

**Obstacles and Opportunities in Designing Cancer
Control Communication Research for Farmworkers
on the Delmarva Peninsula**

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Communication Research
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ABSTRACT: *Little is known about the incidence of cancer among farmworker populations or about effective strategies for communicating with farmworkers about cancer prevention. Some studies suggest that farmworkers may have unusually high incidences of skin and cervical cancers. With these two cancers as the focus, a group of interviewers, researchers, and health communication specialists set out to create, implement, and evaluate a cancer control demonstration project geared toward farmworkers. In 1994, a situation analysis was conducted to identify constraints and opportunities for providing farmworkers with cancer control information and services. The situation analysis provided valuable information to aid in developing intervention and evaluation strategies. This paper outlines how and why the situation analysis was conducted and what was learned with regard to the farmworker population on the Delmarva Peninsula. Living conditions and the local availability of cancer control services are described. Obstacles to conducting research and interventions with farmworkers are highlighted. Based on what was learned, recommendations are made for designing cancer control research and intervention for farmworkers.*

Little is known about the incidence of cancer among farmworker populations (National Advisory Council on Migrant Health, 1993) or about effective strategies for communicating with farmworkers about cancer prevention. In 1993, a demonstration project was developed to raise awareness of skin and cervical cancer among migrant and seasonal

farmworkers in the mid-Atlantic United States (Note 1). Skin cancer was chosen because studies have shown that farm owners and operators, who have many of the same occupational exposures as farmworkers, tend to have unusually high rates of skin and other cancers (Blair & Zahm, 1991). In one of the few studies documenting skin cancer incidence among nonwhite farmworkers, Delzell and Grufferman (1985) identified a

higher than average occurrence of melanoma among nonwhite male farmworkers in North Carolina. In addition to well-documented evidence of black and Hispanic women being at increased risk for cervical cancer and less likely than white women to get Pap smears regularly (Solis, Marks, Garcia, & Shelton, 1990; Harlan, Bernstein, & Kessler, 1991; Perez-Stable, Marín, & Marín, 1994), a recent study of farmworker communities in the southern United States found that nonwhite women experience higher than average mortality from cancer of the cervix (Blair, Dosemeci, & Heineman, 1993).

To refine the project design, several factors required further investigation, including: (1) migration patterns and diversity in the target population; (2) factors affecting access to various segments of farmworker communities; (3) the validity and feasibility of using standard research methodologies with migrant and seasonal farmworkers; and (4) ways to reconcile conflicts and contradictions inherent in attempting to apply scientific rigor in the evaluation of genuinely grassroots community-based interventions. The area studied included farming regions in five mid-Atlantic states. What was learned in three of those states will be discussed here.

This paper will provide an overview and analysis of the environment in which farmworkers on the Delmarva Peninsula (Delaware and the areas of Maryland and Virginia that lie between the Chesapeake Bay and the Atlantic Ocean) live and work. It will also address the availability of cancer control services and the likelihood that farmworkers will access these services. Finally, the paper will discuss the importance of considering environmental and cultural factors when designing cancer control research and intervention strategies for farmworkers and their families. Based on the findings of the situation analysis, recommendations are made for designing research and intervention for farmworkers.

Specifically, this paper does the following.

1. Outlines the rationale and methodology for conducting the situation analysis.
2. Provides a general description of the project catchment areas in Delaware, Maryland, and Virginia (Note 2).
3. Describes the primary and secondary target populations in the project catchment areas (farmworkers and their families versus gatekeepers such as growers [Note 3] and labor contractors [Note 4]).
4. Describes the capacity of local health agencies to serve the primary target population.
5. Identifies constraints and opportunities in:
 - (a) gathering data from the target population;
 - (b) educating the target population about cancer prevention and screening; and
 - (c) delivering cancer screening services and providing appropriate follow-up.

Methodology

Detailed information about the target audience and catchment areas was gathered in a situation analysis conducted on the Delmarva Peninsula from January through October 1994. A variety of methods was employed. Methods were selected based on the source, type, and depth of information sought. Bilingual interviewers gathered data in person from labor contractors and migrant and seasonal farmworkers via brief interviews designed primarily to solicit information about farmworkers' availability and willingness to participate in a survey. Growers were interviewed by telephone using a 14-point discussion guide. Service providers were interviewed in person or by telephone using a detailed data collection form. Two case studies were carried out to learn more about the experience of low-income Hispanic women seeking Pap smears.

Community maps were developed, and housing conditions and farms were observed. Service delivery agencies reviewed their records to determine the number of migrant farmworkers served during consecutive farming seasons. In each state, at least two of the following data sources were used to estimate the number of farmworkers: the state employment agency, the local health department, Delmarva Rural Ministries (Note 5), and Telamon Corporation (Note 6). In Delaware and Maryland, project staff conducted a census of camps (Note 7) and/or motels known to house farmworkers. Table 1 shows the methods used by state and by respondent type.

A 67-question survey instrument assessed farmworkers' knowledge, attitudes, and practices regarding skin and cervical cancer. The questionnaire also inquired about health concerns, use of the local health care system, work history, migration patterns, and demographic information. English and Spanish

This project was supported by the Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health Cooperative Agreement No. U03/CCU010092-02. For further information, contact: Carol Hooks, Program Officer I, PATH, 1990 M St., N.W., Suite 700, Washington, DC 20036.

Table 1. Data Collection Methods Used in Each State.

Data Collection Method	Delaware	Maryland	Virginia*
Case Study		2 women	
Community Mapping	2 counties	4 counties	2 counties
Direct Observation	15 camps 11 farms 6 motels 19 health agencies	2 camps 2 farms/nurseries 6 motels 3 health agencies	
Migrant Population Census	15 camps 6 motels	4 motels 1 housing project	
Interview	425 farmworkers 16 growers 14 labor contractors 19 health agencies	19 farmworkers 6 growers 2 labor contractors 1 apartment manager 16 health agencies 34 nonhealth agencies	6 growers 10 health agencies 15 nonhealth agencies
Knowledge, Attitudes, and Practices Survey	166 farmworkers	190 farmworkers	119 farmworkers
Record Review	3 agencies	6 agencies	6 agencies

* Information on sources used in Virginia is incomplete.

versions of the questionnaire were field-tested and revised with farmworkers of differing races, ethnicities, genders, ages, and nationalities in all three states prior to implementation of the survey. An important reason for pilot testing the survey method as part of the situation analysis was to determine if random sampling was feasible.

Using data on farmworkers and camps gathered during the first part of the situation analysis, migrant farmworkers were randomly selected, by camp and/or by living unit within camps, to participate in the survey. Attempts were made to survey 100 percent of farmworkers in four motels in Maryland known to house migrant workers. Except for two locations in Maryland where employee and resident lists were made available, a convenience sample of seasonal workers was surveyed. The questionnaire was administered in person to 475 migrant and seasonal farmworkers. Table 2 provides a breakdown by state, gender, ethnicity, and status of farmworkers surveyed.

Findings

The situation analysis provided the following profile of the project catchment areas and target population.

Migrant Housing in Project Catchment Areas. Wilk (1986) found that most migrant workers live in overcrowded camps with poor water and sewage conditions. Visits to camps to conduct the situation analysis confirmed these findings. The camps used communal kitchens, though families and, sometimes, individuals often traveled with their own hot plates, stoves, and/or refrigerators, which they kept in their rooms. Barracks consisted of single rooms shared by families or four to 12 single men. Hygiene facilities at all of the camps were communal and less than sanitary. Living units within camps did not have telephones, but a pay phone was sometimes available in the larger camps. Regardless of size, the camps had

Table 2. 1994 Survey Respondent Characteristics by State.

	Migrant		Seasonal		Percent
	Male n=276	Female n=116	Male n=39	Female n=44	
Delaware (n=166)					
Black, non-Hispanic	62	22	0	0	51
White, non-Hispanic	1	3	0	0	2
Hispanic	54	23	0	0	46
Other	0	1	0	0	1
Maryland (n=190)					
Black, non-Hispanic	17	7	2	1	14
White, non-Hispanic	0	1	3	1	3
Hispanic	77	33	23	25	83
Other	0	0	0	0	0
Virginia (n=119)					
Black, non-Hispanic	1	3	10	15	24
White, non-Hispanic	0	0	0	2	2
Hispanic	64	23	1	0	74
Other	0	0	0	0	0
Total					
	276	116	39	44	
	58%	24%	8%	9%	

at least one working radio and/or television belonging to someone in the crew. While many camps were licensed to house migrant workers, the majority of these camps were small. Eighty-five percent of licensed camps in the catchment areas had authorization to house 49 or fewer people; these camps housed 43 percent of the migrant population. Approximately 45 percent of the migrant population in those areas lived in just 10 camps (7%) that housed at least 100 people. By way of comparison, the largest registered camp on Maryland's eastern shore was licensed to house 654 migrant workers, and the smallest had authorization to house three.

A pilot project in Maryland providing apartment and townhome-style living for individuals and families (up to 250 adults) who perform farmwork at least one month per year is being replicated in Delaware.

Many small camps had not registered with health or labor departments. Access to these camps has generally been prohibited, forcefully if necessary, by the grower and/or labor contractor.

A fairly large number of migrant farmworkers lived in motels, campgrounds, private homes, and trailer parks. (Specific numbers were difficult to acquire due to mobility of the population, safety concerns, and privacy issues. Project staff in Maryland counted 100 migrant workers living in four of six motels known to house migrant workers). Living conditions at motels visited were often worse than in the camps, since motels were not monitored by health departments. As space became available in camps, migrant workers formerly living in motels moved in. Many migrant workers were found living in cars because of limited housing availability.

Migrant camps, as well as work crews, tended to be segregated by race, ethnicity, and/or country of origin. Large camps that housed migrant workers of different ethnicities were usually segregated by barracks or living unit. In one large camp, for example, Haitians lived together in one barracks of six living units, while 20 other barracks housed Hispanic workers. Two camps visited in Delaware were not segregated.

Farmworker Population in the Project Catchment Areas. Estimates of migrant and seasonal farmworker populations vary widely according to who collects the data, for what purpose, and by what method (Oliveira & Whitener, 1994; Kissam, 1991; Kissam, personal communication, 1993; Wilk, 1986). This is true throughout the nation and held true in the project catchment areas. In Virginia, for example, the Virginia Employment Commission, which is required to contact 50 percent of migrant and seasonal farmworkers, estimated that there were 1,500 seasonal farmworkers in that state's project catchment area in 1994. Telamon Corporation arrived at an estimate of 4,750 seasonal farmworkers in 1994. Its figure was based on an average from several sources: Virginia Department of Agriculture and Consumer Services, 1980 Virginia census data, U.S. Department of Agriculture Census, Virginia Department of Health and Human Services, and 20 years of experience with farmworkers on the eastern shore.

In general, estimates of migrant farmworker populations varied less by source than those of seasonal workers. The number of migrant workers in six project counties (Note 8) in 1993 were as follows: 601 in Delaware, 1,447 in Maryland, and 2,501 in Virginia. The majority of migrant farmworkers in the three catchment areas were Hispanic, of Mexican and Central American origin. The percentages varied from approximately 50 percent in Delaware (Note 9)

Table 3. Percentage of Migrant Farmworkers Age 15 and Older by Gender and Ethnicity in Delaware (Kent and Sussex Counties) and Virginia (Accomack and Northampton Counties), 1993.

	Delaware (N=601)		Virginia (N=2,501)		Total (N=3,102)							
	Women	Men	Women	Men	Women	Men						
Ethnicity	%	N	%	N	%	N						
Black	41	63	43	191	4.3	35	4.2	71	10	98	12	262
Haitian	0	—	2.7	12	0.4	3	0.2	4	0.3	3	0.7	16
Mexican*	56	86	35	158	90	733	80	1,345	85	819	68	1,503
White, non-Hispanic	0	—	0.4	85	0	—	0.5	9	0	—	4	94
Other**	2.6	4	19	85	5.2	42	15	259	4.5	44	15	344
Total	100	153	100	448	100	813	100	1,688	100	966	100	2,219
All Ethnicities	25		75		32		67		31		71	

* Includes Mexican-Americans residing permanently in the United States, as well as Mexicans who return to Mexico each year.
 ** Majority are Guatemalan.

Source: Delmarva Rural Ministries.

to 95 percent in Virginia (Note 10). Blacks, Haitians, and American whites, in that order, accounted for almost all the remaining number of migrant workers.

Telamon Corporation estimated that 75 percent of the seasonal farmworkers on the Delmarva Peninsula were black and that one third of the seasonal farmworkers were women. As noted in Table 3, women constituted roughly one third of the migrant farmworker population in Delaware and Virginia (Note 11). Of women who responded to the survey question, "What type of farm work are you doing now?", 17.5 percent said they were not doing farm work. Of all migrant workers surveyed, 12.5 percent of those who said they had children reported bringing their children to the fields with them at least some of the time.

Both migrant and seasonal farmworkers live below the poverty level and have limited access to health care, health information, Medicaid, and other forms of public assistance (Wilk, 1986). Significant

numbers of migrant families eligible for Medicaid do not apply for coverage or are unable to use it when working outside their home states (Wright, Fasciano, Hill, Zimmerman, & Pindus, 1994).

An important consideration in the design of a multi-year project intending to measure knowledge and behavior change in a highly mobile population is the number of farmworkers who return to a given area in consecutive years. A comparison of Telamon's enrollment records for the three states from 1993 to 1994 suggested that 31 percent of farmworkers served in 1994 had also received services in 1993. Delmarva Rural Ministries estimated that 50 percent of migrant farmworkers returned to the area year after year, though not always to the same camps.

Another important consideration is crop unpredictability; drought, excess rain, and other natural occurrences can shorten the season suddenly, leading to an immediate and mass exodus of migrant workers from the catchment areas.

Gatekeepers. All of the labor contractors observed or interviewed in the catchment area were of the same race and ethnicity as the crews they managed. (Two camps in Delaware did not have labor contractors.) Interviews with six growers in Virginia suggested that there were approximately 61 labor contractors in the area and that "most" were Mexican-American. The growers believed that most of the labor contractors held high school diplomas.

All of the growers employing farmworkers in the catchment areas were known or believed to be white. The Virginia Employment Commission listed 35 growers, all of whom were college educated. Delaware counted 16 growers. Wicomico and Somerset counties in Maryland listed 17 growers; accurate information about their education level was not available, but Telamon staff believed most of the growers had completed college.

Growers associations in all three states met at least annually to discuss work activities and issues such as migrant housing. Delaware's labor bureau coordinated bimonthly meetings of growers, labor contractors, service providers, and anyone else concerned with farmworker issues. Three growers attended these meetings regularly. Telamon's state office in Maryland organized two meetings per year with agencies serving farmworkers; growers and labor contractors did not attend those meetings. Attempts by Virginia farmworker organizations to assemble groups of growers or labor contractors have historically been unsuccessful. With the exception of two or three in each state, growers contacted by project staff were receptive to programs that would improve the health of their labor force.

Health Agencies. Clinics receiving federal migrant health funding were believed to provide most health services to migrant farmworkers in the catchment areas. Health departments and private facilities contacted had limited capacity to serve migrant workers (especially those with limited English language skills) and often kept statistics by income level rather than occupation.

Health centers used by farmworkers had a list of available interpreters. However, interpretation was usually performed by clients' friends or family members, often posing confidentiality problems (real or feared), according to farmworkers interviewed.

Health facilities used sliding scales to determine fees, and all had provisions for providing free care to those who could not pay. (For obvious reasons, private facilities discouraged the use of this type of care.)

Regular clinic hours were inconvenient for farmworkers, but migrant clinics offered evening hours by appointment. Clinic staff said they went to great lengths to schedule appointments and provide transportation to and from the clinics during regular business hours.

Pap smears were generally not available on demand but rather were provided as part of prenatal and family planning services. Appointments were often scheduled four to six weeks in advance (longer than many migrant farmworkers stayed in some areas), and the results took up to two months to get from the laboratories to the clinics.

Skin cancer was not seen as a serious threat to people of color. None of the migrant clinics routinely provided skin cancer screening or biopsies. The health departments contacted also did not screen for skin cancer.

Migrant clinics either paid for referral services or established agreements with service providers to serve migrant workers free of charge or at reduced cost (though a colposcopy and sonogram in two cases identified and followed during the situation analysis cost \$175 and \$278, respectively, at the referral hospital used by the health department). In theory, migrant workers were eligible for services provided under the National Breast and Cervical Cancer Initiative (Note 12). In reality, Maryland was the only one of the three states to receive federal funds under this initiative during the situation analysis, and health departments provided Pap smears only to women at least 50 years old. Under this particular program, appointments were scheduled up to six months in advance.

Table 4 provides an illustrative profile of health services available to farmworkers in the Virginia catchment area.

In general, health departments, migrant health centers, hospitals, and some private physicians expressed willingness to cooperate with the project, particularly with regard to participating in coalition or advisory council meetings and displaying or distributing skin and cervical cancer materials in their centers. They felt collaboration during the planning stages would have made more active participation possible and asked to be kept apprised of project activities.

Health departments and migrant health centers did not believe they could handle an increase in the number of Pap smears they would be required to perform if the cervical cancer communication component of the project were successful in increasing

Table 4. Profile of Health Services in Accomack and Northampton Counties (Virginia), 1994.

Health Service Provider	Migrant Health Clinic	Health Department	Private Hospital	Pediatric Health Center
Funding for serving farmworkers?	Yes. Funding from federal Migrant Health Program.	No. Farm worker clients generally referred. Served 1,939 migrant and seasonal farm workers in 1992. More than 1,600 were through the Migrant and Community Health and Women and Infant Children programs.	No. Served 557 migrant farm workers in 1993, 337 of whom were in the emergency room; outpatient visits (75 in 1993) are usually by referral for X-rays.	No. No records whether they are served.
Spanish language capability.	Six staff.	Seasonal translator.	Three staff; translator service.	Two full-time and one part-time staff.
Availability of Pap smears, cost, and notification.	Yes. Cost to client for first visit is \$7; decreases with subsequent visits.	Only offered as part of routine prenatal physical or for women requesting family planning services. Sliding scale fees. Majority of farm workers are not charged.	Not offered.	Not applicable.
Skin cancer screening and biopsies	Skin biopsies are available, routine screening is not. Cost to client is \$7. Clients with positive biopsy readings are referred to local dermatologist who generally sees farmworkers at no cost.	Not offered.	Not offered.	Not applicable.

demand for Pap smears, unless they received supplemental funding. The migrant health centers indicated that they would prefer not to spend limited resources referring large numbers of farmworkers for skin cancer screening, diagnosis, or treatment. Local chapters of the American Cancer Society were anxious to provide materials, speakers, meeting facilities, and assistance with cancer screening.

Nonhealth Agencies. Several nonhealth agencies provided services to migrant and seasonal farm workers. These included legal assistance, immigration assistance, social services, employment training, substance abuse counseling and treatment, food banks, clothing banks, Head Start, food stamps, emergency financial assistance, housing assistance, and religious guidance. Their ability to assist non-English speaking clients varied. In two Maryland

counties, for example, 14 of 25 had Spanish-speaking staff or volunteers, at least during the growing season. Two maintained translator lists to use on an as-needed basis. Telamon case managers worked regularly with many agencies to coordinate services to migrant and settled-out (Note 13) farmworkers.

Discussion: Implications for Developing a Cancer Control Communication Project

Data collected during the situation analysis revealed several obstacles to implementing a cancer control communication project with migrant and seasonal farmworkers. Perhaps even more importantly, the information gathered and the methods used revealed how the project could find an acceptable balance between scientific rigor and real-life

conditions. The process of implementing the pilot survey provided valuable information on how to take advantage of the opportunities and sidestep or work through the obstacles.

Gathering Data from the Target Population.

Several major constraints were identified. Among them were work hours (dawn until dusk or later—during the height of the season some harvesting is done at night, using truck headlights to illuminate the fields), difficulty identifying seasonal farmworkers, language, safety (especially in unsupervised housing areas), crop unpredictability (abruptly ending the harvest season at times), the number and size of camps as discussed above, and the absolute necessity of conducting interviews in person rather than by telephone or mail—because neither was readily available in camps and because of the intrinsic value of face-to-face interaction.

Opportunities included the known location of migrant farmworker housing, free access to migrant camps, the number and size of camps, availability of bilingual and bi-cultural interviewers, farmworkers' awareness of the implementing agency's work in their behalf, and good relationships among the implementing agency, project staff, growers, and labor contractors, as evidenced by their cooperation in conducting the situation analysis.

The situation analysis demonstrated that with careful planning and cooperation from growers and other gatekeepers it is possible to conduct thorough research with a randomly selected sample of migrant and/or seasonal farmworkers. To reach farmworkers, project staff approached growers first, requesting their support and advice and discussing how project activities might benefit them. Support from growers was key in gaining access to seasonal farmworkers, who otherwise were extremely difficult to identify and impossible to randomize. (With rare exceptions, as noted in Maryland, seasonal farmworkers do not live in a single neighborhood or community. They also perform other types of work much of the year and may not identify themselves as farmworkers.)

Next, project staff generated information and goodwill from labor contractors and encountered little resistance to the idea of the situation analysis and eventual intervention. Despite the long, hard hours they worked, farmworkers were receptive to interviews, including the 67-question survey instrument. At every site, farmworkers who were not selected for interviews asked to be included.

The number and size of migrant camps in the catchment area worked both for and against data

collection efforts. Having a large number of relatively small camps made randomization by camp simple. Camps could be randomly chosen, and everyone in selected camps could be targeted for interviews. However, these camps tended to be fairly spread out. Traveling back and forth between the camps took 45 minutes to an hour, and time was lost when interviewers arrived at empty camps and either waited for workers to return or moved on to the next camp. In large camps, living units were easily sampled, and all inhabitants in selected units were identified and targeted for interviews. In the largest camps (more than 200 occupants), interviewers had to travel to fewer places, saving time and, therefore, project dollars. They could also easily move from one unit to the next and return to units where occupants were initially out or unavailable. Contamination between occupants of units who had already been interviewed and those who would be interviewed at a later date was anticipated to be higher in large camps because so many people lived in such close quarters. For example, people from neighboring units often tried to listen to interviews out of curiosity, and survey respondents were questioned by onlookers afterward.

Several random sampling techniques were used; some worked better than others. For example, random sampling using the "dormitory" bed as the sampling unit within selected camps was as unsuccessful as expected. People were seldom found sitting on their beds. On the other hand, techniques focusing on groups (selecting everyone in a particular living unit, for example) and taking advantage of natural behaviors within camps (for example, every third person encountered outside the barracks) virtually eliminated nonresponse during the pilot survey.

As mentioned above, interviewers were bilingual, some had been farmworkers at some time in the past, and most were from or familiar with the cultures represented in the farmworker population. Interview forms were prepared in English and Spanish. Due to farmworkers' hours, cramped living conditions, and privacy (to isolate respondents) and safety issues (most of the interviewers were women), many of the interviews were conducted outside and at night. Interviewers travelled in pairs, carried flashlights, and used lighted clipboards to facilitate their work.

All of these factors, combined with the flexibility needed to be available at the times and on the days of the week respondents preferred, enabled the interviewers to collect large amounts of valuable information in relatively short periods of time. Interviewers also gained invaluable experience and gathered anecdotal information that would be used to stream-

line the data collection process in subsequent years of the project.

Educating the Target Population About Cancer Prevention and Screening. The constraints and opportunities for gathering data from farmworkers also apply to providing education to farmworkers about cancer prevention. One of these constraints is the difficulty of organizing group education activities with seasonal workers; reaching out to them requires the use of mass communication vehicles and/or labor-intensive one-on-one identification and contact.

Other constraints identified or confirmed through the survey include: (1) cancer is not high on the list of farmworkers' concerns; earning enough to provide for their families' survival is; (2) English and Spanish reading levels and reading habits impact the usefulness of printed materials; and (3) education about cervical cancer prevention requires discussion of sensitive issues concerning risk factors and what are perceived as invasive, unpleasant, and embarrassing screening procedures.

On the positive side, all of the farmworkers interviewed in Maryland prior to the survey said they would participate in a health fair or block party where they could be screened for cancer and learn how to protect their families' health.

Spanish-language radio stations operate in the catchment areas, at least during harvest season, at least one day per week (usually Sunday morning). Spanish-language television broadcasts programs at least once per week in the catchment areas. Both could be used to supplement and reinforce health messages delivered through interpersonal communication.

Educational sessions on health, English language, and other topics have traditionally taken place Monday through Thursday evenings in camps. Delmarva Rural Ministries has also conducted sessions on Sunday afternoons, since farmworkers (especially those grading produce) often work until 10 or 11 p.m. during the high point of the harvest season. In Virginia, Delmarva Rural Ministries found no difference in attendance between educational sessions that were scheduled in advance and those that were not. They found sessions conducted in clinic waiting rooms to be the least productive, while those conducted at camps and during day care meetings were well received.

As a rule, the authors and countless others involved in health education have found it essential

to design or adapt print and non-print materials to specific target audiences. Judging from responses to this survey and other interviews, this is especially relevant when trying to raise farmworkers' awareness of skin cancer risks. Despite growing efforts to inform the general public about skin cancer prevention, 68 percent of Hispanic migrant respondents told interviewers that they had never heard of skin cancer. A frequently unprompted comment from the few who had heard of skin cancer was that "only people who go to the beach in the summer get skin cancer." Educational materials must also take into account language, culture, ethnicity, reading levels, viewing habits, listening habits, and occupation.

Delivering Cancer Screening Services and Providing Appropriate Follow-up. Federal rural and migrant health funds ensured the availability of basic health services to migrant and seasonal farmworkers in the project catchment areas. Migrant health centers employed native and/or fluent Spanish-speaking health personnel, at least during the growing season. (Hispanic farmworkers said they felt more comfortable with and better served by Spanish-speaking doctors and nurses.) One agency operating in all three states also recruited a Haitian Creole-speaking interpreter each harvest season.

Cancer screening services were readily available to seasonal farmworkers in the catchment areas, provided they were made aware of the existence of and need for such services. Local health departments and private hospitals held special cancer screening events at various times during the year. Screenings were open to the general public, including migrant and seasonal farmworkers (though language and culture may have been barriers to the successful recruitment of non-English speaking people and in communicating with them if they came in for screening). The two case studies, however, illustrated the classic difficulties related to follow-up, even in a fairly stable population. In one case, the woman ignored written notification from the health department requesting that she return to discuss the results. In addition, the long delay between having the initial test and being notified of the need to return may have played a role in the woman's lack of follow-up. In the other case, the woman, though a legal U.S. resident alien, was not eligible for assistance with the cost of follow-up; she returned to her native country for diagnosis and treatment.

Among migrant farmworkers, particularly those who did not speak English well, the obstacles to

cancer screening were numerous and included those discussed above. Migrant health facilities could satisfy the then-current demand for certain cancer screening services and even expedite return of laboratory results and delivery of follow-up treatment, but they would not have been able to handle a major increase in demand. Interviewers also observed cases of reluctance to serve migrant workers in health department clinics, though it is impossible to say how commonly this occurred.

Recommendations

This situation analysis points to the need for broader considerations in designing and carrying out programs to improve farmworkers' health. Federal, state, and private agencies must work together to gain an accurate picture of the farmworker population. This includes agreeing on definitions of "migrant" and "seasonal" with regard to farmworkers and routinely collecting data on occupation in conjunction with health, morbidity, and mortality statistics. More research on the type, appropriateness, and quality of health care services available to migrant and seasonal farmworkers must be conducted and widely disseminated to provide more and better services to more farmworkers. Collaboration between federal and state agencies to allow interstate use of Medicaid benefits by migrant workers also would improve access to care.

Consideration of environmental and cultural factors was essential in conducting this situation analysis, and carrying it out only reinforced their importance. Specifically, work hours, crops worked, type of work being performed, work patterns, working conditions, living conditions, language, social values, learning styles, and standard demographic profiles (such as age, gender, family size, income, and education) influenced farmworkers' perception of the situation analysis and reaction to the interviewers. For example, farmworkers contacted during the pilot survey expressed appreciation that someone cared enough about them to come and ask their opinion about things. They also took advantage of the interviewers' presence to ask health-related questions and seek advice on a wide variety of problems.

This, combined with the uncertainty about how long individuals and crews remain in a given camp, guided project staff and evaluators to design an intervention and evaluation strategy that would

allow for pre- and post-testing within a three-week period. The intervention was expanded beyond cancer prevention communication (to provide assistance, including health- and nonhealth-related referrals, with whatever problems the farmworker was experiencing) to help ensure that the cancer prevention messages would eventually be heard and heeded. The strategy also called for educational materials and cancer screening events designed for farmworkers. Both the intervention and the evaluation (primarily field observations and surveys) should be carried out, to the extent possible, by individuals with the same cultural background and employment history as the farmworkers in the target audience. In addition, agencies developing and implementing health programs for farmworkers should include gatekeepers such as labor contractors, growers, and religious leaders in program design and develop components geared toward addressing their needs and ensuring their cooperation with farmworker health initiatives.

Because the movement of migrant farmworkers is often fast, unpredictable, and out of their control, more immediate methods for detecting cervical abnormalities should be considered. Low-technology methods could prove to be more efficient than Pap smears, the results of which may take four to eight weeks to get back to the farmworker. One example would be a low-power magnifying device, with a self-contained light source, that could enhance visual inspection of the cervix. "Rush" Pap smears or biopsy could then be performed on (and reserved for) women who showed evidence of lesions. Though this situation analysis looked specifically at skin and cervical cancer services, the same could be said of diagnostic technologies for other diseases. However, health departments and migrant health centers will require supplemental funding or collaborative support to introduce such methods.

Notes

1. Includes male and female farmworkers and their family members. Farmworkers were defined as those employed in farm work for at least 25 days (or earned at least \$400 doing farm work) in a 12-month period within the past 24 months. Migrant was defined as one who travelled away from home to live temporarily near the site where the farm work was performed. Seasonal workers were those who lived at home all year round, performing farm work part of the year.
2. Catchment areas were defined according to the presence of a large number of farmworkers in legal camps with fairly cooperative management and the existence of health facilities within a 60-mile radius.

3. "Grower" refers to farm owners and operators who employ farmworkers on a seasonal basis.
4. "Contractor" refers to individuals contracted by growers to hire and supervise farm laborers.
5. Delmarva Rural Ministries is a federally funded agency that provided health services to farmworkers in Delaware, Maryland, and Virginia. Delmarva sent outreach workers into all known camps to count actual residents and collect information on age, gender, ethnicity and country of origin.
6. Telamon Corporation, a partner in the project, is a private nonprofit organization that provides job training and support services to farmworkers in 11 states.
7. The word "camp" refers to low-resource housing temporarily used by migrant farmworkers where they migrated to work. Camps are generally owned by growers and located on growers' property.
8. The six counties were Kent and Sussex Counties, DE; Somerset and Wicomico Counties, MD; and Accomack and Northampton Counties, VA.
9. This was derived from Delmarva Rural Ministries' 1993 census of migrant camps in Delaware. The census is conducted annually by health outreach workers, most of whom are bilingual.
10. This percentage was derived from Delmarva Rural Ministries' 1993 census of migrant camps in Accomack and Northampton counties.
11. In Maryland, 22.8 percent of all the farmworkers contacted by Delmarva Rural Ministries were women. Similar data specific to migrant women were not available.
12. The National Breast and Cervical Cancer Initiative was authorized in 1990 to promote achievement of the *Healthy People 2000* goals for reducing morbidity and mortality associated with breast and cervical cancer.
13. "Settled out" refers to former migrants who decided to remain in the area to find stable work and living arrangements.

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