

**Community Analysis: Tuberculosis in  
Migrant and Seasonal Farmworkers  
in Nelson County, Virginia**

**Teri J. Woodard**

**University of Virginia**

**School of Nursing**

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## Introduction

Migrant and seasonal farmworkers are a hidden population of the working poor in the United States. *Migrant agricultural worker* refers to individuals who travel from home-base areas along the migrant streams to harvest crops at different times of the year (Martin, Gordon, & Kupersmidt, 1995). *Seasonal agricultural worker* refers to individuals whose principal employment is in agriculture on a seasonal basis and remains in one local area (Martin, Gordon, & Kupersmidt, 1995). Tuberculosis (TB) has been identified as a health problem in both migrant and seasonal farmworkers. The following paper is an analysis of TB in migrant and seasonal farmworkers in Nelson County, Virginia. The paper reviews the history of TB in the United States, highlighting the incidence of TB among seasonal and migrant farmworkers. The paper will proceed to discuss the magnitude of the problem, demographics, resources and gaps in service, and recommendations from a national, state, and local perspective. A large portion of the farmworkers in Nelson county are of Hispanic origin and, therefore, the analysis is focused on the Hispanic migrant and seasonal farmworker.

## History of Tuberculosis

Tuberculosis (TB) is responsible for the greatest number of adult deaths from an infectious agent world wide (Stanhope & Lancaster, 1996). Between 1950 and 1980, TB infection rates steadily declined (Davey & McCance, 1996). The decline is attributed to improvements in previously over-crowded living conditions, improved sanitation, and the initiation of anti-tuberculosis drugs (National Center for Farmworker Health, 1997). The resurgence is primarily attributed to increasing rates of acquired immunodeficiency syndrome (AIDS) and increasing rates of drug resistant strains of TB (Davey & McCance, 1996). The increased prevalence is also attributed to emigration of infected people from countries with high rates of TB, transmission in crowded living situations (i.e. correctional facilities), homelessness, substance abuse, and lack of access to health care (Davey & McCance, 1996). From 1989 to 1990 the rate of TB cases in the United States had increased 9.4 %, primarily among the foreign born and among people of

Hispanic, African and Black American, and Asian descent (National Center for Farmworker Health, 1997).

### **Characteristics of Tuberculosis**

TB is highly contagious and the recognition of signs and symptoms is crucial for prevention. *Mycobacterium tuberculosis*, the infectious agent, is airborne in droplets and therefore transmitted when a person with pulmonary TB talks, coughs, or sneezes and a person inhales the organism. Only 5% of people develop the disease immediately after exposure. The other 95% of exposed persons remain "infected" and have "inactive" TB. A person will remain infected and be free of signs and symptoms of disease as long as the immune system is able to keep the infectious agent in a latent state. Reactivation of the bacterium may occur at a later point in a person's life. Elderly, immunocompromised, underweight, or undernourished persons, along with substance abusers, are at risk for developing active TB (Davey & McCance, 1996). Approximately 85% of those for whom reactivation occurs will have pulmonary TB and may exhibit one or more of the following symptoms: chest pain, hemoptysis, productive cough and/or prolonged cough. Symptoms for extrapulmonary TB depend on the site of infection. Systemic symptoms of fever, chills, night sweats, easy fatigability, loss of appetite and weight loss are attributed to all types of TB (Centers for Disease Control and Prevention [CDC], 1994).

Identification of TB starts with the Mantoux tuberculin skin test (PPD) which must be read by a health care professional 48-72 hours after administration. A reactive (positive) skin test is followed by a chest radiograph and possibly a sputum sample. The process may be initiated, but follow up is missed due to relocation (CDC, 1992). In the process of identification it is essential to take a full history including contact exposure to TB, past positive PPD, past treatment for TB, and conditions that could lead to false negative PPD such as immunosuppressive conditions (CDC, 1994).

TB is curable, however, regimen adherence to the course of medications is essential for both cure and prevention of multidrug resistant strains. If TB infection, but not disease, is found, treatment is considered "prophylactic" and usually requires biweekly doses for a duration of 4-6

months. Treatment of the actual disease requires multi-drug therapy, monthly sputum testing to determine sputum seroconversion to negative (indicating effectiveness of treatment), and liver function tests to assess for adverse drug effects. Treatment includes directly observed therapy (DOT) if the individual has a low motivation or inability to take the medications as directed. DOT is a system where an outreach worker must be present to observe the person swallow their medication (CDC, 1994). Regimen adherence and completion of the full course of drug therapy is so important to prevent the development of drug resistant strains. In all cases of TB, the individual should be followed by a nurse or outreach worker every month to count the pill supply, assess for side effects, take labs, and if pulmonary TB take a sputum sample.

### **Tuberculosis in Migrant and Seasonal Farmworkers**

TB is frequently identified as a significant health problem among the migrant and seasonal farmworker population. Migrant and seasonal farmworkers fall into two categories for increased risk for TB. One is because a majority immigrated from Mexico where there is a high prevalence of TB. The other is because they are a medically underserved and low income group of people. The factors attributed to the decline of TB that began in the 1950's, (improved living conditions & drug therapy) do not apply for many migrant and seasonal farmworkers (Ciesielski, Seed, Esposito, & Hunter, 1991). Migrant and seasonal farmworkers experience overcrowded traveling and living conditions (Poss, 1997).

The mobile lifestyle leads to premature discontinuation of drug therapy which in turn increases the chances for drug resistant strains. The migrants may discontinue the treatment because only one month of medications are provided at a time. Access to a new supply in a different state may be difficult due to lack of resources or lack of records with prescription information.

The language barrier and limitations in knowledge about TB may contribute to misunderstandings about the importance of completing the regimen despite feeling better. Furthermore, farmworkers are isolated from health care settings, and if they do receive care, cultural and language barriers may limit the farmworkers' understanding and the health care

workers' sensitivity to the lifestyle. For example, respiratory isolation may be unrealistic when an individual lives on a camp in crowded living conditions. The health care worker would need to recognize that alternative arrangements would need to be made.

### **Magnitude of Problem**

#### **National**

The rate of TB in this decade has been 40% higher than previous trends would have predicted. The rate of TB in 1996 for the United States was 21,337 cases, or 8 cases per 100,000 people (L.Gibson, personal communication, November 11, 1997). The number of cases of TB of foreign-born persons increased 61% from 1986-1995 in the United States (CDC, 1996). The foreign-born comprise 36% of reported TB cases in the United States, and of this population, 23% originate from Mexico (CDC, 1996). TB rates have been estimated to be 6 times greater in the migrant and seasonal farmworker population compared to the total population in the United States (CDC, 1992).

There are an estimated 2.7-4 million migrant and seasonal farmworkers in the United States (CDC, 1992). The actual incidence of TB infection and disease among migrant and seasonal farmworkers on the national level is unknown. A picture is put together through studies conducted at the state level. The migrants' mobility between states allows some generalization of the findings to the migrant and seasonal farmworker population in the whole nation. Several state level studies have demonstrated PPD skin test reactivity among Hispanic migrant farmworkers: 44% in Florida, 41% in Virginia, 41% in North Carolina, 37% in the Delmarva Peninsula, and 23% in New York (CDC, 1992; CDC, 1986; Ciesielski, Seed, Esposito, & Hunter, 1991; Jacobson, Mercer, & Miller, 1987; Poss, 1997).

One study found high rates of drug resistance among Hispanic people with TB. It demonstrated that single drug resistant TB rates are 1.7-5.0 times higher among foreign-born Hispanic patients compared to US-born non-Hispanic patients (CDC, 1996). Prevalence of multidrug resistant strains of tuberculosis was 6.8 times higher among foreign born Hispanic patients compared to US born non-Hispanic patients (CDC, 1996). The resistance was correlated

with people who reported interruption of treatment with inconsistent sources for medication, self-medication in Mexico where no prescription is necessary, and travel to Mexico to visit friends and family members (CDC, 1996).

### **State**

Infection rates (indicated by PPD skin test reactivity) are not reportable, and therefore the incidence of disease is the only solid evidence of the spread of TB. The incidence of TB cases in Virginia in 1996 was 349, a rate of 5.3 cases out of 100,000 people (L.Gibson, personal communication, November 11, 1997). There was no information about the number of migrant or seasonal workers diagnosed with TB, however 43 of the 349 cases were of people with white/Hispanic background.

The total migrant and seasonal population in Virginia was estimated in 1987 at 15,079 (U. S. Department of Health and Human Services [DHHS], 1990). A 1993 estimate was 39,779 migrants and dependents in field agriculture (DHHS, 1993). The rates of PPD reactivity may be high among this group considering the rates in previous studies between 24% to 48% (CDC, 1992; CDC, 1986; Ciesielski, Seed, Esposito, & Hunter, 1991; Jacobson, Mercer, & Miller, 1987; Poss, 1997).

### **Local**

In 1996 there was one case of TB reported in Nelson county, a rate of 7.7 per 100,000 (L.Gibson, personal communication, November 11, 1997). The rate is close to the national rate; however, it could be considered random chance with such a small population. Regardless of only one case, there are an estimated 258 migrant and seasonal farmworkers who are in a high risk group for PPD skin test reactivity (DHHS, 1990). Many are of Hispanic, specifically Mexican, origin (P.Longo, personal communication, November 7, 1997). They are isolated from health care resources, and knowledge about TB may be limited thus increasing the risk of undetected TB and subsequent infection of other people at the migrant farmworker camps.

## Demographics

### Migrant and Seasonal Farmworkers

There are an estimated 4.2 million migrant and seasonal farmworkers in the United States (CDC, 1992). Eighty-five percent of farmworkers are minorities and the majority are Hispanic (National Center for Farmworker Health, 1997). The average per capita income for homebase migrant areas is one-half that of most non-homebase areas and of the U.S. (Dever, 1991). There is a high percentage of households earning less than \$7,500 (Dever, 1991). Another estimation of annual income for a family of five is \$5,500 (Martin, Gordon & Kupersmidt, 1995). The migrant farmworkers travel from homebase areas to work along one of three primary migrant streams in the United States: east coast, midwest, and west coast. Men between the ages of 20 and 44 make up the majority of the population although, there are families including women and children who also migrate. Access to health care is greatly limited for this population with 73% living in poverty and 25% lacking legal documents (CDC, 1992).

### State and Local

Considering the demographics of people who have TB in Virginia, the migrant and seasonal farmworkers are a vulnerable group. There is a disproportionate rate of TB among the Hispanic population in Virginia compared to the number of Hispanic people in the state. The 1990 census data shows that 2.5 % of Virginia's population is Hispanic yet 12.3% of people with TB in Virginia are Hispanic. There were more males with TB compared to females, at 64.8%. The greatest number of cases were among the 65 and older age group however, the 25 to 44 age group had the second highest number of cases (United States Census, 1990). The statistics demonstrate a match between the ethnicity, gender, and age of the migrant farmworker population and the population with TB.

Nelson county is a poor county although there may be a higher income status compared to the homebase counties of migrant farmworkers. According to 1990 census data, Nelson County is 100% rural whereas Virginia is 30% rural. In Nelson, 15 % are below the poverty level and in the state 9% are below. The median household income for Nelson county is \$23,705 compared to that

of Virginia which is \$33,323. According to the 1990 US census, there are 101 persons of Hispanic origin (84 Mexican, 17 Puerto Rican) in Nelson County. The numbers represent the stable population and could reflect part of the seasonal population. Considering these numbers (compare to total VA population) in conjunction with the TB infection and disease rates among samples of migrant and seasonal farmworkers TB is a concern in VA.

### **Resources**

#### **National**

National and binational (with Mexico) efforts are essential for TB prevention and control because of the migration across states and across the United States and Mexico border that is common among the migrant farmworker population (CDC, 1992). To address the health concerns (including the high rates of TB) of this mobile population, several national organizations have developed. These organizations address TB through providing literature about TB, operating information telephone lines, supporting health centers throughout the country, developing TB tracking systems, requiring bicultural and bilingual staff, and teaching culturally congruent care.

The CDC presents standardized guidelines to clinicians for TB prevention, identification, and treatment. In addition, the CDC sponsors five binational projects of the border cities in the United States and Mexico focusing on TB prevention and control measures (CDC, 1996). Programs such as DOT in Mexico and in bordering states such as Texas can have implications for TB prevention and control across the whole nation, since migrant farm workers often migrate north into the midwest or east coast from these areas (CDC, 1992). The CDC has a proposed plan to extend the TB prevention and control efforts in Mexico to non-border cities. Studies show that 40% of foreign-born Hispanics immigrate from non-bordering communities so the plan is an effective step to decrease TB rates (CDC, 1996).

The National Advisory Council on Migrant Health serves as a knowledge base for the Secretary of Health and Human Services and the Administrator of the Health Resources and Services Administration. The Council assists in decision making about the structural organization and allocation of funds to migrant health centers (Migrant Health Program, 1997).



The Migrant Health Program, a branch of the U.S. DHHS, provides grants to over 120 migrant health centers which operate in 390 sites in 30 states and Puerto Rico (1997). The migrant health centers serve about 550,000 farmworkers per year. However, this accounts for only 14% of the migrant population (Davidson & Tobler, 1996). The clinics are health resources for migrant and seasonal farmworkers and include TB management along with many other health services. The centers are staffed with bilingual and bicultural staff who can provide care that is congruent with the person's culture and with the transient migrant lifestyle.

The Migrant Clinicians Network (MCN), has a broad scope of activities ranging from research to teaching culturally appropriate care to nurses (T. Harlow, personal communication, November 11, 1997). The MCN coordinates a system for tracking farmworkers with TB. The El Paso Health Department and the Pan American Health Organization support MCN to operate the "binational migrant TB referral and tracking network project" (TB-net). It allows for continuum of care throughout the United States through a central registry that clinicians from around the country can access with a toll free call. The patient presents the "Portable Patient TB Record", a wallet size card with necessary treatment and laboratory information, to a health care provider and the provider can access and report significant patient information (Dougherty, 1996). Before a patient leaves an area, a health care provider can contact a clinic in the new area to assure follow up with treatment.

The TB-net system attempts to assure continuation of treatment which is vital to prevent development of drug resistant strains. Currently, 56 clinics are enrolled in the program, 15 different states endorse its use, and 350 patients in Mexico and the United States are being tracked (J. Villarreal, personal communication, November 21, 1997). TB-net is not well known in Virginia and some health care workers are resistant to enroll. One health care worker in Virginia speculated that the program would not work because of the perception that past tracking programs have been ineffective (B. Willett, personal communication, November 21, 1997).

The National Center for Farmworker Health handles a variety of health concerns for migrant and seasonal farmworkers. The organization provides support to migrant health centers, develops bilingual health literature, provides health prevention information, trains lay health

advisors (consejeras), develops media information, and sponsors a toll free phone line called "Call for Health". The "Call for Health" is most often utilized by migrant farmworkers to receive referrals to health centers in their geographic region. Other calls are regarding health information and locating sources of financial assistance to pay health care bills (J.Villarreal, personal communication, November 11, 1997). Regarding TB, migrant farmworkers, as well as school nurses working with migrant farmworkers' children call in to inquire about screening results and exposure history (I. Soto, personal communication, November 11, 1997). The bilingual staff will contact migrant health centers or other health facilities where the person was previously located to access records on TB status. The National Center for Farmworker Health publicizes the "Call for Health" service through bilingual business cards and posters. The information is made available through migrant health centers and other clinics, radio and television, and conferences throughout the year (I.Soto, personal communication, November 11, 1997).

The challenge at the national level is to increase state participation in programs like TB-net and establish guidelines that are congruent with migrant lifestyle, migrant streams, and the resources available. The CDC recommends that PPD skin testing only be done when full follow up can be completed. As a result many individuals in the high risk group may not be screened regularly. The health centers in home-base areas, where many migrants stay for longer periods of time and where full follow up is more feasible, are in greater demand and thus less available to provide services compared to non-home based centers (CDC, 1992).

### **State**

The Virginia State Department of Health sponsors the Virginia TB Program. The program ranges in its scope of services from diagnostic to psychosocial support for individuals with TB. It provides radiograph x-ray equipment to local health departments and rural health clinics. The PPD results, sputum sample results, chest radiograph films, and other health records are sent to the state health department and reviewed by a physician who is a TB consultant. Recommendations for medical treatment are made accordingly (A. Cofer, personal communication, November 5, 1997).

The Virginia TB program becomes involved with individuals when a public health nurse on the county level identifies a client at high risk for noncompliance who needs more support than DOT, has socioeconomic problems, or has psychosocial problems. If a client is at financial risk and in danger of losing their home, the program helps to pay the rent or mortgage as long as the person agrees to DOT. If a client is homeless, the program provides a room at a roadside motel with good ventilation for the duration of their DOT (T. Privett, personal communication, November 18, 1997).

The program utilizes creative methods to promote completion of drug therapy for individuals at risk for not adhering to the regimen. The program has a case manager to coordinate social service needs and psychosocial needs. For one client, who is isolated by the TB, regimen adherence is promoted through a weekly outing to places with lots of air exchange. The program provides another client, whose husband is abusive on the weekends, with a hotel room on the weekends (T. Privett, personal communication, November 18, 1997).

Sometimes health departments in other states have contacted the program regarding farmworkers with TB who are migrating to Virginia. The program has had difficulties locating the individuals. The Virginia Employment Commission has the locality of all the workers; however, the commission requires the name and social security number along with the name and social security number of the crew leader to locate an individual (A. Cofer, personal communication, November 5, 1997). The necessary information is often not provided.

There are no official migrant health centers in Virginia; however, there are two satellite clinics. These clinics are supported by the migrant health program and are designed to meet the farmworkers' specific needs. The payment for care is determined on a sliding scale fee and is free in some cases (J. Villarreal, personal communication, November 22, 1997). The staff is bilingual and bicultural, according to the description provided by the migrant health program (1997). The Delmarva Rural Ministries in Dover, Delaware has a satellite clinic in Nassawadox, Virginia, and the Shenandoah Community Health Center in West Virginia has a satellite clinic in Winchester, Virginia.

There are four other centers in the state designated as specifically serving migrant farmworkers in Virginia (U.S. DHHS, 1990). They are: Lunenburg County Community Health Center, Victoria; Boydton Community Health Facility, Inc., Boydton; Central Virginia Community Health Center, Inc., New Canton; and Ivor Medical Center, Ivor.

The major gap at the state level is the lack of complete communication between states so that locality of TB active or inactive individuals is efficient. There is no organized system for tracking.

### **Local**

Nelson County has two main health resources for migrant and seasonal farmworkers in relation to TB prevention and treatment. The Nelson County Health Department is open five days a week during the daytime and is located in Lovingston. It is within about thirty miles of the migrant camps in Nelson County. There are no Spanish speaking staff members; although, there is a bilingual community member who is sometimes available to translate. Since TB is a communicable disease, migrant and seasonal farmworkers can receive related services free of charge. The Nelson County Health Department follows the CDC recommendation and only screens farmworkers who are symptomatic or who are seasonal and will be in the county for the full course of follow up treatment (B. Willett, personal communication, October 30, 1997).

The Nelson County Health Department has the capability to do PPD skin testing and collect sputum samples. They use the Blue Ridge Medical Center's radiograph machine in the case of a positive PPD skin test for a chest radiograph. The radiograph and sputum samples are sent to the Virginia Department of Health for analysis. The individual's chest radiograph, records, and reports of sputum results are then sent to a TB specialist in Orange, Virginia. There is currently no program of screening for the seasonal farmworkers, although they meet two criteria that indicate testing. Seasonal farmworkers are a high risk group and they will remain in the area for follow up. The staff does not have a designated staff member for DOT however, reports that plans for regular screening and DOT are in process (B. Willett, personal communication, October 30, 1997).

The Blue Ridge Medical Center (BRMC) is a community health center which is about three miles from the Nelson County Health Department and is able to provide TB services to migrant and seasonal farmworkers on a sliding scale fee. The clinic is open during the daytime six days a week including Saturday. There is one staff member fluent in Spanish, however, he is unavailable on Wednesdays and Saturdays. PPD results are read at the clinic, sputum samples are sent to a local lab, and chest radiographs are taken at the clinic and evaluated at the University of Virginia Health Sciences Center. The records are sent to a TB specialist (L. Aldefer, personal communication, November 12, 1997).

The main gaps in service are the lack of bicultural or bilingual (in Spanish) staff and hours of operation that are incongruent with farmworkers' work schedule. These are partially addressed with the Rural Health Outreach Program (RHOP), a community outreach branch of the BRMC which brings health care out into the community.

The visits, called "Health Depots", take place on six migrant and seasonal farmworker camps in the evening during the peak apple harvest. An anthropologist, Nurse Practitioner and nursing student, all fluent in Spanish, visit a different camp every week. The team performs general health screenings, including PPD skin tests, shares health education and health promotion information, and introduces English words necessary in a health care setting. The migrant services branch of RHOP is flexible and has the potential to be an important resource in TB control. The screenings provided this year were not official because the skin test results were not verified by a health care professional within 48-72 hours after the test administration (P.Longo., personal communication, November 7, 1997).

### **Recommendations**

#### **National**

Addressing the health care needs of migrant farmworkers requires continued national and binational (with Mexico) efforts. The national resources have a plentitude of services that could benefit state and local organizations that serve migrant and seasonal farmworkers. Reaching out to areas where there are no migrant health centers and giving guidance to health care professionals

who might come in contact with migrant farmworkers could increase awareness of the TB amongst farmworkers.

Re-evaluation of one of the CDC guidelines is needed. The Core Curriculum on Tuberculosis recommends that screening only be done when full follow up can be provided to the migrant or seasonal farmworkers (CDC, 1992). As mentioned before, the clinics in home-base areas, where the farmworkers stay the longest, are in greater demand (CDC, 1992). The PPD skin testing may only be done on a small percentage of the population. The non-home base areas could be screening sites if a system like TB-net were used to assure follow through with the drug therapy. When individuals with TB infection or disease return to the home-base, their care can be considered a priority at the high demand clinics.

Technological advancements in drug delivery systems could decrease or eliminate the risks of MDR strains associated with noncompliance. Supporting research for daily drug doses instead of the commonly prescribed biweekly prophylactic treatment might improve adherence. Alternatively, a pack similar to birth control pills could be designed where the person takes a pill daily. On the days of the week that no drug is prescribed the pills are sugar. Biotechnology companies are developing long term drug therapy implants such as the pump or extended release technologies like depo vera and norplant which may be appropriate for TB drug therapy in the future (J.Manzano, personal communication, November 3, 1997).

### State

The Virginia Department of Health's TB Control Program is an important resource although it faces difficulties with tracking individuals who need DOT and other follow up care necessary for TB treatment. A system of tracking that is standardized statewide and nationwide, like TB-net, could increase chances of completion of drug therapy for migrant farmworkers with TB. Promoting TB-net at the state level, could increase interest at the local level and improve adherence to standard follow up measures recommended by the CDC. Development of directories of both migrant farmworker camps and health resources accesible to migrant farmworkers in Virginia would facilitate tracking efforts.

Health centers that are not specifically designed for migrant farmworkers could use some guidance from the state level to assure proper TB prevention measures are enacted. The Core Curriculum on Tuberculosis is a manual that outlines the CDC guidelines for TB prevention and should be distributed to health care clinics (CDC, 1992). Evaluations of local clinics should be conducted to assure guidelines for follow up to TB detection and treatment are being followed.

### **Local**

The lack of bilingual and bicultural staff could be addressed through collaboration with the neighboring Thomas Jefferson Health Department in Charlottesville. Recruitment of Hispanic or at least Spanish speaking staff should be encouraged when new positions are available. However with funding cut backs, new positions are unlikely to be available. Development of a translation bank should be initiated. Networking through student organizations and professors who teach advanced Spanish classes may access Spanish speaking students who may be able to fit in volunteer time.

The RHOP's "health depot" is a major strength that decreases the migrant and seasonal farmworkers isolation from health care. The evening visits are an ideal time for education about TB using popular education techniques such as: audience participation, short skits, and demonstrations. The TB education could be combined with the health care vocabulary focus that the team leader initiated this past fall. The Health Department has literature in Spanish about TB, but greater efforts could be taken to distribute the literature and increase the farmworker knowledge of TB.

Located within a medically underserved population (P. Longo, personal communication, November 7, 1997) the BRMC and the Nelson County Health Department are heavily utilized by the whole community. In order to meet the needs of the farmworkers in a community with limited resources TB screening of the seasonal farmworker population can be shared by the two facilities.

A thorough understanding of national guidelines and programs benefits local and national TB control efforts. All health care professionals who see patients with TB should be familiar with guidelines from the Core Curriculum on TB (CDC, 1994). These guidelines include: history

taking to determine risk for false negative tests, evaluation of PPD skin test reactivity by a health care professional 48-72 hours after administration, and methods of monitoring: adherence to drug therapy, efficacy of treatment, and adverse side effects. A person who can administer DOT should be designated in case the need arises. In addition, individuals need to be told the consequences of reactivation of TB and the possibility of developing multidrug resistant TB if the drug therapy regimen is not followed as prescribed.

Efforts to improve continuity of care is a major area that can be initiated at the local level. Participation in national programs such as TB-net would increase effectiveness of local efforts and have an impact on the national level. Staff members from the Migrant Clinicians network are available to train staff of health centers that serve migrant farmworkers in how to use the system. Enrollment would allow the clinic to administer the portable records and benefit the individual and the general TB control effort (T.Harlow, personal communication, November 11, 1997).

There are many well developed organizations that provide health services to migrant and seasonal farmworkers. It is fortunate that in Nelson County where the number of farmworkers is not large enough to establish a migrant health center, there are other health resources. Collaboration at the national, state, and local level can help control TB in migrant farmworkers, who are a hidden part of the United State's working poor.



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