Migrant Farmworkers: A Population Defined by Health Disparities

An In-Depth Look at Factors Affecting the Health Status of Migrant Workers and Reports on the Demographics and Health Profile of Migrant Farmworkers in California, Wisconsin, Florida, and New York

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1. Introduction

Migrant farmworkers are a unique population in the United States. Large numbers of migrant workers became available for work in this country during the Great Depression when many farmers lost their family-run farms. In 1951, President Truman established the Bracero Act enabling Mexican men to enter the United States to fill labor shortages caused by World War II. As President Truman stated, "We depend on misfortune to build up our forces of migratory workers and when the supply is low because there is not enough misfortune at home, we rely on misfortune abroad to replenish the supply." President Truman's words exemplify the low social status of migrant farmworkers in this country; these workers essentially lie within the lowest social strata in society (MCN History). Of the 3 to 5 million migrant workers present in the United States each year, approximately 80% of the workers are Latinos or Latin Americans (Martinez, 1997).

The Migrant Health Act describes a seasonal farmworker as "an individual whose principal employment [51% of the time] is in agriculture on a seasonal basis, who has been employed within the last 24 months" (U.S. Code, Public Health Services Act, "Migrant Health"). More specifically, "a seasonal farmworker includes a person who during the preceding 12 months worked at least an aggregate of 25 or more days or parts of days in which some work was performed in farm work, earned at least half of his/her income from farm work, and was not employed in farm work year round by the same employer" (ARHA, 2003). The same definition applies to migrant farmworkers, but migrant farmworkers are additionally defined by the fact that they "establish for the purposes of such employment a temporary abode" (U.S. Code, Public Health Services Act, "Migrant Health"). According to the U.S. Department of Labor, a Migrant Seasonal Farmworker includes a migrant farmworker, a migrant food processing worker, or a seasonal farmworker (ARHA, 2003). Agriculture is defined as "farming of the land and all its branches, including cultivation, tillage, growing, harvesting, preparation, and on-site processing for market and storage.

This definition does not include fishing, timber, and poultry work" but does include dairy work (Kefauver et al., 2001).

Migrant farmworkers in the United States come from many regions of the world, including Mexico, Guatemala, Haiti, Southeast Asia, and various other areas in Central and South America. The dominant group, however, is composed of young Latino males of Mexican origin; 65% of agricultural workers were born in Mexico (NIOSH/NORA Factors, 1998). These workers travel north during the growing season to follow crops or travel back and forth from their home bases in Florida, Texas, California, and Mexico in order to earn their livelihood (Martinez, 1997). Most of these farmworkers earn annual incomes much lower than the poverty level, and half of them earn less than $7,500 per year. The majority of the workers have very little education and about half have less than a ninth grade education; some are illiterate (MCN History). Because of the diverse backgrounds of these workers, migrants often do not speak English and instead speak many different languages, including Spanish, and to a lesser degree, indigenous languages. In addition, approximately 37% of workers today are undocumented, illegal immigrants that have come to the United States to work in agriculture (NIOSH/NORA Factors, 1998).

The airing of Edward R. Murrow's documentary entitled "Harvest of Shame" on Thanksgiving Day, 1961, raised issues regarding the living and working conditions of migrant farmworkers and drew increased interest in the plight of the workers involved in agriculture. As a result of this increased awareness, Congress passed the Migrant Health Act that became law on September 25, 1962 (MCN History). Part of this new law called for the development of migrant health care clinics for farmworkers and their families to try and alleviate some of the health problems facing this population.

The Migrant Education Act was passed shortly after the Migrant Health Act and was designed to provide migrant workers with equal educational opportunities. The law was passed "based on the premise that although we know how to educate children, certain subsets of children are excluded, by the lack of ability or will on the part of the state and local officials, from equal opportunities

in quality education." The Act called for the provision of funds to local and community governments to enhance the educational experience of migrant farmworker children (Shields, 1994).

In 1983, The United States Government passed the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) that was "designed to provide migrant and seasonal farmworkers with protections concerning pay, working conditions, and work-related conditions, to require farm labor contractors to register with the U.S. Department of Labor, and to assure necessary protections for farmworkers, agricultural associations, and agricultural employees." The MSPA is the major Federal law that protects agricultural workers (USDA, 2002).

While many Americans believe that conditions for migrant workers have drastically improved since the establishment of the Migrant Health Act and the MSPA, this belief is an illusion. Today, migrant farmworkers still continue to suffer from poor health outcomes while working in the second most dangerous occupation in the United States (MCN History).

Agriculture has become highly mechanized and although farmers continue to rely on machines to perform farm work, manual labor is still necessary. There is an increasing demand for migrant workers to work with intensive crops like fruits and vegetables that require more pesticides and manual labor. This increase in demand for workers in the fresh produce industry brought a renewed demand for agricultural workers, and the majority of these workers are foreign-born. From 1989 to 1995, the proportion of immigrants working in agriculture jumped from 60% to 70%. Although farmworkers generally spend less time in each location due to the institution of machine use on farms, 89% of all hired farm work is done by workers that spend the majority of the year working in agriculture (NIOSH/NORA Factors, 1998).

Because agricultural workers are generally unskilled and uneducated, they often have little other options for earning a living. As a result, they move from farm to farm in order to spend the majority of their time working in agriculture and earning money. However, because of low wages, poor benefits,

and the dangers of the agricultural profession, only 3% of workers would like their children to enter the same profession (NIOSH/NORA Factors, 1998).

Migrant farmworkers face a hard life filled with challenges, strenuous labor, and poor health outcomes. While most farmworkers would much rather be earning a living in a different economic sector, the majority do not have any other choice. Migrant workers endure harsh living and working conditions that threaten their health and their lives simply in order to earn a living.

2. Overview of the Health Status of Migrant Workers

Migrant farmworkers live and work in the United States, yet do not enjoy the same level of health as the majority of Americans. "Their demographic patterns, socioeconomic conditions, life-style characteristics, and disease categories reflect agrarian third world conditions rather than those of the most powerful and affluent nation in the world. Factors such as poverty, malnutrition, infectious and parasitic diseases, poor education, a young population, and poor housing equate to a highly vulnerable population in need of resources" (NCFH Migrant Health Status).

In this section of the paper, I will give a brief overview of the health status of migrant workers across the nation and make some comparisons with the general population to accentuate the poor health outcome faced by migrant farmworkers.

Migrant farmworkers across the United States were asked to report the health issues that affected them most often. The following list was tabulated in order of overall rank, with number one being the most frequently reported condition and number thirteen being the least frequently reported condition:

1. Diabetes
2. Hypertension
3. Dental Care
4. Prenatal Care
5. Substance Abuse
6. Dermatitis
7. STDs
8. Occupational Injuries
9. Eye Care
10. Pesticide Exposure
11. Domestic Violence
12. HIV/AIDS
13. Other

Source: Kefauver et al., 2001

This list of problems reflects the conditions that migrant farmworkers across the nation suffer from the most. While no comparison can be made to the national population because no such list has been compiled for the general population, these conditions seem to be correlated with the workers' profession as well as their decreased ability to obtain health care. For example, workers cite dental care problems as the third most important health condition from which they suffer. As discussed earlier, migrant workers generally do not seek dental care unless absolutely necessary because they simply cannot afford to. Problems like dermatitis, pesticide exposure, and occupational injuries are directly correlated to the dangers inherent in the work performed by migrant farmworkers. Therefore, it seems that these reported conditions are related to the lifestyle and working conditions of migrant workers.

The National Center for Farmworker Health found that migrant farmworkers are more prone to suffering from infectious diseases than the general population (NCFH Health Status). This higher prevalence of infectious disease rates among workers may be attributable to their poor housing conditions and overcrowded living situations. These conditions may also be responsible for the fact that urinary tract infections among migrant workers are three to five times higher than among the general population and that up to 78% of migrant farmworkers suffer from a parasitic infection compared to only about 2% of the American population (NCFH Basic Health). They also found that migrant workers rarely go to a clinic for general medical examinations; only 1.4% of migrant workers went to a clinic for a general exam as compared to 40% of Americans (NCFH Health Status).

The lack of preventative medicine among migrant workers is likely due to their low socioeconomic status; as workers that live well below the poverty line, migrants simply cannot afford to seek medical care unless absolutely necessary. Because they generally do not seek primary health care, they suffer from many diseases that would be preventable by immunization. Lack of preventative medicine also affects migrant children. Because many pregnant mothers do not

seek prenatal care or primary care after birth, infant mortality rates among migrant children is twice as high as the national average (NCFH Basic Health).

Migrant workers also face extremely dangerous conditions at work. In 1988, 48 out of every 100,000 agricultural workers died of occupational injuries compared to only nine workers per 100,000 in any other industry. In addition, farmworkers suffer from the highest rate of toxic chemical injuries, heat stress, and dehydration of any group of workers in the United States (NCFH Basic Health). The work performed by migrant workers is inherently dangerous and puts them at risk for many occupational injuries, and even death.

Many factors work together to create the poor health outcome faced by migrant farmworkers. Access to care plays a huge role in affecting their overall health status. While the Migrant Health Act was passed on September 15, 1962 and allotted about $107 million dollars to migrant health services through migrant health centers in 2002, only about 20% of the migrant farmworker population receives care through migrant clinics (MCN History; BPHC Migrant Health Program, 2002; Kenesson, 2000). In this manner, about 80% of migrants are left without these types of health services. As a result, these individuals must seek alternative types of care, including through hospitals, emergency rooms, and private physicians. However, because the majority of migrant workers lack health insurance, many cannot access these alternative forms of health care. While migrant workers could pay for services with their own money, the majority cannot afford to spend any of their earnings on medical care because they need it to pay for food, shelter, and other basic necessities. This lack of health insurance compounded with the lack of available services targeted to migrant farmworkers make it extremely difficult for workers to obtain adequate health care.

Other barriers to care prevent migrant workers from accessing medical care even if there are clinics that serve migrant farmworkers available to them. These barriers range from the migrant workers' lack of transportation to local clinics, to their inability to access clinics during the clinic hours, to linguistic and cultural incompatibilities between the patient and the provider. These barriers

further impede migrant workers from receiving adequate medical care thereby augmenting the poor health outcome they face.

Labor conditions and occupational hazards, ranging from housing conditions to pesticide exposure, also play a role in affecting migrant health. Workers often work in hazardous conditions where they are exposed to all kinds of hazards, ranging from falling off of ladders to being electrocuted. In addition, many migrant workers live in substandard housing where they are exposed to overcrowded conditions and dangerous situations. Housing is also generally located directly adjacent to their work environment, meaning that chemicals, pesticides, and dust associated with the work environment permeate their home environment and further affect their health.

Contaminated water and pesticide exposure also affect the health of migrant workers. While many migrants obtain their water from public sources that are controlled by the state, many others obtain drinking water from private wells that are not monitored in the same way. This type of drinking water may be contaminated, either with substances like sulfates or nitrites, or with pesticides that were used in the local fields. Such contaminated water further jeopardizes the health of migrant workers. Pesticide exposure is also problematic for farmworkers. Migrants are often responsible for applying pesticides to the fields and may be forced to work in fields that have been recently sprayed with these toxic substances. Such exposure increases their risk of many types of cancers as well as other health conditions like dermatitis and eye inflammations.

"Compounding the workers' lack of knowledge about occupational safety and health regulation is the reality" that many farm owners do not take full responsibility for the health, safety, and well-being of their employees. Most farm owners do not directly employ migrant workers; instead, labor contractors are often responsible for employing and paying migrant workers. In this manner, migrants are at the mercy of contractors that typically pay lower wages than farm owners. Because labor contractors are not actual farm owners, they are not scrutinized and there are no minimum requirements for individuals to register as a labor contractor. In addition, like the farmworkers themselves, many of these

contractors do not possess any knowledge of occupational health and safety standards. "As for regulations involving pesticides and equipment safety, farmer owners and operators have continuously campaigned to restrict the intervention policies of state and federal agencies despite the risks that chemical exposures and other workplace hazards pose to the farmers themselves and to their families" (NIOSH/NORA Factors, 1998). In this manner, farmworkers are further jeopardized because they work under employers that not only lack knowledge about occupational health hazards, but that also feel that it is necessary to worry about the working conditions and the consequences of these conditions on the health of the migrant workers.

Migrant workers are generally poor, and their low socioeconomic status also plays a role in affecting their health. First, low socioeconomic status is directly responsible for the workers' inability to pay for health services despite their lack of health insurance. If migrant workers were more financially secure, they would be able to pay for out-of-pocket costs for health care services when necessary. However, this is not the case for workers, and in general, they cannot afford health care. In addition, because of the workers' low socioeconomic status, they cannot afford to live in adequate housing that would not expose them to many of the health risks associated with living in substandard, inadequate housing.

Workers also suffer from malnutrition due to their socioeconomic situation. Poor migrant workers may go hungry for periods of time because they cannot afford food and do not take advantage of social programs like Food Stamps for which they are eligible. Because high-fat, high-sugar foods are more affordable and easier to prepare, migrant workers may use these types of food as their primary source of nutrition. However, these types of food are extremely unhealthy. Purchasing and properly preparing healthy, nutritious foods is simply not an option for many workers. In this manner, poverty plays yet another role in influencing the health of migrant farmworkers and their families.

Lastly, legal issues also affect the health of migrant workers and their families. While lack of proper, healthy nutrition may be at play in causing these

health risks, farmworkers are also victims of "agricultural exceptionalism." Congress deliberately excluded farmworkers from the protections of the Fair Labor Standards Act (FLSA) and from the National Labor Relations Act. These laws, designed to provide minimum standards of employment and collective bargaining power to U.S. workers, intentionally exclude farmworkers. Agricultural workers do not receive the benefits of overtime pay or the normal minimum age law for child labor of 14. In addition, farms with fewer than eleven employees do not need to abide by the Occupational Health and Safety Administration (OSHA) laws and regulations (California Endowment, 2000). As a result of this legal exclusion, agricultural workers are not as well protected under the law as other workers. In this manner, the lives and health of migrant farmworkers are further at risk because they are not protected by laws designed to protect the health and safety of all workers.

Migrant farmworkers face more health problems than average Americans because of their low socioeconomic status and unfamiliarity with American culture compounded with their transient lifestyle and high risk work (MCN Health Issues). Cultural philosophies and lack of knowledge of government and low cost services also impede workers from seeking assistance and asserting their rights even when they are entitled to them as legal workers. "This lack of awareness combined with language barriers, embarrassment, transportation problems, and fear of the government keep many hired farmworkers from reporting incidents or seeking aid for a serious health problem" (NIOSH/NORA Factors, 1998). Basically, "poverty, combined with a lack of access to many vital public benefits, including health care, housing and fair labor standards, create a set of circumstances that have negatively impacted the well being of farmworkers" (Hawkins, 2001). Despite the United States Government's attempts to provide health care service to migrant workers, this population continues to face significant barriers in accessing health care (Leon, 2000).

This paper will focus on these four different aspects of the migrant farmworkers' lives and profession that work together to cause the diminished health status faced by the population, including the legal issues that impede their

access to care and affect their work and living environments, occupational health issues, poverty-related health issues, and the barriers to care often faced by the migrant farmworker population. By more deeply exploring these factors that contribute to the health outcome of this population, it is possible to gain a better understanding of the health situation facing migrant workers.

The next section of the paper will present the demographic characteristics and health profile of migrant farmworkers in four states in four different regions of the country, including California, Wisconsin, Florida, and New York, by reporting the findings of various health and demographic surveys undertaken in these states. Each state section will include general demographic information about the population, health statistics and problematic health situations, access to care and barriers preventing migrants' access to health care services within the state, labor conditions and occupational hazards, poverty-related health issues, and state-based legal protections of migrant workers. Because of the lack of data on the migrant farmworker populations in various states, the information presented will vary between states and not all state reports will include information about all of these different aspects affecting the health outcome of the migrant population within the state. After presenting data on the four different states, I will discuss how these findings support the overall picture of the diminished health status of migrant workers. I will end the section by comparing state-provided legal statures protecting migrant workers and health care availability between the four states.

After discussing the underlying factors affecting migrant health, the paper will end with an exploration of potential options to help improve the health of migrant farmworkers. Many researchers in this field have already presented their own plans to help alleviate the health disparities faced by migrant farmworkers. I will propose my own recommendations for each of the problematic areas that I discuss in this paper to create an overall plan that would attempt to improve the health outcome of the population. Ironically, the workers that are responsible for putting healthy food on our tables face extremely poor health because of it. Measures must be taken to reverse and alleviate these health trends.

3. Barriers to Care

"If U.S. laws and labor dynamics force men to travel without families, and never settle near their place of employment, then they will forever be disconnected from American society, and will not receive the benefits of social services, preventive health care, or labor union membership, which are all things that might lead to better health" (Earle-Richardson et al., 2001). Migrant farmworkers and their families face many barriers in accessing care, ranging from the availability of migrant health care centers to the problem of accessing culturally and linguistically appropriate care. Lack of appropriate documentation, short length of stay in most states for eligibility, daytime medical office hours, fear of deportation or compromising citizenship eligibility, geographic isolation, poverty, and lack of multilingual services all contribute to the barriers to accessing care for migrant workers and their families (Martinez, 1997). Changing demographics in the 1990s suggest that reaching this target population is more difficult than ever because one third of the migrant farmworkers in the United States are newly arrived immigrants and one third of these individuals are completely new to agricultural work. The majority only speaks Spanish and has a median educational level of 6th grade; 85% are illiterate and 20% have fewer than 3 years of schooling (Castañares, 2001). These conditions make it increasingly more difficult for migrant health centers to reach their target population and provide appropriate health care to migrant workers.

Migrant health centers serve over 600,000 migrant farmworkers in over 120 clinics across the nation. The migrant workers served by these health centers generally lack other health insurance and because of their frequent travel between states, are generally unable to qualify for government-run health insurance programs or any other type of insurance programs. Migrant health centers are able to provide quality primary and preventative care to these low-income, uninsured, and under-insured workers and their families for less than one dollar a day. As a result, these centers save billions of dollars in health care costs that would otherwise be accrued if migrant workers sought care through other health care facilities. These centers also try to provide health education, community

outreach, transportation, and support programs in linguistically and culturally appropriate settings to help increase the migrant workers' access to the services available at the centers. Although these centers have received increased funding over the past decade and serve a substantial number of migrants, migrant health centers only serve approximately 20% of the migrant farmworker population. While it is suggested that funding must be increased in order to serve a greater percentage of the population, increased funding alone will be unable to solve this current problem. Other measures must be taken to increase the access to and awareness of this type of care among the migrant farmworker population (Hawkins, 2001).

Many migrant farmworkers have difficulties accessing the care offered by migrant health clinics due to practical limitations. Migrant health clinic hours are often inconvenient for the workers, making it difficult for them to receive treatment because they cannot miss work during the day (Leon, 2000). If migrant workers do not have cars, transportation to and from the clinic can be problematic because the migrants generally live and work in very isolated areas that are a substantial distance from a migrant health center. Also, as farmworkers migrate to new areas, they often move into new towns that lack the infrastructure to provide them with adequate care. Illegal migrant workers face even greater barriers to care because they are often skeptical about receiving treatment due to their fear of being caught by immigration officials and sent back to their native country (Castañares, 2001).

An important consideration for many migrant workers in making the effort to receive care at a local clinic is the linguistic and cultural compatibility of care provided. Farmworkers face many cultural and linguistic barriers when trying to receive care from providers in these facilities, and these barriers can substantially hinder communication between the patient and provider making it much more difficult for the migrant worker to receive adequate treatment (NIOSH/NORA Factors, 1998). While some workers may have access to health care services, "access alone is not enough. The health care provider must be able to understand farmworkers' language, as well as the cultural assumptions and practical

circumstances that influence their worldview and the actions they choose to take" (Lombardi, 2001). Migrant farmworkers require "effective, migrant-specific, culturally tailored health care" (Castañares, 2001).

When migrant farmworkers suffer severe injuries or arrive at a point where they can no longer live with the pain of an injury or illness, they seek medical help in various ways, ranging from a migrant health care center to rural outreach services. Health care services at migrant health clinics, however, are not always perfect. Many health care providers that work in the clinics lack occupational medicine training, and because these health care providers often do not have the medical history of their patients, treatment becomes even more difficult. In addition, farm owners or crew leaders are often reluctant to share information about the nature of the accident, making the situation even more complex. As a result of these factors, the migrant health clinic may be unable to provide effective care during the visit. Because the clinic often only sees the worker once, it also cannot provide the patient with long-term care for an illness or injury (NIOSH/NORA Factors, 1998).

Migrant clinics also suffer from financial burdens, and such burdens hinder their ability to increase and expand the services they provide to migrant workers. Many migrant clinics do not have enough money to purchase laboratory equipment necessary to make proper diagnoses and evaluations of patients. In addition, many larger farms that employ greater numbers of migrant workers often contract with private physicians to provide care to injured workers. In this manner, workers that would have the ability to pay for care do not use migrant clinics. This situation exacerbates the economic difficulties faced by migrant health clinics because patients that would be able to pay for care do not use the services available to them at migrant clinics. On the other hand, many workers that seek care at the health centers cannot afford care at any other location, and oftentimes, cannot even afford the care at the clinic (NIOSH/NORA Factors, 1998). In this manner, migrant health centers frequently treat patients that cannot afford care and so are minimally reimbursed for services provided thereby increasing their financial difficulties.

While increased funding would help migrant health centers have access to better health care equipment and be able to better serve their target population, increased funding alone will not solve all of the problems faced by the clinics. Migrant health centers would still be faced with the problem of reaching out to their target population in a culturally and linguistically appropriate way. One method that would enable migrant health centers to reach this population is through the use of outreach services. Community outreach programs are successful at reaching many migrant workers and providing them with health care that is appropriate for the physical, cultural, and linguistic characteristics of the migrant farmworkers' lives. "Community Outreach acts to increase the accessibility, acceptability, and appropriateness of available health services" (Castañares, 2001).

Outreach services are successful in overcoming many obstacles that migrants face in receiving adequate care. They help overcome poverty and lack of insurance barriers by conveying access and eligibility information to workers while also helping them to enroll in public programs and receive vouchers for direct services. By offering vans, drivers, volunteer coordination, and vouchers for public transportation, these services ameliorate the problem of the migrant workers' distance from the clinics and their lack of transportation to the facilities. These services also bridge gaps between farmworker knowledge of and the availability of care by carrying out community-based campaigns. They educate workers about the types of services available to them at local migrant health centers and local hospitals to help them better understand what types of services they can obtain while maneuvering through the United States health care system. Also, by providing culturally-competent education materials and using peer-based education by promotores(as), community outreach services work to increase migrant workers' knowledge of health problems and risks associated with their living and working conditions. Finally, these outreach services try and ease some of the fear and mistrust that migrant feel towards established health care institutions and governmental assistance programs by conveying accurate

information and dispelling rumors through peer-based members of their staff (Castañares, 2001).

While migrant health centers and outreach programs are able to provide farmworkers with adequate care, not all migrants can be reached through these programs and not all clinics are able to provide migrant workers with all of the services they need. According to the Migrant Clinicians Network, an ideal health care system used to treat migrant workers must be involved in all areas that affect migrant farmworkers' health. Specifically, it must provide comprehensive health care services incorporating: preventive care, health maintenance programs, health screenings, oral health clinics, mental health clinics, substance abuse programs, and social services. In addition, the clinic and services must be presented in a culturally appropriate manner that considers the farmworkers' lifestyle. Barriers must be reduced by providing transportation and child care, expanding clinic hours to tailor to the needs of the migrants' daily work schedules, providing multiple services at one clinic, and educating providers and other members of the staff to take the farmworkers' language, reading skills, cultural values, behaviors, and lifestyle into consideration when providing treatment (Leon, 2000).

The National Association of Community Health Centers, together with several other organizations, has successfully promoted a five-year growth plan for health centers that would increase their funding to $2 billion over the next few years (until 2005). In this manner, the funding for migrant health centers would be doubled over the course of the five year Resolution to Expand Access to Community Health Centers Initiative (Hawkins, 2001). By expanding funding, migrant health centers would be much more successful at recruiting multilingual and multicultural health care providers and staff and providing more outreach services to go out into the community and educate migrant workers (Leon, 2000).

Most importantly, though, migrant health centers must work towards establishing a system in which migrant workers can be provided with treatment based on documented need. Efforts must be made to produce interagency coordination and integration in order to provide universal access to workers while requiring minimal documentation for registration and reporting and ensuring

interstate reciprocity. This centralized system would enable migrants to be eligible to receive care in all of the states through which they travel, and by reducing the amount of difficulties and hurdles workers must overcome to acquire care, this system would be effective in providing more care to migrant workers (Leon, 2000).

Migrant workers and their families face many barriers in receiving care. However, by increasing the funding for migrant health centers and expanding the capabilities of community outreach programs, these health centers and programs will be more successful at providing culturally and linguistically appropriate care to migrant workers and their families. Migrant health centers and community outreach services must work to bridge the gap between workers' knowledge of available resources and their access to these resources in order to expand the number of individuals they serve and the continuity of care throughout the United States.

4. Occupational Health

As agricultural farmworkers, migrants face some of the most dangerous working conditions in the United States. While working in the second most dangerous occupation in this country, migrant farmworkers are constantly threatened with injury, and even death. "Agricultural crop and livestock production, combined with agricultural services, accounted for 13% of all occupational deaths from 1994-1999, while only covering 2% of overall employment." Agricultural work is very dangerous due to work-related conditions, use of farming equipment, and frequent exposure to chemicals and pesticides. While male farmworkers are most often affected by these conditions that cause both acute and chronic conditions, disabilities, and death, migrant farmworker families, including children, are not immune from the dangers of this profession due to the proximity of their work and home sites (Larson, 2001).

A. Injuries and Deaths

Because of the nature of their work, migrant farmworkers face many injuries, ranging from musculoskeletal injuries, to traumatic injuries, to a broad range of respiratory, eye, and skin problems (Larson, 2001). Many different aspects of migrant farmworkers' work in the field expose them to potential accidents and injuries, including falling from heights, drowning in ditches, and obtaining injuries from knives, machetes, sharp objects, defective machinery, and motor vehicle accidents (Huang, 1993). Children may also be affected by these conditions and perils. Between 1979 and 1983, approximately 23,800 children were reported to have been injured in the fields and 300 of them were reported to have died from the injuries (Huang, 1993).

"The rigorous nature of farm work exposes workers to a number of risk factors that have been associated with musculoskeletal injuries. Heavy lifting, working in awkward positions for a prolonged period of time, and poorly designed tools and implements take an unforgiving toll on the bodies of hired farm workers and make musculoskeletal conditions the most commonly reported health problem" (NIOSH/NORA Priorities, 1998). These injuries can either be

acute or can cause long-term disabilities. The nature of farm work, lack of training, and long hours of work only make the situation more difficult for migrant workers to avoid these types of injuries. The most common types of injuries in this category include back and neck pain; over 40% of workers that experience this type of pain have to leave the farm working industry or change jobs because of the severity of their condition (Larson, 2001).

Although musculoskeletal/ergonomic injuries are the most common problems facing migrant farmworkers, certain measures can be taken to avoid some of these injuries. Ergonomic intervention programs should be implemented to provide workers with preseason training, more efficiently designed and ergonomically sound tools, and a reorganization of work tasks to decrease repetitiveness of movements and awkward body positions. The most important aspect of this ergonomic intervention program involves preparing the workers for the rigorous labor during the productive farming season through physical conditioning. Such training would help avoid many of these injuries (NIOSH/NORA Priorities, 1998).

In addition to the poor working conditions and hazards faced on the job, Workers' Compensation Insurance often does not acknowledge these types of injuries. As a result, the Workers' Compensation Insurance should be changed to recognize chronic conditions that result from chronic musculoskeletal injuries. Migrant farmworker clinics and health providers that deal with migrant workers also need to be educated to recognize and properly treat injuries like tendonitis, Carpal Tunnel Syndrome, lower back pain, and neck pain (NIOSH/NORA Priorities, 1998). By not only reforming certain aspects of the migrant farmworkers' work but by also reforming treatment and compensation for these conditions, the health outcome of migrant workers due to these types of injuries could be greatly improved.

Migrant farmworkers also face many traumatic injuries due to the nature of their work. Traumatic injuries, including falls, cuts, amputations, bone fractures, occupational fatalities, and disabling accidents, are extremely common in agricultural work (Larson, 2001). In addition, motor vehicle accidents

involving the transportation of workers to and from farm sites are very common (NIOSH/NORA Priorities, 1998). Because farmworkers work very long hours under stressful and physically strenuous conditions and are often not trained in accident prevention, workers are prone to suffer from severe injuries in accidents (Larson, 2001). The most common sources of accidents involve crushing from farm equipment, accidental slicing with hand labor tools, falling from ladders, and electrocutions (NIOSH/NORA Priorities, 1998). About 31% of all traumatic injuries resulted from falls (Larson, 2001).

Traumatic injuries are important to consider when assessing the health of migrant farmworkers because of their often devastating impact on the lives of workers and their families. Workers and children must be better protected against traumatic injuries while further research must be done to assess the personal and societal costs of these injuries, the lack of rehabilitation facilities for migrant workers, the reproductive problems associated with trauma, and impact of being disabled from injury on the lives of the migrant workers (NIOSH/NORA Priorities, 1998).

Occupational health hazards are one of the most prevalent problems in agricultural work. Migrant farmworkers seem particularly susceptible to musculoskeletal, ergonic, and traumatic injuries due to the conditions under which they are forced to live and work compounded with their general lack of education about their rights and safety regulations and a lack of coverage by or knowledge of benefits afforded to them by the Workers' Compensation Insurance system. As a result, these types of injuries and accidents continue to be one of the biggest problems facing migrant farmworkers.

B. Housing

While migrant farmworkers face dangerous situations at work, their housing conditions are often not much better than their working conditions. Substandard housing conditions compounded with hazardous working conditions augment the poor health outcomes faced by these workers. Many workers return from the fields to homes that often lack proper sanitation and protection from the

weather; and in many cases, the housing is overcrowded with other workers and their families (Holden, 2001). Housing may even possess structural problems, inadequate plumbing, and insect and rodent infestation (Salvador, 2002). Such housing conditions play a role in increasing the contraction and transmission of disease among individuals as well as injuries in the home (Holden, 2001). "Conditions such as these greatly affect the quality of sanitation in the living environment and place farmworkers at a high risk for serious health problems" (Salvador, 2002).

Migrant farmworker housing constructed or renovated after April 3, 1980 is regulated by the Occupational Safety and Health Administration Code of Federal Regulations 29 CFR Sec. 1910.142. These standards are aimed at providing migrant farmworkers with adequate housing conditions while living in temporary labor camps and performing agricultural work. They provide workers with a sanitary site around their homes, safe and adequate housing, a convenient and clean water supply, adequate toilet facilities, proper sewage disposal facilities (where applicable), laundry, handwashing, and bathing facilities, proper lighting, refuse disposal, sanitary cooking and eating areas, insect and rodent control, and first aid (USDA Federal Migrant Housing Regulations, 2001). Although OSHA regulations require employers to provide migrant workers with adequate housing adhering to these regulations, many of these regulations are not properly enforced. In this manner, migrants must often live in substandard and inadequate housing.

Crowded housing is one of the most prevalent problems facing migrant workers in their living environments. Federal standards define a home as crowded if there is more than one person per room not including kitchens and bathrooms. Among the over 4,600 housing units surveyed by the Housing Assistance Council (HAC) in the United States, over half (52%) of the homes were defined as crowded. Of these crowded housing situations, 74% of them housed children. In contrast, only 3% of U.S. households surveyed in 1997 indicated over-crowded conditions (Holden, 2001). These statistics reveal the severity of the living conditions faced by farmworkers; farmworkers are almost

18 times more likely to live in overcrowded housing situations than the average American.

This trend of crowded housing conditions among migrant farmworkers stems from their low income and inability to afford adequate housing. Almost 60% of the farmworkers responding in an HAC survey reported having low income, or earning 80% or less of Area Median Income. One farmworker explained her situation: "'We have to put up with this because we can't afford anything else,'" said Maria-Guadalupe Sanchez, a farm worker who lives with 13 other people in a three-bedroom house in Watsonville, California" (Holden, 2001). Because of the economic situation of the migrant workers, even affording inexpensive housing can be difficult. 29% of farmworker households paid more than 30% of their incomes for housing, which is the "federal standard for housing cost burden" (Holden, 2001).

In addition to being crowded, housing is often inadequate. Migrants frequently lack working appliances and face unsanitary conditions. A Haitian farmworker described relatively typical living situations in his description of his own housing which he shares with four other occupants in Immokalee, Florida: "The shower has filthy, crumbling concrete walls – the kind that won't come clean. There is a metal sink held by a rotting plywood counter, and the toilet often backs up, so the tiny room reeks of sewage. At six feet tall, Etienne nearly bumps against the sagging ceiling of the narrow community kitchen, where days before a leak had puddle more than an inch of water" (Holden, 2001).

As a result of these housing conditions, farmworkers cannot properly and safely store their food, cook meals using working appliances, or even take a shower after a long day of work to relax and wash away pesticides and other chemical residues. 22% of migrant farmworker residences lacked a working stove, refrigerator, bathtub, or toilet. In addition to the lack of bathing facilities in many homes, many also lacked laundry facilities. As a result, many farmworkers are unable to wash their clothing prior to entering their home causing the contamination of their home by pesticides and other chemicals. In addition, more than 26% of homes surveyed by the HAC were adjacent to pesticide-treated fields

and 53% did not have a working bathtub/shower, washing machine, or both (Holden, 2001).

Migrant farmworker housing also often possesses structural problems like sagging roofs, porches, or house frames, holes in the roof, and foundation damage. Statistically, 36% of the homes surveyed by the HAC possessed broken windows or windows with missing screens, 41% had peeling paint on the exterior, and 29% had peeling paint or broken plaster in the interior; 29% had leaks while exposed wiring was found in 9% of the homes (Holden, 2001).

Overall, the HAC developed gradations of housing conditions to describe the homes of migrant farmworkers. Homes defined as "severely substandard" lacked complete indoor plumbing and/or had severe physical deficiencies; 17% of the homes surveyed were found to be severely substandard. Of these 17%, 65% of them were homes that housed children of migrant families. "Moderately substandard" was defined for homes that had complete plumbing but several exterior and interior problems; 16% of the homes surveyed were determined to be in this condition (Holden, 2001). Therefore, of the homes inhabited by migrant farmworkers that were surveyed by the HAC, one third of them were found to be either severely or moderately substandard.

Such inadequate housing obviously leads to a unique set of health problems while exacerbating many of the health problems caused by the farmworkers' occupation. Crowded housing conditions facilitate the transmission of infectious diseases, including tuberculosis and influenza. Poor sanitation, lack of sanitation facilities, and lack of properly functioning cooking appliances contribute to the prevalence of hepatitis, gastroenteritis, and parasitic diseases among migrant workers as well as facilitate the exposure of food to contaminated water and pesticides. Dust, insects, pesticides, and mold enter farmworkers' homes through broken windows, leaks, and missing screens; rodents also frequently infest the homes of these workers causing additional health and sanitation problems. Finally, peeling interior paint can threaten the safety and well-being of migrant children as ingesting such paint chips can lead to lead poisoning (Holden, 2001). Essentially, "seasonal agricultural workers, due to lack

of economic resources, must live in deficient housing or overcrowded conditions that are conducive to unhealthy living situations. These conditions all contribute to the spread of communicable disease" (Larson, 2001).

While there is a significant amount of knowledge about the substandard living conditions of migrant workers, there is only one federal production program dedicated to dealing with farmworker housing issues and safety. This program, referred to as the Section 514 loan and Section 516 grant program managed by the U.S. Department of Agriculture's Rural Housing Service (RHS), is severely under-funded. Although this program has supported the production of about 17,000 farmworker housing units since 1962, there is still a tremendous need for more housing. In 1997, there were over $134 million worth of housing demands to be funded by Section 514/516's $28 million budget. In addition, there simply is not enough manpower to properly inspect the housing of all migrant workers in this country and to maintain annual inspections to ensure that homes are being properly maintained. Although this program has benefited many farmworker families, a tremendous need still remains to continue to provide affordable, adequate, and sanitary living conditions for migrant farmworkers and their families (Holden, 2001).

"Safe, decent, affordable housing can reduce the incidence and spread of disease, reduce the likelihood of household accidents, and improved household stability, especially for children." By increasing federal funding programs to create affordable housing, enlisting the help of community outreach organizations to conduct housing needs assessment, and the creation of community rooms to be used for education and child care, large steps could be made in improving the health and quality of life of migrant farmworkers (Holden, 2001).

C. Contaminated Water

While many Americans take having clean, safe drinking water for granted, many migrant workers are not afforded this luxury. Migrant farmworkers are frequently exposed to contaminated water that facilitates the spread of communicable diseases like dysentery and typhoid fever. In addition,

contaminated water serves as yet another means of pesticide exposure for workers and their families; as pesticides are applied in large quantities to local fields, drinking water can easily become contaminated by these chemicals (NIOSH/NORA Priorities, 1998). Shallow wells less than 30 feet deep often serve as the source of drinking water for migrant workers living in camps, and these water sources are often contaminated with nitrates and pesticides (Salvador, 2002). Contaminated and substandard drinking water place migrant farmworkers at additional risk for the contraction of serious health problems.

Because of the growing realization that contaminated drinking water is a significant problem for migrant farmworkers, the United States Environmental Protection Agency (EPA) conducted a study examining the quality of drinking water being consumed by migrant workers. The EPA focused their study in Colorado because this state seems to be an area of particular concern in terms of drinking water safety. There are approximately 40,000 to 50,000 workers present in Colorado during the agricultural season ranging from April to October. Of these workers, 65% are provided with municipally-controlled drinking water; however, 35% obtain their drinking water from private wells and non-publicly-controlled resources. Unfortunately, many of these private water sources are not well-controlled or monitored. As a result, they may be contaminated with pesticides, phosphates and nitrates from agricultural run-off; arsenic, lead from old piping, *E. coli* and bacterial contaminants from defunct sewer lines, septic systems and plumbing; and sulfates and other chemicals from other facilities.

The goal of the EPA's Pilot program include: "[Creating] a database of farmworker agencies and organizations, [developing] a statewide database of migrant farmworker camp locations and their drinking water sources, [assessing] the safety of select drinking water sources by identifying contaminants, [providing] technical assistance to growers who need or request it, and [determining] which camps should be regulated under the Safe Drinking Water Act (SDWA)." Thus far, 200 worker camps have been identified in Colorado and about 24 camps will most likely meet the criteria for being regulated under the SDWA. During the summer of 2002, the EPA was given permission to test

drinking water at 4 different sites in Colorado. The water samples collected were tested for organophosphates and chlorinated pesticides, sulfates, nitrates, lead, total coliform, and *E. coli*. Of the samples tested in the 4 camps, at least half of the camps possessed unsafe drinking water, either because of nitrate contamination, sulfate contamination, or both (Salvador, 2002).

Nitrate contamination comes from a variety of sources, including runoff from fertilizer use, leaching from septic tanks and sewage, and erosion of natural deposits. The potential health effects of nitrate contamination are severe. Infants and children may face delays in both physical and mental development as well as deficits in attention span and learning abilities. Adults could face kidney problems and high blood pressure due to this type of contamination (Salvador, 2002).

Sulfates, naturally found in soil sediments and rocks, leech into groundwater over time. In addition to naturally occurring sulfates, industrial pollution from tanneries, steel mills, and textile plants; feedstock and reagent used in various manufacturing processes; household detergents; and fungicides and algaecides that seep into water sources, also contribute to sulfate contamination of water supplies. Sulfate contamination in water can cause a bitter taste and may cause diarrhea that can lead to dehydration. While these effects may be temporary, they can be severe for infants and individuals not accustomed to ingesting higher levels of sulfate (LGEAN).

It is often difficult for many migrant workers to avoid contaminated water because of the commonality of this problem. Fortunately, illnesses associated with water contamination are the most manageable (EPA, 2002). As Dr. Hendrickson explains, "'Many of the illnesses in camps can be traced back to contaminated water,' he explains. 'Educating workers about potential water problems is one of the best ways to limit the number of people who get sick, regardless of whether or not they seek my help'" (EPA, 2002). As more information is learned through these water studies, the EPA intends to provide technical assistance to farm owners and growers in order to help them comply

with standards to improve the safety of the drinking water being provided to migrant farmworkers (Salvador, 2002).

D. Pesticides

As agriculture has shifted from extensive crops that require greater amounts of land to intensive crops like fruits and vegetables that require more pesticides and manual labor, migrant farmworkers have increasingly been expected to work with harmful pesticides and expose themselves to the dangers of their use (NIOSH/NORA Factors, 1998). In order to try and reduce the risk of pesticide-related illness and injury for workers that handle and/or are exposed to pesticides, the United States Environmental Protection Agency created the Worker Protection Standard (WPS). The WPS stipulates that agricultural workers be informed about the uses and dangers of pesticides, be given protection from unnecessary pesticide exposure, and be provided with facilities to mitigate pesticide exposure, including through access to decontamination sites and emergency assistance (EPA Worker Protection, 1993). Despite this protection, in the United States today, "agricultural workers face greater threat of suffering from pesticide-related illness – including acute poisonings and long-term effects such as cancer and birth defects – than any other sector in society" (Reeves et al., 2002). While a significant amount of research has been done to try and understand the risks faced by farmworkers when working with pesticides, a tremendous amount of information regarding the hazards and dangers of work with these substances remains unknown (Larson, 2001). While so little is known about the effects of many pesticides and the interactions between various chemicals, farmworkers continue to suffer.

Several factors influence the likelihood that migrant farmworkers will be affected by pesticides. Although migrant workers often learn how to somewhat protect themselves from pesticides through experience with various chemicals over time, their lack of formal education and inability to read English make it difficult to formally train workers about the dangers of pesticides and protective measures. In addition, farm owners and crew leaders are often ambivalent about

the need for proper pesticide training; while farmworkers have a desire to learn more about these chemicals and their effects, other training usually takes precedence. While growers must educate their workers in the use of basic safety practices as mandated by federal law, growers can have an extremely difficult time serving as teachers to their workers. As a result of language barriers, growers often have to rely on crew leaders to communicate information to their workers (Spitzer et al., 1994). Although educating workers and farm owners about pesticides is relatively difficult and complex, it is imperative that individuals involved in agriculture be educated about these harmful chemicals because of the deleterious effects that pesticides have on the health of the individuals exposed to them.

Exposure to pesticides is of great concern in the agricultural industry. The state of California has collected some of the best data regarding migrant farmworker exposure to harmful chemicals and pesticides. Data collected by the California Department of Pesticide Regulation (DPR) between 1991 and 1996 demonstrate that nearly 4,000 farmworkers were reported to have been poisoned by pesticides; from 1998 to 2000, 51% of poisoning cases resulted from pesticides drifting from their area of application onto workers while 25% resulted from direct contact with the chemicals (Reeves et al., 2002). While these statistics are alarming, they are actually an under-estimation of the true value as many pesticide-related illnesses remain unreported or improperly diagnosed.

The health effects of pesticides are detrimental, ranging from acute effects like irritation in the respiratory tract, skin and eyes; systemic poisoning; and even death. Chronic effects of pesticides are also severe and include cancer, birth defects, and neuropsychological problems (Huang, 1993). The effects of pesticide exposure in relation to neurodegenerative disorders like Parkinson's disease, Alzheimer's disease, and risk of cleft palate are also being considered (Martinez, 1997). A study done in 1990 found that about 50% of children that worked in fields were wet with pesticides and more than 33% had been sprayed directly; such exposure in children may cause developmental disorders, learning disabilities, mental retardation, attention deficit disorder, and other anomalies that

interfere with cognitive development (Martinez, 1997). Children are also placed at an increased risk of contracting brain and neurological cancers. In addition, pregnant mothers exposed to pesticides both during and after pregnancy may give birth to children with neurological damage or birth defects (Martinez, 1997).

The potential effects of pesticide exposure, including respiratory problems, dermatitis, cancer, and eye problems, are frequently seen among migrant farmworkers. Constantly breathing in harmful chemicals as well as other irritants associated with farm work increases the risk of respiratory problems. The results of these respiratory problems can be acute or result in chronic respiratory illnesses, like allergies, bronchitis, and asthma. While a high incidence of these types of conditions among the migrant farmworker population is suspected, there are no detailed documents directly supporting this hypothesis (Larson, 2001). Earlier studies, however, have drawn correlations between exposure to pesticides and "deadly childhood cancers such as leukemia and brain cancer" (NIOSH/NORA Priorities, 1998). In addition, other research has found associations between the chemicals with which migrant farmworkers frequently associate with high prevalence of breast cancer, brain tumors, and non-Hodgkin's lymphoma (Larson, 2001).

Dermatitis is one of the most frequently reported health problems among migrant farmworkers; workers frequently have allergic reactions to pesticides and other substances to which they are exposed during the course of their day that cause skin irritation (NIOSH/NORA Priorities, 1998). Data gathered by the Bureau of Labor Statistics show that almost 50% of occupationally-reported illnesses within agriculture are associated with dermatitis. Although most migrant clinics are not properly equipped to deal with such ailments because of their lack of experience in being able to identify the cause of the irritation, a 1990 study conducted by the Migrant Clinician's Network discovered that 25% of all male farmworker visits to migrant clinics are due to dermatitis (Larson, 2001).

Eye problems are also a serious concern among migrant workers being exposed to harmful chemicals and pesticides. These conditions are particularly problematic because the majority of migrant health centers do not have an

ophthalmologist on staff thereby impeding most migrant workers from receiving proper eye care (Larson, 2001).

Because of the severity of pesticide exposure and the importance of pesticide safety in agriculture, the EPA enacted laws designed to protect agricultural workers from the dangers of pesticides. The EPA's Worker Protection Standard for pesticide safety training is intended to educate workers about proper precautions they need to take when dealing with these chemicals and how to deal with an accident involving pesticides (Spitzer et al., 1994). However, a new study released by the United Farm Workers (UFW), Pesticide Action Network North America (PANNA), and California Legal Rural Assistance Foundation found that pesticide laws are weakly enforced (Reeves et al. Pesticide, 2002). The state of California recently reported widespread violations of these laws that led to the endangerment of workers' health. It was also determined that even when the laws are properly followed, the safety laws really do not adequately protect individuals who work with the chemicals; in 38% of the poisonings reported, no violations of safety regulations were found (Reeves et al. Pesticide, 2002).

Although the DPR has improved pesticide illness reporting and completed evaluations of the weaknesses found in pesticide training programs, "The most fundamental problems highlighted in "Fields of Poison" remain and farmworkers continue to face unacceptable threats of exposure to hazardous pesticides" (Reeves et al., 2002). The pesticide laws are simply not strict enough and growers often lack the proper resources to adequately educate their workers about these issues (Spitzer et al., 1994).

Between 1997 and 2001, the DPR staff observed hundreds of different pesticide operations in 20 counties across the state of California. Their observations revealed that worker health and safety requirements were violated in more than 30% of the inspections and that safety laws were violated in at least 41% of the reported poisonings between 1997 and 2000 (Reeves et al. Pesticide, 2002). Violations include: Failure to provide useable protective equipment, washing/decontamination facilities, and fieldworker access to pesticide use

information. In addition, employer recklessness when dealing with pesticides caused 68% of early reentry illness episodes due to failure to notify workers that a field had recently been sprayed (Reeves et al., 2002). Despite these violations, there were rarely any enforcement measures taken to correct the violations and to prevent them from reoccurring. In 2000-2001, the DPR issued only 520 fines and 4,069 letters of warning or notices of violation for agricultural pesticide safety violations (Reeves et al., 2002).

The failure of these safety laws in educating workers is reflected in the lack of knowledge about pesticides in the agricultural community. In order to determine the degree of knowledge possessed by migrant farmworkers, migrant crew leaders, and growers, these individuals were asked a series of questions and told to respond that they knew nothing, very little, some, or a lot about each of the subjects. In general, migrant farmworkers knew "very little" about pesticide information – The information that they did know was that: "Pesticides come in powder form; pesticides can enter the your body by breathing or smelling and through the skin; pesticides can lead to getting sick; wash your hands before lunch and take a shower in the evening; wash work clothes daily and keep them separate from other clothing; and emergency medical care can be obtained at the health clinic or hospital" (Spitzer et al., 1994).

Crew leaders were more knowledgeable about pesticides than the migrant workers. Their knowledge was in the following areas: "Where and what form pesticides are found at work, where to obtain emergency medical care, everyday steps to remove pesticides from your body and clothing, and dangers of pesticide drift" (Spitzer et al., 1994). Although the crew leaders may seem relatively knowledgeable about the use and dangers of pesticides, their knowledge was obtained from everyday experience with the chemicals rather than formal education on the subject (Spitzer et al., 1994).

Growers were also questioned on their pesticide knowledge. In general, the growers' knowledge about the new EPA Worker Protection Standard varied. The majority did state that they used a schedule to spray the fields and prevented workers from reentering them for five to seven days (Spitzer et al., 1994).

After the individuals were questioned about their knowledge, researchers questioned the workers, crew leaders, and growers if they would like to know more about pesticides. While many of the workers indicated they would like to know more, the crew leaders and growers felt that pesticide training was not necessary; instead, they believed that workers should be educated on other issues like hygiene, nutrition, and money management. Nevertheless, they did indicate that workers should have basic pesticide knowledge including an understanding of preventative measures, job-related pesticide information, and emergency procedures (Spitzer et al., 1994).

This study shows that despite having laws requiring the education of farmworkers about pesticides, over half of the workers did not receive proper training, and growers and crew leaders did not believe that pesticide training is very necessary. This lack of education among all parties involved in the agricultural sector leads to increased risk of exposure and injury due to pesticides. Safety training laws need to be enforced and workers must be taught relevant information. Education should be provided in a way that first assesses an individual's knowledge and then builds upon that knowledge. Interest must be stimulated through relevancy to the farmworkers' everyday lives and established contacts, resources, and programs must be utilized (Spitzer et al., 1994). Through proper education, farmworkers can be more aware of the dangers of pesticide use and be able to better protect themselves against these hazards.

In addition to increased education, there are other methods that can be used to decrease the risks associated with pesticide use. After their study, UFW, PANNA, and CRLAF made several recommendations in "Fields of Poison 2002" on how to protect the health and safety of California's farmworkers. These recommendations include: Eliminating the use of most hazardous pesticides and drift-prone application methods, improving regulations to reduce drift and pesticide residue exposure, improving posted notifications of sprayings, establishing longer wait periods for reentry after spraying, strengthening the enforcement of existing laws and regulations, raising and issuing fines for violations, and improving education (Reeves et al. Pesticide, 2002).

Pesticides pose a serious threat to the health of migrant workers. While many individuals involved in the agricultural industry do not believe that farmworkers need to be well-educated about the risks and uses of pesticides, there is a great need for this type of education. Existing pesticide laws must be strictly enforced and better records must be maintained documenting the occurrence of pesticide poisonings, including documentation following-up on the impact of pesticides on health over time. Through better education measures, stricter enforcement of laws, and more diligent record keeping, migrant farmworkers will be more likely to protect themselves from these types of dangers and recognize the signs and symptoms of pesticide exposure and poisonings.

E. Conclusion

While many farmworkers face occupational hazards because of the dangerous nature of their work, they are also further jeopardized because of their lack of knowledge about occupational health and safety regulations. In addition to the vulnerability of workers due to their lack of knowledge of regulations or their fear of trying to have regulations enforced, they are also at the mercy of their employer. Many farm owners and operators do not uphold laws regarding farmworker safety and health nor do they properly report incidents to the appropriate authorities (NIOSH/NORA Factors, 1998). Many farmers simply do not take responsibility for their work areas or for the well-being of their agricultural workers. Such irresponsibility further jeopardizes the lives and health of migrant farmworkers.

Many occupational factors influence the health outcomes of the migrant farmworker population. Ranging from musculoskeletal injuries to pesticide exposure and poisoning, the health of migrant workers suffers due to the hazardous conditions of their work. Compounded by inadequate housing conditions, poor sanitation, and even contaminated drinking water, it is not surprising that so many migrant workers face health outcomes much poorer than the general American population.

5. Poverty-Related Health Issues

According to the Department of Labor's 1991 National Agricultural Workers Survey, approximately one half of migrant farmworkers have incomes that fall below the poverty level; while the majority of migrant farmworkers live in families in which both the mother and father work, they still live in extreme poverty (Huang, 1993). "A multi-generational cycle of poverty exists among these workers. Once affiliated with this labor market sector, it's very difficult for farmworkers and their families to shift to more prosperous earnings opportunities" (White-Means, 1991). This idea implies that migrant farmworkers remain impoverished and that their families generally cannot escape the poverty associated with this occupation. As a result, migrant farmworkers and their families are faced with the health problems associated with low socioeconomic status throughout their lives.

While the poor health outcome of migrant farmworkers is caused by a combination of occupational health problems, barriers in accessing care, poor protection under the law, and a lack of health insurance, poverty also plays a role in affecting their health outcome. Poverty and low socioeconomic status lead to poor nutrition and sanitation among the migrant workers, which leads to higher prevalence rates of chronic illness, acute problems, and even infectious disease (Leon, 2000).

Malnutrition is a significant problem among migrant farmworkers and particularly affects the children of these workers. Migrant children often suffer from vitamin A, calcium, and iron deficiencies. A survey done of Florida migrant workers found that although many migrant families were eligible to received food stamps, the majority did not. As a result, 30.6% of those responding to the survey had experienced a period in which they had a shortage of or ran out of food, and almost half (43.8%) had seasonal food shortages. In addition, studies have shown that females often suffer more from malnutrition than males. This pattern subsequently impacts the health of migrant children (Huang, 1993).

In addition to facing malnutrition, poor eating habits among migrant farmworkers contribute to the high prevalence of obesity among migrant families

and may also play a role in creating the high levels of diabetes found among this population. A 1988 study found that the consumption of high fat foods, high sugar content, and cooking components used by migrants could be some of the factors contributing to the problems of obesity and diabetes in the population (Leon, 2000). The eating habits of migrant farmworkers are directly linked to socioeconomic status; healthier foods are generally more expensive than "junk" food. Because most migrant workers are poor, many simply cannot afford the fresh fruits and vegetables that contribute to a healthier diet. Also, because migrant workers often live in substandard housing, they generally lack proper food preparation facilities making it very difficult for them to prepare nutritious and healthy food.

Malnutrition and poverty often lead to another health problem facing migrant farmworkers: parasitic infections, including bacterial, protozoan, viral, and worm infections. A survey done in 1983 of migrant women and children across the nation found that 34.2% of the respondents were infected with 12 different types of internal parasites; Hispanic migrants surveyed had the second highest rate of infection (30%). This parasitic infection rate is estimated to be 11 to 59 times higher than in the general American population. These parasitic infections are problematic for migrant families because in addition to being harmful to their nutritional status, they may also cause secondary problems like acute diarrhea and vomiting. Parasitic infections are even more devastating to children because they generally radically decrease iron absorption. In addition, pathogenic parasites which are carried by over 50% of the parasitic-infected migrant population can cause severe physiological disorders (Huang, 1993).

Respiratory diseases, including tuberculosis, pneumonia, asthma, emphysema, and bronchitis, are also related to poverty and poor sanitation. Death rates from influenza and pneumonia are 20 to 200 percent higher among migrant farmworkers than they are among the general American population (Huang, 1993). These types of infectious disease are especially problematic among migrant farmworkers because of their living situation. Overcrowding, the absence

of indoor plumbing facilities, and poor hygiene contribute to the spread of these types of illnesses (NIOSH/NORA Priorities, 1998).

Tuberculosis is particularly problematic among migrant farmworkers and the high prevalence rate of this condition can be associated with the migrants' housing conditions. Many state health officials estimate that the prevalence of tuberculosis among migrant farmworkers is about 20 times greater than in the general American population. The bacteria that causes tuberculosis thrives in the damp, poorly-ventilated, and congested areas that are often characteristic of the housing conditions found in many migrant camps. Also, many migrant workers are immigrants to the United States that come from regions of the world where tuberculosis infection is much more common. As a result, many carry the bacteria into the country and subsequently increase the spread of the disease once they are in contact with other migrant workers. "Tuberculosis in migrant farmworkers presents special problems such as contact examinations, population mobility, cost, fear of deportation, long-term treatment, and other barriers to healthcare" (Leon, 2000).

Another problem with tuberculosis is that even if migrants are diagnosed with the illness, treatment generally requires a six month antibiotic regimen. Many migrant families may not take these antibiotics for such a long period of time because their symptoms may disappear and access to health care facilities may be difficult. Migrant farmworkers need to be better educated about tuberculosis to help stop the spread of the disease within the population (Leon, 2000).

In order to try and avoid the problems of many of these infectious diseases, migrants must be vaccinated against preventable diseases. Because migrants spend a great deal of time traveling from one workplace to another, immunizing children is often very difficult. However, education and increasing the availability of immunizations for children may help alleviate some of the problems of infectious disease among the migrant farmworker population (Leon, 2000).

Poverty and the low socioeconomic status of many migrant farmworkers enhance and add to many of the health problems that they face through occupational hazards like pesticide exposure and the inherent danger of their profession. By not being able to properly seek care due to barriers in accessing care as well as their lack of health insurance, many of these health problems become serious issues within the population. In order to help alleviate many of these health issues, migrant workers must be educated about immunizing their children and about communicable diseases like tuberculosis. Because of the inadequate access migrants often have to health care, prevention seems to be the best remedy in trying to help alleviate some of these poverty-related health problems.

6. Legal Protection: Unfinished Laws

A. Migrant Health Act

The Migrant Health Act was signed into law by President John F. Kennedy on September 25, 1962 which added Section 310 to the Public Health Service Act (BPHC Migrant Health Program, 2002). The purpose of the Migrant Health Act is to deliver primary care and supplementary health services to migrant farmworkers and their families. The Migrant Health Branch is funded by the Consolidated Health Care Act of 1996 and administered by the Division of Community and Migrant Health, Bureau of Primary Health Care, in the Health Resources and Services Administration, Department of Health and Human Services (NCFH Directory, 2002).

The Migrant Health Program provides grants to community nonprofit organizations to provide a broad base of culturally and linguistically competent health care providers, medical care, and social support services to migrant farmworkers and their families (BPHC Migrant Health Program, 2002). In 2002, there were 129 migrant/community health centers and 629 satellite service centers providing care to this population (NCFH Directory, 2002).

The goal of the Migrant Health Program is to provide accessibility to quality and appropriate health care services for migrant farmworkers and their families. In these health centers, patients can obtain primary and preventative health care from a variety of health care providers, including doctors, dentists, pharmacists, and hospitals. In addition to health care services, migrant health centers often provide transportation, outreach, occupational health and safety, and environmental health services. To maintain culturally competent care, these centers try and use bilingual providers, bicultural lay outreach workers, and culturally appropriate outreach materials. Prevention services are also provided, including immunizations, well baby care, and developmental screenings (BPHC Migrant Health Program, 2002).

In 2002, the President established the President's Initiative to Expand Health Centers to extend the provision of culturally competent primary and preventative care services to more isolated and hard-to-reach portions of the

population. As a result of this initiative, new migrant health center access points are being established, the capacity of current migrant health centers are being expanded, and access to mental health, substance abuse, oral health, and pharmacy services are being increased. Since the establishment of this new initiative, five new migrant health center access points were created, 29 awards totaling $6.2 million were provided to migrant health care centers to expand their capacity, and 24 awards totaling $1.7 million were granted to migrant health centers to expand health care services in mental health, substance abuse, oral health, and pharmacy services (BPHC Migrant Health Program, 2002).

The Migrant Health Program has had many accomplishments since its establishment. The grants currently being provided to 125 public and private nonprofit organizations have supported the development and maintenance of about 400 migrant health clinics in 40 states in the United States. These clinics served over 650,000 migrants and seasonal farmworkers in 2001 (BPHC Migrant Health Program, 2002).

Migrant health centers work through various local, state, and federal agencies to provide care to migrant workers. At the local level, migrant health centers combine their efforts with state and local health departments, area health education centers, hospitals, specialty and social service providers, and medical residency programs. At the state level, State and Regional Primary Care Associations help coordinate migrant health centers with Federal and State primary care resources. National organizations like the Farmworker Health Services, Inc., Farmworker Justice Fund, Migrant Clinicians Network, Migrant Health Promotion, National Association of Community Health Centers, and National Center for Farmworker Health, all help provide migrant health centers with support and assistance (BPHC Migrant Health Program, 2002).

Over the past six years, funding for the Migrant Health Program has continued to increase. The following table shows the allocation of funding from 1997 to 2002:

Table 1. Migrant Health Program Funding

FY 1997 $70.6 million	FY 2000 $87.5 million
FY 1998 $70.69 million	FY 2001 $98.9 million
FY 1999 $78.0 million	FY 2002 $107 million

Source: BPHC Migrant Health Program, 2002

While funding for the program has increased substantially over the past six years, many challenges lie ahead of the Migrant Health Program. As mentioned earlier, the President's Initiative to Expand Health Centers was established to increase the availability of the resources in the migrant health centers to more migrant workers. While the centers serve approximately 600,000 migrant workers, many more are left without care (BPHC Migrant Health Program, 2002). It is estimated that migrant health clinics only serve about 20% of farmworkers that need health care (Kenesson, 2000). As a result, the goal of the program is to add or expand 1,200 health center sites over the next five years in order to serve an additional six million people. In addition, the Migrant Health Program is striving to eliminate health discrepancies by creating a health disparities collaborative among health centers by the year 2006 while continuing to improve and share outcomes after this target date. Finally, the Integrated Services Development Initiative (ISDI) is striving to support and create a controlled network of community health centers that will help ensure greater access of these services by the migrant farmworker population (BPHC Migrant Health Program, 2002).

While the Migrant Health Act has played an extremely important role in providing primary and preventative health care services to migrant farmworkers in the United States, not all migrants can access the health care services available in these types of centers. As a result, the Government is working to expand the network of resources available to migrant farmworkers to try and alleviate some of the health problems faced by this population and provide more equal access to care within the population.

B. "Agricultural Exceptionalism"

Agricultural workers are a unique group of workers in the United States and have been victims of the concept of "agricultural exceptionalism." Through laws passed by Congress, agricultural workers were excluded from the protections of the Fair Labor Standards Act (FLSA) and from the National Labor Relations Act. These acts, which are intended to provide minimal standards for employment and bargaining rights of American workers, do not protect agricultural workers. Migrant workers as a group are not even completely protected under the Occupational Health and Safety Administration's Act (OHSA) because this law only requires that workers employed on farms with greater than eleven employees be protected under these standards. The Government has clearly excluded migrant farmworkers from these laws designed to protect workers and the effects of this legal exclusion have greatly impacted the health of migrant farmworkers.

1. Fair Labor Standards Act (FLSA)

The Fair Labor Standards Act is a federal law that is designed to set a minimum wage for workers, provide overtime pay, ensure proper recordkeeping, and create/enforce child labor standards within industry in the United States. However, agricultural workers are generally not protected by the standards set for overtime pay, minimum wage provisions, and child labor laws established in the FLSA (DOL FLSA).

Unlike other workers in the job industry in the United States, agricultural workers do not need to be paid one and a half times their normal hourly rates if they work more than forty hours per week. Although migrant workers are not legally provided with overtime pay, these workers are supposed be paid the minimum wage that is established by the United States Government. Although this provision is made in the FLSA, migrant workers are not always paid the established minimum wage for their labor (DOL FLSA).

Children in agricultural work are also not equally protected under current laws. In other industrial fields, children are not allowed to work until they reach

the age of 14; children in agriculture, however, are allowed to work in the fields by the time they are 12 years old. This age restriction does not even apply for children working on their family's farm because in this case, there is no age minimum for their participation in farm work (California Endowment, 2000).

While the FLSA is designed to provide minimal protection to workers in the United States, many of the provisions set forth by this act do not protect agricultural workers. As a result, the health of migrant workers is further jeopardized.

2. National Labor Relations Act (NLRA)

The National Labor Relations Act (NLRA) was established by Congress in 1935. The enactment of this law was seen as a victory for American labor because it enabled workers to be free from the unfair spying, interrogation, discipline, discharge, and blacklisting of union members that they had been subjected to prior to 1935. Many historians believe that Congress enacted the NLRA in order to avoid many of the militant strikes by employees that occurred in the early 1930s and that were designed to help workers gain rights and fair treatment from their employers (NLRB NLRA, 1998).

The NLRA basically guarantees workers with the right to join unions without fear of punishment and reprisal from their employers. The National Labor Relations Board (NLRB) was also created by Congress to enforce the NLRA and prohibit employers from engaging in further unfair labor practices that would infringe upon the workers' right to unionize (NLRB NLRA, 1998).

While the NLRA was successful in promoting and facilitating the formation of labor unions in many industries, including the automobile, steel, electrical, rubber, and manufacturing industries, not all workers are protected by this act (NLRB NLRA, 1998). While this law guarantees the rights of the majority of American workers to bargain with their employers and form unions, workers involved in interstate commerce industries, including agriculture, are not afforded the benefits of this law. Agricultural workers therefore are not legally protected to freely organize themselves into unions or be protected from unfair

labor practices imposed upon them by their employers (NLRB Facts, 1998). As a result, agricultural workers do not have a collective voice to protect themselves from unfair labor conditions and therefore face working conditions similar to those faced by the majority of workers prior to 1935. Without the ability to form such unions, agricultural workers are left at the mercy of their employers.

3. Occupational Safety and Health Act of 1970

The Occupational Safety and Health Administration's Occupational Safety and Health Act of 1970 established the National Institute for Occupational Safety and Health (NIOSH) as part of the Centers for Disease Control (CDC). The objective of this act is to improve the overall health and safety of workers in the United States. In order to fulfill this objective, it conducts research in the areas of occupational health and safety, provides workplace health hazard evaluations and technical assistance to states and other agencies, and publishes and spreads health and safety information (NIOSH/NORA Introduction, 1998).

The Occupational Safety and Health Administration (OSHA) strives to save lives, prevent injuries, and protect the health of workers in the United States. Over 100 million workers and six and a half million employers in the United States are protected by this administration. In order to protect workers, OSHA employs about 2,100 inspectors in addition to complaint discrimination investigators, engineers, physicians, educators, standards writers, and other technical and support personnel. With over 200 offices throughout the nation, the OSHA is relatively successful in accomplishing its goals in protecting American workers (OSHA).

While most working Americans are protected by OSHA, there are some exceptions, including miners, transportation workers, many public employees, and the self-employed (OSHA). In addition, Congress has recently decided to exclude agricultural workers that are employed on farms with less than eleven employees unless the employer operates a farm labor camp or if an on-the-job fatality occurs. No other industry is subjected to a minimum employee number to receive the benefits of OSHA protection (California Endowment, 2000). This law means that

the OSHA only requires employers of eleven or more workers to provide toilet facilities and drinking water for workers in the fields (Kenesson, 2000). Therefore, while the majority of industries in the United States are completely protected by OSHA, the agricultural industry is again not afforded this luxury. In addition, while some agricultural workers are protected under OSHA's standards, it is physically impossible for OSHA inspectors to properly inspect and maintain all migrant labor housing and working conditions. OSHA's field inspections in 1990 found that 69% of the facilities subject to OSHA's regulations were in violation (Kenesson, 2000). In addition, many camps are in remote locations and OSHA simply does not have the manpower to inspect all occupied facilities (Holden, 2001). As a result, many more agricultural workers that should be protected under OSHA remain unprotected.

The exclusion of many migrant workers from OSHA protection as well as the inability to enforce many of the standards set forth by OSHA, place migrant workers in an even more vulnerable position. Without federal regulations being properly applied and enforced, migrants are forced to work and live in extremely poor conditions that continue to play a role in affecting their health and well-being.

C. Medicaid

Farmworkers are a mobile, high risk, working poor population that face one of the worst overall health status of any population in the United States because the majority of migrant workers do not have access to health insurance through their job and do not earn enough money to afford private health insurance (NACHC, 2001). Because migrant farmworkers' annual income generally falls below the federal poverty level, the majority of these workers are eligible to obtain health care benefits through the Medicaid program. However, eligible farmworkers severely underutilize this available help. "Looking at major programs...[only] 20% use Medicaid and Food Stamps" (Arendale, 2001).

While many states now consider the terms reciprocity, portability, and presumptive eligibility when thinking about migrant farmworkers and Medicaid,

accept out-of-state coverage, health care centers may be reluctant to treat these families because of the problems in arranging for out-of-state payments and compensations for health care work. Health care providers may also be reluctant to accept out-of-state payments and so families often have difficulty finding a provider to treat them. Finally, if coverage lapses in any way while the family is out of the state, the entire enrollment process must begin all over again (Rosenbaum, 2000).

While many states have adopted application-related reforms, like out-stationed enrollment, presumptive eligibility, expedited coverage determination processes, and streamlined enrollment procedures, these reforms have only reduced barriers faced by migrant farmworkers in enrolling for and utilizing Medicaid services. "These reforms alone cannot overcome the additional portability-related problems that migrant families face" (Rosenbaum, 2000).

Although it appears that once migrant workers are successfully enrolled in Medicaid they will be able to receive quality health care, this is not always the case. It is often difficult for migrants to access Medicaid-participating providers both in and out of their home state. Their work schedules generally overlap with the hours of most physicians, and migrants find it difficult to make appointments during their work hours because they do not know if and when they will be able to keep appointments. Transportation to the health care provider may also be a problem as many migrant families do not have cars and live in rural, remote areas that lack public transportation (Kenesson, 2000).

Health care providers may also be reluctant to treat migrant patients even if they can make and keep appointments. Due to the recently changed immigration laws, most providers do not think migrant workers are eligible for care under Medicaid provisions. Also, because migrants often face difficulties in establishing follow-up care and following treatment plans, providers may not want to deal with the frustration that accompanies treating patients in these situations (Kenesson, 2000).

The National Advisory Council on Migrant Health proposed two recommendations in 1995 aimed at alleviating barriers that migrants face to

obtaining Medicaid benefits. First, they suggested a nationally-administered program to provide health care for farmworkers that would prevent state-related problems and portability issues. Second, they proposed creating a cooperative demonstration project sponsored by the Centers for Medicare & Medicaid Services and the Migrant Health Branch, Bureau of Primary Health Care, and Health Resources and Service Administration to facilitate interstate reciprocity of Medicaid benefits through the use of an interstate enrollment transfer model (Arendale, 2001).

Other options for improving public health coverage for migrant workers and their families have also been proposed. One proposal involves encouraging states to make maximum use of existing state plan provisions relating to coverage of residents and out-of-state coverage. This proposal involves an interstate agreement authority, that when combined with federal regulations related to payment for out-of-state care, would enable families that are eligible for receiving Medicaid in one state to receive equal care in all states. One of the strengths of this proposal is that it could be implemented without changing the current laws dealing with Medicaid. These new payment rules would enable any state to provide full service to eligible families regardless of their state of residence. However, this proposal does not protect against the potential for variable eligibility standards and benefit levels between states. Without standardization in eligibility and benefits, migrant farmworkers eligible for Medicaid in one state may be ineligible in another state. Also, it would be very difficult to determine a family's eligibility in various states based on differing eligibility criteria. Finally, some states may continue to fear repayment from other states and be liable to denial of payments by other states (Rosenbaum, 2000).

Another proposal involves encouraging states to come together to develop comprehensive migrant coverage demonstrations. This proposal calls for the creation of a multi-state migrant coverage demonstration under Medicaid that would permit states to address eligibility and coverage issues that cannot be reached through interstate residency agreement rules alone. Under this proposal, states would no longer face eligibility and coverage problems that would be

present in the previously discussed proposal. They would provide relatively equal coverage, provider compensation, and other administrative variables. However, federal funds are needed to implement this program and greater enrollment by eligible families and better coverage through portability would also increase costs at both the federal and state levels (Rosenbaum, 2000).

Seeking legislation that would create a program of migrant family coverage in which states with high migrant populations could participate has also been proposed as another potential solution to the Medicaid problems facing migrant workers. This proposal would allow states, experts in migrant health, and other individuals to come together to create eligibility, coverage, and payment rules that would be applicable to the particular group of states. Such reciprocity would also permit one single authority to deal with all of the payments and claims arising from the programs in the various states. This particular proposal is strong because it offers a large amount of flexibility and may cause an increase in state participation. However, again, this program would cost a substantial amount of money as well as require new legislation (Rosenbaum, 2000).

While the three proposals presented call for relatively substantial changes in the Medicaid program, other easier, more readily available options exist to improve Medicaid eligibility and participation for migrant farmworkers. In order to facilitate access to enrollment for Medicaid, outreach programs and education programs about Medicaid eligibility, enrollment processes, and services should be tailored to migrant farmworkers' particular interests, concerns, and needs. Enrollment opportunities should be brought to the migrant farmworkers via enrollment sites in clinics, emergency rooms, housing centers, commercial areas, and workplaces. Education and enrollment opportunities should also be provided to migrant workers at convenient times when the migrants are not working and are available to participate in programs using individuals who are familiar with the language and culture of the migrant workers (Kenesson, 2000).

By streamlining eligibility requirements, more workers that are eligible for Medicaid would be aware of their eligibility and would therefore be more likely to enroll in the program. To streamline these requirements, the government

should develop a simplified application form designed for migrant workers, implement income averaging, exempt migrant workers from mandatory enrollment in Medicaid managed care, define migrant-specific criteria to authorize presumptive eligibility, assure that state residency policies comport with federal regulations and are understood by individuals dealing with migrant workers, and minimize documentation and verifications requirements and processes generally involved with Medicaid enrollment (Kenesson, 2000).

Improving access to services and enhancing continuity of care would be beneficial for the health of migrant farmworkers. Medicaid providers should be educated about the eligibility provisions that are specific to migrants and their families. Portability issues could also more easily be dealt with by implementing basic arrangements to pay for out-of-state care, implementing linkages with referral resources to foster continuity of care, developing and supporting cross-state health data systems targeted to migrants' priority treatment needs, and facilitating the portability of migrants' health records (Kenesson, 2000).

"Systemic reforms and "simpler, readily available" approaches are not mutually exclusive. In fact, intensive short-term initiatives might foster the level of attention, knowledge of the technical challenges and possibilities, and commitment to eroding access barriers that would be needed to pursue larger, more innovative solutions" (Kenesson, 2000). Only about 15% of workers receive Medicaid benefits and 35% of farmworker families with dependent children that are eligible for Medicaid are enrolled; as a result, many farmworkers are being denied health care benefits that they rightfully deserve. The time has come for Medicaid reform to make enrollment and portability possible for the majority of eligible migrant farmworkers. While "the alternative is to again assert that the challenge is too great, and the population too small and too silent, to justify critically-needed health system improvements for those individuals and for the larger public health of the country," this alternative should no longer be an option. There are many proposals that would significantly help the migrant farmworker population; it is now time to implement them.

State Reports

1. Introduction

In this section of the paper, I will examine the general demographic characteristics of the migrant farmworker population, the health profile of these workers, the access to care and barriers faced in obtaining care, labor conditions and occupational hazards, poverty-related health issues, and special legal protections provided to migrant farmworkers in California, Wisconsin, Florida, and New York. These four different states are important to consider because they each have a large number of migrant workers and represent the four different regions of the United States. After presenting information about the migrant workers in each of these states, I will then use this information to draw some general conclusions about the health of migrant workers and compare their health to the health of the general population as well as compare and rank provisions provided to the migrant workers in the four individual states.

2. California

A. Introduction

In November, 2000, The California Endowment published the "Report on the Health of California's Agricultural Workers" to address health problems and issues facing the migrant farmworker population. Villarejo et al. published a second paper in October, 2001 entitled "Access to Health Care for California's Hired Farm Workers: A Baseline Report" to further explore migrant farmworker health. This second paper was unique in that it was the first time that researchers considered immigration status and health and the relationship between the use of social service programs and health (Villarejo et al., 2001). Together, these two reports provide a comprehensive look at the health status facing California's migrant farmworker population.

In California alone, there are approximately 434,645 migrant farmworkers and a total of 938,758 migrant and seasonal farmworkers. California has the largest agricultural production area in the United States, including various year-round and seasonal employments. In addition, many migrants that reside in California often leave the state during various times of the year to seek agricultural employment in other states (Larson California, 2000). Because of the workers' low socioeconomic status as well as fears of immigration problems and cultural and linguistic barriers, these migrants often lack basic health care (California Endowment, 2000).

971 subjects were used in the California Endowment Report and 96% of the interviews were conducted in Spanish. Generally, the population under study was composed of young, married Mexican men who had very little formal education and who earned very low salaries. The sample median age of the population surveyed was 34. About 92% were foreign born, 59% were married, and 63% had attained six or fewer years of formal education. Only about 50% said they can read Spanish well and the median reported total income for the group was between $7,500 and $9,999 (California Endowment, 2000). 970 subjects were used in the Villarejo et al. report. These subjects supported previous findings that California migrant farmworkers were generally very poor

and young. In the sample population of this second report, more than 92% were foreign-born, but 66% of their children were born in the United States. More than half of U.S.-resident household members and subjects in the study were younger than 24 years of age. About 10% of these subjects that said they were married and had spouses living abroad (only 44% of combined household members were female) (Villarejo et al., 2001). Many of these farmworkers also lived in crowded conditions. 42% of subjects lived in homes shared by two or more households; only 7.6% of California households had unrelated persons sharing a dwelling. An average of 4.25 workers was found to share a dwelling as compared to the California average household size of 2.87. 20% of these dwellings did not have phone service as compared to 3% of national households. In addition, about 30% of these farmworkers did not live in permanent homes - they resided in temporary dwellings, labor camps, and vehicles. Some of the workers were even found to be living in tool sheds, garages, trailers, and abandoned vehicles (Villarejo et al., 2001).

About 24% of the subjects indicated that they were the only members of their household; more than half of these individuals were undocumented males. 21% of these individuals said they were married and 20% said their permanent homes were in Mexico. However, the majority of children born into these households were U.S. born (72%). As citizens, these children are eligible to participate in all government programs intended to provide health care to children. Also, because mothers are giving birth to children in this country, they will often have access to well-baby care during the first several months of their infants' lives. These factors enabled mothers to access health care in the United States more easily than their male counterparts (Villarejo et al., 2001). About 48% of the subjects in the 2000 survey had children (California Endowment, 2000).

There seemed to be a correlation between the amount of education an individual possesses and the likelihood that they entered the agricultural profession. Only 13% of U.S.-born, adult household members over the age of 25 that resided with one of the sample subjects had performed hired farm work over the past year. These individuals had, on average, attained a 12^{th} grade education

but no high school diploma. On the other hand, Mexican-born, adult household members in the same situation were much more likely to participate in farm labor; 55% had done so and these individuals had only achieved a 4th to 6th grade education. These patterns reflect that fact that higher educational attainment is generally inversely proportional to the likelihood of participating in farm labor (Villarejo et al., 2001).

These studies showed that the majority of farmworkers in California speak mostly Spanish while only some are fluent in English. 33 subjects in the 2000 survey preferred to complete the survey in English and the remaining 938 preferred Spanish. Therefore, 96% of the interviews were conducted in Spanish reflecting the language preferences of these workers (California Endowment, 2000). This trend was also seen in the 2001 survey. Only 3% of the participants chose to speak English during the interview; 97% preferred Spanish. Literacy rates were also considered in this second survey. Only 51% of the subjects said they could read Spanish either well or very well (Villarejo et al., 2001).

Finally, migrant workers tend to be very poor. Findings in the 2000 survey reported median total annual earnings between $7,500 and $9,999 (California Endowment, 2000). In the 2001 survey, 30% of subjects reported having a Total Family Income below $10,000. Overall, median Total Family Income was in the range of $12,500 to $14,999. Because on average there were about 3.39 people living in a household, the average per capita income of these migrant workers was between $3,690 and $4,420. Average per capita income for Californians is substantially higher, at $28,163. In addition to having very low annual earnings, only 15% of the sample subjects said they owned a house in the United States and only 20% said they owned a vehicle; therefore, about 68% of the workers had no assets in this country (Villarejo et al., 2000).

B. Health Status

All of these characteristics of the migrant farmworker population in California play a role in affecting their health status. The specific health findings showed an extensive number of health problems facing the migrant farmworkers.

Blood pressure exams showed a high incidence of hypertension as compared to U.S. adults; among those ranging from 20-34 years of age, more than twice as many workers showed high blood pressure as compared to other U.S. adults (California Endowment, 2000). 32% of documented males, 20% of undocumented males, 15% of documented females, and 12% of undocumented females had high blood pressure in the 2001 survey (Villarejo et al., 2001). Male subjects also showed a higher incidence of high cholesterol as compared to U.S. adults while female subjects showing high serum cholesterol was lower than in the general U.S. population (California Endowment, 2000). Serum cholesterol findings were found to be normal for documented and undocumented females and undocumented males; documented males showed high serum cholesterol levels as compared to the average American male – 25% showed high serum cholesterol versus 4% or 5% for the other three groups (Villarejo et al., 2001). According to measures of obesity using the body mass index, 81% of male subjects and 76% of female subjects were overweight, and 28% of men and 37% of women were considered obese; only 18% of men and 21% of women were found to have a healthy weight (California Endowment, 2000). Both male and female documented subjects showed an abnormally high prevalence of obesity in comparison to Mexican-American adults and all American adults (35% and 47%, respectively); undocumented subjects showed a lower prevalence of obesity at 16% in males and 22% in females (Villarejo et al., 2001). In the general American population, 20% of men and 25% of women are obese (which is also extremely high).

Taken together, obesity, high serum cholesterol, and high blood pressure all serve as risk factors for future health problems. 52.7% of males and 45.6% of females surveyed expressed at least one risk factor while 18.2% of males and 8.1% of females suffered from at least two of these risk factors (California Endowment, 2000). In the 2001 survey, 24% of documented male subjects had at least two out of three risk factors. Just 9% of undocumented male subjects had two or more of these same risk factors. Documented females were also more

likely than undocumented females to exhibit two out of three risk factors, at 12% versus 6% respectively (Villarejo et al., 2001).

Anemia is a health concern among migrants as both males and females showed much higher incidence of this condition than the general American population. Males in the 2000 survey showed anemia rates four times greater than the general population; females showed between one quarter and two thirds more cases depending on the age group (California Endowment, 2000 and Villarejo et al., 2001). Both male and female documented subjects and male undocumented subjects showed a higher prevalence of anemia than all U.S. adults whereas undocumented females did not (Villarejo et al., 2001).

Diabetes also affects migrant farmworkers' health, but the actual number of individuals suffering from this disease is unknown. Dental problems plague this population as it was found that 36.1% of male subjects and 29.2% of female subjects suffered from at least one untreated decayed tooth; about the same number of individuals also had a broken or missing tooth. Gingivitis, impacted wisdom teeth, and poorly fitting dentures were also prevalent dental problems (California Endowment, 2000). Villarejo et al.'s study found that both documented and undocumented workers showed high rates of tooth decay at 29% for documented females, 33% for undocumented females, and 35% for both documented and undocumented males. 35% of documented females and 39% of undocumented females had missing or broken teeth; these same conditions were found in 34% of documented males and 23% of undocumented males. In addition, more than 50% of subjects had abnormal dental exams, indicating conditions such as untreated dental caries, broken or missing teeth, and gingivitis (Villarejo et al., 2001).

In self-reported health problems, the most common complaint among the workers involved dental health problems followed by back pain and chronic pain in areas including knees, feet, hands, neck, and shoulders. 41% of respondents reported having pain in one or more of these areas for over a week, indicating a chronic condition. Complaints of itchy and/or irritated eyes were also extremely common among the sample surveyed. In addition, mental health and

ethnospecific conditions were also self-reported complaints. Ethnospecific conditions refer to health outcomes that are self-identified within the belief system of a specific ethnic group. The ethnospecific health problems reported included nervios (found in 16% of all subjects) and corajes (found in 13% of all subjects), while depression was a mental health condition frequently reported in about 9% of all subjects (California Endowment, 2000).

Lastly, the California Report explored health conditions that had been reported to the respondents by a doctor. 13% reported that they had been diagnosed with allergies, 6% reported hypertension, 6% reported arthritis or rheumatism, 3.5% reported dermatitis, 2.5% reported tuberculosis, and 2.3% reported diabetes (California Endowment, 2000). Tuberculosis was discovered to be particularly problematic in the 2001 survey that found that one in forty hired farmworkers said that they had been told that they had tuberculosis by a physician; this statistic means that as many as 2,500 of every 10,000 worker may have a history of this disease (Villarejo et al., 2001).

C. Access to Care and Barriers Faced

Although the migrant farmworker population is generally composed of young males who would normally not be at risk for chronic health conditions, the risks for heart disease, stroke, asthma, and diabetes are alarmingly high among this group (California Endowment, 2000). Migrant workers face poor health outcomes for various reasons, including their inability to access adequate health care. The majority of these workers lack the proper resources to receive treatment, and even if they are able to receive treatment at a health center, the care that they receive may be inadequate or they may be unable to receive follow-up treatment.

The number of recent visits to physicians, dentists, or eye care professionals reflects this lack of health care access. Results of the 2000 survey showed that 32% of male subjects responding had never been to see a doctor or visited a clinic in their entire lives. While this statistic was lower among females, it was still high. 37.5% of women reported a medical visit in the past five months

and 73.6% reported having been to a doctor in the past two years; on the other hand, only 48.4% of males had been to a doctor or a clinic in the past two years. The higher proportion of medical visits among females was likely due to maternal and child health care visits. However, 23% of undocumented females had never had a medical visit (Villarejo et al., 2001). About 18% of those claiming having been to a doctor went to Mexico for the visit (California Endowment, 2000). Villarejo et al.'s research found that overall, about 20% of medical visits by the subjects within the previous two years had been in Mexico. Proximity to Mexico seems to be an important influence in where migrant workers seek and receive care; the subjects that lived closest to Mexico were the most likely to receive treatment there. 44% of undocumented males had never had a medical visit whereas only 21% of citizens and 27% of legal residents had not. Overall, 57% of subjects had been to a doctor or clinic within the past two years (Villarejo et al., 2001).

Approximately 50% of male subjects and about 40% of female subjects also reported never having been to a dentist. Access to dental care among migrant workers seems even more inadequate than access to regular medical care as food and shelter often come before dental visits. In addition, more than 67% of subjects had never had an eye-care visit (California Endowment, 2000). These statistics show that a principle problem within this population is access to adequate care or any form of care at all.

Some migrant farmworkers were also refused care at local health care sites. They were told that because they did not have insurance or would be unable to pay for their visit, they would not be given treatment; 3% of subjects reported having been refused care in this type of situation (Villarejo et al., 2001). In addition, once migrants arrive at a clinic, they may be treated in such a way that they may refuse to be treated. In the 2000 survey, certain subjects refused to participate and/or complete the physical examinations because they felt that they were not being treated respectfully at the local clinic participating in the research. Others also reported that they had been refused treatment in the past due to language barriers (California Endowment, 2000). The treatment of migrant

farmworkers in local, rural clinics also seems to be impeding access to care for the migrant farmworkers.

Many barriers, ranging from a lack of health clinics to lack of transportation, prevent migrant farmworkers from obtaining health care. The majority of migrant farmworkers live in isolated, rural areas that are largely outside of the health care system. The 2001 survey found that one of the seven sites in which they surveyed workers lacked any clinic or physician. In a second site, the only health care available was a private physician's office that was only open from 9 am to 5 pm, Mondays through Fridays, that only treated a limited number of Medi-Cal patients and provided no emergency care. Migrant health clinics were found in less than half of the sites surveyed (three out of the seven). The existing system of federally-funded migrant and community health clinics simply cannot reach the majority of the migrant farmworker population (Villarejo et al., 2001).

In addition, because of the remote location where farmworkers live and work, they generally lack transportation to and from a migrant clinic or health care provider. Rural workers and their families often have to travel more than 45 minutes to visit a health care provider, including for emergency services and birthing facilities. The majority of migrant workers do not have a car, and even obtaining a driver's license to drive someone else's vehicle is problematic. California's prohibition against issuing driver's licenses to undocumented workers prevents these types of families from having any type of transportation. Also, even if a member of the family illegally drives a vehicle, they are often reluctant to drive long distances to health centers out of the fear of increasing their chances of being caught (Villarejo et al., 2001). As a result, transportation to available health services poses yet another problem for migrant workers in obtaining adequate health care.

Language barriers are also a significant barrier impeding migrants from receiving care in California. Many providers speak little or no Spanish, and as evidenced by the approximately 97% preference of migrant workers to the Spanish language, this feature of the health care system is problematic. While

certain clinics and health care providers are able to provide bilingual medical assistants or allow bilingual family members of the patient to translate, many other clinics and patients do not have these resources (Villarejo et al., 2001). Patients may also be refused treatment due to the existing language barrier (California Endowment, 2000).

The immigration status of workers also plays a role in workers' access to health care treatment. In general, undocumented workers are skeptical of existing institutions in the United States because they fear being deported back to their home country. The 2001 survey found that undocumented males were far less likely than documented males to try and access health care services (Villarejo et al., 2001). Immigration status therefore plays a role in affecting the type of health care sought and received by migrant workers.

The hours that clinics are open may also prevent migrant workers from obtaining care because they often overlap with migrant workers' work schedules. Matching available appointments with hours that do not overlap with the migrant's work schedule is often very difficult, if not impossible. While most clinics try and schedule a limited number of appointments during the evening or weekends, not all migrants are able to obtain appointments during these times. In addition, migrants may also find it difficult to schedule appointments in advance or be able to keep scheduled appointments due to unpredictable working conditions (California Endowment, 2000).

While migrant workers may find it difficult to obtain care in clinic or private physician settings, there are a variety of different types of social programs that strive to increase migrant workers' access to care. However, migrant workers do not seem to be responding well to or participating in these programs. When asked about their participation in need-based social programs like Food Stamps, WIC, Medi-Cal, and welfare, migrant workers' response rates were very low despite their eligibility. Less than 10% of households participated in Food Stamps, about 5% of households received public health, less than 25% of households participated in Medi-Cal or Medicaid, about 20% of households participated in WIC, and less than 5% of households participated in all other

available programs combined. Although these numbers may seem high, they represent household use of these services. For example, only 5% of subjects responding in the survey were enrolled in Medi-Cal (Villarejo et al., 2001). Therefore, while many migrant workers are eligible to participate in need-based social programs that would help improve their overall health outcome, only a small minority take advantage of these available resources.

In addition to being able to receive Medicaid benefits, California residents may also be eligible to obtain benefits through Medi-Cal. Medi-Cal is a source of health care insurance for millions of low-income, elderly, and disabled California residents, including eligible migrant farmworkers. Essentially, Medi-Cal is a state Medicaid program. It was established in 1965 under Title XIX of the federal Social Security Act. The program serves approximately 5 million of the 6.6 million eligible individuals, and eligibility is largely based on income (Medi-Cal Policy Institute, 2003). In addition to Medicaid, Medi-Cal is an additional health care resource for migrant farmworkers in California.

Despite their eligibility, however, enrollment in programs like Medi-Cal and Medicaid remains low among migrant workers. Also, the majority of workers have no other form of health insurance. According to statistics presented in the 2000 survey, about 70% of the migrant farmworkers sampled lacked any form of health insurance (California Endowment, 2000). Villarejo et al.'s study found that only 25% of the workers surveyed possessed some sort of health insurance. As a result, costs of medical care for the majority of migrant workers had to be paid "out-of-pocket" (Villarejo et al., 2001). 11.4% of workers indicated that they possessed health insurance through their jobs and although 16.5% indicated that they were offered some sort of health care by their employer, only 11.4% could actually afford the plan (California Endowment, 2000). Only 7% of workers were covered by any one of the many government programs designed to aid those who cannot afford care, including Medicaid, Medicare, and Healthy Families (California Endowment, 2000 and Villarejo et al., 2001). These results show that despite the United States Government's attempts to provide health care service to migrant farmworkers, this population continues to face significant barriers in

accessing any type of health care (Leon, 2000). While insurance coverage does not always necessarily ensure access to health care services, insurance helps workers afford care, and by easing the financial burden of medical services, access to insurance would enhance migrant workers' ability to obtain medical treatment.

D. Labor Conditions and Occupational Hazards

Migrant farmworkers also face health problems because of the inherent danger of their work. Because of work conditions compounded with the dangers of farm work, 18.5% of subjects in the survey claimed having had a workplace injury at some point during their career that was compensated under California's Workers Compensation Insurance System. Only 33% of participants, however, knew that they were protected by this law. In addition, only 57% received pesticide training, 88% had access to toilets, 79% had access to clean drinking water and disposable cups, 5.5% had access to only clean drinking water, 87% had access to clean drinking water or disposable cups, and 82% were provided with wash water. 60% of respondents even reported that they were required to eat unwashed fruit to test its ripeness before picking despite the fruits' previous exposure to harmful pesticides and chemicals (California Endowment, 2000).

As discussed earlier, the housing situation that migrants often find themselves living in affects their health. Many hired farmworkers live in overcrowded situations that increase the spread of communicable disease as well as exacerbate other unhealthy situations. In addition, about 30% of the workers sampled did not even live in permanent homes; they lived in temporary dwellings, including tool sheds, garages, automobiles, trailers, motor homes, abandoned vehicles, lean-tos constructed from plywood, tents, and every imaginable kind of shack. Some migrant workers were even found living in the open, usually among trees, on hillsides, in ravines, or along riverbanks (California Endowment, 2000). Such inadequate and often crowded living conditions make the health burden of farm work even more difficult for migrants.

While I was unable to find information regarding contaminated water in migrant camps in California, California has extensive research on pesticide use and their effects on migrant workers. The California Endowment's survey, as mentioned earlier, found that only 57% of migrant workers received pesticide training despite the law that requires all workers to receive this type of education. In 1999, "Fields of Poison" was published to explore the effects of pesticides on California farmworkers. The results of this report are disturbing. From 1991 to 1996, the California Environmental Protection Agency's Department of Pesticide Regulation (DPR) reported 3,991 cases of occupational poisoning by agricultural pesticides, yielding an average of 665 cases per year. However, the numbers of actual poisonings were severely underreported. Pesticide poisonings are often not reported because many farmworkers cannot afford medical treatment and they do not realize that they are entitled to Workers' Compensation. In addition, many others fear retaliation from their bosses and crew leaders or are not trained well enough to recognize pesticide poisoning symptoms (Reeves et al., 1999).

"Economic insecurity, poor housing, language barriers, lack of health insurance, and poor work conditions exacerbate the problems of pesticide exposure for most farmworkers. Recommendations to bathe at the end of each workday, wear clean clothes every day and wash work clothes separately from family clothes ring hollow when one's living quarters have no running water or washing machine." As a result, farmworkers are not just exposed to pesticides at work. They are also exposed while at home, both through residue on their clothing and drift from the fields that generally lie very close to their homes (Reeves et al., 1999)

Pesticide exposure of this nature can lead to many acute and chronic conditions. Acute effects like vomiting, nausea, dizziness, headaches, fatigue, drowsiness, and skin rashes can be quite severe and may often be confused as symptoms not relating to pesticide exposure. Chronic effects like cancer, birth defects and stillbirths, reproductive problems, developmental problems, and nervous system damage are serious consequences to pesticide exposure and poisoning. Both acute and chronic conditions that result from pesticides are

extremely difficult to diagnose and treat because many acute conditions can be confused for symptoms of other problems and many chronic conditions do not appear for 15 or 30 years after exposure to the harmful chemicals (Reeves et al., 1999).

While California has had pesticide safety regulations in place for more than 25 years and has one of the most extensive reporting systems in the United States, the majority of pesticide-related violations go unpunished. California's county-based system for enforcing pesticide laws has very serious weaknesses. Although a few counties engage in thorough inspections and regularly issue fines for violations, the majority of the counties in California do not engage in such rigorous inspections. Throughout the entire state, inspectors issue fines for about only 10% of the violations they discover. In the fiscal year 1996/1997, 657 fines were issued for such violations. While the majority of violations are reported through "Notices of Violations" and "Letters of Warning," many more violations are not given any action at all. In addition, when fines are issued, they are very low. As pesticide use is increasing and there continues to be a significant number of pesticide poisonings, the health of migrant workers continues to be in jeopardy (Reeves et al., 1999). Measures must be taken to reverse the health effects of pesticides and to protect and educate migrant farmworkers from the risks involved in their use.

E. Poverty-Related Health Issues

As discussed earlier, farmworkers generally live below the poverty line. Their low socioeconomic status contributes to their poor overall health, both directly and indirectly. In fact, according to the U.S. Department of Labor criteria for establishing "official" poverty status, most migrant workers are poor, and "if there is one consistent predictor of poor health status, it is low socioeconomic status" (California Endowment, 2000; Villarejo et al., 2001). The extremely low total household income of many migrant workers has serious consequences on their own health as well as the health of their family members. Migrant workers and their families generally do not seek preventative medical services, including

dental check-ups or eye-care visits. When members of the family eventually become sick or injured, seeking care is frequently delayed because many must pay for the medical services on their own (Villarejo et al., 2001). As a result, workers and their families live with many health problems and do not seek treatment to prevent future problems. "Most hired farm workers are too poor to pay for an adequate level of health care, including dental and vision care." As a result, during the 2001 survey, migrant workers were diagnosed with previously undiagnosed conditions, including cervical cancer, a burst appendix in a child, a case of extremely high level of blood sugar, two cases of syphilis, and many cases of adverse chronic health conditions (Villarejo et al., 2001).

In addition to directly affecting health outcomes, low socioeconomic status also plays a role in causing malnutrition. In turn, malnutrition affects the high prevalence of obesity, high blood pressure, and high serum cholesterol. Dietary changes in the life of migrant workers frequently contribute to this malnutrition. Many migrant farmworkers will change their usual diet of meat, fruit, beans, and corn tortillas by substituting them with more convenient and less expensive foods like donuts, chips, soda, and hot dogs (Villarejo et al., 2001). Low-income populations in the Untied States have a nutritionally poorer diet as compared to the middle and upper class groups; foods with high fat content, high sugar content, and excess salt are more commonly found in the diets of poor people. "It is a tragedy and more than a little ironic that the labor force that is responsible for producing such a great abundance of healthy food in California should themselves be suffering from the effects of poor nutrition" (California Endowment, 2000).

F. State Laws Protecting Migrant Farmworkers

California provides certain legal benefits to migrant farmworkers that are not provided for under federal law. Under federal law, migrant farmworkers are not granted the benefit of receiving overtime pay if they work more than forty hours per week. In California, migrant workers receive overtime pay after working ten hours per day or six days in a week (Farmworker Justice Fund,

2003). Although this California law certainly does not grant equality to migrant workers in terms of receiving overtime pay as compared to other workers, farmworkers in this state are at least eligible to receive overtime compensation.

California is one of three states that allows migrant workers to bargain collectively for their rights as workers because the workers' ability to bargain is protected under state law. In addition, California is the only state that allows migrant workers and farmworkers in general to form a union to bargain collectively (NELP, 2003).

California law also specifically addresses migrant farmworker vulnerability at the hands of contractors. California is one of three states that have a bonding requirement for labor contractors, and in California (as well as New York), the grower or farm owner is identified as the employer of the migrant workers in state minimum wage and overtime regulations even if the workers are hired by a labor contractor. In addition, California requires that all contractors and van drivers are properly licensed (NELP, 2003).

California established the California Office of Migrant Services to address issues involving migrant farmworkers, including migrant housing issues. In 2000, the state of California operated 26 centers in 15 farming communities that housed about 2,200 farmworker families for six months of the year, or about 5,000 workers and 4,000 children. Most farmers in California do not provide housing for their workers, and as a result, migrant workers must find affordable housing on their own. California's Office of Migrant Services gives money to local government agencies to operate migrant housing complexes. Through these state-funded camps, migrant workers that travel over 50 miles in search of work and that have very low incomes can afford adequate housing during the agricultural season (Hernandez, 2000). In addition, there is currently a bill in the state assembly, Bill AB 807, that would provide funds to local governments and non-profit organizations to build or rehabilitate housing for farmworkers. This Bill would expand housing opportunities for migrant workers and would add migrant housing as a priority of the Farmworker Housing Grant Program (Housing Advocates, 2003).

migrant farmworkers do not have any other options (Villarejo et al., 2001). Findings of these two surveys show that California needs to increase the provision of services to migrant workers and reevaluate the health needs of these workers and their families. Migrant workers simply cannot access adequate care, and even if they can, their problems may remain unsolved. "These findings point to the need for vigorous efforts to address the lack of health insurance coverage issues, and the shortage of culturally compatible health care providers and facilities" so that migrant farmworkers and their families may have a greater chance to achieve a health status equal to that of the majority of Americans (California Endowment, 2000).

3. Wisconsin

A. Introduction

Migrant farmworkers began working in Wisconsin beginning in the early 1900s. Sugar beet and vegetable production was expanding during this time, causing the recruitment of European workers from low-income areas in Midwestern cities to come and work in the agricultural industry. Many of these workers eventually settled in the area, established their own farms, and became permanent residents of the region. In the 1920s and 1930s, there was a demographic shift in the worker profile in that the number of Hispanic workers in the area began to increase. Workers were being recruited from the Southwest as well as along the Mexican border. In 1942, Wisconsin growers increased production to support the war effort and imported workers from Jamaica, the Bahamas, British Honduras, and Mexico to fill the labor shortage. In 1945, the number of foreign agricultural workers reached its peak at 6,700 (Slesinger and Wheatley, 1999).

After World War II ended, many farmers left rural areas and migrated to the cities in search of more lucrative work. As the production of crops requiring seasonal workers remained constant, Wisconsin growers increasingly looked to domestic migrant labor to fill the demands. About 85% of the migrant workers in Wisconsin after the war were Texas-Mexicans. This state also received some foreign workers from 1951 to 1964 through the "Bracero Program" that were generally from Mexico (Slesinger and Wheatley, 1999).

Since 1955, the mechanization of many agricultural tasks, including planting, picking, and sorting crops, as well as the use of chemicals in agriculture, has caused the demand for migrant farmworkers in the state of Wisconsin to decline. Since the late 1980s, however, increased production of perishable crops like vegetables has created many jobs for migrant workers in the food processing sector of agriculture. In addition, over the past ten years, there has been an increasing shift to migrant workers traveling with fewer families and children (Slesinger and Wheatley, 1999). In 1998, the State of Wisconsin Bureau of Migrant Services estimated a total of 5,683 migrant workers in Wisconsin and

1,962 of these workers worked in agriculture (Slesinger and Wheatley, 1999 and Scheder et al., 1999).

Migrant workers that spend time working in Wisconsin generally arrive to harvest crops in early July and remain in the state until the end of August. A small minority of these workers may stay longer or arrive in September to work in the Christmas tree business (Slesinger and Ofstead, 1993).

In general, like other migrant workers, farmworkers in Wisconsin "face problems of health care availability, limited financial resources, heavy work schedules, child care, housing, stress, and occupational exposure." Although the living and working conditions for migrant workers have improved since the 1950s, they continue to face lower health outcomes due to barriers in accessing care and the lack of available resources. "Not only does migration itself disrupt access to and continuity of health care, but migrants also confront economic and cultural, including discriminatory, barriers" (Scheder et al., 1999).

A few surveys have been conducted in the state of Wisconsin to try and understand the situation of migrant farmworkers in the state. Two surveys were conducted in 1998 to answer various questions. Both "A Social and Health Needs Assessment" and "A Demographic and Health Profile" were designed to provide demographic, economic, and environmental information about migrant farmworkers in Wisconsin (Slesinger and Wheatley, 1999 and Scheder et al., 1999). These surveys present much of the same information using a sample that presents very common characteristics. However, certain aspects of each of the studies are unique and help us better understand the condition of migrant farmworkers in the state of Wisconsin.

The two studies were based on interviews with 152 migrant farmworkers which represented 5% of all workers involved in the food processing industry and 10% of all workers involved in agricultural field work (Slesinger and Wheatley, 1999 and Scheder et al., 1999). In general, about 10% of the field workers were under the age of 18. The mean age of the fieldworker population studied was approximately 34.3 years. Men were more likely to work in the field than females and 67.2% of the fieldworkers studied were males whereas only 32.8% were

females. The majority of migrant workers in the studies were married (84.5%). Only 1.7% were widowed and about 14% were never married (Slesinger and Wheatley, 1999 and Scheder et al., 1999). 48.4% of field workers lived with a spouse, children, and others; 9.4% lived with children and others but no spouse; 23.4% lived alone or with nonrelatives; and 18.8% lived with other adults. On average, there were about 4 people living in a field worker household and 6.3% lived in households of eight to nine individuals. Almost half of the households (40.6%) did not include children, 26.5% included three children, and 11% included four to eight children. In 1999, dependents made up only 10% of the migrant population. Also, about 70% of field worker households contained more than one generation (Slesinger and Wheatley, 1999).

Migrant farmworkers in Wisconsin are not highly educated. The majority of the individuals that responded to the survey (about 62%), had only an elementary school education. Only about 22% possessed a 9^{th}-11^{th} grade education and only 12.5% were high school graduates, possessed a GED, or had a technical school education. 0.0% of the migrant fieldworkers surveyed possessed a college education. Correlated to their educational attainment, migrant workers showed low levels of literacy and an inability to speak English. Over 95% of the workers said that Spanish was their primary language and only 5% selected English as their principle language. 81% of field workers said that they were able to write in their primary language. 76.3% of migrants responding considered Texas to be their home with another 18.3% calling Mexico home. Only 1.7% of the workers surveyed in this study called Wisconsin their home (Slesinger and Wheatley, 1999 and Scheder et al., 1999).

Finally, it is important to consider the income of the population being studied. 70% of migrants' yearly income came from migrant labor (Scheder et al., 1999). In general, these wages were paid to workers by the hour - about 75% of the fieldworkers were paid by the hour whereas only about 25% were paid by piece or weight. In 1998, the average annual family income for all migrant workers was $13,600 and an average of four people had to live off of this amount. 11.5% of field workers made less than $5,000, and only 4.9% made $25,000 or

more. These numbers place many migrant workers well under the national poverty level (Slesinger and Wheatley, 1999).

An earlier study published in 1993 by Slesinger and Ofstead also looked at the migrant farmworker population in Wisconsin to assess health problems and needs among these workers. This study compared results from a 1978 and a 1989 study to observe trends and changes in health and demographic characteristics of the population. In 1978, men composed 60% of the 1,350 migrants surveyed and in 1989, men comprised 72% of the 1,665 workers surveyed. During both surveys, ages ranged from 16 to older than 60, but since 1978, the average age of the migrant worker declined about one year for men and about two years for women (Slesinger and Ofstead, 1993).

Although educational achievement among the workers improved from 1978, educational achievement of migrant workers still fell well below the national level. The number of illiterate men declined from 27% in 1978 to 16% in 1989 and the number of illiterate women remained constant at about 19%. Only 8% of the men 25 years or older completed high school and the number of women completing high school increased from 4% to 14% from 1978 to 1989. In comparison to national data in 1993, about 76% of all Americans 25 years or older and 51% of Hispanics 25 years or older had a high school diploma (Slesinger and Ofstead, 1993).

In both surveys, more than 94% of the migrant workers were of Mexican ancestry. 60% of the workers were paid by the hour and the remaining 40% were either paid by weight or piece. The median income for 1988 was $7,330, and this amount had to support an average of 5.2 individuals. This income is less than one half of the amount designated as the federal "poverty line" for 1988; the median income in the United States at this same time was $36,023 for a household of five individuals (Slesinger and Ofstead, 1993).

B. Health Status

In order to have a general understanding of the general health of migrant workers, subjects in the 1999 surveys were asked to assess their level of overall

health as excellent, good, fair, or poor. Only 15% of migrant workers rated their health as excellent, 44% responded that they had good health, and 41% reported having fair or poor health. "A Demographic Health Profile" incorporated a table indicating health response based on gender and family income. The table presented in the report is seen below:

Table 1. Workers' self-assessment of health, by gender and family income

Characteristic	Excellent (%)	Good (%)	Fair (%)	Poor (%)
Gender: Male	16.8	46.1	37.1	0.0
Female	12.5	42.2	39.1	6.2
Income: <$15,000	12.6	42.1	42.1	3.2
$15,000-24,999	17.5	47.5	35.0	0.0
$25,000 +	14.3	57.1	21.4	7.1
Total (%)	14.6	44.2	38.3	2.9

Source: Slesinger and Wheatley, 1999

It is interesting to note that poor self-assessment tended to vary based on sex and income. Women, as well as those with lower income, were more likely to describe themselves as having poorer health than men or those with higher incomes. These statistics of overall health status were also compared to the responses of the general American population. Migrant farmworkers were more likely to report poorer health than the general population. While 45.3% of migrant females and 37.1% of migrant males were likely to report fair or poor health, 9.9% and 8.9% of U.S. females and males, respectively, reported the same health status. Migrant with varying income levels also reported poor or fair health outcomes much more often than the general U.S. population. While 45.3%, 35.0%, and 28.5% of migrants earning less than $15,000, $15,000-24,999, and $25,000-34,999 reported fair or poor health, only 20.6%, 13.1% and 8.1% of the general American population with these respective incomes reported the same health status (Slesinger and Wheatley, 1999 and Scheder et al., 1999). The Slesinger and Ofstead report indicates that there was little change in the overall health status perception of workers from 1978 to 1989 when only 13% indicated

that their health was excellent. About 50% reported good to very good health, and 33% reported their health as being fair. Overall, again, migrants self-reported poorer health than the general American population where 40% reported excellent health, 50% reported good or very good, and 10% reported fair or poor (Slesinger and Ofstead, 1993).

Specific risk factors were only reported in one of the 1999 surveys in the form of obesity and body mass index (BMI) data. About 60% of migrant workers, compared to 30% of Wisconsin adults, were overweight. About 67% of migrant women were considered overweight and this condition seemed to be correlated to age. About 52% of migrants aged 18-34, 62% of those aged 35-54, and 68% of those aged 55 or older were considered to be overweight. Obesity and being overweight is problematic because of the association of this condition with the increased risk of diabetes and heart disease (Scheder et al., 1999).

The surveys considered specific health problems in two different categories: chronic conditions and acute health problems. In the 1999 surveys, about 25% of those responding answered that they possessed some sort of chronic condition, and 84% had seen a physician for the condition over the past year. In order of frequency, the following problems were mentioned: high blood pressure, diabetes, arthritis, heart problems, and thyroid problems. The following conditions were also mentioned by one or two respondents: back and foot problems, stomach infections, colitis, ulcers, allergies, headaches, kidney stones, glaucoma, cataracts, nerves, and high cholesterol. In terms of acute conditions, almost half of the workers responded that they had eye troubles. 38.8% said they had backaches, 35.4% reported headaches, 22.1% reported arthritis, and 20.8% reported stomach pains (Slesinger and Wheatley, 1999 and Scheder et al., 1999). Alcohol use was also a habit mentioned that is considered to be a problem among the migrant farmworker population. More than 65% of women but fewer than 20% of male migrant workers said that they never drink alcoholic beverages; men in field work reported the most frequent alcohol use (Scheder et al., 1999).

Slesinger and Ofstead presented certain chronic and acute conditions frequently reported in the 1978 and 1989 studies, and many of these conditions

were still reported by the workers in the 1999 studies. In general, women reported greater occurrences of backaches, headaches, and nervousness, whereas men reported more dental problems, stomachaches, and sleeping troubles. About 33% of the sampled workers, both men and women, reported backaches. In addition, 15% of the workers reported suffering from chronic conditions. The most frequently mentioned problems were: gastric ulcer, hearing problems, gallbladder trouble, diabetes, cough, and sore throat. Women were more likely than men, and Spanish speakers were more likely than English speakers, to report chronic conditions (Slesinger and Ofstead, 1993).

All three of these studies correlate many of the health problems facing migrant workers to the nature of their work and to the problems inherent with migration. Many of these health problems may be related to the extensive travel, frequent relocation, and long hours of physically strenuous labor that migrant workers engage in (Slesinger and Ofstead, 1993). Migrant farmworkers often must work in dusty fields and in severe weather conditions that can cause acute conditions like eye irritations and headaches (Slesinger and Wheatley, 1999). "A cluster of low spirits, nervousness, and shortness of breath, in addition to stomach pains and trouble sleeping, may be reactions to a stressful occupation or may be manifestations of pesticide exposure" (Scheder et al., 1999). In short, migrant farmworkers in Wisconsin face poor health outcomes due to the nature of their work, living conditions, and the stress of being a migrant worker.

C. Access to Care and Barriers Faced

The use of health care services in terms of number of visits to physicians, dentists, and eye care specialists reflect the general access of migrant workers to health care services. In 1998, about 70% of migrant workers in Wisconsin visited a doctor, clinic, or hospital, and two out of the three visits were in Wisconsin. When asked about preventative visits to a dentist for a checkup or cleaning, to an eye care specialist for vision or eye examinations, or to a physician for a general examination, almost two thirds of the subjects responded that they had had their teeth checked within the past two years, 47% had had an eye care

exam, and 48% had gone to see a general physician. Nevertheless, 12.5% had never had a dental exam, 27.7% had never had an eye exam, and 28% had never had a physical exam (Slesinger and Wheatley, 1999). In addition, many of the recent dental visits reported by migrant workers were visits that had taken place in Mexico (Scheder et al., 1999). During the 1978 and 1989 surveys, about 50% of respondents reported that they needed to be seeing a dentist, but only 7% were actually seeking care. Lack of money and having too much work were often cited as reasons for not seeking care; 15% of subjects also responded that they felt uncomfortable with or fearful of dental care (Slesinger and Ofstead, 1993).

Specific conditions among migrant workers seemed to warrant visits to health care professionals. The majority of individuals that reported having been diagnosed with diabetes and hypertension were seeing a health care professional for the condition (100% reporting diabetes and 75-100% of the individuals reporting hypertension). Basically, women who worked in the fields were more likely than men to seek professional help for health conditions, especially for eye trouble, swollen legs and feet, and stomach pain; 60% of women with these conditions sought treatment. Men generally sought help for dental problems and stomach pains and generally did not seek treatment for eye trouble or backaches (Scheder et al., 1999).

Of the visits to health care professionals, 61.5% of female field workers and 18.5% of male field workers sought care at a migrant health clinic, 0.0% of females and 7.4% of males went to a private doctor or clinic, 7.7% of females and 3.7% of males went to the emergency room, 7.7% of females and 3.7% of males went to a public health clinic, 7.7% of females and 7.4% of males went to the outpatient department of a hospital, and 7.7% of females and 0.0% of males sought treatment in a location defined as "other" (Scheder et al., 1999). These statistics are interesting because the majority of women field workers sought treatment at a migrant health clinic and males frequented these centers for health care more often than any other locale.

While many migrant workers receive medical treatment, many others face tremendous barriers in accessing care. In general, the mobility of migrant

workers can make it difficult for them to find care and maintain continuity of treatment. Migrants in Wisconsin often live in rural, isolated areas and have to travel great distances to reach a health care provider. In addition, because many migrants are purely dependent on their income from agricultural work over the course of several months, any interruption to their work schedule means that they face a loss of much-needed wages (Slesinger and Ofstead, 1993). Many other migrant workers feel that they do not want to bother the doctor with their condition or that they do not need to see a health care provider because they are not sick. As a result of this general hesitancy of people to take the time to see a physician unless they are sick, many migrants do not receive preventative care; about 33% of workers responding in the surveys done in Wisconsin did not feel that it was necessary to see a physician or health care provider unless they were sick (Scheder et al., 1999).

Costs may also be a deterring factor in seeking health care. 25% of respondents in the 1999 survey stated that they could not afford to see a doctor and that they would lose their wages if they took time off to see a physician (Scheder et al., 1999). Of the 66% of migrant workers that used Wisconsin health care in 1989, about 50% said that migrant health funds paid for their care, 17% used government-funded medical assistance programs, and 14% paid out-of-pocket (Slesinger and Ofstead, 1993). In 1999, money was still a factor in that many subjects noted that care in Wisconsin was too expensive, that they did not have the money to pay for care, and that medical care was cheaper in Mexico; less than 10% of workers in this survey had some sort of health insurance. This statistic contrasts with the ones from the 1978 and 1989 surveys. According to those surveys, only 14% of workers paid for care out-of-pocket (Slesinger and Ofstead, 1993). However, in the more recent surveys, 59.1% of male field workers and 47.1% of female field workers paid for their care out-of-pocket and only 13.6% of male field workers and 35.3% of female field workers received migrant health funds to pay for services (Scheder et al., 1999).

In Wisconsin, the lack of local clinics and health care services that cater to migrant farmworkers is problematic. The primary source for health care for

migrants in Wisconsin is Family Health/ La Clínica, located in the middle of the state. The clinic provides free or low cost medical and dental services on site, provides vouchers to pay for referrals to hospitals or specialists, and issues vouchers to migrants working too far away from the clinic to obtain care there. The clinic also possesses bilingual and bicultural staff members and holds evening and weekend hours that are convenient for migrant workers. By providing outreach services and expanded health services using a mobile van, the clinic is able to reach many more individuals of its target population than it could through the use of the clinic alone (Slesinger and Ofstead, 1993). However, the problem remains that there is only one clinic in the entire state of Wisconsin that is designed to provide treatment for the migrant farmworker population. In addition, funding cuts has caused satellite clinics to close, some forms of noncritical care to no longer be offered in Family Health, and outreach and mobile unit staffs to be scaled down. This shortage of funds has made it increasingly difficult for the clinic to provide much needed health care services to the migrant workers (Slesinger and Ofstead, 1993).

The location of the migrant health clinic plays a role in determining what types of workers use its services; this information underscores the importance of location of health care services in providing care to workers. The 1999 study showed that the migrant health care center was geographically located closer to the field worker population and that its services were more frequently utilized by this population versus the cannery workers (18.5% for field worker males and 61.5% for field worker females versus 9.8% for cannery males and 23.5% for cannery females). Field workers also reported that they were more likely to have had their last doctor visit in Wisconsin whereas cannery workers reported that they most likely had their last visit in Mexico (Scheder et al., 1999).

Transportation also played a role in enabling migrant workers to access available health care resources. 14% of male field workers and 23.8% of female field workers indicated that they did not visit a physician because the doctor's office was too far away from them. This lack of transportation and inconvenient location affected the workers' ability to receive care. Eight individuals in the

survey reported that they did not have transportation to local health care providers preventing them from obtaining care (Scheder et al., 1999). In the earlier studies, women reported more problems in seeking medical care due to lack of transportation. In total, 7.1% of the 1989 survey group (3.7% of men and 15.6% of women) did not see a health care provider because of transportation issues (Slesinger and Ofstead, 1993). While transportation seemed to be less of an issue affecting access to care in the 1999 surveys, individuals were still restricted from accessing care because of transportation issues.

When migrant workers are able to go to clinics for treatment, clinic hours often play a role in determining whether or not they will be able to receive treatment. 14.0% of male field workers and 33.3% of female field workers reported that they were unable to go to the clinic during the hours available to receive treatment. Migrant workers typically responded that they would prefer clinics to hold weekend and afternoon hours so that they may be able to go to the clinic during hours that they do not need to work. Overall, migrant workers preferred weekend afternoons as the most convenient time for them to utilize available health care services at these sites (Scheder et al., 1999).

Language and cultural barriers also create problems for migrant workers to access care. Migrants who speak Spanish and who do not speak English can have a very difficult time communicating symptoms to their health care provider or understanding what their provider is trying to tell them about their illness and treatment regiment. As a result, many migrants will not attempt to seek care because of these potential language barriers. 25% of women and 7.4% of men responding in the 1989 survey did not seek care because they could not speak English. In addition, 81% of non-English speakers needed someone to act as an interpreter for them when they went to a medical provider. Only about 33% of respondents had been to a Wisconsin provider that spoke Spanish. Such language barriers may have influenced the overall health of the population in the 1978 and 1989 studies. It was determined in these studies that migrant workers that spoke only Spanish gave a lower overall assessment of their health than did workers who spoke English or were bilingual. In addition, their inability to speak English

may cause added stress for these workers and may hinder their ability to access care when needed; however, it may also be related to the older median age of Spanish-speaking workers (Slesinger and Ofstead, 1993).

The 1999 survey supported these findings in that 25.6% of male field workers and 28.6% of female field workers were kept from seeking health care because they could not speak English. There was, however, an apparent improvement in availability of linguistically-appropriate care in that 70% of the migrants in the 1999 surveys said that they were able to come in contact with a Spanish-speaking health care professional. Nevertheless, an additional 30% stated that Spanish language personnel were urgently needed. While only a few individuals reported that language caused difficulties in obtaining good health care in Wisconsin, about 50% of the respondents reported that they had to take an interpreter with them when receiving care. Oftentimes, this interpreter was either a family member or a friend that was bilingual (Scheder et al., 1999).

Immigration status also plays a role in affecting health care access. Migrants that are not legal in this country are less likely to receive adequate health care because they are more economically vulnerable and have fewer resources with which to access care (Slesinger and Ofstead, 1993).

Migrant workers in Wisconsin also underutilize available social programs (public assistance) for which they are eligible. "The barriers built into public aid bureaucracies confront migrant workers as they do all applicants, presenting special problems for those who do not speak English or whose national citizenship is unclear" (Slesinger and Ofstead, 1993). While many more workers may qualify for these federal aid programs, 34% of migrant workers reported using Food Stamps and 38% reported using medical assistance over the past year. Field workers were more likely to use these programs than cannery workers. Overall, 43.8% of field workers used Food Stamps and 46.9% used public medical assistance over the past year. While the usage of these programs is somewhat high, only 3.1% of field workers and 1.1% of cannery workers used government subsidized housing and only 4.4% of field workers and 0.0% of cannery workers used AFDC, W2, or welfare (Slesinger and Wheatley, 1999).

In addition to the use of publicly funded social programs, migrant workers were also asked about what types of services they used in the past year and what types of services they felt that they needed access to. Dental care was the service that was most needed but not used by most migrant workers. 12.5% of the respondents reported that they had never been to a dentist. While 61.2% responded that they had received dental care in the past 12 months, 46.7% of respondents felt that they needed the service. An additional 14.1% felt that they needed nutrition information, 37.7% needed first aid training, 22.1% needed weight control, and 10.7% needed access to a chiropractor. Only 16.7% had received nutrition information, 15.0% had received first aid training, 10.4% had received weight control information, and 6.3% had used a chiropractor. Many migrants also felt that they needed HIV/AIDS information. While 36.3% had utilized HIV/AIDS training information, another 22.2% felt that this type of information was necessary (Scheder et al., 1999 and Slesinger and Wheatley, 1999).

These statistics are interesting because they show that migrant workers feel that they need many more services than simply the availability of health care facilities. They see the need to be educated about various health issues as well as receive information that lead to a healthier lifestyle. Unfortunately, many of these services are lacking and so many migrant workers simply do not receive the type of information that they need.

"A Social and Health Needs Assessment" questioned the migrant workers about what factors would prevent them from seeking health care. The following table presented in the report summarizes many of the barriers that migrant workers face in accessing adequate health care. Only the data regarding migrant field workers will be presented in the following table:

Table 2. Percent of field workers answering yes to "Have any of the following reasons kept you from going to a health care provider in the past several years?

Reasons	Male	Female
Don't like to bother doctor	48.8	52.4
Never sick	34.9	33.3
Can't speak English	25.6	28.6
Can't afford doctor	25.6	47.6
Would lose pay from work	18.6	38.1
Takes too long to get appointment	25.6	61.9
Unable to go at hours available	14.0	33.3
Doctor's office is too far away	14.0	23.8
Can't get time off from work	14.0	9.5
Can't get childcare	14.3	4.8
Afraid of what doctor might find	14.0	14.3
Uncomfortable with doctors	14.0	9.5

Source: Scheder et al., 1999

Based on these statistics, over half of the respondents did not want to bother the doctor with their illness and about one third felt that they did not need to see a health care professional because they were not sick. From this information, it seems that migrant workers were reluctant to seek care unless they were seriously ill, either because of economic or personal reasons. Also, many felt that they only needed to see a physician when they were ill; preventative medicine was not commonly used by members of this population. As a result, many migrant workers responding in these surveys not only did not receive preventative care or care for illnesses because they could not access care, but also because they did not believe that it was important or they tended to wait until a problem was extremely serious and warranted immediate attention (Scheder et al., 1999). Nevertheless, these factors may also be tied to economic factors and their inability to pay for care; migrants may not seek health care until they are

extremely ill because they will not sacrifice pay unless they really need to see a health care professional. Perhaps preventative care and seeing providers for minor conditions is seen as unnecessary because they simply do not have the luxury to afford this type of care.

Finally, the availability of health insurance also played a role in allowing migrant workers to access adequate care. As discussed earlier, there has been a shift in the number of migrants having to pay for care through out-of-pocket costs since the 1970s and 1980s. While many more migrants in the 1970s and 1980s responded that they had access to outside funding for health care, a large majority of the respondents in the 1999 survey reported that they paid for services with their own money. Because Medicaid is a joint federal and state program under administrative control by the states, states differ in residency requirements and levels of benefits. Wisconsin's medical assistance program requires a statement of earned income from applicants. While migrants may meet the "means test" for benefits when they enter Wisconsin, they may become ineligible due to income after the 60-day residency requirement. In the 1978 and 1989 surveys, 35% of migrants received public medical assistance at some point over the past year, but only one sixth of those who obtained health care in Wisconsin used medical assistance to pay the bills. The majority of migrant workers (over 50%) used migrant health funds to pay for services; and again, only 14% paid out-of-pocket (Slesinger and Ofstead, 1993).

This information contrasts with the statistics presented in the 1999 surveys. Of these migrant field workers, 59.1% of males and 47.1% of females paid for services out- of-pocket and only 13.6% of males and 35.3% of females used migrant health funds. Only 9.1% of males had access to private insurance (0.0% of females) and 9.1% of males and 0.0% of females used Medicare (Scheder et al., 1999).

This shift in the use of state supported funds to out-of-pocket cost in the payment of medical care among migrant workers in the state of Wisconsin is very interesting. While none of the authors offered a hypothesis or explanation for these trends, further studies should consider this data in trying to understand what

is preventing migrant workers from obtaining public funds for health care. Perhaps the funds are simply no longer available to workers because of budget cuts, or perhaps many migrant workers no longer qualify to receive many of the funds available. Nevertheless, it is also important to note that migrant workers in the 1970s, 1980s, and 1990s generally underutilized Medicaid services. While many may not qualify, many others probably are unable to access this program due to the bureaucratic difficulties of enrolling for the services.

D. Labor Conditions and Occupational Hazards

The labor conditions and occupational hazards facing migrant farmworkers also play a role in affecting their health. As in other states and across the nation, the health status of Wisconsin migrant workers suffers because of these conditions. When workers in 1999 were asked if they had suffered an accident or acute illness that had prevented their normal activity for two or more days in the past year, 30% of women and 16.7% of men in the canneries, and 19.0% of women and 14.3% of the men in the field had responded "yes." In total, 20.9% of the workers overall had suffered such an injury (Scheder et al., 1999). There is no data on the number of occupationally-related deaths in Wisconsin.

The adequacy of housing also plays a role in affecting the health of migrant workers. In Wisconsin, most migrant workers live in camps or dormitories provided by their employers. The structural and sanitary conditions of these housing situations vary greatly within the state. In general, though, employers in Wisconsin provide two to four unit bungalows, stationary trailers or mobile homes, reconverted farmhouses or barns, and dormitories to their workers. In the 1978 and 1989 surveys, about 50% of the workers reported that they were "very satisfied" with the housing provided by their employers; about one half responded that they were "somewhat satisfied," and only 2% responded that they were not satisfied. Housing conditions actually improved significantly from 1978 in terms of the types of facilities found in migrant housing. In 1989, 33% responded that their housing did not have indoor plumbing; in 1978, over 50% lacked plumbing. In addition, 20% did not have hot running water in 1989 versus

67% in 1978. By 1989, the majority of housing units had electricity, but 17% still lacked cooking facilities and refrigeration; in addition, about 33% still lacked a bathroom (Slesinger and Ofstead, 1993).

The 1999 surveys also considered the living conditions of the migrant workers. The majority of field workers represented in these surveys lived in houses (51.6%), with an additional 23.4% living in a trailer, 21.9% living in a dormitory or barrack, and 3.1% living in a room. Only 23% of field workers lived in employer-provided housing; the other workers had to pay rent. 59.3% of field workers said that they were "very satisfied" with these living conditions, 39.1% reported being "somewhat satisfied," and 1.6% said that they were "not satisfied" with these living conditions. In addition, 90% now said that they had hot running water in their homes, 70% had burners or an oven, 65% had a bath or shower in their dwelling, and 93% had access to a washing machine (Slesinger and Wheatley, 1999).

These statistics show that there were drastic improvements in the quality of housing and the satisfaction of workers with their housing between 1978 and 1989. However, housing conditions have only slightly improved since 1989. While many more workers now have hot running water in their homes and an appliance to cook food, the same number of workers has access to a bathroom facility in their homes. While there have been improvements in the living conditions of migrant workers since the 1970s, housing conditions are still not perfect.

In addition to improvements in housing and living conditions, there were also significant improvements in the availability of sanitary facilities in the workplace. In 1986, The Occupational Safety and Health Administration (OSHA) passed a law that required employers having eleven or more migrants to have toilet facilities, drinking water, and hand-washing water in the fields. As a result of this new law, by 1989, about 80% said their workplaces provided hand-washing facilities, 96% reported that they had access to toilets, and 86% were given drinking water (Slesinger and Ofstead, 1993). These improvements

continued through until the 1999 survey. The following table summarizes these improvements in workplace facilities from 1978 to 1998:

Table 3. Presence of sanitary facilities for field workers in 1978, 1989 and 1998

Sanitary Facility	**1978**	**1989**	**1998**
Drinking Water	48.2 %	74.1 %	83.3 %
Toilets	41.9 %	93.1 %	98.5 %
Water to Wash Hands	37.2 %	62.1 %	90.9 %

Source: Slesinger and Wheatley, 1999

These statistics indicate that there have been major improvements in the condition of the workplace of migrant workers since the onset of the 1986 OSHA regulation. By 1998, the majority of field workers had access to drinking water, toilets, and water to wash hands. Nevertheless, about 17% still lacked access to drinking water, 1.5% lacked access to toilets, and about 9% still lacked access to hand-washing water (Slesinger and Wheatley, 1999).

While no data was available regarding the presence of contaminated water being used by migrant workers in Wisconsin, there is some limited information about pesticide-related health problems among these workers. In 1978, only 4% of workers reported a pesticide-related illness, and in 1989, 8% reported experiencing such a condition (Slesinger and Ofstead, 1993). In 1999, about 10% of the workers said that they, or someone in their family, had been exposed to pesticides at some point. About 25% of women working in the fields reported family exposure to pesticides (Scheder et al., 1999).

These trends in the reporting of pesticide exposure are interesting. "It is important to note that the effects of poisons and chemicals on the body may not produce immediate symptoms, and the link between pesticide exposure and subsequent health problems is often unrecognized" (Slesinger and Ofstead, 1993). It is also important to note that the number of migrant workers reporting pesticide poisoning is, on the whole, underreported because of the lack of education that these workers receive on pesticides and their effects on humans when pesticide exposure occurs. Interestingly, many more women in the 1999 survey reported

poisonings and/or exposures than did males; perhaps women have been more effectively targeted by prevention efforts and general awareness campaigns than males (Scheder et al., 1999). Increased awareness and education about the risks and effects of pesticides are important so that workers may recognize when they have been exposed to these types of chemicals and seek medical treatment to prevent further damage by the chemicals.

E. Poverty-Related Health Issues

As discussed earlier, migrant workers in Wisconsin are generally poor, and their overall low socioeconomic status also plays a role in their inability to access adequate care. Whether their socioeconomic status is linked to their lack of health insurance or their inability to pay out-of-pocket fees for medical services, low socioeconomic status is inherently correlated to the migrant workers' lack of adequate care. In addition, migrant workers face an even greater disadvantage than the majority of poor people in urban and rural areas. "The safety nets available to most of the urban and rural poor are characteristically unavailable to migrant workers... Seasonal and migrant workers have earned low annual incomes, endured substandard living conditions, and often lived in poverty" (Slesinger and Ofstead, 1993).

No information was available regarding malnutrition among the migrant farmworker population in Wisconsin.

F. State Laws Protecting Migrant Workers

The improved health outcome of migrant workers since the 1950s is partially due to Wisconsin laws enacted in the late 1970s that were designed to provide additional economic and legal protection for migrant workers. The state of Wisconsin has many laws that protect these workers beyond the provisions provided to them under federal laws.

The 1977 Wisconsin Migrant Labor Law requires that migrant workers be given written contracts, that they be paid at least minimum wage, and that they be provided with housing that has been both inspected and certified (Slesinger and

Ofstead, 1993). The Department of Industry, Labor and Human Relations (DILHR) plays an important role in enacting and enforcing laws pertaining to migrant workers. Contractors hiring migrant workers must be registered and certified by the DIHLR. Also, these contractors must carry their permit and show it to potential employees prior to hiring the workers. Written contracts between the employer and the migrant workers guarantees a minimum of 45 hours of work in a two-week time frame; a statement of the place of employment, type of work available, wages, pay period, approximate hours of employment including applicable overtime, terms of employment including the approximate beginning and ending dates, kinds of housing available and charges for housing (if applicable), cost of meals, and any other pay deductions; and a guarantee that the wages together with the other terms and conditions of employment are not less favorable than those provided by the employer for local workers for similar work (HAC, 1997).

Wisconsin housing laws are also strictly enforced by the DIHLF. Every farm labor camp must be registered with the state and adhere to the standards set forth by the state code. In 1996, Wisconsin passed a new housing code that increased the square footage per person and established a minimum requirement of seven-foot ceilings in migrant housing. In addition, the new rules no longer allow employers to provide the migrant workers with portable toilets. Workers must be provided with mechanical/automatic washers, a sink with hot and cold running water, cooking equipment, and temperature control that enables the housing to be maintained at 70 degrees. Also, pesticides are not allowed to be stored in housing units. The DIHLR maintains inspectors to monitor the compliance of the farm camps. While inspectors are overburdened, migrant workers in Wisconsin are provided with good housing compared to many other states. The state of Wisconsin also established the Migrant Housing Task Force to help solve the migrants' problem of finding affordable and adequate housing since most migrant workers in Wisconsin must find their own housing during their stay in the state (HAC, 1997).

The state of Wisconsin passed the Wisconsin Title I Migrant Education Program that "offers orientation and support to migratory students of secondary school age while in Wisconsin." The Program tries to help students find resources and accommodate the needs for secondary school services (Wisconsin DPI, 2001).

These laws allow migrant workers in Wisconsin to fare relatively well in comparison to migrant workers in other states and conditions for migrant workers in this state have improved since the establishment of these various laws. Nevertheless, migrant workers in Wisconsin still do not face the same health outcomes as the rest of the nation.

G. Conclusion

Migrant workers depend on agricultural work to earn their living. As a result, many work long hours under physically strenuous conditions to earn their wages. Many of the migrant workers in Wisconsin, though, still live in poverty. These low levels of income coupled with the stress of seasonal travel, temporary housing, intermittent periods of strenuous labor, and the separation of these workers from the community, all play a role in inhibiting their ease of access to health care services and social services while also playing a role in affecting their overall health status (Slesinger and Ofstead, 1993). Many migrant workers surveyed in Wisconsin do not seek care in the state; many wait until they can return to Mexico or the Texas-Mexico region so that they may receive culturally and linguistically appropriate care at a more affordable cost. While field workers are likely to use Wisconsin clinics and government programs, many still do not have access to these types of services (Scheder et al., 1999).

Migrant workers in Wisconsin face a poorer health outcome than the majority of the American people. While 33.6% of migrant workers surveyed in 1989 reported "fair" or "poor" health, only 9.4% of the American population reported the same health outcome. While 40.2% of Americans reported having "excellent" health, only 13.3% of migrant workers sampled in Wisconsin felt that their health was "excellent" (Slesinger, 1992). The conditions that bother the

workers the most and cause them to feel they have a less than excellent overall level of health is related to the nature of their work, occupational exposures, and the stressful nature of migrant and seasonal employment. Musculoskeletal and ophthalmic conditions affect almost 50% of the workers and chronic conditions like hypertension and diabetes are much more prevalent among migrants than among the general American population. As a result of their health status, migrant workers expressed a need to have better access to basic health care combined with the knowledge and ability to achieve a better quality of life and resolve practical family concerns. The "perseverance in rigorous working and living conditions allows the agricultural economy to flourish, but [their] exclusion from these resources is dictated by the structure of American agricultural and health care systems" (Scheder et al., 1999).

4. Florida

A. Introduction

The state of Florida is unique because it has many home-based interstate migrant workers who travel out of the state to find agricultural work as well as many workers that live at home and work in the business. Because Florida's agricultural production is maintained through the winter months, many migrants flock to this state to work during this season because there are relatively few other agricultural work opportunities in other parts of the nation (Larson California, 2000). In 1998, it was estimated that Florida had the fourth largest migrant and seasonal farmworker population in the United States. On average, migrant workers spend slightly over six months in Florida (Arrieta et al., 1998).

"A Profile of Demographic, Occupational, and Health-Related Characteristics of the Migrant and Settled (Seasonal) Hired Farmworker Population of Florida" used information gathered in the National Agricultural Workers Survey (NAWS) during the period from July 1995 to October 1998 to compile information about migrant and seasonal farmworkers in the state of Florida. This report compiled data from interviews with 2,872 subjects that were either working in Florida at the time of the interview or had worked in Florida during the preceding year (Arrieta et al., 1998). The Enumeration Profiles Study of Florida determined that in the year 2000, there were approximately 121,892 migrant farmworkers in the state of Florida and 197,182 migrant and seasonal farmworkers (Larson California, 2000). Of the workers surveyed, 24% limited their travel within Florida. The remaining 76%, however, traveled both within and outside of the state of Florida. Generally, these workers spent time in Georgia (22%), North Carolina (15%), Kentucky (10%), and New Jersey (15%). 71% of these workers traveled alone while 21% traveled with at least one member of their family (Arrieta et al., 1998).

The following characteristics were found in the 1998 study population. Approximately 68% of the migrant workers traveled over 75 miles in pursuit of agricultural work. 87% of the workers were between the ages of 13 and 45, and they were predominantly male (82%). The median age of the migrant workers

was 26 years old and the mode age was 20 years old. In general, migrant farmworkers are a very young group of individuals, but the women in the group were older then the men. 50% of the female workers were between the ages of 26 and 45 whereas 37% of the men were between the ages of 19 and 25 (Arrieta et al., 1998).

The Enumeration Profiles Study found that there were about 2.26 farmworkers per accompanied household for migrant workers (Larson California, 2000). The 1998 survey found that 45% of migrant workers had households composed of only one member. About 48% of male workers and only 17% of female workers lived in this type of household. 34% reported that their household was composed of either a couple with no children, a single parent with children, or a couple with children. 23% of households were also composed of non-family members. In general, this data found that the farmworker families in Florida ranged in size from one to thirteen members, with the mean size being 2.85 members (Arrieta et al., 1998).

Migrant farmworkers in Florida also generally lack adequate educations. Of the farmworkers that were aged 25 and under, 17% had 0-3 years of schooling, 7% had 4-7 years, 52% had 8-11 years, and 24% had 12+ years; of the workers aged 26 and over, 34% had between 0 and 3 years of schooling, 9% had between 4 and 7 years, 34% had between 8 and 11 years, and 23% had 12+ years (Arrieta et al., 1998).

The majority of farmworkers sampled in Florida, 86%, were of Hispanic descent. 83% of the workers considered Spanish as their primary language whereas only 9% considered English as their primary language. 19% reported that they spoke English well and only 14% responded that they could read English well. 58% of these workers considered Florida or another state in the United States as their place of permanent residency and 37% reported a residency outside of this country. 32% reported that Mexico is their home (Arrieta et al., 1998).

youngest age group (18-24). On the other hand, conditions like itchy and irritated eyes and skin rash showed little correlation with age. The prevalence of reported heat stroke and reaction to chemicals occurred most often in the oldest workers surveyed (ages 45+) (Cameron et al., 2003).

While this data does not provide us with information regarding the general health status of the migrant farmworker population in Florida, it does provide information about frequently encountered health problems by the population. Like the majority of farmworkers in the other states discussed, the most commonly reported health conditions within the population were related to their occupation. The workers' health is obviously correlated to their occupation and to various aspects of the nature of their work. The Labor Conditions and Occupational Hazards section of this state report will further consider the relationship between the workers' occupation and the occurrence of these various types of health conditions.

C. Access to Care and Barriers Faced

The workers in the 1998 surveyed were also asked about certain health-related characteristics. Of the sample surveyed, 24% of the workers responded that they had needed health care in the past two years. However, this figure did not take the health needs of farmworker dependents, including females and children, into consideration. 61% of the workers reported that they would be able to obtain health care if it was necessary, leaving 39% of farmworkers stating that it would be extremely difficult for them to obtain care. 27% of respondents stated that they would use the emergency room or a hospital for care and 34% mentioned a Community Health Center, a Migrant Clinic, or a Public Health Department as their primary source of health care. An additional 13% reported that they would use a private physician and 5% responded that they would return to their home country for treatment. 9% responded that they had no source of health care available to them. These statistics are particularly problematic because the majority of Florida's female farmworkers are of childbearing age and 66% have at least one child. Farmworker women require access to specialized

care like prenatal, obstetrical, and gynecologic services, and such care is often difficult to access or unavailable to them (Arrieta et al., 1998).

Florida's farmworkers encounter many of the same barriers to care that migrant workers face in other states. In particular, this report mentioned the difficulties that migrant workers face in obtaining consistent and continuous care and appropriate follow-up treatment for acute and chronic conditions. There is also a need for good record-keeping and the capacity for data transfer between clinics. Because of the high prevalence of Spanish as the primary language of migrant workers and the inability of the majority of them to speak or read English in Florida, language barriers are also an issue in creating a barrier to care. In addition, because 35% of the Florida farmworkers did not even complete eight years of school, educational materials targeted at this population must be easy to read and understand. In addition, because 86% cannot read English well, it must also be presented in a bilingual, culturally-sensitive fashion (Arrieta et al., 1998).

Because of these and other barriers, many migrant workers often do not participate in social programs. "Young male farmworkers would benefit from health promotion activities related to injury prevention, alcohol or drug abuse prevention, prevention of domestic violence, or other mental health services." Yet many of these workers may not seek such prevention materials or may not be reached by various outreach programs (Arrieta et al., 1998). A 1989 survey of farmworkers in Florida found that many migrant families did not participate in federally-funded social programs for which they were eligible. 30.6% had experienced a period during which they ran out or had a shortage of food and that 43.8% had seasonal food shortages; however, many of these families did not receive necessary food stamps (Huang, 1993).

Florida's community and migrant health centers were affected by funding cuts that posed new challenges to their ability to provide quality and variety of services for Medicaid-ineligible migrant, immigrant, and other types of populations served by these centers. While these types of centers serve both Medicaid eligible and ineligible patients, the state of Florida received a Federal Medicaid Waiver for a demonstration project, and was permitted to enroll all

Medicaid beneficiaries in state-defined Medicaid Managed Care Plans for their health care. Although some of these centers were able to develop a 'managed care product' or affiliate with existing Medicaid Managed Care Plans to retain their market share enabling them to continue as a Medicaid provider, many others were not. The clinics that were unable to do this were faced with a loss of revenue that financially impacted them to an extent that they will have difficulties providing adequate care to Medicaid ineligible patients (Dodds et al., 2002).

Only 3% of the migrant workers reported that they had employer-provided health insurance. 85% did not have this type of insurance and 12% responded that they did not know whether or not their employer provided them with insurance. In addition, only 28% reported that their employer would pay for medical treatment for a work-related injury and 31% would receive some type of employer-provided payment for workdays lost due to these types of injuries (Arrieta et al., 1998).

D. Labor Conditions and Occupational Hazards

Migrant workers in Florida, like the general migrant population, also face the risk of occupational hazards that cause injuries and exposures. Young male farmworkers are particularly at risk for occupationally related diseases like contact dermatitis and pesticide poisoning. Accidents in the workplace are also a prevalent problem. While workers face these types of occupational hazards, many are not covered by their employers when they face these types of injuries. Only 28% reported that they would receive employer-provided pay for health care to treat injuries or sicknesses related to their work. 55% reported that their employers would not pay for health care if they were injured on the job, and 17% were unsure whether or not their employer would pay for this type of care. Of the migrant workers sampled that were injured on the job, only 27% received some type of payment for days of work lost due to occupational illness; 48% of migrant farmworkers did not receive any type of payment or reparation for work lost and an additional 25% did not know if they had received these types of payments (Arrieta et al., 1998).

The 2003 lay health worker survey presents interesting information correlating the types of health problems faced by migrant farmworkers with the type of work that they performed. The following table taken from this survey presents the correlation between work performed and health problems:

Table 1. Percent prevalence of back pain, eye irritation, and skin rash, and the prevalence ratio (PR) associated with selected risk factors

Risk factor for condition	**Prevalence**	**PR**
Back Pain/Discomfort		
Overall	39.4	
Lifting Heavy Items	46.2	1.84
Work with plants, face level	40.4	1.03
Work with ladders	39.5	0.98
Itchy, Irritated Eyes		
Overall	34.9	
Packed crops	40.0	1.77
Applied fertilizer	48.3	1.70
In fields being sprayed	44.2	1.55
Early re-entry, sprayed fields	53.7	1.83
Skin Rash/inflammation		
Overall	31.2	
Applied fertilizer	42.1	1.62
Worked in fields wet with chemicals	37.6	1.48
In field being sprayed	40.2	1.62
Early re-entry, sprayed fields	44.7	1.64
Mixed or loaded pesticides	47.6	1.75
Sometimes/never provided: water to wash hands	45.1	2.01
Sometimes/never provided: soap	39.1	2.26
Sometimes/never provided: towels	35.6	2.07

Source: Cameron et al., 2003

In the above table, a prevalence ratio greater than or equal to one indicates that there is an increased associated risk of injury with a particular risk factor. In general, the type of work that most farmworkers engage in, including lifting heavy items and working with plants, is associated with an increased prevalence of back pain and discomfort. Working with packed crops, applied fertilizer, and in fields either being sprayed with pesticides or having been recently sprayed, is associated with an increased prevalence of itchy, irritated eyes and skin rash and inflammation. This data also shows that the migrant workers provided with

adequate wash stations were less likely to experience skin rash and inflammation than those that were either sometimes or never provided with these types of facilities (Cameron et al., 2003). This type of data suggests that the types of work involved with being a migrant farmworker is inherently linked to the migrant workers' decreased health status as the nature of their work exposes them to an increased risk of developing many occupationally-related illnesses and conditions.

Migrant housing in Florida is particularly problematic. Overall, Florida and the Northwest region (Idaho, Oregon, and Washington) were found to have the greatest number of housing problems in the United States. Compared with upstream areas of the Eastern migrant stream, Florida had a greater incidence of households with low incomes, cost-burdened households, substandard units, and a slightly higher rate of overcrowded living conditions. Generally, "substandard housing and crowding was most pronounced in Florida" (Holden, 2001).

The Florida Department of Health established the Migrant Farmworker Housing Program within the state to monitor and inspect the housing conditions of migrant farmworkers. While not all counties are required to participate, this program plays an important role in assessing the conditions of migrant farmworker housing in the counties that participate as well as keeping detailed records of the types of violations that are found in each registered camp. According to my personal communication with Nancy Leiva from the Migrant Farmworker Housing Program in the Florida Department of Health, only 34 of the 67 counties participate in the program (Leiva, 2003). During the time period from October 2001 to September 2002, the department conducted 5714 inspections of migrant camps in the registered counties (Migrant Farmworker Housing Program, 2001-2002). There are approximately 707 migrant camps registered in these 34 counties (Migrant Farmworker Housing Program, 2003). The following table summarizes the grand totals of violations found in the participating counties in Florida:

Table 2. Total number of housing violations found in 34 counties in Florida, listed by type of violation

Type of Violation	Number of Violations
Sites	
Access Roads	16
Location	7
Drainage	22
Building Structures	
Safe Egress	268
Utilities Operable/Electrical	507
Occupant Space	65
Clean Painting	979
Windows/Screening	1605
Ventilation	98
Ceiling/Floor/Wall	1174
Construction/Repair	1293
Heating	80
Lighting	675
Water Supply	
Approved System	178
Operation	305
Hot and Cold Supply	228
Garbage and Refuse Disposal	
Container/Storage	288
Cleaned	542
Vector Control	
Extermination	743
Harborage	437
Sewage Waste Disposal	
Plumbing	485
Approved	44
Operation/Maintenance	258
Toilets/Urinals	
Approved	16
Ratios	3
Location	4
Operation/Maintenance	502
Field Sanitation Facilities	
Handwashing	10
Toilets	5
Drinking Water	1
Bathing/Laundry	
Clean	85
Ratios	5

Laundry Tubs/Washers	90
Soap/Towels	20
Operations/Maintenance	290
Food Service	
Facilities Provided	72
Refrigerator/Freezer	303
Operations/Maintenance	334
Beds/Bedding	
Available/Condition	353
Separation Sexes/Spacing	487
Miscellaneous	
Fire Protection	192
Supervision	3
Telephone Availability	53

Source: Migrant Farmworker Housing Program, 2001-2002

This housing violation data shows that the majority of the violations are in the category of building structures. According to these numbers, many of the housing units occupied by migrant workers are in need of repair, and such substandard housing conditions can be dangerous for migrant workers and their families. Many housing units are missing windows and screens which is problematic due to the proximity of the migrant housing to work areas. As fields are sprayed with pesticides, many workers and their families are not protected from the entrance of these types of fumes and substances into their homes. Insects and other pests can also invade their homes, leading to problems with infectious disease and sanitation. This data also suggests that the water supply of migrant farmworkers is problematic. It is interesting to note that the category that showed the least number of violations was the field sanitation facilities. There were only a total of 16 violations in this category, indicating that the OSHA regulations have been relatively well implemented and enforced in these participating counties (Migrant Farmworker Housing Program, 2001-2002).

While this data is important to consider when trying to understand the housing conditions of migrant farmworkers, only 34 of the 67 counties in Florida participate in the Migrant Housing Program, leaving migrant farmworkers in 33 counties unprotected by the standards set forth by the program. Efforts must be

made to continue to enroll other counties in the state to participate in this program as well as focus efforts on decreasing the number of violations in all categories.

The Florida Pesticide Exposure Surveillance Program reported the distribution of pesticide poisonings, probable poisonings, and possible poisonings in 1999 and 2000 based on occupation. This data reports that in 1999, there were 33 definite poisonings of agricultural workers, one probable poisoning, and three possible poisonings, for a total of 37 poisonings. Farmworkers specifically experienced three definite poisonings, one probable poisoning, and two possible poisonings, for a total of six poisonings. According to this data, there were 168 total poisonings. Based on the 2000 data, agricultural workers experienced zero definite poisonings, zero probable poisonings, and three possible poisonings, for a total of three poisonings. Farmworkers experienced zero definite poisonings, zero probable poisonings, and two possible poisonings, for a total of two poisonings. Based on this data, there was a total of 65 poisonings in the year 2000 (Florida Pesticide Exposure Surveillance Program, 1999 and 2000). While this data indicates that a small number of agricultural workers and farmworkers experienced various degrees of pesticide poisonings, this number is most likely a large underreporting of the actual number of pesticide poisonings. Many individuals never report these types of exposures while many others display a host of symptoms that they do not attribute to pesticide poisoning. In this manner, many cases each year go unreported.

The 2003 survey data indicated that many migrant workers in Florida reported chemical-related tasks and exposures. 49.9% reported working in fields wet with chemicals, 41.7% reported being in the field that was being sprayed with chemicals, 22.6% reported applying pesticides/chemicals to plants, 22.8% reported entering a treated field before other workers, 19.9% reported loading/mixing pesticides/chemicals for plants, 20.1% reported being in a building near a field being sprayed with pesticides, and 33.0% reported working with spray fertilizers (Cameron et al., 2003). While so many of these workers reported either applying or being exposed to chemicals and pesticides, many were not given the proper equipment to work with the chemicals (personal protective

equipment) as mandated by law. The following table summarizes the proportion of migrant workers provided with personal protective equipment while working with pesticides:

Table 3. Proportion (%) of respondents reporting employer provision of personal protective equipment (PPE)

Task Performed	Gloves	Boots	Respirator	Face Shield	Safety Goggles	Protective Clothing
Mix/load pesticides	80.5	73.2	50.6	58.5	63.4	59.2
Apply pesticides	61.8	71.5	46.2	57.0	55.4	59.1
Early entry of treated fields	42.0	30.3	26.6	26.6	20.2	22.3

Source: Cameron et al., 2003

While many migrant workers are required to work with dangerous pesticides and chemicals, many do not receive sufficient protection in the form of protective gear to avoid harmful exposures to these chemicals. Based on this information, it is relatively safe to assume that the 1999 and 2000 pesticide exposure data published by the Florida Pesticide Exposure Surveillance Program represents a huge underreporting of pesticide related illness. This type of exposure is extremely detrimental to the health of these workers and plays a role in causing the high prevalence of eye and skin irritations that were discussed earlier. Measures must be taken so that more migrant workers are properly protected when having to work with dangerous pesticides and chemicals.

E. Poverty-Related Health Issues

Just like in other states, migrant workers in Florida earn very low wages. In the fiscal year 1992-1993, farmworkers were considered to be living in poverty if they earned $5,000 or less, and for 1994-1995, the poverty threshold was set at $7,500. According to these values, 73% of the migrant workers in Florida lived at or below the poverty threshold. 9% of all workers earned less than $500, 3% earned $500-$999, 13% earned $1,000-$2,499, 19%, earned $2,500-$4,999, 23%

earned $5,000-$7,499, 14% earned $7,500-$9,999, 9% earned $10,000-$12,499, and only 10% earned over $12,500 (Arrieta et al., 1998).

The low socioeconomic status of migrant farmworkers in Florida is problematic because many of the workers cannot afford health care. Because the majority do not receive health insurance benefits through their employers and many families that are Medicaid eligible do not enroll for the service, many workers simply cannot afford to pay out-of-pocket costs for care based on their low incomes and socioeconomic status. The majority of workers, therefore, are unable to afford private health care, prescriptions, or special dietary regimens. "Few can afford to lose a day's wages to seek medical care and they often lack transportation to health care clinics. Even if they qualify for health care assistance programs, they may not apply due to complicated income documentation requirements or misleading legal status requirements" (Arrieta et al., 1998). In short, migrant workers in Florida face many of the same health problems that migrants in other states face because they are also economically disadvantaged.

F. State Laws Protecting Migrant Workers

As discussed earlier, the Florida Department of Health established the Migrant Farmworker Housing Program to try and improve the poor housing situation that migrant workers face in Florida. Since the program has been established, 34 counties in Florida comply with regulations set forth by this program; however, 33 counties still do not comply with these regulations.

I was unable to find other state-specific laws designed to protect migrant farmworkers in Florida. Although this may mean that other state laws designed to protect migrant workers do not exist in this state, it may also reflect the general lack of information about migrant farmworkers in Florida.

G. Conclusion

The 1998 report presented comparison data between the Florida and the national farmworker population. While 68% of farmworkers in Florida are migrant workers, only 47.4% of workers in the United States migrate in search of work. 82% of the farmworkers in Florida are male and nationally, 80% are male. Florida's workers are slightly younger than the national population, with 48% of Florida workers being younger than 26 and 37.5% of national workers being younger than 25. 86% of the workers in Florida are Hispanic, whereas 78% of farmworkers in the United States consider themselves to be Hispanic (Arrieta et al., 1998).

Florida farmworkers overall have a much lower rate of English language skills than the nation's farmworker population. 65% of farmworkers in the United States consider Spanish to be their primary language and 40% report that they can speak English well. In Florida, however, 83% reported Spanish as their primary language and only 19% can speak English well. In addition, 36% of the national workers stated that they could read English well; only 14% of Florida's workers can do the same. The proportion of farmworkers reporting less than 12 or more years of education, however, is very similar in Florida and the rest of the nation (76% and 75%, respectively). Finally, 66% of Florida's households are living at or below the poverty threshold; 61% of farmworkers across the United States live in poverty (Arrieta et al., 1998).

The percentage farmworkers that migrate in search of agricultural work is much higher in Florida than for the national farmworker population. These workers spend about six months living and working in Florida and spend the remainder of their time migrating. These individuals "constitute a versatile workforce willing to shift tasks as required to meet the seasonal, labor intensive peaks in crop production, which in turn makes up 81% of the state's farm cash receipts" (Arrieta et al., 1998).

5. New York

A. Introduction

In New York State, there are approximately 30,811 migrant and seasonal farmworkers that both live and work in the agriculture business. Over three quarters of the migrant farmworkers in the state of New York live in four distinct regions. 15% reside and work in western New York, 23% reside and work in the Finger Lakes, 16% reside and work in central New York, and 22% reside and work in the Hudson Valley. 4% are located in Suffolk County, 1% lives and works along the southwestern border of New York and Pennsylvania, 4% live in the northeastern Hudson Headwaters region, and 15% are distributed throughout other counties in New York that have fewer than 100 migrant children and less than 50 beds in migrant labor camps (Nolon).

Using information collected by the New York State Department of Health in 1998, Nolon presents the general demographic characteristics of the migrant farmworker population in New York State. 61% of the workers are of Hispanic origin, 14% are African American, 11% are Haitian, 7% are Jamaican, and 7% are White. 56% of these workers migrate to work in New York from Florida, 13% come from Mexico, 10% come from Puerto Rico, 9% come from Texas, and 12% are native to New York. Like the general migrant farmworker population in the United States, the New York population is very young. 25% are between 0-12 years old, 7% are between 13-19 years old, 51% are between 20-44 years old, 15% are between 45-64 years old, and only 2% are 65+ years old. Based on this data, the majority of the workers in New York are between the ages of 18 and 45. 61% of these workers are men and only 39% of the workers are female (Nolon).

Many of the migrant workers in New York travel with their families, and the educational level of these individuals is extremely low. In general, New York state workers have about a 3rd grade education. As a result of this low level of educational attainment, many have very low literacy rates, if they are able to read at all (Nolon). According to data gathered by the Finger Lakes Migrant Health Care Project, about 89% of the workers in New York speak no English and 95%

of these workers have an income that is 100% below the federally-designated poverty level (Nolon).

B. Health Status

Finding health information about migrant workers in New York State is extremely difficult. While I was unable to find information regarding the overall health profile of the population or general health indicators of the migrant workers in the state, Nolon's report and a few migrant health clinics compiled the frequently reported health conditions of migrant workers in New York. The Finger Lakes Migrant Health Care Project ranked the top 10 most frequently diagnosed conditions experienced by the workers seen in their health clinics. The following list was determined:

1. Infection
2. Respiratory Disease
3. Alcoholism
4. Hypertension
5. Muscular Skeletal
6. Gastro Intestinal Disorders
7. Diabetes
8. STD
9. Skin Disease
10. Urinary

Source: Finger Lakes Migrant Health Care Project

This list of most frequently diagnosed conditions matches relatively well with data compiled by the New York State Department of Health in 1996. Occupational issues were the most frequently reported conditions, occurring in about 27% of the patient visits to programs participating in state-funded programs. Intestinal problems were diagnosed in 20% of the patients, STD's in 17% of the patients, respiratory infections in 12% of the patients, hypertension in 11% of the patients, diabetes in 8%, and Otitis Media in 5%. While this data presented state-wide diagnoses, the results were somewhat different from the

most frequently reported diagnoses from the Hudson Valley Migrant Health source. This data suggests that when more comprehensive care is provided to patients, the diagnoses change. In the Hudson Valley Migrant Health program, hypertension was most commonly diagnosed (16%). Infectious disease was diagnosed in 4% of the patients, dermatitis/eczema in 13% of the patients, Otitis Media in 9%, respiratory conditions in 4%, and "other" conditions in 5% of the workers (Nolon).

It is important to note that none of this health-related data addresses mental and behavioral health issues. Emotional and psychological issues, including substance abuse and alcohol problems, are prevalent among migrant farmworkers. In general, there is a lack of behavioral health diagnoses, like HIV, substance abuse, alcohol treatment, and domestic violence within the migrant farmworker community in New York State (Nolon).

C. Access to Care and Barriers Faced

Like migrant farmworkers in the rest of the nation, farmworkers in New York State face many of the same barriers in accessing adequate care. However, New York seems to provide migrant workers and their families with relatively good access to migrant and community health care centers. Community health centers are located in three out of the four areas that are the most densely populated with farmworkers in the state: western New York State, the Finger Lakes, and the Hudson Valley regions. The New York State Department of Health estimates that the migrant health centers in these regions serve about 77% of the farmworkers that receive health care in New York State Department of Health-funded sites. In 1998, the centers in these regions estimated that they would see about 7,000 unduplicated users through about 15,000 visits. This estimate indicated a 22% penetration rate of migrant and seasonal farmworkers in the state of New York in 1998 and a 15% increase from 1997 (Nolon).

The State of New York funds 14 projects through the State Health Department to increase access to primary and preventative health care services. These projects served 7,668 patients in 1998 through 17,690 visits to community

health centers. 40% of these visits were made by children and 60% were made by adults. Eight of the fourteen projects are county health departments that provide a range of services including medical care and emphasize public health efforts like outreach, health education, screening, and referral services. All fourteen of the projects play a role in referring migrant workers to health care providers (Nolon).

Nevertheless, these programs and community health centers are unable to provide care to all workers in the state of New York, and as a result, many of these workers do not receive any type of care due to the gap in migrant health care centers. In particular, one of the regions in New York that has a large density of migrant farmworkers, central New York, has no federal or state-funded health care provider. As a result, the counties in this region show that 4,962 workers, or 16% of the statewide migrant and seasonal farmworker population, have no access to community health care centers and limited access to other types of primary health care providers. In addition, two other regions of New York State have shown an increase in migrant and seasonal farmworkers since March of 1990, including Hudson Headwaters in northeastern New York and Suffolk County in Long Island. Together, these two regions house about 2,304 migrant and seasonal workers, which is about 8% of the total population in New York. Increased health care services and provisions are needed in this region to supply these workers with access to primary care services (Nolon).

The Finger Lakes Migrant Health Care Project reported its total number of unduplicated users in 1999. There were a total of 3,025 users in 1999 as compared to 2,825 users in 1998. Medical visits increased from 2,433 to 2,462 from 1998 to 1999 and dental visits increased from 702 to 729 during this same period (Finger Lakes Migrant Health Care Project). In the entire state of New York, the New York State Department of Health showed that 29% of the visits made by farmworkers were dental visits, 27% were nursing visits, and 44% were visits to obtain primary medical care (Nolon).

As discussed above, three out of the four regions with the highest migrant worker population density are covered by federally or state-funded health care centers, leaving one of the regions completely uncovered. In addition, many other

regions of the state of New York that do not have extremely high densities of migrant workers also lack these types of services and so migrant workers living and working in these regions also have a problem obtaining health care services.

In addition to the lack of basic health care services in areas of the state not covered by community health centers, there seems to be a general lack of specialty services available to migrants throughout the entire state. "When a referral to a specialist is involved, accessibility, driven by cost and a lack of availability of providers, is prohibitive." Dental and eye care availability is also lacking in many of these regions. "Dental is always an unmet need and, with predictions of a dentist shortage, could grow into an even larger deficit; and looking at the screening and referral numbers, access to vision care is in demand" (Nolon).

Transportation issues also plague migrant workers in New York State and often prevent them from obtaining adequate care. Many providers in the state believe that there need to be transportation systems in place so that migrant workers can be provided with convenient access to health care centers. Many migrant workers live in very isolated areas and as a result have no access to public transportation; and since so many of them live under the poverty line, the majority cannot afford their own means of transportation. As a result, the workers in New York often face isolation from the community and access to adequate health care services like the majority of migrant workers throughout the United States (Nolon).

Clinic hours are often problematic. Migrant workers in New York, like most other workers, typically work six or even seven days a week with little or no time off. Because they have no time off, having to seek health care often results in a loss of wages for the worker and even perhaps family members that need to accompany him/her to the clinic. Oftentimes workers will not seek care do to these lost wages, and crew leaders or farm owners may even discourage the workers from taking time off to seek medical care (Nolon). Because clinic hours generally fall during the work day and often offer little or no scheduled hours

during the evening or on weekends when workers would be able to go to the clinic, migrant workers are further prevented from accessing health care.

Cultural and linguistic barriers are also prevalent among this group. As mentioned earlier, the majority of migrant workers in New York are of Hispanic descent and do not speak English. Because of this language barrier, many workers are unable to communicate with health care providers or understand diagnoses and treatments being explained to them. In addition, low literacy levels among this group are problematic because even written directions in their native language are often also not understood. While a solution to this problem would be to staff culturally and linguistically competent health care providers in migrant health care centers and other community health care centers that frequently treat migrant workers, this option is often impossible. It is extremely difficult for these centers to staff such trained individuals and community health care centers simply do not have the funds to salary these types of individuals. As a result, migrant workers that cannot speak any English or even read in their native language are often confronted with health providers that do not speak their language or understand their culture. This situation creates a barrier to care for many migrant farmworkers and their families (Nolon).

Immigration status also creates barriers in New York State. Many farmworkers in New York as well as across the nation are undocumented. As a result, such undocumented workers fear applying for public health benefits or even visiting health care facilities because they have a fear of being caught and deported. When they do need urgent care, they may often change their names to receive care without the fear, and these actions cause confusion and problems for the health care clinics (Nolon).

Just as in the other parts of the country, one of the major barriers preventing many migrant workers from receiving adequate care is their lack of health insurance. Statewide, approximately 85% of the migrant farmworkers are uninsured. In New York State, farmworkers are "carved out" from participating in Medicaid managed care, and as such, no known farmworkers are enrolled in Medicaid managed care at any of the three migrant health centers in New York

State. However, the Child Health Plus Program (CHP) for the children of uninsured families will probably have a beneficial impact on migrant farmworkers and their families if the workers are properly educated and enrolled in the program. Thus far, CHP has had a tremendous impact for many children in New York State, but migrant farmworker children have largely been ignored in the implementation of the program. Awareness campaigns and managed care plans simply do not target the rural areas where migrant farmworkers live and work. While enrollment is relatively difficult for migrant workers because of the enrollment process, community outreach is necessary to educate the workers so that farmworkers and their children may benefit from this program for which they are frequently eligible. While many migrant health centers do not participate as providers for the CHP program, these health centers can play important roles at the level of outreach to educate migrant workers about their eligibility for the program's benefits (Nolon).

Unfortunately, even when migrant workers are able to enroll in the program, many of the workers are not able to take advantage of all of the services that the program has to offer because it is not catered to meet migrant farmworkers' needs. In addition, the program's benefits are not portable so that when the child leaves the state, he or she is no longer covered under the program and must re-enroll in the new state of residency. While CHP will likely have very positive results on the health of migrant farmworker children once this population begins to enroll in the program, many adaptations must be made to more adequately cater to the migrant population's needs (Nolon).

Of the total farmworker population in New York, 6,500 workers, which accounts for about 20% of the farmworker population in the state, receive health care at a migrant health center and an additional 2,300, or 12% of the population, are registered in county health department, child care, and hospital sponsored primary and preventative health care programs. Therefore, despite shortages of primary care services in some regions and the overall shortage of specialty, dental, and eye care in most of New York State, New York State community health care centers are more successful at providing care to farmworkers than

health centers across the rest of the country. Estimates show that migrant clinics are able to provide health care to less than 20% of the migrant farmworkers in the United States, but that 32% of migrant workers in New York State receive care through these types of centers (Nolon).

D. Labor Conditions and Occupational Hazards

New York State's health and safety laws generally do not cover migrant farmworkers, and as a result, migrant farmworkers in New York continue to confront many of the same occupational hazards faced by migrant farmworkers throughout the United States (Farmworkers in New York State). Throughout the state of New York, the most frequently diagnosed condition among migrant farmworkers (based on 1996 data) was backache/occupationally-related health issues, diagnosed in 27% of the farmworkers that visited centers participating in state-funded programs (Nolon). Data gathered by the Oak Orchard Community Health Center reported that among health care centers across the state of New York, the most frequently reported occupationally-related injuries were strained muscles/joints (49%), exposure to natural irritants (20%), and being struck (7%). The top diagnoses included "other" (40%), sprain/strain (25%), and dermatitis (14%) (Oak Orchard, 2002).

The New York Center for Agricultural Medicine and Health (NYCAMH) began collecting data from farmworkers' medical charts in 1997 to try and understand occupationally-related illnesses and injuries. Between 1997 and 1999, case reports of farmworker occupational injury or illness were collected from migrant health centers in New York and Pennsylvania, compiling data from 693 medical visits and 517 cases of injury or illness involving 473 workers. The following data was collected from this study:

Table 1. Leading injuries and illnesses for 517 subjects in New York and Pennsylvania

Injury/Illness	Number of Workers
Strains	162
Falls	95
Poison Ivy	49
Struck by Object	43
Twisted/Sprained	23
Natural Allergens in Air	14
Pesticide Exposure	12
Either Pesticide or Allergen	12
Other	150

Source: NYCAMH

The most common type of strain reported was back strain (21%). Shoulder strains occurred in 9% of the strain cases. Overuse of certain regions accounted for 55% of the strains and holding an awkward position accounted for 29% of the strains. The strains that were reported and diagnosed were obviously severe enough for migrant workers to take time off from their work and so must have been relatively serious. About 86% of the falls occurred in apple orchards and 55% were serious enough to cause the workers to go to the emergency room. 92% of the poison ivy cases occurred in orchards and 59% caused the workers to visit a health care center, indicating relatively severe cases of poisoning. 77% of the "being struck by object" cases occurred in orchards and were most commonly associated with eye injury due to being struck by a branch (43%). 51% of these cases had to go to the emergency room. Finally, the number of individuals affected by pesticide exposure accounted for only about 3% of occupational injuries. While this number seems very low, it may be due to improper reporting of the condition or of the subjects' misdiagnosis of pesticide exposure (NYCAMH). Pesticide exposure, however, is a serious problem for migrant farmworkers. Occupational pesticide exposure has been linked to an increased rate of birth defects, premature births, still births, and spontaneous abortions. Current research suggests that farmworkers are twice as likely to develop liver cancer than any other worker due to frequent exposure to harmful chemicals and pesticides (Voices for Change).

Housing conditions for migrant farmworkers in New York State vary greatly, but in general are very good. Most camps are isolated and are located near the fields or orchards in which the migrant farmworkers work. In 1993, the State Department of Health issued 430 permits to labor camps to house a total of 9,000 workers. Camps with fewer than five workers, however, are not covered by New York State housing codes and so fall under federal regulation (Farmworkers in New York State). Most of the migrant housing is restricted to men and so most farmworker women and children must seek housing away from the farm's property; this type of housing is often substandard and overcrowded (Voices for Change).

Migrant farmworkers in New York State confront many of the same occupationally-related illnesses that migrant farmworkers face across the United States. While a significant amount of information is known about occupationally-related injuries like strains and sprains, there is a lack of information regarding migrant farmworker exposure to pesticides in New York State and availability of clean, contaminant-free drinking water. These types of occupational hazards are important and pose serious health threats to this population. More research must be focused on this aspect of occupational health in the state of New York.

E. Poverty-Related Health Issues

95% of migrant farmworkers across the state of New York live under the poverty level with an income 100% below the poverty line, and 20% of the farmworkers in the state live in households that earn under $7,500 per year. Because many of the farmworkers are extremely poor and do not receive any type of health care coverage through their work, many simply cannot afford to pay for health care services (Nolon). In many of the migrant health care centers, care is provided along a sliding fee scale according to their earnings. In general, farmworkers will still pay about $10.00 for a visit, a $20.00 maximum co-payment for drugs, and $15.00 for tests, X-rays, or special medical services (Tarpasso, 2002). Nevertheless, migrant workers earning less than $7,500 dollars a year may not even be able to afford a $10.00 payment for health care services

let alone payments for medicines and special tests. In addition, migrant farmworkers that are no longer working in agricultural jobs can only use these services at reduced costs for the first six months after they end their employment (Tarpasso, 2002).

Although migrant and community health care centers provide affordable care for migrant farmworkers and their families, many workers are so poor that they cannot even afford to pay fees determined by a sliding scale based on annual income. Compounded with the fact that many of them need to miss work in order to receive treatment, many workers simply will not try and access health care due to these socioeconomic barriers.

F. State Laws Protecting Migrant Workers

New York State excels in its special housing laws that protect migrant workers from having to live in inadequate and substandard housing. Migrant farmworker housing is inspected by the New York State Department of Health and regulated by several agencies, including the United States Department of Labor, the New York State Department of Labor, OSHA, and even the INS. Migrant housing that houses four or less migrant workers is not regulated by New York migrant housing laws but rather falls under federal regulations; New York State laws apply to housing that supports five or more migrant workers. According to my conversation with Clifford DeMay, President of U.S. Grown, Inc., all of the housing regulations in New York State are very strictly enforced, yielding a situation in which migrant workers enjoy some of the best housing in the country. Inspectors even enforce beyond the established regulations, ensuring that migrant live in decent, livable conditions. In addition, housing for migrant workers in New York is generally completely free and includes free utilities (DeMay, 2003).

Farmers in New York are able to apply to a state loan program in which they are able to borrow up to $100,000 for ten years with 0% interest in order to provide housing for their workers. In this manner, farmers are able to provide migrant farmworkers with good housing because they are able to borrow money

from the government, and because the housing then comes under the complete ownership and control of the farmer, the housing stays in good condition because of the farmer's direct investment. According to DeMay, camps in New York State are nice and migrant workers in this state have some of the best housing conditions in the entire country (DeMay, 2003).

Migrant farmworkers in New York State are also protected by the state minimum wage law and a sanitation bill that provides the same standards at the Occupational Safety and Health Act except that in New York, farms with five or more employees are required to provide toilet and handwashing facilities in the field (as opposed to eleven or more). In addition, like California, New York also requires the grower or farm owner to be identified as the employer of migrant farmworkers in state minimum wage and overtime regulations even when the migrants are employed directly by a contractor (NELP, 2003). However, in general, laws that protect farmworkers in New York exist at the federal level, and not at the state level (Schmidt, 2003).

Nevertheless, several bills are being presented to the state assembly that are designed to protect farmworkers' rights as workers. If these bills are passed, New York State would have important labor laws that would protect migrant workers from employer exploitation. Bill S5557, The Farmworkers Fair Labor Practices Act, would grant collective bargaining rights to farm laborers, require employers to allow at least 24 consecutive hours of rest each week, provide for an eight hour work day for farmworkers, require overtime pay at one and a half times the normal wage, define "work agreement," provide sanitary codes that apply to all migrant workers regardless of the number of farmworkers in a particular camp, provide workers with workers' compensation benefits, require farmworker employers to provide their employees with claim forms for workers' compensation claims under certain conditions, and require the reporting of worker injuries to the employer (FLSNY, 2002). New York State may also pass Bill A7207 that would remove farmworkers from the exclusions of New York's labor laws (FLSNY, 2002).

I was unable to find any other laws that protect migrant farmworkers in the state of New York. Again, just as in the case of Florida, I am unsure as to whether or not I was simply unable to find any additional information or if no other laws designed to protect migrant workers exist in this state.

G. Conclusion

The data and health information that I have presented on migrant farmworkers in the state of New York is relatively incomplete and does not present a good, complete picture of the situation of migrant farmworkers in the state. The reason for this clear difference of information presented about New York State workers as compared to workers in California, Wisconsin, and Florida lies in the lack of available resources regarding the current health situation of migrant farmworkers in New York. While doing research, I found Peter S. Chi, Shelley White-Means, and Janet McClain's report entitled "Research on Migrant Farmworkers in New York State." While this report presented a relatively complete picture of the health and general characteristics of migrant farmworkers in the state, this work reported findings from the population dating back to the 1980s and early 1990s, while citations in the document generally referred to work done in the 1960s and 1970s. Cleary, this information is well outdated. To my dismay, however, I was unable to find any other truly relevant data in the form of a comprehensive report that was published since the Chi et al. report and was therefore forced to rely on small samples of data from various migrant health centers along with findings in Nolon's report. As a result, my data on New York State migrant farmworkers is much less complete than the data presented about the workers in the other three states.

While I was able to find some useful information about migrant workers in New York, researchers interested in the health conditions of this population must address this lack of research. This lack of data hinders our understanding of the situation of this population and how their general health characteristics compare to the general farmworker population in the United States and the general population as a whole. New research in this area is greatly needed.

6. Comparison and Discussion of State Results

After reporting on the health status of migrant farmworkers in California, Wisconsin, Florida, and New York, it is increasingly obvious that migrant farmworkers suffer from poor health outcomes due to the nature of their work, their low socioeconomic status, and their inability to access adequate health care services due to a multiplicity of barriers. In my attempt to understand the specific health situation of migrant workers in the various regions of the United States, I considered health and demographic data of migrant workers in these four states. While I was able to present a substantial amount of information about migrant workers in each of these four states, it is extremely difficult for me to compare the health situation of migrant workers between them because of the lack of consistent data that I have.

In an ideal situation, I would have liked to have reported data in a consistent set of categories collected during the same year for a relatively standardized group of migrant workers in each of the states (in terms of age, sex, time spent working in agriculture, etc.). However, as I quickly learned, there is a lack of information regarding the demographic and health characteristics of migrant farmworkers in the United States, and an even greater lack of information on migrant workers in specific states; this lack of data reflects how little attention is given to this work force. As a result, the comparisons that I would like to discuss are impossible. Nevertheless, I created a table of state comparisons in which I selected major categories of factors that either reflect the health status of the migrant farmworker population in each state or a factor that influences the workers' ability to obtain adequate health care. I also included some information about the national population to emphasize the differences in health between migrant farmworkers and the general population. Finally, I ranked the states based on known state-provided legal provisions and availability of migrant-specific health care services, with California being ranked as the state in which migrant workers are best protected and Florida being ranked as the state in which migrant workers are least protected, with Wisconsin ranked second and New York ranked third. While these comparisons are not ideal, they help create a better

picture of the health of migrant workers across the four regions of the United States and in comparison to the American population.

The following table highlights information otherwise presented in my report but puts it in a table form in order for me to make comparisons (citations for data already reported can be found in the body of the state reports; new data is cited in the table):

Table 1. State Comparisons of Health Statistics and Factors Affecting Migrant Health of Migrant Workers in California, Wisconsin, Florida, and New York, and the National Population

	California	**Wisconsin**	**Florida**	**New York**	**National Population**
Overall Health Status	No Data Available	- 13% reported excellent health - 50% reported good to very good health - 33% reported fair health	No Data Available	No Data Available	- 40% reported excellent health - 50% reported good or very good health - 10% reported fair or poor health
Blood Pressure	-Twice as many farmworkers with hypertension compared to national population	No Data Available	No Data Available	No Data Available	No Data Available
BMI/Obesity	-81% males overweight -76% females overweight -28% males obese -37% females obese	-60% overweight -67% females overweight	No Data Available	No Data Available	-60% males overweight -50% females overweight -20% males obese -25% females obese
Anemia	-4% males 20-49 -8% males 50-69 -13% females 20-49 -9% females 50-69	No Data Available	No Data Available	No Data Available	-1% males 20-49 -2% males 50-69 -11% females 20-49 -6% females 50-69

Main Health Problems	- Diabetes - Dental problems - Chronic pain - Allergies Hypertension - Arthritis - Dermatitis -Tuberculosis	- High blood pressure - Diabetes - Arthritis - Heart problems - Thyroid problems - Back and foot problems - Stomach infections - Colitis - Ulcers - Allergies Headaches - Kidney stones - Glaucoma - Cataracts - Nerves - High cholesterol	- Back pain - Irritated eyes - Skin rash - Stroke Exhaustion -Occup-ational injuries	- Infection - Respiratory disease - Alcoholism Hypertension - Muscular Skeletal problems - Gastro Intestinal Disorders - Diabetes - STDs - Skin disease - Urinary disease	-Heart disease Cerebrovascular disease -Respiratory disease -Diabetes -Influenza and Pneumonia -Nephritis -Alzheimer's Disease (CDC, 2000)
Health Insurance Rates	-70% lack any form of health insurance -11.4% possess health insurance through jobs -7% covered by a government program, including Medicaid, Medicare, and Healthy Families	- Less than 10% insured	- 3% employer provided health insurance	-85% uninsured	-20-25% uninsured (McNeill, 1999) -63% receive employer-provided health insurance (Policy Almanac, 1999)
Socioeconomic Status/Income	-Median reported total income between $7,500 and $9,999 -Average per capita income between $3,690 and $4,420	-Average annual family income of $13,600 and an average of 4 people live off of this amount -11.5% of field workers made less	-9% earned less than $500 -16% earned $500-$2,499 -42%, earned $2,500-$7,499 -23% earned	-95% earn income 100% below federally-designated poverty level -20% live in households that earn under $7,500 per year	-Median household income of $41,994 -Median family income of $50,046 -9.2% of families live below poverty line -9.5% of households earn

		than $5,000 -4.9% made $25,000 or more	$7,500-$12,499 -10% earned over $12,500		less than $10,000 -6.3% of households earn $10,000-$14,999 -84.1% of households earn $15,000+ (US Census, 2000)
Available Health Services (Migrant Health Centers)	-Local Migrant Health Centers in 3 of 7 major centers of migrant workers	-1 Migrant Health Center	-9% report no source of health care	-Migrant health clinics in 3 out of 4 most densely populated regions -Reach about 32% of the population	Not Applicable
Ranking of State	One	Two	Four	Three	Not Applicable

I based the state rankings on the data that I had available. Because I was unable to obtain consistent health data across the four states, it is impossible for me to compare the overall health profiles of the migrant workers in these states. Therefore, I based my rankings on information regarding the legal provisions provided to migrant workers as well as the availability of migrant health services.

I selected California as the best state because of the large amount of legal provisions provided to migrant workers, including laws dealing with housing regulations, overtime pay, union organization, and collective bargaining. California is a unique state because it provides the greatest amount of state-based legal provisions and protections to migrant farmworkers (Schmidt, 2003). As discussed earlier, these laws essentially provide migrant workers with many more rights regarding labor issues as compared to federal provisions provided to workers in other states. In addition, California has established programs to improve and provide adequate housing for migrant farmworkers, thereby improving the living situation of these workers. Finally, California provides an additional Medicare-type health insurance for low-income individuals, including migrant workers. Although many eligible migrant workers do not utilize these services, they are available; California needs to advertise the program to eligible

migrant workers so that more of these individuals utilize the program. While California only has migrant health centers in three out of the seven areas with the heaviest concentration of migrant workers, there are many other health clinics scattered across the state and in other locales that can provide service to the workers. Because of California's great legal protection and its availability of health care services in the form of migrant health centers, I chose California as the best state.

I ranked Wisconsin in second place because Wisconsin does not provide as many legal protections to migrant workers as California and it only has one migrant health center available to migrants. Wisconsin still ranked in second because it has good state legislation that protects migrant workers, including the Wisconsin Migrant Labor Law that tries to provide equal rights to migrant workers as compared to workers in other industries. In addition, Wisconsin has laws that regulate housing and education to help the workers. The state of Wisconsin, however, only has one migrant clinic that provides health services to the migrant workers. Although it is located in one of the areas that has the greatest density of migrant workers, California has more clinics that are able to provide care to the workers. In this manner, migrant workers in Wisconsin do not have as easy access to migrant health clinics and the type of care associated with them as do workers in California.

I selected New York as the third best state because it lacks the amount of state-protective legislation found in either California or Wisconsin. Nevertheless, certain laws in New York are very useful to migrant workers. Housing laws in New York are strictly enforced enabling migrants to enjoy some of the best housing conditions anywhere in the United States at no cost to the worker. In addition, New York State has a state minimum wage law and a sanitary regulation that provides additional protection to migrant workers as compared to federal regulations. Migrant health centers in New York seem to be reaching their target population at a higher rate than the national average. Three out of the four most densely populated regions of migrant workers are provided with access to local migrant health centers. While a substantial portion of New York State workers do

not have access to these types of health services, New York migrant health centers reach 32% of their target population, as opposed to the national rate of 20%. In this manner, migrant workers in New York enjoy greater access to affordable care specifically catered to their population than the average migrant worker.

It is important to add that if New York State passes the current bills designed to provide equal rights to migrant workers as compared to other workers, New York State would be ranked as the best state within the list due to the combination of legal protections and the success of migrant health centers.

Finally, Florida ranked in last place. Based on my research, I found few regulations that were designed to protect migrant workers. While the state does have state laws affecting migrant housing, only about half of the counties in Florida participate in the program. I was also unable to make a comparison of how well migrant health centers serve the Florida migrant population in comparison to California, Wisconsin, or New York because I found no information indicating what percentage of the migrant farmworker population these clinics serve. Based on the protective legislation alone, however, it was clear that Florida should rank last in this list of four states.

In looking at the main health problems reported by migrant farmworkers in the various states, the majority of health problems that plague migrant workers seem to be relatively consistent across the four regions. These health problems, including diabetes, chronic pain (back pain), and dermatitis, are probably correlated to the lifestyle and working conditions of migrant workers. Occupational illnesses like chronic pain and arthritis as well as acute conditions like skin/eye irritations are relatively prevalent and affect migrant workers because of physically strenuous and dangerous working conditions. While the general population suffers from many of these same conditions, I was unable to find data regarding chronic and acute health conditions plaguing the population that do not lead to death. However, because the general population is not subjected to the harsh working conditions associated with farm work, I would hypothesize that it probably does not suffer from as many occupational illnesses or chronic conditions related to working conditions as do migrant farmworkers.

Data from California shows that migrant farmworkers in this state have a prevalence rate of hypertension that is twice as great as the general population. Workers in Wisconsin and New York also frequently reported this health condition and so hypertension also seems to be problematic among workers in these states. Because workers in Florida suffer from strokes, they probably also suffer from hypertension at some other point. In addition, migrant workers suffer from a higher prevalence rate of obesity and being overweight than the general population. In California, researchers found that 81% of males and 76% of females were overweight, while the national average is 60% of males and 50% of females; 60% of Wisconsin workers were also overweight. In addition, 28% of males and 37% of females in California were reported to be obese, in comparison to 20% of males and 25% of females nationally. Because of the relatively similar living situations and characteristics of the populations across the four states, I would hypothesize that if data on obesity and being overweight was collected in Florida and New York, we would also find rates higher than the national average.

Taken together, hypertension and obesity can be considered risk factors for an individual's health outcome. Based on this idea, the fact that migrant workers suffer from higher rates of hypertension and obesity suggest that they will face overall poorer health outcomes than the general population. This hypothesis seems to be supported by the overall health status reported by both migrant farmworkers in Wisconsin and the national population. Although I only have this type of data for farmworkers in Wisconsin, I suspect that results in the other three states would be similar. In Wisconsin, only 13% of workers reported excellent health, 50% reported good to very good health, and 33% reported fair health. In contrast, nationally, 40% of individuals reported excellent health, 50% reported good to very good health, and only 10% reported fair or poor health. These statistics suggest that overall, migrant farmworkers feel that they have a poorer health outcome than the national population. Workers report having excellent health three times less often and report having fair to poor health three times more often than the general population.

Data gathered on anemia reflects another condition in which migrant farmworkers face a poorer health outcome than the general population. Male migrant workers between the ages of 20-49 and 50-69 are four times more likely to experience anemia than males of the same age categories in the general population. Females aged 20-49 and 50-69 show a prevalence rate that is slightly higher than the general population. Again, these statistics reflect the overall poorer health of migrant workers as compared to the general population.

While the health data of migrant farmworkers was relatively inconsistent, I was able to find relatively good data regarding access to health insurance, income of workers, and availability of migrant health centers. By looking at these factors and comparing them to data on the national population, I can support my previous assertions that these factors play a role in helping to create the diminished health status faced by migrant workers. First, let me consider health insurance rates. While 20 to 25 percent of the national population is uninsured, migrant workers would be lucky to have such a "low" rate of uninsurance. In California, 70% of workers surveyed lacked health insurance, less than 10% were insured in Wisconsin, and 85% were uninsured in New York; while I do not have specific data regarding this insurance rate for Florida, only 3% of workers in Florida have employer provided health insurance as compared to about 63% of those in the national population. The fact that so many migrant workers lack health insurance affects their ability to receive treatment. Health care is very expensive, and without health insurance, the cost of health care limits migrant workers from obtaining proper treatment.

While their lack of health insurance poses a great problem for workers in obtaining health care, their socioeconomic status generally limits their ability to pay for care using their own money. Migrant workers in all states are much poorer than the national population as seen in the data reflecting Socioeconomic Status/Income in the table above. While I am not going to repeat the data listed in the table, the important thing to notice is just how much poorer migrant workers are than the general population. For example, in New York, 95% of migrant workers earned incomes that fell 100% below the federally-designated poverty

level whereas only 9.5% of Americans live in poverty below this same poverty level. In this particular economic situation, migrant workers are not left with income that they can use to pay for health care costs; as a result, many simply do not seek treatment.

While being uninsured and living in basic poverty prevents many migrant workers from obtaining care, migrant health centers work to alleviate this problem by providing workers with care on a sliding fee scale. In this manner, workers are able to obtain care at an affordable cost. However, migrant health centers simply cannot adequately reach their target population. Nationally, migrant health centers only manage to serve about 20% of the migrant population. In California, local migrant health centers are found in less than one half (three out of seven) of the areas that are heavily populated with migrant workers. This leaves workers in the other four regions, as well as other areas that are not as heavily populated with migrant workers, without affordable health care through these types of centers. Wisconsin only has one migrant health clinic that is designed to serve this population. While New York has migrant health centers in three out of the four most heavily populated areas, they still only reach about 32% of the target population. While I was unable to find the significance of the location of migrant health centers in Florida, it was reported that 9% of the migrant farmworker population lack access to any type of health care.

Taken together, these three factors play an important role in affecting the health of migrant workers. While it really is impossible to make state-by-state comparisons of the health of workers in these four regions, it is important to note that data from all of these states all support the same conclusion: that migrant workers face a much poorer health outcome than the general American population. Migrant workers simply do not have the resources to obtain adequate care, and compounded with the stresses and hazardous nature of their labor, migrant workers are subjected to poor health outcomes. The conclusion of this paper will consider a comprehensive set of solutions to try and alleviate some of the health disparities faced by migrant workers.

7. Conclusion

This report has presented many of the factors that contribute to the diminished health status faced by migrant farmworkers across the United States. It has also presented individual reports of the demographics and health status of migrant farmworkers in states in the four different regions of the United States. Although there were slight variations between health conditions of migrants in California, Wisconsin, Florida, and New York, the overall trend shows that migrant farmworkers face a poorer health status than the general American population. The National Center for Farmworker Health described migrant farmworkers as having "a Third World health status, although they live and work in one of the richest nations on earth." They continue:

> Unsanitary working and housing conditions make farmworkers vulnerable to health conditions no longer considered to be threats to the general public. Poverty; frequent mobility; low literacy; language, cultural and logistic barriers impede farmworker's access to social services and cost effective primary health care. Economic pressures make farmworkers reluctant to miss work when it is available. In addition, they are not protected by sick leave; and risk losing their jobs if they miss a day of work. These circumstances cause farmworkers to postpone seeking health care unless their condition becomes so severe that they cannot work. At this point, many farmworkers must rely on expensive emergency care needs. Migrant health centers provide accessible care for farmworkers, but have the capacity to serve fewer than 20% of the nation's farmworkers (NCFH).

This statement summarizes the situation that migrant farmworkers in this nation face in accessing adequate health care, and all of these factors work together in creating the diminished health status faced by migrant workers. This heterogeneous population, numbering anywhere between 2.7 and 5 million individuals, must endure substandard living conditions, work in one of the most dangerous occupations in the United States, and have limited health care resources (National Migrant Resource Program and Migrant Clinician's Network, 1996). Although these workers work in one of the richest nations in the world, they are excluded from the benefits and comforts of many aspects of American

life. Living in poverty on the outskirts of communities in often isolated, rural areas, the reality of migrant farmworkers is a life of hardship and difficulties.

The health reality for migrant farmworkers is not positive. Research has actually found that the life expectancy for migrant farmworkers is 26 years less than for the average American; the life expectancy of a migrant worker is 49 years compared to the 75-year life expectancy of the average American (National Migrant Resource Program and Migrant Clinician's Network, 1996). This situation is obviously serious and measures must be taken to alleviate some of the health problems faced by migrant farmworkers. Trying to solve the problem, however, is very difficult due to the multiplicity of compounding factors that affect the health status of this population, ranging from occupational hazards, to the workers' socioeconomic status, to the lack of available health services in many rural areas. While it will probably be impossible to completely alleviate the health disparities faced by migrant workers because of factors like socioeconomic status that cannot easily be changed, there are many ways in which the health of migrant farmworkers can be improved. While many recommendations have already been proposed by researchers working in this field, I would like to present a comprehensive set of recommendations based on the barriers to care and health issues that I discovered while writing this paper. While these ideas will not present all potential solutions to the current situation, they reflect my own thinking about the situation based on the problems that I have discussed in this report.

One of the principal factors that emerged in my discussion of barriers to care faced by migrant workers is the fact that migrant farmworkers often do not utilize available health care resources or simply do not have access to health care services. This factor was reflected in the data presented about the number of visits that migrant workers make to health care facilities, including general health care visits, dental visits, and eye care visits. In general, migrant workers do not engage in preventative medicine and wait until a condition is relatively severe before going to see a health care professional. Many barriers contribute to this under-utilization of services and/or lack of available services, including lack of

health care facilities, lack of transportation, language/cultural barriers, inconvenient clinic hours, and health insurance factors. By addressing each one of these factors and proposing solutions to each barrier, migrant workers would have better access to health care facilities and be able to increase their use of available services.

The lack of health care facilities is often a large problem contributing to the low rates of service utilization by migrant farmworkers. Because workers often live in rural, isolated areas, many health services are not readily available to them and so migrant workers must often depend on migrant or rural health care centers. These programs and centers, however, are severely under-funded and many states simply do not have enough money to build and maintain these types of health care facilities in rural areas. In order to increase the number and availability of these types of clinics, states need to be given more funds in order to support migrant and rural health centers. While President Bush's 2002 Initiative to Expand Health Centers is designed to extend the provision of culturally competent primary and preventative care services to more isolated and hard-to-reach portions of the population by increasing the amount of available funding in the Migrant Health Program, states must realize the need and importance of petitioning for these available funds. Improving migrant farmworkers' access to health care services begins with creating the infrastructure and availability of health care centers that cater to this population. Currently, migrant health centers are only able to serve about 20% of the migrant farmworker population; with this increased funding, however, it is hoped that these health centers will be able to reach an additional six million people by adding 1,200 health center sites (BPHC Migrant Health Program, 2002).

Once these health care centers are established, migrant workers will still face many barriers in accessing available health care resources. First, migrant workers not only reside in rural areas, but they are often extremely isolated as they generally live in camps adjacent to the fields in which they work. In this manner, they often lack the transportation to access care. In order to alleviate this problem, part of the funding for migrant health care centers could be used to

purchase a van used to transport migrant workers to and from the clinic. While it is impossible for the clinics to pick up patients individually each time they have an appointment, specials days and times could be designated through a route created to serve migrant camps and the health center. In this manner, migrant workers needing transportation could make appointments at the center according to this "van schedule" so that they would be able to travel between their homes and the clinic. In addition, volunteers could be used to drive the van so that the clinics would not have to pay an additional salary for a driver.

Language and cultural barriers also play a large role in impeding care for migrant farmworkers. While many individuals believe that migrant health centers should hire bilingual and bicultural staff persons or hire translators, I think this solution is too narrow. The United States is a multicultural nation and due to increasing globalization, our nation can no longer be considered a place where individuals only need to speak English. While many Americans are against the notion of adopting multiple languages since they firmly believe that immigrants should learn English, many immigrants are not in the position to easily learn and adopt English as their primary language.

Language and cultural barriers are particularly problematic in the health care setting, and medical and nursing educations should include linguistic and cultural training so that health care providers are better equipped to practice medicine in the changing face of this nation. Medical and nursing training should include courses on being open towards other cultures and understanding how cultural beliefs and practices affect health care. In addition, students should be given courses in medical Spanish or in other languages that are becoming increasingly predominant in this nation. While it is impossible for health care professionals to become fluent in Spanish (or any other language) or learn about every culture in the world, they should be able to communicate in a basic fashion with a subset of patients that does not speak English. Curriculums should give health care students the option of which medical language course to take and a broad course dealing with cultural competency. In this manner, migrant health centers would not have to be burdened with finding and paying for properly

trained staff because all graduating health care professionals would have this type of training.

Migrant health care centers also face staff shortages because it is extremely difficult for these centers to recruit properly educated staff, including doctors and nurses, to work and live in rural locations for minimal pay. In order to alleviate this problem, residents and nurses-in-training could be required to spend part of their time working in a rural or migrant health center during their training. As a result, future clinicians would be exposed to rural medicine and migrant health centers would have the benefit of having added physicians and nurses on staff.

Because migrant workers work extremely long days that overlap with clinic hours, many are unable to go to a clinic because they are not willing to miss work in order to see a health care professional. While clinics should offer evening and weekend hours that would be more convenient for migrant workers and would not cause them to have to miss work in order to go and see a health care professional, clinics are already financially burdened and so it is impossible for many of them to be able to provide extended hours. Clinics, however, should not have to extend their hours; their hours should be constructed around the schedules of their target population. If, for example, a clinic is open Monday through Friday from 8 am to 6 pm, a clinic that caters to migrant farmworkers that work during these hours could be open on Mondays from noon to 10 pm instead of from 8 am to 6 pm, and be closed on Fridays but instead be open on Saturdays from 8 am to 6 pm. In this manner, clinics would not have to spend more money paying staff members to work extra hours; clinics could be open the same amount of time but be much more efficient in the way in which they allocate their clinic hours based on the needs of the population they serve.

Nevertheless, even if clinics provide transportation, possess culturally and linguistically competent staff, and are open hours that are convenient for farmworkers, many farmworkers are unaware of many of the available services that migrant health centers have to offer them. As a result, outreach services must be increased. While outreach services done by paid professionals can be

extremely expensive and therefore impossible for clinics to afford, the best solution lies in the use of promotores(as).

Promotores play an important role in public health, particularly in the case of migrant farmworker health. "They serve on the front lines of the public health field. Many times, they deal with the realities of limited resources and ever-present demands. They work in clinics, hospitals, community-based organizations, faith-based organizations, public health departments, and university-sponsored activities" (Berrios, 2002). These individuals provide cultural mediation between communities and the health care system, counseling and social support, culturally and linguistically appropriate health education, and referral/follow-up services. Basically, these individuals are advocates for populations like migrant farmworkers and serve as a culturally and linguistically appropriate link between these populations and various aspects of society, including the health care system. Promotores are individuals that come from the same background and communities as the migrant farmworkers and so share and understand the experiences and needs of the people they are serving. In addition, "as a local resident, they hold a personal stake in eliminating barriers that impact the health of the community" (Berrios, 2002).

Promotores are a useful link that can play a huge role in outreach services involving health education and education about available services and are already used by many migrant health centers. By using individuals that understand migrant farmworkers and can properly communicate and associate with them, promotores can influence migrant farmworker use of available health care services and help them improve their overall health education. In addition, they can be used to teach migrants about how to enroll in many social services like Medicaid and WIC and can help them understand and navigate through the systems so that they may take advantage of available services.

Recently, a new initiative has been made to certify and pay promotores for their work in the community. By being certified, these individuals would be given basic skills and be properly educated about how to communicate and convey information to migrant farmworkers. Through the program, promotores

would learn the core skills and knowledge competencies necessary to function as effective liaisons, including communication, interpersonal skills, service coordination, capacity-building, advocacy, teaching, organization, and knowledge base skills. "Through the new initiative, these dedicated workers will be provided needed recognition and a sense of dignity that comes through an unselfish dedication to help others." These individuals are a truly valuable resource that can be used to interpret health care visits, help migrant workers identify social programs for which they are eligible, help them apply for these eligible benefits, serve as health educators, and help recruit new promotores (Berrios, 2002).

Despite increasing the availability of services in rural areas and making farmworkers aware of these services while helping to increase their access to linguistically and culturally competent care, many migrant workers will still be unable to afford the cost of health care services, no matter how minimal they may be. With the median total family income of the majority of migrant worker families falling far below the poverty level, many workers simply cannot even afford to pay the low costs of health care services at migrant clinics. Although many farmworkers are eligible for Medicaid benefits, many are unaware of their eligibility or cannot manage to fill out the long and tedious paperwork to receive benefits; in addition, because of the lack of portability of benefits, even when workers are enrolled for Medicaid in their home state, they do not receive any benefits when they are traveling across the United States in search of agricultural work. While approximately 39 million Americans are uninsured, migrant farmworkers disproportionately lack health benefits for which they qualify (Boehner, 2002). Health insurance coverage must be provided to migrant workers so that they may be able to receive health care.

Migrant health care centers provide migrant farmworkers with cost-effective care for less than one dollar a day, and as a result, these centers save billions of dollars in health care costs for the United States that would otherwise be spent if migrants received care through other health care settings (Hawkins, 2001). Therefore, a new type of health insurance specifically designed around the use of these migrant health care centers could serve as a cost-effective way of

providing health care services to migrant farmworkers without having to completely reform Medicaid and other government health care programs.

As the President's Initiative to Expand Health Centers increases the availability of migrant health care centers, a social program could be designed at the federal level to provide migrant workers with insurance designed for use in the migrant health care centers. In addition, it should take into consideration the financial situation of the migrant workers. Essentially, the insurance program could be a specialized Medicaid in which migrant farmworkers would be given a card issuing them access to services in local migrant health care centers. Because the program would be federally-funded, migrant workers could have portability of coverage. This type of program would encourage the use of migrant health care centers and help the centers finance themselves through governmental support based on migrant farmworker visits. In this manner, farmworkers would be encouraged to use the services provided by the migrant health centers, they would be guaranteed portability of coverage, and migrant health centers would receive payments for services directly from the government. Promotores could be used to promote the program and its use through outreach services. By offering enrollment forms in both English and Spanish, migrant workers would be more likely to have the capability to fill out and return the forms. Enrollment eligibilities should be stream-lined and particularly catered to the migrant farmworker population. Such a system designed for migrant workers and their families would help eliminate many of the problems of applying eligibility rules and portability of benefits to this unique population. In addition, migrant health centers would be further supported and migrant workers would be encouraged to seek medical treatment at these centers.

Promotores could also play a role in trying to alleviate many of the occupational hazards faced by migrant farmworkers. Although agricultural work is inherently dangerous, migrant workers could be properly educated about how to protect themselves from injuries at work through the use of promotores. Promotores could also serve as educators about the dangers and risks of pesticide use and teach the workers how to properly handle these dangerous chemical

substances while educating them about the signs and symptoms of pesticide poisonings. Under the current situation, crew leaders and farm owners are responsible for teaching migrant farmworkers about how to deal with pesticides; however, as I have previously discussed, many of these individuals are not very educated about these substances, many do not have the capability to teach migrant farmworkers about the uses and dangers of the substances, and many do not believe that this type of education should take precedence over other types of education. By focusing education through promotores, migrant workers could be taught in a culturally and linguistically appropriate way and be given standardized information. This type of education would be much more successful at reaching the migrant workers and would likely have a positive impact on the health of migrant farmworkers.

Inadequate and overcrowded housing must also be dealt with since it negatively contributes to the health of migrant workers. While many states have laws regulating the housing of migrant farmworkers, many owners and crew leaders do not comply with the regulations and/or do not participate in housing programs. All states should make it mandatory for individuals housing migrant workers to comply with housing regulations. Promotores could be used to help enforce and inspect housing units as states generally do not have the capacity to inspect all existing camps or the knowledge of where all of the migrant workers in the states are living. Promotores could be educated about housing requirements and coding and be used to help inspect migrant housing; if states do not feel comfortable using these individuals for this purpose, then promotores could simply be used to help report the presence of migrant camps that states may not be aware of so that they may then send inspectors to the sites. By creating and enforcing housing laws, migrant workers will face better health outcomes because they will no longer be susceptible to health problems generated by living in substandard, overcrowded housing conditions.

Migrant farmworkers are also discriminated against by many laws that are designed to protect workers. These laws must be updated to include migrant workers so that they may receive many of the protections that other workers in the

United States enjoy. Migrant workers face "agricultural exceptionalism" in which they are not properly protected in the Fair Labor Standards Act, the National Labor Relations Act, or even the Occupational Safety and Health Act. Although the Fair Labor Standards Act is designed to govern workplace standards like minimum wage rates, hours, pay for overtime work, employment of children, and related matters, agricultural workers are excluded from the benefits of this law. Agricultural employees are not required to receive overtime pay for working more than 40 hours per week; minimum work ages for children in agriculture are 2 years less than normal (age 14 versus age 12); and restrictions for children working in hazardous conditions are less stringent in agriculture than in other industries (Villarejo and Baron, 1999). Farmworkers even have a separate and unequal minimum wage law (Exclusion). While the National Labor Relations Act is designed to allow workers to join unions and collectively bargain for their rights, migrant workers are not afforded this luxury (Exclusion). Lastly, while the Occupational Safety and Health Act requires employers to provide their employees with a workplace free from hazards that could cause injury or death and requires agricultural employers who provide a temporary labor camp to workers to comply with field sanitation regulations, not all workers are guaranteed rights under this law. Employers that have fewer than eleven employees are not required to comply with the Occupational Safety and Health Act (Villarejo and Baron, 1999). These laws clearly designed to protect workers are failing to protect migrant farmworkers.

The exclusions that migrant workers face in federal laws designed to protect workers must be eliminated. While workers work in one of the most dangerous occupations in the United States and face exploitation by their employers, they need to be granted the same rights as other workers. Agricultural workers must be given the right to bargain collectively, have an equal minimum wage, have equal child labor laws, be granted overtime pay, and have proper sanitation facilities available to them no matter how many other employees are present at their work site. All workers deserve the same rights. By providing migrant workers with these rights, they will also be given a voice so that they may

begin to speak out about injustices that not only affect their health and well-being, but that also affect their dignity as human beings.

Finally, poverty-related health issues must be addressed. Migrant farmworkers are overwhelmingly poor and the majority of them live well below the poverty line. Their low socioeconomic status plays a large role in contributing to their overall health status. It plays a role in what type of housing they can live in, whether or not they can afford to see a doctor or visit a health care center, and even the type of food that they can afford. While the agricultural industry cannot afford to increase the workers' pay, we can alleviate some of the problems associated with the migrant workers' socioeconomic status by essentially going around the actual question of income.

For example, socioeconomic status directly affects the type of housing migrant workers can afford. By having stricter housing laws and making sure the laws are properly enforced, migrant workers will be able to live in adequate, sanitary housing without having to pay more for adequate housing. Because workers often cannot afford health care, by providing them with special insurance that enables them to access care through local migrant health care centers, workers will no longer need to rely on out-of-pocket costs to pay for health care services. Migrant workers can also be educated about nutrition and about how to properly prepare healthy foods using facilities and cooking appliances that they have available to them. By working around the direct problem of socioeconomic status, health outcomes revolving around low incomes can be alleviated.

These recommendations represent just a first step in trying to alleviate some of the barriers that migrant workers face in accessing adequate health care that ultimately cause them to face a poor health outcome. While many of these solutions are complex, many are relatively simple and can nevertheless significantly improve the health outcome of this sector of our population. There are many compounding factors that affect the health outcome of the migrant farmworker population. However, by focusing on solutions to each of these different aspects, the overall health of the population will be drastically improved. Migrant workers have suffered long enough; it is time for change.

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Appendix I: Migrant Health Clinics Listed By State

California

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Clinica Sierra Vista	Suite 400 1430 Truxtun Avenue	Bakersfield, CA 93302-1559	(661) 635-3050	Admin Only	Dental Care Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, HCH, MHC

Clinics

Arvin Community Health Center	146 North Hill Street	Arvin, CA 93203	(661) 854-3131	Year round
California Avenue Community Health Center	601 California Avenue	Bakersfield, CA 93304	(661) 323-6086	Year round
East Bakersfield Community Health Center	815 Lakeview Avenue PO Box 3189	Bakersfield, CA 93385	(661) 322-3905	Year round
East Bakersfield Dental Center	Suite 6 234 Baker Street	Bakersfield, CA 93305	(661) 632-2144	Year round
Homeless/Mobile Health Care Services	Suite 1 234 Baker Street	Bakersfield, CA 93305	(661) 322-7580	Year round
34th Street Community Health Center	Suite 304 3550 Q Street	Bakersfield, CA 93301	(661) 324-1455	Year round
La Posada Homeless Respite Program	Suite 3 234 Baker Street	Bakersfield, CA 93385	(661) 632-2141	Year round
Delano Community Health Center	Suite 1 1508 Garces Highway	Delano, CA 93215	(661) 725-4780	Year round
Frazier Mountain Community Health Center	3545 Mt Pinos Way PO Box 207	Frazier Park, CA 93225-0207	(661) 245-3773	Year round
Kern Valley Medical Center	6310 Lake Isabella Boulevard	Lake Isabella, CA 93240	(760) 379-2415	Year round
Lamont Community Health Center	8787 Hall Road PO Box 457	Lamont, CA 93241	(661) 845-3731	Year round
McFarland Community Health Center	217 Kern Avenue	McFarland, CA 93250	(661) 792-3038	Year round
Death Valley Health Center	Old Highway 127 PO Box 158	Shoshone, CA 92384	(760) 852-4383	Year round
Kern River Health Center	67 Evans Road PO Box 1062	Wofford Heights, CA 93285	(760) 376-2276	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Clínicas de Salud del Pueblo, Inc.	1166 K Street PO Box 1279	Brawley, CA 92227	(760) 344-9951	Admin/Clinic	Dental Care Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Blythe Family Health Center	Suite C 321 West Hobsonway	Blythe, CA 92225	(760) 922-4981	Year round
Brawley Clinic	900 Main Street	Brawley, CA 92227-2630	(760) 344-6471	Year round
Calexico Family Health Center	223 West Cole Road	Calexico, CA 92231	(760) 357-2020	Year round
El Centro Clinic	1461 South Four Street	El Centro, CA 92243	(760) 352-2257	Year round
Mecca Health Center	Suite L 65-100 Date Palm	Mecca, CA 92254	(760) 396-1249	Year round
Niland Family Health Center	309 East Main Street PO Box 268	Niland, CA 92257	(760) 359-0110	Year round
Healthy Start Clinic	Route 1-676, Baseline Road	Winterhaven, CA 92283	(760) 572-2700	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
National Health Services, Inc	277 East Front Street PO Box 917	Buttonwillow, CA 93206	(661) 764-6318	Admin/Clinic	Dental Care Services, Enabling Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	CHC, HSHC, MHC

Clinics

Delano Family Medical Center	1215 Jefferson Street	Delano, CA 93215	(661) 721-7080	Delano Family Medical Center
Lost Hills Community Medical and Dental Center	21138 Paso Robles Highway	Lost Hills, CA 93249	(661) 797-2667	Lost Hills Community Medical and Dental Center
Shafter Community Health Center	320 James Street	Shafter, CA 93263	(661) 746-9194	Shafter Community Health Center
Taft Community Medical Center	1100 Fourth Street	Taft, CA 93268-2415	(661) 765-5044	Taft Community Medical Center
Wasco Medical and Dental Center	2101 Seventh Street	Wasco, CA 93280	(661) 758-2263	Wasco Medical and Dental Center

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Sequoia Community Health Foundation, Inc	2790 South Elm Avenue	Fresno, CA 93706	(559) 442-7900	Admin/Clinic	Enabling Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, ISDI, MHC

Clinics

Sequoia Community Health Foundation, Inc	1350 South Orange Avenue	Fresno, CA 93702	(559) 442-7902	Year round
Sequoia Community Health Foundation, Inc	2021 Divisadero Avenue	Fresno, CA 93701	(559) 442-7901	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Darin M Camarena Health Center, Inc	201 South B Street PO Box 299	Madera, CA 93639-0299	(559) 675-5600	Admin/Clinic	Enabling Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, MHC

Clinics

Urgent Care	201 South "B" Street	Madera, CA 93639-0299	(559) 675-5600	Urgent Care
Family Practice/Women's Care/Pediatric Care/Dental Care	344 East Sixth Street	Madera, CA 93639-0299	(559) 675-5600	Family Practice/Women's Care/Pediatric Care/Dental Care

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Golden Valley Health Centers	737 West Childs Avenue	Merced, CA 95340	(209) 383-1848	Admin Only	Dental Care Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, HCH, MHC

Clinics

Golden Valley Health Center	1405 California Avenue	Dos Palos, CA 93620	(209) 392-2111	Year round
Golden Valley Health Center/Dental	821 Texas Avenue	Los Banos, CA 93635	(209) 826-1045/1094	Year round
Golden Valley Health Center	847 West Childs Avenue	Merced, CA 95340	(209) 383-7441	Year round
Golden Valley Health Center - North Merced Women's Health	Suite A	Merced, CA 95340	(209) 381-4109	Year round
Golden Valley Health Center - Women's Health Services	797 West Childs Avenue	Merced, CA 95340	(209) 383-5871	Year round
Golden Valley Health Center - Modesto Women's Services	Suite B	Modesto, CA 95350	(209) 574-1365	Year round
Golden Valley Health Center (School-based Clinic)	1121 Hammond Street	Modesto, CA 95351	(209) 576-4437	Year round
Golden Valley Health Center - Corner of Hope (formerly Stanislaus Homeless Health Project)	1130 Sixth Street	Modesto, CA 95354	(209) 491-5550	Year round
Golden Valley Health Center/Dental (School-based Clinic)	1717 Las Vegas Street	Modesto, CA 95358	(209) 576-4200	Year round
Golden Valley Health Centers - Modesto	1114 Sixth Street	Modesto, CA 95354	(209) 576-2845	Year round
Golden Valley Health Center	151 South Highway 33	Newman, CA 95360	(209) 862-0270	Year round
Golden Valley Health Center/Dental	200 C Street	Patterson, CA 95363	(209) 892-8441/6307	Year round
Golden Valley Health Center	9235 East Broadway	Planada, CA 95365	(209) 382-0253	Year round
Golden Valley Health Center (School-based Clinic)	301 Howard Road	Westley, CA 95387	(209) 894-3141	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Community Health Centers of the Central Coast, Inc	150 Tejas Place PO Box 430	Nipomo, CA 93444-0430	(805) 929-3211	Admin/Clinic	Dental Care Services, Mental Health/Substance Abuse Services, Primary Medical Care	CHC, HCH, MHC, PH

Clinics

Coastal Medical Center	Suites B & C PO Box 430	Arroyo Grande, CA 93420	(805) 481-3652	Year round
The Doctor's Office/Fair Oaks Community Health Center	1065 Grand Avenue PO Box 430	Arroyo Grande, CA 93420	(805) 481-7220	Year round
Los Robles Community Medical Center	345 Spring Street PO Box 430	Paso Robles, CA 93446	(805) 238-7250	Year round
Health Care for the Homeless Project	2626 Spring Street PO Box 430	Paso Robles, CA 93401	(805) 238-9486	Year round
Clinica Plaza	Suites A & 3 PO Box 430	Santa Maria, CA 93454	(805) 928-7757	Year round
Los Robles Community Medical Center	Suite B-2 PO Box 430	Templeton, CA 93465	(805) 434-1038	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
United Health Centers of the San Joaquin Valley, Inc	650 Zediker Avenue PO Box 790	Parlier, CA 93648-0790	(559) 646-6618	Admin/Clinic	Dental Care Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care	CHC, MHC

Clinics

United Health Centers of the San Joaquin Valley, Inc - Earlimart	476 East Washington Avenue PO Box 11948	Earlimart, CA 93219	(661) 849-2781	Year round
United Health Centers of the San Joaquin Valley, Inc - Huron	16928 11th Street PO Box 1990	Huron, CA 93234	(559) 945-2541	Year round
United Health Centers of the San Joaquin Valley, Inc - Kerman	Suite 201 275 South Madera Avenue	Kerman, CA 93630	(559) 846-6330	Year round
United Health Centers of the San Joaquin Valley, Inc - Mendota	121 Barboza Street	Mendota, CA 93640	(559) 655-5000	Year round
United Health Centers of the San Joaquin Valley, Inc - Orange Cove	445 11th Street PO Box 427	Orange Cove, CA 93646	(559) 626-4031	Year round
United Health Centers of the San Joaquin Valley, Inc - Sanger	621 "O" Street	Sanger, CA 93657	(559) 875-6000	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Clínica de Salud del Valle de Salinas	Suite A 440 Airport Boulevard	Salinas, CA 93905	(831) 757-8689	Admin Only	Dental Care Services, Enabling Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care	CHC, MHC

Clinics

Clínica de Salud del Valle de Salinas	10561 Merritt Street	Castroville, CA 93912	(831) 633-1514	Year round
Clinica de Salud Chaular	24285 Lincoln Street	Chaular, CA 93925	(831) 679-2504	Part time
Clínica de Salud del Valle de Salinas - Greenfield	808 Oak Street PO Drawer E	Greenfield, CA 93927	(831) 674-5344	Year round
Clínica de Salud del Valle de Salinas - King City	223 Bassett Street	King City, CA 93930	(831) 385-5945	Year round
Clínica de Salud del Valle de Salinas - King City	Suite A 809 Broadway Street	King City, CA 93930	(831) 385-5944	Year round
Clínica de Salud del Valle de Salinas - Sanborn	219 North Sanborn Road	Salinas, CA 93905	(831) 757-1365	Year round
Clínica de Salud del Valle de Salinas	950 Circle Drive	Salinas, CA 93905	(831) 757-6237	Year round
Clínica de Salud del Valle de Salinas - Soledad	799 Front Street	Soledad, CA 93960	(831) 678-0881	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Valley Health Team, Inc	21890 Colorado Avenue PO Box 737	San Joaquin, CA 93660	(559) 693-2462	Admin Only	Dental Care Services, Obstetrical and Gynecological Care, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Community Outreach Program	449 South Madera Avenue PO Box 737	Kerman, CA 93630	(559) 846-4212	Year round
Kerman Health Center	171 South Madera Avenue	Kerman, CA 93630	(209) 846-9359	Year round
Valley Optometric Center	449 South Madera Ave	Kerman, CA 93630	(559) 846-5252	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
North County Health Project, Inc	150 Valpreda Road	San Marcos, CA 92069-2995	(760) 736-6755	Admin/Clinic	Dental Care Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, MHC

Clinics

Carlsbad Family Medicine	3050 Madison Street	Carlsbad, CA 92008	(760) 720-7766	Year round
Encinitas Health Center	629 Second Street	Encinitas, CA 92024	(760) 753-7842	Year round
Encinitas Women & Children's Health Center	Suite 150 322 Santa Fe Drive	Encinitas, CA 92024	(760) 943-9994	Year round
Mission Mesa Women's Health Services/Mission Mesa Pediatrics	Suites 5 and 12 2210 Mesa Drive	Oceanside, CA 92054	(760) 757-5841/966-3306	Year round
Oceanside-Carlsbad Health Center	408 Cassidy Street	Oceanside, CA 92054	(760) 757-4566	Year round
Ramona Health Center	217 East Earlham	Ramona, CA 92065	(760) 789-1223	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Community Medical Centers, Inc	701 East Channel Street PO Box 779	Stockton, CA 95201-0779	(209) 944-4710	Admin/Clinic	Dental Care Services, Enabling Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, MHC

Clinics

Dixon Family Practice	Suite 1 131 West A Street	Dixon, CA 95620-0846	(707) 635-1600	Year round
Esparto Family Practice	17050 South Grafton Street PO Box 134	Esparto, CA 95627-0134	(530) 787-3454	Year round
Lawrence Family Center & Clinic	721 Calaveras Street	Lodi, CA 95240	(209) 331-8019	Part time
Woodbridge Medical Group	Suite 450 2401 West Turner Road	Lodi, CA 95242-2185	(209) 370-1700	Year round
San Andreas Family Practice	Suite 3 265 West St Charles	San Andreas, CA 95249-1107	(209) 755-1400	Year round
San Joaquín Valley Dental Group	230 North California Street PO Box 779	Stockton, CA 95201-0779	(209) 940-7200	Year round
King Family Center Health Clinic	2640 East Lafayette Street PO Box 779	Stockton, CA 95201-0779	(209) 953-4666	Year round
Tracy Family Practice	728, 730 & 732 North Central	Tracy, CA 95376-4104	(209) 820-1500	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Mendocino Community Health Clinic, Inc	333 Laws Avenue	Ukiah, CA 95482	(707) 468-1010	Admin/Clinic	Dental Care Services, Mental Health/Substance Abuse Services, Primary Medical Care, Specialty Medical Care	CHC, ISDI, MHC

Clinics

Medocino Community Health Clinic - Lakeside Clinic	5335 Lakeshore Boulevard	Lakeport, CA 95453	(707) 263-7725	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Clínicas del Camino Real, Inc.	Suites 100 (clinic) and 200 (admin) 200 South Wells Road	Ventura, CA 93004	(805) 659-1740	Admin/Clinic	Dental Care Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Clínicas del Camino Real, Inc. - Fillmore	355 Central Avenue	Fillmore, CA 93016	(805) 524-4926	Year round
Ojai Valley Community Health Center	1200 Maricopa Highway	Ojai, CA 93024	(805) 640-8293	Year round
Maravilla Community Health Center	450 West Clara Street	Oxnard, CA 93033	(805) 488-0210	Year round
Clínica de la Comunidad de Oxnard	650 Meta Street	Oxnard, CA 93031	(805) 487-5351	Year round
Clínicas del Camino Real, Inc. - Santa Paula	500 East Main Street	Santa Paula, CA 93060	(805) 933-0895	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Family HealthCare Network	801 West Center Street	Visalia, CA 93291	(559) 741-7411	Admin/Clinic	Dental Care Services, Enabling Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Family HealthCare Network - Ivanhoe	33025 Road 159	Ivanhoe, CA 93235	(559) 798-1877	Year round
Family HealthCare Network - Cutler/Orosi	12586 Avenue 408	Orosi, CA 93647	(559) 528-2804	Year round
Family HealthCare Network - Porterville	1107 West Poplar Avenue	Porterville, CA 93277	(559) 781-7242	Year round
Family HealthCare Network - Springville	35800 Highway 190	Springville, CA 93265	(559) 539-2324	Part time
Family HealthCare Network - Three Rivers	41651 Sierra Drive	Three Rivers, CA 93271	(559) 561-4683	Year round
Family HealthCare Network - Visalia	501 North Bridge Street	Visalia, CA 93291	(559) 734-1939	Year round
Family HealthCare Network - Woodlake	101 North Palm	Woodlake, CA 93286	(559) 564-0100	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Salud Para La Gente, Inc.	204 East Beach Street	Watsonville, CA 95076	(831) 763-3404	Admin/Clinic	Dental Care Services, Enabling Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, MHC

Clinics

Clínica Del Valle Del Pájaro	850 Freedom Boulevard	Watsonville, CA 95076-4809	(831) 761-1588	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Del Norte Clinics, Inc	935B Market Street	Yuba City, CA 95991	(530) 674-4261	Admin Only	Dental Care Services, Primary Medical Care	CHC, MHC

Clinics

Chico Family Health Center	680 Cohasset Road	Chico, CA 95926	(530) 342-4395	Year round
Colusa Family Health Center/Dental Clinic	555 Fremont Street	Colusa, CA 95932	(530) 458-8635	Year round
Gridley Family Health Center	Suite B Two East Gridley Road	Gridley, CA 95948	(530) 846-6231	Year round
La Paloma Family Health Center	1574 Kirk Street	Gridley, CA 95948	(530) 846-3707	Year round
Hamilton City Medical Clinic	231 Main Street PO Box 855	Hamilton City, CA 95951	(530) 826-3694	Year round
Lindhurst Family Health Center/Dental Clinic	4941 Olivehurst Avenue	Olivehurst, CA 95961	(530) 743-4611	Year round
Orland Family Health Center/Dental Clinic	1211 Cortina Drive	Orland, CA 95963	(530) 865-5544	Year round
Oroville Family Dentistry	Suite D 479 Oro Dam Boulevard	Oroville, CA 95965	(530) 533-6484	Year round
Oroville Family Health Center	1453 Downer Street	Oroville, CA 95965	(530) 534-7500	Year round
Mobile Medical/Dental Services Clinic	334 Samuel Drive	Yuba City, CA 95991	(530) 218-8763	Year round
Richland Family Health Center	334 Samuel Drive	Yuba City, CA 95991	(530) 674-9200	Year round
Del Norte Family Health Center	935A Market Street	Yuba City, CA 95991	(530) 673-9420	Year round

Wisconsin

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
La Clínica de los Campesinos, Inc.	400 South Towline Road PO Box 1440	Wautoma, WI 54982-1440	(920) 787-5514	Admin/Clinic	Dental Care Services, Enabling Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care	CHC, MHC

Florida

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Community Health Centers, Inc	218 South Lake Avenue PO Box 1249	Apopka, FL 32704	(407) 889-8427	Admin Only	Dental Care Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Apopka Children's Health Center	618 Forest Avenue	Apopka, FL 32703	(407) 886-6201	Year round
Apopka Family Health Center	225 East Seventh Street	Apopka, FL 32703	(407) 886-6201	Year round
South Lake Family Health Center	1296 West Broad Street PO Box 126	Groveland, FL 34736	(352) 429-4104	Year round
Leesburg Community Health Center	225 North First Street	Leesburg, FL 34748	(352) 360-0490	Year round
Eatonville Family Health Center	Suites D (Medical) & E (Dental) PO Box 1249	Orlando, FL 32810	(407) 645-3898	Year round
Pinehills Family Health Center	Suite A 3933 Country Club Drive	Orlando, FL 32808	(407) 836-8400	Year round
Winter Garden Family/Children's Health Center	110 South Woodland Street	Winter Garden, FL 34787	(407) 656-2445	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Central Florida Health Care, Inc	950 CR 17-A, West	Avon Park, FL 33825	(863) 452-3000	Admin/Clinic	Dental Care Services, Enabling Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Central Florida Health Care - Dundee	916 SR 542	Dundee, FL 33838	(863) 439-4665	Year round
Central Florida Health Care - Frostproof	109 West Wall Street	Frostproof, FL 33843	(863) 635-4891	Year round
Central Florida Health Care - Wauchula	204 East Palmetto St.	Wauchula, FL 33873	(863) 773-2111	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Palm Beach County Public Health Department	38754 State Road 80	Belle Glade, FL 33430	(561) 996-1600	Admin/Clinic	Dental Care Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care	CHC, MHC

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Health Resource Alliance of Pasco, Inc	37946 Church Avenue PO Box 2305	Dade City, FL 33526-2305	(352) 518-2000	Admin/Clinic	Dental Care Services, Enabling Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, MHC

Clinics

Dade City Family Health and Dental Center	37944 Church Avenue PO Box 2305	Dade City, FL 33525	(352) 518-2006	Year round
Summit Health Preferred Care for Women	10605 US Highway 301 PO Box 2305	Dade City, FL 33525	(352) 567-2606	Year round
San Antonio Boys Village	11609 Boys Village Drive PO Box 2305	San Antonio, FL 33576-0505	(352) 518-2000	Part time
Zephyrhills Children's Health Center	37918 Medical Arts Court PO Box 2305	Zephyrhills, FL 33541	(813) 780-4280	Year round
Zephyrhills Family Health Center	37922 Medical Arts Court PO Box 2305	Zephyrhills, FL 33541	(813) 780-4280	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Fellsmere Community Health Coalition, Inc	12196 County Road 512	Fellsmere, FL 32948	(561) 571-8828	Admin/Clinic	Dental Care Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	CHC, MHC

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Family Health Centers of Southwest Florida, Inc	Suite 211 1620 Medical Lane	Fort Myers, FL 33902	(941) 278-3600	Admin Only	Dental Care Services, Enabling Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	CHC, ISDI, MHC

Clinics

Bonita Springs Center	Suite 17	Bonita Springs, FL 34134	(941) 992-3760	Year round
Cape Coral/Pine Island Medical Office	305 Southwest Second Terrace 1620 Medical Lane	Cape Coral, FL 33991	(941) 573-0023	Year round
Broadway Family Dental	3600-A Broadway 1620 Medical Lane	Fort Myers, FL 33901	(941) 278-3600	Year round
Downtown Fort Myers Center	2232 Grand Avenue	Fort Myers, FL 33901	(941) 332-0417	Year round
East Fort Myers Center	4040 Palm Beach Boulevard	Fort Myers, FL 33916	(941) 693-7400	Year round
Paul Laurence Dunbar Medical Office	3511 Dr Martin Luther King Jr. Boulevard	Fort Myers, FL 33916	(941) 479-5026	Year round
South Fort Myers Medical Office	Suite Six	Fort Myers, FL 33908	(941) 437-0008	Year round
LaBelle Center	730 East Cowboy Way	LaBelle, FL 33935	(863) 675-2334	Year round
Lehigh Acres Medical Office	391 Lee Boulevard	Lehigh Acres, FL 33936	(941) 368-3665	Year round
North Fort Myers Medical Office	88-1 Pine Island Road	North Fort Myers, FL 33903	(941) 997-7537	Year round
Charlotte Medical Office	4120 Tamiami Trail, Unit E 1620 Medical Lane	Port Charlotte, FL 33952	(941) 278-3600	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Collier Health Services, Inc	1454 Madison Avenue PO Box 873	Immokalee, FL 34143	(941) 658-3000	Admin/Clinic	Dental Care Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, ISDI, MHC

Clinics

Immokalee Family Care Center	1502 Lake Trafford Road PO Box 873	Immokalee, FL 34143	(941) 657-6363	Year round
Immokalee Walk-In Project	1441 Heritage Boulevard PO Box 873	Immokalee, FL 34143	(941) 658-3173	Year round
Golden Gate Pediatrics	5034 Coronado Parkway	Naples, FL 34116	(941) 455-5105	Year round
Central Naples Pediatrics	3425 Tenth Street, North	Naples, FL 34103	(941) 262-3669	Year round
East Naples Medical Center	5432 Rattlesnake Hammock Road	Naples, FL 34113	(941) 775-2220	Year round
Marco Island Pediatrics	40 Heathwood Drive	Naples, FL 34143	(941) 394-0693	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Community Health of South Dade, Inc	10300 Southwest 216th Street	Miami, FL 33190	(305) 252-4853	Admin/Clinic	Dental Care Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Everglades Health Center	19300 Southwest 376th Street	Florida City, FL 33034	(305) 246-4607	Year round
Homestead Senior High School	2351 Southeast 12th Avenue	Homestead, FL 33035	(305) 242-2244	Year round
Martin Luther King, Jr. Clinica Campesina	810 West Mowry Street	Homestead, FL 33030	(305) 248-4334	Year round
South Dade Health Center	13600 Southwest 312th Street	Homestead, FL 33030	(305) 242-6069	Year round
Mays Middle School	11700 Southwest 216th Street	Miami, FL 33170	(305) 233-4522	Year round
COPE (Continuing Opportunity for Purposeful Education) South	10225 Southwest 147th Terrace	Miami, FL 33176	(305) 233-1044	Year round
Naranja Health Center	13805 Southwest 264th Street	Naranja, FL 33030	(305) 258-6813	Year round
West Perrine Health Center	9970 Southwest 178th Street	Perrine, FL 33157	(305) 234-7676	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Rural Health Care, Inc	1302 River Street PO Drawer 817	Palatka, FL 32178	(386) 328-0108	Admin/Clinic	Dental Care Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Crescent City Family Medical Center	306 Union Avenue PO Box 146	Crescent City, FL 32112-0146	(386) 698-1232	Year round
Hawthorne Family Medical Center	22018 Southwest 71st Avenue	Hawthorne, FL 32640	(352) 481-2700	Year round
Interlachen Family Medical Center	1213 Highway 20 West PO Box 190	Interlachen, FL 32148	(386) 684-4914	Year round
Keystone Heights Family Medical Center	100 Commercial Drive PO Box 2110	Keystone Heights, FL 32656	(352) 473-6595	Year round
Family Dental Center	2503 President Street	Palatka, FL 32177	(386) 328-7638	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Manatee County Rural Health Services, Inc	12214 US Highway 301 North PO Box 499	Parrish, FL 34219	(941) 776-1232	Admin/Clinic	Dental Care Services, Obstetrical and Gynecological Care, Primary Medical Care	CHC, MHC

Clinics

Arcadia Family Health Care Center	Units 4 & 5 PO Box 499	Arcadia, FL 34266	(864) 494-1181	Year round
East Manatee Health and Wellness Center	1312 Manatee Avenue, East PO Box 499	Bradenton, FL 34208-1358	(941) 747-1220	Year round
AIDS Council of Manatee	Suite 2 PO Box 499	Bradenton, FL 34208	(941) 744-9204	Year round
Lawton Chiles Children and Family Health Care Center	1515 26th Avenue, East PO Box 499	Bradenton, FL 34208	(941) 747-2955	Year round
Michael Bach Treatment Center	Suite 1 PO Box 499	Bradenton, FL 34208	(941) 708-9303	Year round
Southeast Family Health Care Center	919 53rd Avenue, East PO Box 499	Bradenton, FL 34203	(941) 755-9100	Year round
Young Children and Family Connection	Suite 3 PO Box 499	Bradenton, FL 34208	(941) 708-9303	Year round
Myakka City Family Medical Center	37220 Glenwood Avenue PO Box 499	Myakka City, FL 34251	(941) 322-8856	Year round
North Manatee Health Center	5600 Bayshore Road PO Box 499	Palmetto, FL 34221	(941) 722-7396	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Suncoast Community Health Centers, Inc	2814 14th Avenue, Southeast PO Box 1347	Ruskin, FL 33570	(813) 349-7800	Admin/Clinic	Dental Care Services, Enabling Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Primary Medical Care, Specialty Medical Care	CHC, MHC

Clinics

Dover Health Center	14618 State Road 574 PO Box 40	Dover, FL 33527	(813) 349-7700	Year round
Plant City Family Care	508 North Maryland Avenue PO Box 2096	Plant City, FL 33566	(813) 349-7600	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Florida Community Health Centers, Inc	4450 South Tiffany Drive	West Palm Beach, FL 33407-3241	(561) 844-9443	Admin Only	Dental Care Services, Enabling Services, Primary Medical Care	CHC, MHC

Clinics

Florida Community Health Center - Clewiston	315 South, W C Owen Avenue	Clewiston, FL 33440-3637	(941) 983-7813	Year round
Florida Community Health Center - Fort Pierce	1505 Delaware Avenue	Fort Pierce, FL 34950-3195	(561) 461-1402	Year round
Florida Community Health Center - Indiantown	15858 Southwest Warfield Boulevard PO Box 457	Indiantown, FL 34956-0457	(561) 597-3596	Year round
Florida Community Health Center - Lakeshore Medical - Adults	308 Northwest 5th Avenue	Okeechobee, FL 34972-2596	(863) 763-7481	Year round
Florida Community Health Center - Lakeshore Pediatrics and Dental	1100 North Parrott Avenue	Okeechobee, FL 34972-2596	(863) 763-1951	Year round

New York

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Hudson River HealthCare, Inc	1037 Main Street	Peekskill, NY 10566	(914) 734-8800	Admin/Clinic	Dental Care Services, Enabling Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Primary Medical Care, Specialty Medical Care	CHC, HCH, MHC, PH

Clinics

Dutchess Medical Practice at Amenia	Route 3430	Amenia, NY 12501	(845) 373-9006	Year round
Beacon Community Health Center	249 Main Street	Beacon, NY 12508	(914) 831-0400	Year round
Dutchess Medical Practice at Dover Plains	3174 Route 220	Dover Plains, NY 12522	(914) 734-8747	Year round
Alamo Migrant Health Center	Pulaski Highway RR2, Box 194B	Goshen, NY 10924	(914) 651-2298	Year round
Ulster Migrant Health Center	One Paradise Lane	New Paltz, NY 12561	(914) 255-1760	Year round
Dutchess Medical Practice at Pine Plains	11 Pitch Drive	Pine Plains, NY 12567	(914) 734-8747	Year round
Poughkeepsie Community Health Center	29 North Hamilton Street	Poughkeepsie, NY 12601	(914) 454-8204	Year round
Wallkill Valley Health Center	75 Orange Avenue PO Box 706	Walden, NY 12586	(914) 778-2700	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Oak Orchard Community Health Center	300 West Avenue	Brockport, NY 14420-1118	(716) 637-5319	Admin/Clinic	Dental Care Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care	CHC, MHC

Clinics

Oak Orchard Community Health Center	301 West Avenue	Albion, NY 14411	(716) 589-5613	Year round

Main Site	Address	City, State, Zip	Phone	Notes	Service Types	BPHC Supported Programs
Rushville Health Center	Two Rubin Drive	Rushville, NY 14544	(716) 554-6617	Admin/Clinic	Dental Care Services, Enabling Services, Mental Health/Substance Abuse Services, Obstetrical and Gynecological Care, Other Professional Services, Primary Medical Care, Specialty Medical Care	MHC

Clinics

Finger Lakes Dental Clinic	6710 Middle Road	Sodus, NY 14551	(315) 483-1200	Year round
Finger Lakes Migrant Health Care	6600 Middleroad, Suite 1600	Sodus, NY 14551	(315) 483-1199	Year round

Data taken from the Bureau of Primary Health Care Service Delivery Sites (http://www.circlesolutions.com/pc/)

Appendix II: Federal Provisions Affecting Migrant Workers

List of federal provisions that affect migrant farmworkers:

1. Migrant Health Act of 1962
2. Section 514 loan and Section 516 grant program managed by the United States Department of Agriculture's Rural Housing Service
3. President's Initiative to Expand Health Centers
4. Fair Labor Standards Act
5. National Labor Relations Act
6. Occupational Safety and Health Act of 1970
7. Migrant Education Act
8. Migrant and Seasonal Agricultural Worker Protection Act