitment P.O.2.3. Go door to door in health center neighborhood P.O.2.4. Contact and work with community centers, churches, schools, migrant Head Start program, and local migrant councils	K.2.a. Describe the neighborhoods in which farmworker women reside K.2.b. Compare the needs of farmworker women to other women K.2.4. Identify community centers, churches, and other locations to conduct education	SSE.2. Express confidence in locating farmworker women SSE.2.4. Express confidence in making contact with community centers, churches, Head Start programs, and migrant councils	A.2. Explain that locating farmworker women is an important part of the <i>promotora</i> role	PSN.2. Recognize that successful <i>promotoras</i> target at-risk groups such as farmworker women	OE.2. Explain that locating and educating farmworker women will result in improvements in the health of the community OE.2.4. State that collaborating with churches, community centers, and other organizations will help them locate farmworker women	SS.2. Outreach coordinators provide encouragement and logistic support to <i>promotoras</i> in their effort to locate farmworkers. SS.2.4. Other <i>promotoras</i> will provide contacts and assistance in locating farmworker women.	
P.O.3. Conduct home and community group visits P.O.3.1. Develop a safety plan for home visits P.O.3.2. Plan community sessions with manager of community site	K.3. Describe the proper protocol for conducting home visits K.3.1. Describe safe ways to conduct home visits K.3.2. Describe points to discuss with manager of community site	SSE.3.a. Demonstrate how to approach women during home visits SSE.3.b. Express confidence in conducting a home visit SSE.3.1. Express confidence in conducting a safe home visit	A.3. Explain that home visits are an effective way of reaching farmworker women	PSN.3. Recognize that other respected <i>promotoras</i> conduct home visits and community educational sessions	OE.3.a. State that if they follow the protocol they will be welcomed into the homes of farmworker women OE.3.2. State that if they follow a good safety plan they will be safe during home visits	SS.3.a. Other <i>promotoras</i> accompany new <i>promotoras</i> on home site visits. SS.3.b. Family members express support and help at home so that <i>promotora</i> can conduct home and community group visits.	

## Methods and Strategies

Methods selected to influence adoption and implementation objectives included modeling, guided practice, social support, and reinforcement. The activities in Step 5 led to the development of a program manual for potential program adopters and a program curriculum for training lay health workers. The manual included program goals and objectives, evidence of effectiveness, and an overview of program materials. It also included support materials for managing a lay health worker program, such as

- A job description for a *promotora*
- Guidelines for *promotora* recruitment
- Training tips for management about maintenance of lay health worker programs
- Encounter forms to collect program participation data
- A sample staffing plan and budget
- Program evaluation tools

The planning team used the matrices to develop a curriculum for clinic staff to use as they trained *promotoras* and to make decisions about methods and strategies for the training. Clinic staff trained *promotoras* over three days using the curriculum. The curriculum included twelve lessons each with an outline and notes for the trainer, suggested activities, handouts, and resource materials.

The breast and cervical cancer teaching guide was another component that we developed to facilitate program implementation. The teaching guide provided *promotoras* with the necessary information to carry out an educational session and with options for structuring the sessions depending on time and location. The guide outlined specific messages for the *promotora* to communicate, for example, one teaching guide included points to cover in a discussion of the video. The *promotora* was encouraged to play the video and then to talk with the women about how relevant the topics were to their lives, potential barriers to screening, and questions that the video may have provoked.

## Program Implementation

We initially implemented the program over three months in two cities, Eagle Pass, Texas, and Merced, California. We first trained two staff members from each participating health center on the management and content of the GLS program. Following the train-the-trainer workshop, the planning team attended and observed the *promotora* training. Eagle Pass, Texas, recruited five *promotoras*; and Merced, California, recruited two *promotoras*. For three months following the train-

ing, *promotoras* were responsible for conducting education sessions with farmworker women, fifty years of age and older. Each *promotora* was employed for fifteen hours per week. The intervention consisted of a minimum of two individual contacts with each woman. If a third session was conducted, it was done in a small group setting.

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## Step 6: Evaluation Planning

Our program evaluation built directly on the preceding steps of Intervention Mapping, because we had specified intended program outcomes, intermediate or mediator variables, change objectives, and methods and strategies. We had developed evaluation questions at each step in the process.

### Program Outcome Evaluation Questions

Because it would be impossible within the time frame of our study to assess long-term health and quality-of-life outcomes, such as decreased incidence and mortality due to cervical cancer and breast cancer, we developed questions that addressed the behaviors and environmental conditions. The primary objective of the evaluation was to assess the effectiveness of the CLS program in increasing breast and cervical cancer screening behavior among farmworker women fifty years and older. The primary outcome evaluation questions addressed the effectiveness of the program in:

- Increasing mammography completion rates among a cohort of farmworker women fifty years and older who were previously nonadherent to mammography screening guidelines?
- Increasing CBE completion among a cohort of farmworker women fifty years and older who were previously nonadherent to CBE screening guidelines?
- Increasing Pap test completion rates among a cohort of farmworker women aged fifty years and older who were previously nonadherent to Pap test screening guidelines?

### Evaluation Questions Based on the Matrix: Mediator Variables

Secondary aims were related to the intermediate impact (or mediator) variables derived from the matrices. These aims were to increase knowledge, attitudes, self-efficacy, intention, and other factors related to breast and cervical cancer screening. We expected that the program would have an impact on these determinants and that these changes would in turn influence the adoption of the screening

behaviors. For example, some of the evaluation questions that we based on the matrix asked how effectively the intervention did the following:

- Increase knowledge about breast and cervical cancer and screening procedures
- Increase favorable attitudes and beliefs (pros) and decrease negative attitudes and beliefs (cons) about breast and cervical cancer screening
- Increase perceived susceptibility to breast and cervical cancer
- Reduce the perception of barriers to breast and cervical cancer screening
- Increase self-efficacy to obtain mammography, CBE, and Pap test screening
- Increase outcome expectations about obtaining screening (CBE, mammography, Pap)
- Increase intentions to obtain regular mammography, CBE, and Pap test screening

Although some existing measures of salient determinants (for example, perceived risk) had already been developed, program planners used Intervention Mapping matrices to develop measurement instruments to assess these determinants.

## Process Evaluation

The process evaluation design included an assessment at each intervention level to ensure that the program was implemented as planned. The assessment also allowed us to acquire sufficient information so that program outcomes could be linked with program implementation activities and levels of exposure.

We used the results in Steps 3 and 4 to formulate program process indicators. Questions asked during the formative phases of the project included those designed to gauge the appropriateness and relevance of methods and strategies selected and satisfaction, understanding of messages, and positive emotional reactions of the farmworker women to the program components. We also collected additional information using focus groups and in-depth interviews after the program had been delivered as part of the overall evaluation design.

We developed additional process indicators to assess fidelity and reach of the program using Step 5. These measures assessed all intervention levels and acquired sufficient information so that program outcomes could be linked with program implementation activities. Process measures included the following:

- An observation checklist completed by program staff to determine the completeness and fidelity of *promotora* training conducted by health centers
- A log in which site coordinators could record women enrolled in the program and visits made by the *promotora* to each woman

- An encounter form on which the *promotora* could record information about each visit, for example, length, topics covered, and referrals to screening sites
- An observation checklist for the supervisor to use when accompanying the *promotora* on home visits

Finally, we conducted weekly phone calls with site supervisors to assess program implementation.

## Evaluation Design and Findings

We conducted an intervention trial to test the program's effectiveness on increasing screening and influencing intermediate impact variables (for example, knowledge, attitudes). Two community intervention sites (Eagle Pass, Texas, and Merced, California) and two comparison sites (Anthony, New Mexico, and Watsonville, California) participated in the study. Consistent with principles of community participatory research, we hired community members to gather the data. They participated in a two-day training session and then began data collection activities in the *colonias* in their areas. The program effectively increased both mammography and Pap test screening among farmworker women. Among women who were previously nonadherent to mammography screening guidelines, 40.8 percent of the intervention group and 29.9 percent of the comparison group completed screening. Among women with no recent history (in the previous three years) of a Pap test, 39.5 percent of intervention group and 23.6 percent of the comparison group completed screening. Results provide important information about the effectiveness of a community-based intervention for increasing breast and cervical cancer screening among low-income Hispanic women, specifically farmworkers, along with evidence of the effectiveness of an intervention based on the lay health worker model.

## Program Status

The planning team is now in the dissemination phase of the CLS program. The NCFH received additional funding from the U.S. Centers for Disease Control and Prevention and the Susan G. Komen Foundation to provide training to migrant health clinics interested in adopting the training. There has been an overwhelmingly positive response about the program, and many clinics and lay health worker groups have requested the CLS program. We continue to refine and adapt the materials according to additional feedback and in response to changes in screening recommendations. At the same time, we are exploring ways to accelerate the program's adoption across the many migrant and community health centers nationwide.