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# Local Health Departments Implement a Theory-Based Model To Increase Breast and Cervical Cancer Screening

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## Synopsis .....

*Su Vida, Su Salud/Your Life, Your Health is a community program to increase participation in*

*breast and cervical cancer screening. This program illustrates the diffusion of an innovative outreach strategy from a research environment to two local health departments. The program uses A Su Salud, the communication model in which positive role models are featured in the media, and community volunteers who give positive social reinforcement. Local health departments in Galveston and Corpus Christi, TX, were selected to implement the model because of excessive mortality rates in the region and the departments' adequate level of resources and commitment.*

*Over an 18-month period, 54 stories of role models appeared in the media in Corpus Christi, and 60 appeared in Galveston. There were 490 volunteers active in Corpus Christi and 279 in Galveston. Of 365 inquiries to the Corpus Christi program, 35 percent were from the Mexican American target group of women ages 40-70. Of 1,457 women who contacted the Galveston program, 9 percent were from the African American target group ages 40-70. Local health departments are well-suited to participation in cancer control research applications because they have direct access to high-risk populations and have the authority to institutionalize effective interventions.*

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“**S**U VIDA, SU SALUD/YOUR LIFE, YOUR HEALTH” is a community outreach program designed to increase participation in breast and cervical cancer screening among Mexican American women in Corpus Christi and African American women in Galveston. These programs were implemented because the populations in these communities had significantly higher breast or cervical cancer mortality rates than populations in other Texas regions (1). The programs use the communication model *A Su Salud* (To Your Health), which combines positive role models in the media and positive social reinforcement by volunteers in the community. This intervention, derived from research, was first tested as a smoking cessation program in three communities in south Texas (2,3). Results from these field studies indicated a potential for application beyond smoking cessation.

The initial implementation of this theory-based community program is described to illustrate the diffusion of an innovative outreach strategy from a research environment to a local health department setting. The overall design, resources, activities, and barriers of the program are described. Baseline survey results and the program's initial impact, as reflected by the number of inquiries and women screened, are also presented.

## The Communication Model

The *A Su Salud* (To Your Health) model, previously used in south Texas Mexican American communities (2,3), has two components derived from social learning theory. The mass media component is designed to influence behavior change through social modeling. The community organiza-

tion component is designed to influence behavior change through providing members of the target group informal encouragement and social reinforcement. Both components depend on community involvement; this involvement ensures increased sensitivity to specific population groups and cultures. The tailoring of the media messages to the selected audience is accomplished through publicizing role models from the local population, who describe in their own words how and why they made the desired behavior change. Social reinforcement for the desired behaviors is then organized through existing social networks. Rather than relying exclusively on health professionals to encourage behavior change, lay people are trained to encourage behavior change, again using their own words, among their friends, neighbors, relatives, and co-workers.

### **Study Communities**

Through the National Cancer Institute Data-based Intervention Research Program (4), several regions of Texas were identified as needing increased cancer screening among their minorities because of the higher than average death rates from breast and cervical cancer of these populations (1). The Texas Department of Health recognized that, although local health departments might conduct cancer control activities for participants in existing programs within these high-risk regions, the departments had limited experience in community-wide educational efforts.

In local health departments, the majority of preventive patient services are tied to categorically funded programs such as family planning and maternal and child health programs. Because most clients are children and women of childbearing age, participation in cancer screening services by older women is minimal. Limited activities such as health fairs or news announcements have not been successful in marketing public-supported mammography and Papanicolaou (Pap) smears to women not routinely receiving services related to family planning or prenatal care.

While research results suggested that the *A Su Salud* model could be an effective cancer control strategy for any local health department, several selection criteria were developed for this project to ensure some degree of success in implementation. First, it was important that local health departments conduct new cancer screening projects with minimal additional resources. Because funding did not allow payment for mammograms or Pap

smears, it was crucial that the sites be able to provide primary and secondary prevention services and referrals to tertiary services.

Other criteria included access to a minority population, a willing local health department director, and a commitment by the local health department staff to chronic disease prevention. The commitment was measured by the existence of a State-funded Chronic Disease Prevention Program in the local health department which provided risk assessment, education, screening, followup and referrals for hypertension, diabetes, hypercholesterolemia, and cancer (referrals for Pap smears and clinical breast examinations). Participating in this project were the Corpus Christi-Nueces County Public Health District and the Galveston County Health District.

To allow for a sensitive evaluation of the outreach model and to avoid overtaxing existing screening and treatment resources, activities were specifically focused on Mexican American women in four census tracts in Corpus Christi and African American women residing on Galveston Island. Women ages 40 to 70 were targeted because of their increased risk of breast and cervical cancer death and their low participation rates in existing local health department programs. The four targeted census tracts in Corpus Christi encircle the Corpus Christi-Nueces County Health District's clinic facility and have a population of approximately 32,000. According to the 1990 census, approximately 4,000 of these are Mexican American women between the ages of 40 and 70. The incomes of 24 percent of the households in these census tracts are at or below the Federal poverty level. Galveston Island has a population of approximately 59,000, of which 2,600 are African American women between the ages of 40 and 70. Seventeen percent of the population on Galveston Island live on incomes below the Federal poverty level.

### **Community Assessment**

Before program implementation, bilingual interviewers conducted telephone surveys of the target population in each community. They interviewed Mexican American women from four census tracts in Corpus Christi and African American women on Galveston Island between the ages of 40 and 70. A telephone listing was used to generate the sample in Corpus Christi to confine the survey to the four census tracts of interest. A random digit dialing method was used to sample women from Galveston

Island. The survey included questions on demographic characteristics; knowledge, attitudes, and practices concerning breast and cervical cancer; use of tobacco; language and media preference; and sources of cancer information. The response rate in Corpus Christi was 89 percent, with 107 women completing the interview. In Galveston, 82 women completed the interview for a response rate of 92 percent.

Thirty-eight percent of the women in Corpus Christi had only an eighth grade education, and 63 percent were homemakers. Nearly half of the women lived in households earning less than \$10,000 per year, and 26 percent had no health insurance (table 1).

Two-thirds preferred to be interviewed in Spanish. The Corpus Christi group showed a strong preference for Spanish language media and mentioned television as the primary source of cancer information. Less than 30 percent of the women mentioned the Pap smear or mammogram as a method to detect cervical cancer or breast cancer. Forty-eight percent of Mexican American women thought their chances of surviving cervical cancer were poor. Those who preferred to speak Spanish tended to have less knowledge of cancer detection methods and a more fatalistic attitude. In Corpus Christi during the previous 5 years, 77 percent of the women reported having had a Pap smear and 37 percent, a mammogram.

In Galveston, 43 percent of the target group lived on less than \$10,000 per year and 16 percent had no health insurance (table 1). Nearly 60 percent of women worked outside the home, and less than half were married. Fifty-eight percent had completed high school. Fifty percent were aware of the Pap smear as a cancer detection method, and 37 percent knew about mammograms as a way to detect breast cancer. A relatively small proportion (13 percent) thought their chances of surviving breast cancer were poor. In Galveston during the preceding 5 years, 85 percent of African American women reported having had a Pap smear and 55 percent, a mammogram. In both Galveston and Corpus Christi, the most frequently mentioned reasons for not having a mammogram or Pap smear were feeling that the examinations were not necessary, financial barriers, and lack of a physician's recommendation.

The surveys not only documented the need for education and screening in the targeted groups, they also provided data that were used to tailor the media message and its mode of delivery by role models and volunteers. For example, because the

Table 1. Characteristics of target populations of women ages 40-70 by percentage, baseline telephone survey, Texas, 1989

Characteristics	Mexican Americans Corpus Christi (N = 107)	African Americans Galveston (N = 82)
Completed high school . . . . .	43.3	57.7
Annual household income less than \$10,000 . . . . .	48.0	43.4
Married . . . . .	72.0	46.3
Work outside the home . . . . .	35.3	58.2
No health insurance . . . . .	26.2	16.0
Spanish language preference	63.6	...

majority of Corpus Christi women were homemakers and preferred Spanish language (table 1), the delivery could be more efficient if the role models were heard on daytime Spanish radio. In Galveston, volunteers could provide reinforcement at worksites (table 1). Local survey data also were used to entice the news-hungry media outlets to run breast and cervical cancer screening features. Finally, the surveys provided a baseline measure from which to evaluate the effectiveness of the model in two different ethnic populations.

### Implementing the Interventions

At each site, a university consultant who had practical experience in implementing the model provided guideline documents and training to local health department staff. The consultant (L.P., the third author) had primary responsibility for producing the first media materials and teaching the process to local health department staff. Local staff learned to develop newsletters, conduct negotiations with media representatives about features on role models, identify and schedule interviews with role models, and recruit, train, and manage a network of volunteers. Campaigns were scheduled on a quarterly basis; beginning with the second quarter, local staff assumed responsibility.

**Focus groups.** The program began on Galveston Island with three focus groups of six to eight women each from the target population. The purpose was to gain insight into local language, values, and economic and cultural barriers to behavior change and culturally appropriate ways to overcome those barriers. The name of the project, *Su Vida, Su Salud/Your Life, Your Health*, was one of several suggested by the focus groups and was chosen by clients of the Women, Infants and Children Program.

Barriers identified by focus group members in-

Table 2. Impact of *Su Vida, Su Salud/Your Life, Your Health* Program over 18 months, 1989–90, on target populations

Responses	Corpus Christi		Galveston	
	Number	Percent	Number	Percent
All inquiries to program . . .	365	100	1,457	100
Inquiries from target group <sup>1</sup> . . . . .	129	35	131	9
All women who received mammograms . . . . .	32	100	884	100
Women in target group <sup>1</sup> . .	13	41	98	11
All women who received Pap smears . . . . .	286	100	131	100
Women in target group <sup>1</sup> . .	105	37	26	20

<sup>1</sup> Mexican American women ages 40–70 years in Corpus Christi and African American women ages 40–70 years in Galveston.

cluded fear of the screening tests, embarrassment about discussions of “private body parts,” high cost of screening services (especially mammograms), bureaucratic barriers, and simple lack of knowledge of the benefit of screening examinations. Information from these focus groups later was used to develop themes for newsletters and mass media features.

**Mass media.** Both programs began in February 1989 with press conferences organized by local project staff. Key community leaders including the mayors, other city officials, public health officials, media representatives, and members of the target audience participated in the “kick-off” of each campaign. In Corpus Christi, arrangements were made with three local television stations, including a Spanish language station, and five radio stations (three Spanish, two English) to provide air time on local news programs for stories of the role models and other messages about breast and cervical cancer screening. Because Galveston media are dominated by the larger Houston television media, the majority of the role model stories are featured in the local newspaper. A local radio and a community cable station also carry features. The first role model appearing in the media was a 44-year-old Mexican American woman from Corpus Christi. She had always gone for Pap smears when using family planning services but quit when she stopped using birth control pills. She related her own story of an early diagnosis and successful treatment and encouraged other women to get annual examinations.

It is important to emphasize that role model stories do not appear as public service announcements. Rather, they are presented in local television or radio news, in public affairs programming, and in the newspaper as human interest features. The

local project staff at the health department not only identify and recruit role models with positive health messages about their personal experiences with breast or cervical cancer screening, but staff also work up the details of the stories and provide background information to reporters and newscasters. Keeping the subject of breast and cervical screening fresh was an ongoing and difficult task. Local news directors wanted stories with new topics or different perspectives. For this reason the model worked best when a variety of health messages were rotated on a quarterly basis.

During the first month of *Su Vida, Su Salud/Your Life, Your Health*, 12 role models appeared in the Corpus Christi and Galveston media. An average of 10 role model stories were presented quarterly in each community. Since the program began 18 months ago, 54 stories of role models have appeared in the media in Corpus Christi and 60 in Galveston.

**Volunteers.** Volunteers from the target audience were recruited through established networks such as the Retired Senior Volunteer Program, from clients of the local health department’s Chronic Disease Prevention Program, and through door-to-door appeals to small businesses such as beauty parlors. Focus groups also were used to locate role models and volunteers. The volunteers were trained, using modeling and role playing, how to recommend going for breast and cervical cancer screening. They also learned how to express confidence, praise, and other reinforcement. On a quarterly basis volunteers distributed newsletters containing a calendar with schedules for mass media role model appearances and basic information about cancer screening and services. These ancillary print materials served to reiterate the reasons for cancer screening. They also helped to standardize the health messages delivered by the volunteers.

At the end of 18 months, there were 490 volunteers working in Corpus Christi and 279 in Galveston. On average, 70 new volunteers were recruited each quarter in Corpus Christi and 40 in Galveston. Forty-seven percent of the volunteers in Corpus Christi and 38 percent in Galveston were active in residential neighborhoods. In Corpus Christi, significant numbers of volunteers were active at worksites or commercial businesses (16 percent) and social clubs (23 percent). In Galveston, volunteers were active at African American churches (14 percent), worksites (19 percent), and the health care centers (18 percent).

During the first quarterly campaign, 8,203 news-

letters were distributed in the study areas. Thirty-two percent of the clients seen during the first 18 months in Galveston said they heard about the program by word of mouth—an indication of volunteer effectiveness.

### **Program Impact**

The media messages and volunteers generated an immediate impact on the local health department clinics. The first quarterly campaign generated 48 inquiries in Corpus Christi and 668 in Galveston. Only 24 women, or 50 percent, in Corpus Christi, and 101 women, or 15 percent, in Galveston, however, were from the designated target group of Mexican American or African American women ages 40 and older. The overwhelming response in Galveston was generated primarily from a Houston newspaper article that picked up the story about the program's low-cost mammograms. Most of the callers were specifically shopping for mammogram bargains, and most were not from the target group.

Table 2 shows the impact of the program over 18 months. The Galveston program generated more inquiries from and mammograms for the target population. The Corpus Christi program generated fewer inquiries and mammograms, but a higher percentage of these were from women in the target population. This result may represent the higher proportion of the target population in Corpus Christi or a more precise targeting of media and volunteer activities. The pattern of converting inquiries to mammography in Galveston and to Pap smears in Corpus Christi was a reflection of program emphasis and low-cost availability of both services in each city early in the project.

### **Discussion**

Success in reducing mortality attributable to breast and cervical cancer depends on the diffusion of effective interventions to existing infrastructures such as local health departments (5,6). In the phased cancer control research model defined by Greenwald and coworkers (7), effective interventions are identified from tightly controlled research environments and then implemented widely. Local health departments are well-suited to apply research results because they have direct access to high-risk populations and have the authority to institutionalize effective interventions throughout their disease control efforts.

Local health departments can easily adopt low-cost communication models like the *A Su Salud*

*'Local health departments can easily adopt low-cost communication models like the A Su Salud model because they can be implemented with limited resources and are flexible enough to adopt to community needs. Costs associated with implementing the model were the salaries for two outreach workers in each community.'*

model because they can be implemented with limited resources and are flexible enough to adapt to community needs. Costs associated with implementing the model were the salaries for two outreach workers in each community. Using mass media and community volunteers—both free—greatly increases the effectiveness of staff in reaching high-risk women.

The barriers to carrying out the program for these two local health departments were related to the innovative aspects of the model. Even with committed local health department directors, some staff initially resisted the adoption of new strategies, especially ones involving mass media. Hiring a staff member with a communications background was a major step for these clinic-oriented programs.

Other barriers were related to the political realities that local health departments encounter on a daily basis. In one community, the decision to provide services to meet an increased client load by using mobile mammography units and creating a new Pap smear clinic aroused resentment in the private medical sector.

The most difficult barrier to overcome in the program has been the lack of affordable mammograms. Prior to these new programs, clients were referred only for diagnostic mammograms. The program created an increased demand for screening mammograms, and although the cost of mammograms was lowered, it was still out of reach for many women.

Pap smears have been part of local health department services for a long time. Under this project services were expanded to include older women who no longer used the family planning clinic. To be most effective, educational programs need to be coupled with services which are free or paid for on a sliding fee scale.

