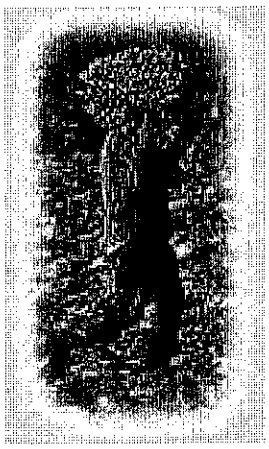

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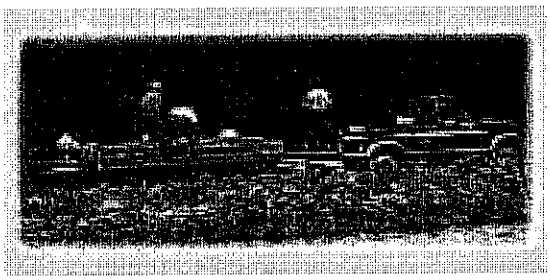

THE CENTER FOR
Rural Pennsylvania
A Legislative Agency of the Pennsylvania General Assembly

The Health and Nutrition of Hispanic Migrant and Seasonal Farm Workers

by
Katherine L. Cason, Ph.D., R.D., and Anastasia Snyder, Ph.D.,
Department of Food Science and Human Nutrition and
Leif Jensen, Ph.D., Department of Agricultural Economics and Rural Sociology,
Pennsylvania State University

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Introduction

Agriculture is an important industry in Pennsylvania, and migrant and seasonal farm workers constitute a significant portion of its labor force. Their contributions to harvesting and processing farm crops have a positive economic impact on the farms and communities where they work and live. Each year, approximately 45,000 to 50,000 migrant and seasonal farm workers are employed in Pennsylvania to assist in harvesting the Commonwealth's fruit, vegetable, and mushroom crops*. It is ironic that the efforts of migrant and seasonal farm workers allow the U.S. population access to high quality and affordable foods while they may suffer from food insecurity, malnutrition, poor health status, poverty, and low job security, and may live and work in unsafe and unsanitary conditions.

This study will add to the limited body of research regarding the health and nutrition status of Hispanic migrant and seasonal farm workers in Pennsylvania, inform the development of sound policy surrounding use of health care and social service programs for these farm workers, and contribute to outreach education programs by providing needed information for intervention planning for the health and well being of the migrant and seasonal farm worker population.

Prior national research has outlined three main themes related to migrant worker health and nutrition: health, food insecurity and social services.

* Note: The lack of accurate data on the number of farm workers is a nationally recognized problem (Larson, Findeis, Swaminathan, and Wang, 2002). The exact number of migrant and seasonal farm workers in Pennsylvania is unknown because these data are not systematically collected. This figure comes from Rural Opportunities, Inc., a statewide service organization that targets this population and keeps records of those served.

Health

Past studies have found higher rates of certain diseases among migrant/farm worker populations and that an unhealthful diet is the likely cause. These diseases include heart disease, stroke, asthma, diabetes, obesity and hypertension. Poor diet was attributed to factors such as lack of money, low fruit and vegetable consumption, unbalanced diets, lack of time to prepare meals, communication and language barriers, and fear or confusion in trying new foods.

Food insecurity

Factors common among this population group, including low incomes, low literacy, poor health, living in a remote location, and lack of transportation, increase the risk of food insecurity. Kasper, Gupta, Tran, Cook, and Meyers (2000) found that food insecurity occurred in low-income legal immigrants in the U.S. at a rate almost twice that of the general population of low-income non-immigrant families. Despite the apparent lack of money to purchase foods, subjects reported low participation in public assistance programs despite eligibility.

Social services

Migrant and seasonal farm workers often do not access social services. For example, about 70 percent of migrant farm worker families live in poverty yet fewer than 10 percent use food assistance programs (Snyder, Jensen, & Cason, 2003). Factors such as limited cultural capital, lack of political power, poverty, and frequent mobility operate as barriers to service use and food program participation (Slesinger, 1992). Nonprofit service organizations are frequently the main or only source of community support used by migrant and seasonal farm workers and their families. Twenty-two percent of farm workers receive assistance from community-based charitable organizations (U.S. Department of Labor, 2000).

Defining the study population

Identifying the farm worker population is difficult because workers often live in remote rural locations and move frequently. Some workers do not have immigration and work papers and therefore avoid contact with government agencies and remain uncounted. Definitions of the population vary; some sources include non-migrating seasonal workers or dependents traveling with migrating farm workers.

This study uses the U.S. Department of Health and Human Services definition, which identifies a migrant as "an individual whose principal employment is in agriculture on a seasonal basis, who has been so employed within the last 24 months, and who establishes for the purpose of such employment a temporary abode." A seasonal worker is defined by the same criteria but does not change residence. Both migrant and seasonal farm workers were included in the study.

About the study counties

Chester and Adams are the two Pennsylvania counties with the highest number of migrant and seasonal farm workers (Rural Opportunities, Inc., 2002). However, the main agricultural industries that employ these workers are considerably different in the two counties. Adams County employs farm workers primarily in the fruit industry (apples, peaches, cherries), whereas Chester County employs a large number of workers in the mushroom industry. Because the mushroom industry operates nearly year-round, those workers represent a more settled population and earn higher annual wages than migrant farm workers. The farm workers interviewed in Chester County come directly to the county from Mexico, rather than migrating as part of the established migrant streams from Florida and Texas. Some of these workers come on work contracts as part of the H2A visa program. According to the rules of the H2A visa program, workers come without families and are obligated to work only for the grower hiring them or return to Mexico. In Chester County, a large number of them have families who come independently and remain year round, while the men travel back and forth on the H2A program. In contrast, the farm workers in Adams County begin arriving in late spring and typically migrate further north to follow the crops in early fall. Therefore, they are more typical of migrant agricultural workers (Rural Opportunities, Inc., 2002).

Both counties have fast growing total populations that tend to be younger than the population of the state overall. The study counties also have slightly higher percentages of Latino residents, lower unemployment, higher employment in agriculture, and a higher percent who speak Spanish. Of those who speak Spanish, however, approximately two thirds also speak English "well" or "very well," which differentiates them from the population of farm workers in this study. In comparison to Adams County and Pennsylvania residents overall, Chester County residents have a higher per capita income, lower poverty rate, and higher levels of education.

Characteristic of Pennsylvania's migrant and seasonal farm workers (Rural Opportunities, Inc.)

Ninety-five percent of migrant and seasonal farm workers are minorities. Most are Hispanic, including Mexican-Americans as well as Mexicans, Puerto Ricans, Cubans, and workers from Central and South America. This population also includes Black Americans, Jamaicans, Haitians, Laotians, Thais, and other racial and ethnic minorities.

Ninety-five percent are foreign-born (91 percent born in Mexico), twice the proportion of a generation ago.

Sixty-one percent of the state's hired farm workers live in poverty.

Forty-two percent are unauthorized immigrants.

The average educational attainment is just six years of school.

Twenty-four percent are illiterate, and another 43 percent are functionally illiterate.

Methodology

Data were collected through focus groups with migrant farm workers and through key informant interviews with community service organizations and program providers that serve migrant farm workers in Chester and Adams counties.

Focus group interviews

Because the migrant farm worker population is difficult to reach, contact was made through various service providers in the project counties. These agencies recruited participants with the specific characteristics that the project required. Focus group participants were Hispanic people who lived or worked in the county where the agency was located, but it was not was not a requirement for participation to be a user of any programs that the agency offered.

Three focus groups were held in Adams County and two in Chester County. The focus groups were conducted in Spanish using a script of open-ended questions with probes and were tape recorded to complement note taking for analysis.

The objectives of the focus group research were to:

- understand migrant farm worker perceptions of what constitutes good health and proper nutrition;
- identify barriers to achieving good health, diet, and proper nutrition;
- identify public or community-based resources that migrant farm workers use for assistance;
- identify specific practices employed to improve health; and
- identify health care and social service programs and why these are or are not used.

The focus group interviews also encompassed:

1) current health and nutritional status;
2) level of food security;
3) health care use by the participant and his/her family;
4) work and housing conditions;
5) food security maintenance practices; and
6) demographic profiles including race, ethnicity, age, family composition, immigration status, country of origin, and migration pattern.

Key informant interviews

Community service organizations that serve migrant farm workers and their families in Chester and Adams counties were identified and contacted with the help of Penn State Cooperative Extension. Because these representatives work with migrant farm workers every day, they have first-hand knowledge of the issues faced by migrant farm workers and an interest in helping bridge the gaps to quality care.

The key informant interviews had a two-fold purpose:

- to examine service providers' perceptions of migrant health and well being; and
- to provide a catalyst for developing public policies related to health.

The key informant interviews encompassed:

1) demographic composition of the migrant farm worker population;
2) community structure;
3) services provided to migrants;
4) migrant farm worker health issues and how well they are met; and
5) service gaps and barriers to service utilization.

The researchers interviewed all interested service providers, 11 in Chester County and nine in Adams County. A series of nine open-ended questions were asked of each service provider either face-to-face or over the phone. The interview data were analyzed to identify themes and sub-themes.

Limitations

As with any type of research methodology, key informant interviews and focus groups have limitations.

Especially in the key informant interviews, built-in bias may result in an interpretation that does not represent the needs of the migrant population as a whole but instead only those needs in the areas of expertise of the respondent. An attempt to overcome this was made by interviewing representatives from a wide variety of agencies each providing a unique service.

As compared to an individual interview, the focus group facilitator has less control over the situation. Because focus groups allow and encourage participants to interact with one another, participants can influence other members or lead the discussion away from the original topic. The validity of the focus group lies in the moderator's skill in asking quality questions and eliciting honest answers. To control for this, the researchers employed two Mexican-American focus group facilitators who were trained and experienced in conducting focus group interviews. Another limitation of this research methodology is that focus group findings cannot be generalized to the larger farm worker audience. The data collected from one group is specific to that target population and cannot be used to design education materials or programs for groups other than the migrant workers.

Additional limitations to this study include small sample size within two counties in Pennsylvania. Despite these limitations, the study is significant since it is the first study on health and nutrition among Hispanic migrant and seasonal farm workers in Pennsylvania.

Results

Focus groups

The focus group interview data were analyzed by county. Because Adams County farm workers are predominantly migrant and those in Chester County are more seasonal, the researchers expected to find differences between the two counties; however none were found. Therefore, the data were compiled into one report describing the responses of participants in both counties.

Demographic characteristics of participants

All 45 focus group participants were Hispanic and about half were from each county. More than half, 58 percent, were female and 69 percent were married. Most, 78 percent, came from Mexico. The mean age of participants was 32.6 years (range 18-63 years) and 80 percent had eight years or less of education. The average number of people living in the same household was 5.3. About half of respondents, 49 percent, had an income from $15,001 to $25,000, which is below the federal poverty level. The study population is less educated and has lower incomes than the general population of the counties.

Food choices and influences on food choices

To get participants to begin thinking about their eating habits, they were asked to name their favorite foods. Most named traditional Mexican foods, and this preference for Mexican over American foods indicates a limited level of dietary acculturation.

When asked, "How do you decide which foods to eat?", participants in all focus groups indicated that they choose foods based upon price. "We buy and eat cheap foods, because we have no choice." Many mentioned that they had to eat certain foods because of the food preferences of others in the household. Several mentioned that foods in the U.S. are not as fresh as foods they could get in Mexico and they would not buy certain items in the U.S. because of the poor quality and high price. Other issues cited as affecting their food choices were lack of transportation, the language barrier, being unfamiliar with where they live and what foods are available, and difficulty identifying foods by their names. Only one participant mentioned nutrition and health as a factor that influences food choice.

Participants were asked to describe how food is purchased and prepared in their household. The participants living with spouses all mentioned that the ladies are responsible for those tasks. However, among participants residing in households consisting of only men, one man was often chosen as the head cook, based upon skills and interest of the people in the household.

Dietary acculturation

Participants in all focus groups mentioned that their eating habits have changed dramatically since being in the U.S. They do not eat as many fresh fruits and vegetables because of the perceived poor quality and high price. They have increased their consumption of foods from fast-food restaurants and restaurants that have buffets. "The Chinese buffet is great because you can eat enough food for a day in one meal." The participants commented that their children were exposed to new foods in the schools, and these foods soon were requested at home. The participants also mentioned that foods were prepared differently, which had to do with time and lack of facilities.

Food sufficiency practices

Participants were asked about the ways they acquired foods other than through a grocery store or restaurant. Sharing with friends and family was cited as the most common way of getting foods. "People help each other when we need to. Like, we will move in together to save on rent, and if one has food, he shares with others who don't." Gardening was not cited as a common practice due to lack of space and time to devote to it.

Preserving foods for future use also was not a common practice.

Participants listed several common things that they and other migrant families have done to get through the month with enough food for themselves and their families. Most common were not eating or drinking certain foods and beverages because of the cost, eating a lot of beans, rice and tortillas, buying food on sale, eating less, and making good use of leftover foods.

When asked about the foods they prepare to help make money go farther, all participants mentioned specific inexpensive items as well as food on sale and food that has coupons. None mentioned food assistance programs such as food stamps, WIC, soup kitchens, churches, or food banks. Only one participant mentioned that his/her children receive free breakfast and lunch at school.

Nutrition education

Participants were asked where they get information about food and healthy eating. Responses included television, magazines, doctors, and friends who know about nutrition. One participant mentioned the food product label as a good source of nutrition information. None of the participants reported attending a nutrition class or program.

When asked about the kinds of information they need to have about food and eating, participants gave mixed responses. The majority mentioned information on how to eat a balanced diet: however, there was confusion as to what constituted a balanced diet. Other responses included how to feed babies and children, how to make more nutritious and cheaper food, how to use American foods, weight loss information for both children and adults, and information about diabetes.

The participants made suggestions regarding the format for educational programs. All mentioned that the programs should be fun and interactive and should involve cooking. Advertising the program was mentioned as being important and should include television commercials, ads on the Spanish radio station, ads in Spanish in the newspaper, flyers distributed to children at school that would go home in their backpacks, and signs in places that the families go to frequently, like churches and the laundromat. Classes should be held in late afternoon or evening. Sunday afternoon was most commonly mentioned as the best time for holding a class. All participants stated that the most important thing about providing any kind of education was that it be done in Spanish and that it be culturally appropriate. "It's not enough to just tell us things in Spanish, it also has to promote and teach using Mexican foods."

Key informant interviews

The key informant interview data revealed differences by county only in demographics. Therefore, just the demographic characteristics will be delineated separately for Adams and Chester counties.

Demographic profile—Adams County

The large majority of farm workers are from Mexico. To a lesser extent they come from Guatemala, Puerto Rico, and other countries such as the Dominican Republic, Vietnam or Russia. A large proportion of the workers are male. However, it is not uncommon to see women working as well. The women work in agriculture or in factories.

Typically, farm workers in Adams County work at farms that grow mushrooms, fruit and vegetables and that raise poultry. Farm workers typically live in rented houses, apartments or condos. In some areas, workers and their families live with extended family members, such as aunts and uncles, cousins or siblings. In other areas it is more common for just one family (husband, wife, and children) to live in a residence.

There are both migrant and seasonal farm workers in Adams County. Migrant workers change residences frequently, traveling from the

south to the north as the seasons change, while seasonal workers generally stay in one area for an extended period of time. There is a wide variety in the length of time farm workers have lived in the U.S., but most seasonal workers have lived in the U.S. for several years. In fact, one interviewee indicated that most of her clients have been here for over 15 years, and now their family members are moving into that area. Farm workers normally return to their home countries to visit family and friends about once a year, usually around Christmas. Their visits range in length from a couple of weeks to a few months. One interviewee mentioned that some children do not make it back from their trips in time to start school in January. The fact that these children are English language learners makes it a challenge for them to catch up in their schoolwork.

Demographic profile—Chester County

As a result of the current nature of the industry in Chester County, the majority of mushroom workers are not "true" migrant farm workers. They may make a visit to Mexico but are not migrating from location to location to follow the crop. For the purpose of this study, however, they will be referred to as migrant workers. One provider noted that the true migrants are young males who may or may not have families in Mexico but who regularly travel the country horizontally from Pennsylvania to New Jersey to Chicago or California and then return to Mexico.

The number of migrant or seasonal workers who live in Chester County at any given time is difficult to pinpoint, but it was approximated by one provider that 8,500 migrant individuals are currently living in the county. This provider remarked that migrant workers are growing in numbers and dispersing throughout Chester County. All service providers agreed that Mexico is the country of origin of the migrant population.

Most are male, although a very small percentage of the workers are female (approximated at 1 to 2 percent by one provider).

The migrant farm workers may come to the United States for a period of time and then bring the families at a later date. In some cases, young male workers between the ages of 17 and 21 come for the sole purpose of supporting their families in Mexico and are referred to as "emancipated" youth. Many of the families who constitute a "settled out" population are no longer migrating and have children who have been born in the United States and are now citizens. The immigration status is varied as some farm workers enter the country with a legal status and others enter as illegal aliens. Environmental hazards associated with their work include poor lighting in older mushroom houses; back problems, such as muscle strains from lifting, leaning, and stretching; and fungal infections on the skin.

Perceived health status

Overall, the physical health of the farm workers was perceived as healthy or generally healthy. All participants noted that, due to the nature of the work, back problems and injuries affect the physical health of the majority of farm workers.

All key informants mentioned diabetes, poor dental health, heart disease, overweight, and women/teen depression as conditions affecting a large number of the farm workers. Hypertension, skin fungal issues, sexually transmitted diseases, incomplete immunizations for children when they first come from Mexico, alcohol consumption (males), and poor living conditions were also noted. Access to basic health services was mentioned as problematic by some. In addition, providers stated that many migrant workers test positive for TB, but it appears to be a dormant and inactive form.

One provider noted a greater number of middle-aged farm workers, both women and men, with hypertension and diabetes. One provider also mentioned high incidence of childhood overweight problems in the population and the challenges of helping families to understand the

dangers of overweight in very young children and of obesity in adults.

Many of the migrant workers and their families have never been to a dentist, and periodontal disease and cavities are common. Limited or no health insurance coverage makes it very difficult to afford dental services. Baby bottle syndrome is an issue as well*. One provider attributed the incidence of baby bottle syndrome in part to the fact that the families tend to buy bottled water, which contains no fluoride. Another provider thought that there might be a misconception among this population that the water in this country contains lead and should not be drunk.

Some migrant women and teens are thought to experience depression because of the lack of community interaction with friends and neighbors in their new environment. Many feel isolated when they cannot contact and talk to their mothers, grandmothers, and sisters who remain in their native countries. Migrant farm workers and their families come from small villages in Mexico where friends and neighbors are part of an extended family network.

Nutritional status

Service providers reported that although the farm workers are generally well nourished, there is room for improvement in their diets. Some positive aspects of the diet include the consumption of fresh fruits, cereals, soups, and dairy products such as milk, cheese, and yogurt. Negative aspects of the diet include the fact that not many vegetables, especially fresh green vegetables, are consumed. One provider noted that workers tend to buy whole milk and are reluctant to try low-fat milk. Meats such as beef and pork are eaten regularly as part of the traditional Mexican diet. The majority of providers commented that the farm workers consume large quantities of deep fried foods, sweets, and sugary juices. All key informants believe that the diets of the farm workers are high in fat and cholesterol.

* Note: Baby Bottle Tooth Decay or Baby Bottle Syndrome is the rapid decay of baby teeth in an infant or child from frequent exposure for long periods of time to liquids containing sugars. The problem is usually caused by a baby falling asleep while nursing a bottle or while breastfeeding.

Barriers to achieving good nutrition

The most commonly mentioned barriers to achieving good nutrition were the lack of cooking facilities or lack of the ability to cook, difficulty transitioning from traditional to American foods, and the lack of time, transportation, and money. In many cases, crowded living conditions and/or the lack of cooking facilities are not conducive to preparing home-cooked meals. The tendency to frequent fast food restaurants is a concern, and this may be especially problematic for single men who lack cooking skills.

Nutrition education is key to helping these individuals make the proper food choices as expressed by one provider; "I think the lack of education about nutrition makes a difference in how they buy and what they buy. What I have found is a little bit of education about what foods are nutritionally valueless and what they shouldn't be buying goes a long way. I find that families are eager to spend their money wisely. They just don't know that all the chips and stuff that's being pushed on them has no value. When you start telling them and explaining all that, they really get it and they stop buying that stuff. I think we really need to make more of an effort in education and nutrition and the fact that they shouldn't be spending their money on that junk food."

Barriers to meeting health care needs

Service providers agreed that although many types of services are available, the farm workers' ability to access these services is limited. Three main gaps were thought to limit the farm workers'

ability to meet their health needs.

1. Language - Language is one of the most significant barriers to obtaining health services because many migrant farm workers do not speak English and many primary care offices and agencies do not have a bilingual phone system and/or bilingual staff. If care is sought, it may be difficult for individuals to understand the treatment, such as the need to take medications or the importance of follow-up care.

2. Lack of finances/insurance coverage - Health insurance is provided for the workers at some of the larger mushroom industries, but many workers do not have health coverage. Although some earn enough money to pay for health insurance, in many cases they do not, and these uninsured individuals have difficulty paying for health services. Many workers come to the U.S. to save money and/or send money back to their families. Therefore, spending money on an expensive visit to the doctor is not an option. Some children are enrolled in the state Child Health Insurance Program (CHIP), which provides comprehensive benefits to the families who cannot afford health insurance. However, despite the eligibility, many are not enrolled due to the perception that all immigrants are ineligible for publicly funded health care. Medicaid is a form of public assistance that is only available to citizens or legalized aliens, so unauthorized farm workers do not qualify for this health service.

Findings from this study concur with national data: nearly 60 percent of Latino migrant farm workers have employers that will pay for work injuries but not any formal health insurance. About 12 percent have some form of health insurance, as do 6 percent of their spouses and 13 percent of their children (Snyder, Jensen, & Cason, 2003).

3. Lack of transportation - Many migrant families do not own a vehicle and must rely on other means of transportation, such as a friend or co-worker. There is limited public transportation in these counties, and many farm workers are not familiar with it. Some agencies provide free transportation, but these services are also very limited.

Other gaps to meeting health needs include:

Lack of knowledge of the importance of preventative care and ongoing care – This population tends to request medical care only when it is experiencing a problem. Preventative care, such as dental and childcare, pap tests, mammograms, and prostate cancer tests, are not sought.

Access to dental care - Access to dental care is also a gap, according to providers. One provider indicated that dental care is almost unheard of in the area.

Literacy – According to one provider, many farm workers don't have much more than a 3rd or 6th grade education, which limits reading abilities and the types of literature that agencies can distribute. Literacy appears to be an enormous and overarching obstacle that contributes to poor nutrition, limited use of health and public assistance services, and overall poor health and well being. Nationally, 75 percent of Latino farm workers have less than a high school education. Ninety-seven percent speak Spanish as their primary language and 61 percent can read well in Spanish. Although the Spanish literacy for this population is not optimal, it far surpasses English proficiency. Approximately 90 percent have little or no ability to either read or write in English (Snyder, Jensen & Cason, 2003).

Fear - Workers without proper documentation may fear being sent back to their country of origin, making it more unlikely that they will request services.

Clash in cultures - The cultural differences between the health care system in the U.S. and Mexico were viewed as problematic. The relatively impersonal nature of typical U.S. health care was so foreign to some that they avoid it completely. One provider felt that

members of this population needed to feel welcome so they can better assimilate.
Work constraints – The inability to take time away from work.
Low service use – The Pennsylvania situation is confirmed by national data in which merely 25 percent of Latino migrant farm workers had used any health services in the past two years. The most common reasons cited for non-use of services were cost (65 percent), language barriers (47 percent), and transportation (10 percent) (Snyder, Jensen, & Cason, 2003).

Food assistance program participation

The majority of key informants agreed that farm workers were able to provide enough food for their families and that families help each other in times of need, tend to budget well, and will ask for help if needed. WIC, food stamps, food banks, and religious groups provide food assistance programs available to the farm workers and their families. Since documentation is required to access food stamps, other entities such as WIC, food banks, and religious organizations tend to be accessed more frequently, although in many cases, barriers remain. One provider thought religious organizations were the most successful because they regularly work with the families and become a part of the migrant community.

Transportation, language, and documentation requirements were the most commonly mentioned barriers to food assistance program participation; other barriers included limited hours of food assistance programs, unfamiliarity with the American foods that are provided, and not knowing that the program exists. Some providers expressed that food from food banks was often discarded because Spanish speakers could not read cooking instructions.

Conclusions

This study used qualitative research methodologies to gain insight into the health and nutrition of a small sample of Hispanic migrant and seasonal farm workers in Adams and Chester counties. The findings from this study indicate that this population is diverse and varies from county to county but consists mainly of Spanish speaking workers from Mexico. Some are settled, while others follow a migrant stream originating in Florida and moving on to New York or Indiana after their work in Pennsylvania. According to the key informants, the farm workers suffer from a variety of health issues. The most frequently mentioned conditions were diabetes, poor dental health, heart disease, obesity, anemia, and depression among women and teens. Nutrition and diet-related diseases are the major health problems the migrant farm workers and their families face.

The discussion about favorite foods provides insight into the dietary acculturation of the participants. This acculturation process is usually accompanied by environmental and lifestyle changes that can markedly increase chronic disease risk, including the adoption of dietary patterns that are high in fat and low in fruits and vegetables. Participants in all focus groups mentioned that their eating habits have changed dramatically since being in the United States in ways that include not eating as many fresh fruits and vegetables. They all stated that they have increased their consumption of foods from fast food restaurants and restaurants that have buffets.

To intervene successfully on the negative aspects of dietary acculturation, it is important to understand the process and identify factors that predispose and enable it to occur. It is difficult to make conclusions about the effects of dietary acculturation on overall diet quality, immigrant associated dietary patterns, and chronic disease risk. Nevertheless, the information obtained from this discussion suggests that a better understanding of dietary acculturation offers a valuable opportunity to intervene more effectively on diet and health among this population.

Barriers to adequate access to and consumption of healthy foods and a balanced diet included price, the perception that American foods are low quality and expensive, the lack of transportation, language barrier, unfamiliarity with what foods are available, and a difficulty in identifying food.

The food sufficiency practices mentioned were sharing with friends and family, not eating or drinking certain foods and beverages because of the cost, eating a lot of beans, rice and tortillas, buying food on sale, eating less, and making good use of leftover foods. None of the participants mentioned participation in food assistance programs such as food stamps, WIC, soup kitchens, churches, or food banks.

The participants expressed a need for information about how to feed babies and children, how to make more nutritious and cheaper food, how to use American foods, weight loss information for both children and adults, and information about diabetes. All mentioned that nutrition education programs should be fun, interactive, presented in Spanish, and should involve cooking.

Within the low-income population, issues of inadequate transportation, illiteracy, and lack of insurance must be addressed to improve the accessibility and adequacy of health and nutrition services. However, the migrant and seasonal farm worker population endures numerous obstacles and barriers to adequate care that go beyond those experienced by other low-income rural populations. This population group is not proficient in the English language, is less educated, and earns less money. In addition, other unique barriers to care include:

- lack of knowledge about available services;
- lack of understanding of health problems and risks;
- lack of knowledge of the importance of preventative care;
- lack of understanding of the U.S. health care system;
- cultural and linguistic differences with care providers; and
- fear or mistrust of the health care establishment or governmental assistance.

Policy Considerations

Awareness

Migrant and seasonal workers are a vital segment of the population and economy of the state. The challenging health, working, and living conditions of this population need more attention from state agencies and the general public.

1. The Commonwealth, perhaps via a collaboration between the Department of Agriculture and the Department of Health, should consider developing a nutrition and health policy for migrant and seasonal farm workers and a research agenda outlining further important areas of study, beginning with a plan to obtain an accurate estimate of their numbers in Pennsylvania.

2. The health issues affecting farm workers and their families should be integrated into public policy efforts in Pennsylvania. It is important to create a central focus for issues unique to farm worker health, food security, and nutrition.

Information systems

While the data obtained from this study provide a better understanding of the nutrition and health context of the migrant farm worker population in Pennsylvania, it is clear that more coordinated information is needed for future studies and recommendations. To that end, there is a need to:

1. Create an ongoing assessment of health and nutrition-related issues of migrant farm workers and family members in Pennsylvania.

2. Conduct additional research, which includes data on the physical, mental and behavioral health and social context of migrant farm workers in Pennsylvania. Future plans may include the development and administration of a statewide survey of this population surrounding these issues. The survey should encompass levels of health care utilization by the participants' households; current health and nutrition status; level of food security; work history; immigration status; workplace conditions and training; wage rates and household income; and occupational conditions, safety training and injuries.

Collaborative services

There are a substantial number of collaborative services already in place in Adams and Chester counties for migrant farm workers. To expand and enhance these services and to increase awareness of and access to these services within the migrant community, there is a need to:

1. Establish and support local migrant farm worker service provider committees with the goal of fostering and facilitating inter-disciplinary collaborative connections and partnerships.

2. Fund efforts to increase points of access to comprehensive health, dental, and mental health care where farm workers and their families live and work. Consider alternative models and methods such as mobile units that bring health care directly to farm workers in their communities.

3. Fund and develop policies that will increase outreach and access to services by those who are eligible for public programs and develop a health care solution for those who are not eligible for public health care services.

Health, nutrition education programs

For the provision of culturally appropriate health and nutrition education focusing on how to prepare healthy, nutritious, and inexpensive meals as diet-related disease risk reduction, considerations include the need to:

1. Provide funding to enhance existing health and nutrition education programs, such as those operating through Penn State Cooperative Extension and the Department of Health;

2. Develop and implement educational programs that are culturally appropriate;

3. Employ bilingual educators who are indigenous to the farm worker community;

4. Use alternative program delivery methods, such as mobile units and home visits.

The lay educator model could be an effective approach for reaching this target audience. In this type of approach, lay educators work with individuals and/or small groups of limited resource audiences. The hands-on, learn-by-doing approach provides individualized education in the participants' home or in sites convenient to participants. The past 10 years have witnessed the growth and success of the lay educator model in migrant health. These programs help children, youth and young families with limited resources develop the knowledge, skills, attitudes, and behavior needed to improve their diet. Families learn to make informed choices about low-cost, nutritious foods; to better manage family finances; and to become more self-sufficient.

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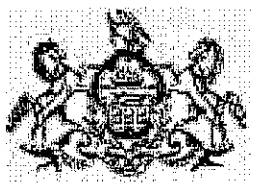

The Center for Rural Pennsylvania
200 North Third St., Suite 600
Harrisburg, PA 17101
Phone (717) 787-9555
Fax (717) 772-3587
www.ruralpa.org
1P1104-500