TB Net

The Binational /Migrant Tuberculosis Tracking and Referral Project

1997 Final Report

submitted by the

Migrant Clinicians Network

to the

Texas Department of Health
Associateship for Disease Control and Prevention
Bureau of Communicable Disease Control
Tuberculosis Elimination Division

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1997 YEAR IN REVIEW

At the beginning of 1997, TB Net was a project in transition. Its patient database had recently relocated to Austin from the El Paso City-County Health Department, and the Migrant Clinicians Network was just beginning to take over day-to-day operations of this new initiative. Patient enrollment stood at 216, with 27 clinics from 10 states participating in the project.

Thanks to a concerted marketing effort by MCN and improved project operations, by the end of 1997, 373 patients had been enrolled by 57 participating clinics from 17 states in the U.S. and Mexico. Throughout the year, emphasis had been placed on improving/expanding TB Net implementation in the Lower Rio Grande Valley and other Texas border regions. Regular visits to border clinics, as well as presentations to county health departments and conferences were all geared toward increasing the number of border TB cases and prophylactic patients enrolled in TB Net. Yet, the majority of TB Net patients are still coming from upstream sites in Michigan and Wisconsin, and the majority of referrals flow "downstream" to Texas. Improving patient enrollment from border health departments will be a major goal in 1998.

Also in 1997, emphasis was placed on coordinating services with binational TB projects in Texas. In El Paso, the JUNTOS project was targeted as a source of both new patient enrollment and as a contact for referring patients to the Ciudad Juarez area. The City of Laredo-Webb County Health Department's Los Dos Laredos project serves a similar function for patients in Nuevo Laredo. The Sin Fronteras binational initiative in the Lower Rio Grande Valley utilizes promotoras for contact investigation and treatment supervision on both sides of the border, and as such can help with TB Net referrals in the Valley. While links to these projects have been established, improving coordination of services with them and expanding TB Net contacts in Mexico will be vital to this network's continued success in 1998.

In December of 1996, the Centers for Disease Control and Prevention conducted a program review of TB Net shortly after MCN took over project operations. The reviewer's suggestions have been implemented, and these recommendations have been integral to the improved performance of the project. A year later, the Texas Department of Health conducted a routine financial compliance review of TB Net, finding no major areas of concern.

This report contains detailed breakdowns of important state and clinical contacts made, conferences and meetings attended, as well as marketing and training presentations given throughout the year. Also included is a description of the project's status, and the quarterly reports included as appendices will document the exponential growth TB Net experienced in 1997.

SUMMARY OF SERVICES

Through efforts initiated in 1995, TB Net has become a binational conduit for TB tracking, linkages and referrals designed to facilitate effective continuity of TB treatment in mobile populations. TB Net has:

- designed and implemented an effective system for tracking mobile TB patients;
- created a mechanism to facilitate communication between involved clinics;
- established a computerized database that makes patient information easily accessible and provides demographic information;
- fostered working relationships with heads of TB programs in 14 states that receive farmworkers from Texas, as well as with pertinent county health departments and border TB programs;
- successfully linked these states to TB Net;
- educated TB Net patients to the importance of the "portable record" and of completing TB treatment;
- demonstrated the capacity to increase the rate of completion of TB treatment among a mobile population (see *Appendix E: case studies)*;
- prepared TB Net for expansion and institutionalization.

Population:
Patients originating in or traveling through Texas who are currently receiving prophylaxis or treatment for active TB disease who must leave the initial treatment area for employment or other personal reasons.

Location:
Patients who are served will be originating in or traveling through Texas during the course of treatment for active TB disease or infection and may travel throughout the U.S. and Mexico prior to treatment completion. These patients will be served in State and local Health Departments in the U.S. and Mexico as well as Migrant/Community/Homeless Health Centers.

Long Term Plan for Services:
During MCN's first full year of managing TB Net operations, a performance goal of 50% completion was established. When looking to the future of the project, MCN offers the following plan for services in Year 2 of this proposed three year project.

- **Year 2:** 80% of patients enrolled in TB Net will have documented completion of treatment.
- **Year 3:** 95% of patients enrolled in TB Net will have documented completion of treatment.

Below are the targeted objectives for 1997 and what action steps were taken to meet those objectives.

1997 Targeted Objectives

Objective 1:
Maintain and disseminate a concise, widely accepted tracking record to be used by all TB providers working with mobile TB patients originating in or traveling through Texas

Action steps: Conducted a portable record survey of health care providers serving TB Net patients to determine the efficacy and applicability of the TB Net portable record for migrant farmworkers and other mobile populations. The final report on this survey is attached as *Appendix B*.

Objective 2:
Maintain a database that houses the records of 100% of patients enrolled in TB Net

Action steps: A thorough examination of TB Net's SPSS data base and paper files was conducted to search for patients who had been enrolled in the system but not included in the data base. This search yielded 4 patients who had been enrolled by Northwest Michigan Health Services but not added to the data base. Now, every patient enrolled in TB Net is included in the data base.

Objective 3:
~~Expand the patient enrollment of TB Net by at least 100% to include the prison system population and all binational tuberculosis programs.~~

Action steps: None. This objective was stricken from the final 1997 proposal, and was to be discussed for 1998.

Objective 4:
~~Publish and distribute 1,500 copies of a directory of TB Services in the US and Mexico for use by providers and mobile patients originating in or traveling through Texas~~

Action steps: None. This objective was stricken from the final 1997 proposal. Additional funding provided by the Texas Department of Health late in 1997 included allocations for development and distribution of this directory, which will take place in early 1998.

Objective 5:
Provide referral and follow-up for duration of therapy to a minimum of 50% of TB Net enrollees

Action steps: TB Net's network for clinical referral and follow-up has to date seen **68%** of eligible enrollees through to completion of treatment.

Objective 6:
Access leading sources of TB expertise in programmatic support and case management.

Action steps: TB Net established a group of 6 medical consultants to offer programmatic support and medical consultations from all regios of the U.S. Dr. Philip Hopewell in California, Dr. Miguel Escobedo in El Paso, Dr. Allison Nist in Florida, Dr. Paul Farmer in Massachusetts, Dr. Ed Zuroweste in Pennsylvania, and Dr. Alan Dever in Georgia have all been a great help in improving services provided by TB Net. TB Net has also worked closely with Dr. Melba Muñiz, Subdirector of International Affairs at the Ministry of Health in Mexico. Dr. Muñiz has been instrumental to TB Net's tracking efforts in Mexico. TB Net clinical implementation training in California will be handled by the Francis Curry National TB Center.

Objective 7:
Collect and document epidemiologically significant data on at least 50% of TB Net enrollees during Year 1.

Action steps: TB Net consulted Dr. Alan Dever, an epidemiologist at Mercer University, to find data categories that yield epidemiologically significant data. These new data elements have been added to the TB Net data base, and documentation of this data is contained in *Appendix A*. A complete list of SPSS data elements appears in *Appendix H*.

Objective 8:
Educate a minimum of 50 TB care providers serving mobile patients originating in or traveling through Texas about the existence and operation of TB Net.

Action steps: Almost all TB Net training has taken place via phone conversations with clinicians new to TB Net. On-site training has been limited to Border clinics in Texas and Mexico. TB Net has conducted on-site training in Harlingen, Laredo and Nuevo Laredo. Thirty clinics were added to TB Net in 1997, and 7 new states participate in the project.

Objective 9:
Raise awareness of TB Net among all TB care providers seeing patients originating in or traveling through Texas.

Action steps: MCN has worked to increase awareness of TB Net by presenting TB Net at numerous conferences and meetings, by participating in binational initiatives, and by submitting articles to public health journals. A detailed listing of these activities is presented later in this report.

Objective 10:
Assure optimum performance for all aspects of TB Net.

Action steps: Assessing the performance of TB Net has been best accomplished by asking the front-line clinicians who use this tracking system. Interviews with providers who participate in TB Net revealed what works and what can be improved. Interview instruments are presented in *Appendix C*.

Outcomes from 1997 Goals

OBJECTIVES	Deliverables	Performance Measures	Outcome
Objective 1: Maintain and disseminate a concise, widely accepted tracking record to be used by all TB providers working with mobile TB patients originating in or traveling through Texas.			
Action Step 1.1: Evaluate the existing TB Net portable positive and negative TB records. The evaluation will consist of a survey given to a minimum of 15 clinical providers and 5 patients who have utilized the system.	A completed assessment that will be used to improve the portable record	The survey will be given to and completed by at least 15 clinical providers and 5 patients.	Complete; see *Appendix B* for portable record survey report.
Action step 1.2: Based on the results of the survey, modify the portable records, print and distribute 3,000 copies of the positive record and 5,000 copies of the negative record.	1997 version of portable records	Distribution to 90% Health Centers and State Health Departments in the Midwest	No revision necessary; portable records disseminated to all participating TB Net clinics.
Objective 2: Maintain a database that houses the records of 100% of patients enrolled in TB Net			
Action Step 2.1: Assess the current TB Net system database for accuracy, availability, confidentiality, and usefulness of epidemiological data. The database will be examined by 3 outside evaluators and an internal staff/contractor review.	An assessment report which outlines any modifications necessary	Review by at least 3 external and 1 internal evaluators.	Database examined by 2 doctors, a professional computer consultant, and 1 internal staff.

Objectives	Deliverables	Performance Measures	Outcomes
Action Step 2.2: Modify the existing database based on results of the evaluation.	1997 format of the database	Usefulness of modified database to front-line clinicians in the areas of accuracy, epidemiologic al data, and confidentiality as determined by Quality Assurance Assessments.	New data elements incorporated into the database include: age range, duration of complete regimens, capacity to measure infection by state.
Action Step 2.3: Maintain database with 100% of TB Net enrollees so that it is useful to front-line clinicians.	Functional TB Net database of mobile patients originating in or traveling to Texas.	100% of patients enrolled and zero breaches of confidentiality	100% of enrollees listed on SPSS database; 0 breaches of patient confidentiality
Objective 3: Expand the patient enrollment of TB Net by at least 100% to include the prison system population and all Binational Tuberculosis Programs.			
~~*Action Step 3.3: Expand TB Net enrollees to include released prisoners at least 3 Texas prisons by the end of 1997.*~~	Increase in the number of TB Net enrollees.	Addition of released populations in at least 3 TX prisons.	Eliminated from final 1997 workplan.
~~*Action Step 3.4: Expand TB Net enrollees to include patients in all binational tuberculosis programs including those in California, Arizona, and Florida.*~~	Increased in the number of TB Net enrollees.	Addition of at least 3 binational programs outside of Texas.	Eliminated from final workplan; worked extensively in cooperation with San Diego Co. binat'l project.

Objectives	Deliverables	Performance Measures	Outcomes
Objective 4: ~~Publish and distribute 1,500 copies of a directory of TB services in the US and Mexico for use by providers and mobile patients originating in or traveling to Texas~~			
Action Step 4.1: Obtain existing binational TB services database from the Pan American Health Organization (PAHO).	Database on disk	Successful negotiation of use	Copy of database on disk available through TDH.
Action Step 4.2: ~~Update PAHO database with most current names, organizations, addresses, and phone numbers.~~	Most up-to-date listings.	Accurate database of TB services	Eliminated from final 1997 workplan.
Action Step 4.3: ~~Print and distribute 1,500 copies of the updated TB services directory to providers in the US and Mexico.~~	1,500 directories distributed to sites in the U.S. and Mexico	Directories distributed to all sites.	Eliminated from final 1997 workplan.
Objective 5: Provide referral and follow-up through completion of therapy to a minimum of 50% of TB Net enrollees.			
Action Sep 5.1: Assess the effectiveness of referral and follow-up conducted during the previous year of TB Net.	An assessment report which outlines any modifications necessary	Number of patients whose outcome is documented and number of referrals given in the previous year that resulted in a contact.	Report submitted in February; see *Appendix F.* Final completion rate for 1997 was 68%.

Objectives	**Deliverables**	**Performance Measures**	**Outcomes**
Action Step 5.2: Develop an internal follow-up protocol to assure follow-up for mobile patients originating in or traveling to Texas.	Written protocol	100% of TB Net patients on protocol and 100% response to requests for referral	Complete; presented in *Appendix F.*
Objective 6: Access leading sources of TB expertise in programmatic support and case management.			
Action Step 6.1: Establish a core of a minimum of 6 TB experts in the US and Mexico for assistance in program support and case management.	Consultant pool of at least 6 experts.	6 member advisory group established with geographic and professional diversity	Dr. Philip Hopewell, Dr. Ed Zuroweste, Dr. Allison Nist, Dr. Paul Farmer, Dr. Miguel Escobedo, Dr. Steve Ciesielski
Action Step 6.2: Conduct quarterly conference calls with consultant pool for continuous feedback.	Quarterly report with a summary of conference calls	4 completed quarterly reports	see *Appendix G* for quarterly reports
Objective 7: Collect and document epidemiologically significant data on at least 50% of TB Net enrollees during Year 1.			
Action Step 7.1: Assess the current TB Net data elements on the portable record for epidemiological relevance by at least 3 outside evaluators and 1 internal evaluator.	An assessment report which outlines any modifications necessary	Data which provides significant information on trends in morbidity and mortality in a mobile population	Complete; see portable record survey report in *Appendix B.*

Objectives	**Deliverables**	**Performance Measures**	**Outcomes**
Action Step 7.2: Issue a list of data elements which TB Net will gather; send this list out to migrant researchers and other colleagues.	List of data elements.	Completed list	Complete; see *Appendix H* for list of data elements.
Action Step 7.3: Publish analysis of data gathered in the form of a Monograph and send this to migrant researchers and other colleagues.	Published monograph	Publication	Text completed; to be printed and distributed by February 1998.
Objective 8: Educate a minimum of 50 TB care providers serving mobile patients originating in or traveling through Texas about the existence and operation of TB Net.			
Action Step 8.1: ~~Develop a list of all TB care providers within the Midwest Stream and Mexico who are serving patients originating in or traveling through Texas.~~	List of providers	Comprehen-sive list.	Eliminated with Clinical Services Directory; MCN Directory contains all MHC's in Midwestern Stream.
Action Step 8.2: Develop a checklist of training services available through TB Net for use in determining the needs of front-line clinicians.	Completed checklist	A checklist which addresses all possible training elements of TB Net	Complete; see *Appendix D* for checklist.

Objectives	Deliverables	Performance Measures	Outcomes
Action Step 8.3: Distribute and collect checklist to at least 50% of identified TB care providers within the Midwest Stream and Mexico who are serving patients originating in or traveling through Texas so that they can indicate their training needs.	Training needs assessment report.	A minimum of 25% return on the needs assessments.	Only 3 returned checklists; insufficient response to assess general needs, but will be redistributed in 1998
Action Step 8.4: Develop training modules addressing each item on the checklist.	A complete set of training modules for TB Net.	Material completed using adult education principals	Action initiated; will be complete after redistribution of checklists.
Action Step 8.5: Provide a minimum of 5 personalized on-site trainings based on the needs assessment report.	At least 5 completed trainings.	Evaluations provided to participants after the training.	Completed; see list of training sessions conducted later in this report.
Objective 9: Raise awareness of TB Net among all TB care providers seeing patients originating in or traveling to Texas.			
Action Step 9.1: Develop a marketing plan utilizing existing marketing channels.	Marketing plan	Approved plan	Complete
Action Step 9.2: Implement marketing in at least 5 existing channels.	Marketing material placed in at least 5 different existing sources.	Marketing sources known to reach health care providers.	Completed marketing plan implemented along the Texas-Mexico border, in other border states, and in upstream health centers

Objectives	Deliverables	Performance Measures	Outcomes
Objective 10: Assure optimum performance for all aspects of TB Net.			
Action Step 10.1: Provide a quarterly review of TB Net outcomes and issues to funders and the MCN Board of Directors.	Quality products/ activities delivered on schedule.	Quality products/ activities delivered on schedule.	On-going; see *Appendix G* for quarterly reports
Action Step 10.2: Provide day-to-day oversight of all financial and programmatic activities.	Effective program management	Full compliance with all state and federal regulations. A clean audit.	On-going

There was a 35% decrease in funding from the original proposal submitted by MCN, so the key priority of TB Net staff has been the maintenance of continuity of care services. On-site training was limited, and parolees were excluded from the system. The Clinical Services Directory was made possible by end of year funding provided by TDH. This directory will be printed and distributed in early 1998. For Year 2, on-site training will be crucial to the effective implementation of TB Net in clinics, especially in South Texas.

Coordination with Other Health Care Providers:
No other organization currently serves as a networking system between direct service providers. TB Net services are not a duplication of any in existence. As TB Net does not provide direct patient care, the efforts of other agencies and centers are not duplicated by TB Net. The project serves as a conduit for information transfer between health service providers and as a referral source for patients in need of treatment for active TB disease or infection. MCN has participated in several initiatives that seek to improve regional continuity of care by improving communication either between providers or with Mexico. The binational projects in Texas, Ten Against TB, the Border TB Task Force, the Eastern Stream TB Network, and San Diego County's binational tracking project are some of these initiatives. Project efforts are coordinated with services providers at a variety of levels:

Health Care Providers (tracking & referrals)

- State, county and local health departments throughout the U.S. and Mexico
- Federally-funded Migrant and Community Health Centers
- Private providers serving mobile patients
- Other systems for health care within the diverse structure of Mexico
- Border TB Projects in Texas, California and Florida

Other Social Service Providers (patient contact information)

- Nebraska Association of Farmworkers
- Harvest America
- Texas Migrant Council
- United Farmworkers of Texas
- Frente Democratico
- Sin Fronteras

Academic and Research Sites (consultation & education)

- TB Centers of Excellence
- Medical Hispanic Center of Excellence
- Mercer University School of Medicine

Community Input in Service Development:
While the community to be served is comprised of mobile patients receiving treatment for active TB disease or infection, input for the operation and implementation of this project comes from a number of sources. As a network of clinicians working on the front-line to provide care to migrants, MCN counts these clinicians as its principal sources of guidance.

A breakfast meeting at the Annual Farmworker Conference in Anaheim gave some of these clinicians a chance to advise TB Net. TB Net's medical consultants also provide valuable input through regularly scheduled conference calls. MCN's web page includes a discussion section that provides insight into the needs of front-line clinicians, and what TB Net can do to help these providers. Additionally, input is received from clinical networks serving clinicians working with homeless, HIV+ individuals. Social service providers attempting to assist mobile clients have input through participation in regional and national conferences. In the case of migrant farmworkers, testimony before the National Advisory Council on Migrant Health suggests that the ability to continue care for a chronic or infectious disease is critical to continued employment.

Meetings and conferences attended

Staff attending	Meeting/Conference	Site	Date
Todd Harlow/Del Garcia	TDH Border TB Task Force	San Antonio, TX	Feb. 11
Todd Harlow	Hidalgo County/Region 11	Edinburg, TX	Feb. 25
Todd Harlow/Del Garcia	IUATLD North American Region	Chicago, IL	Feb. 27-1
Del Garcia	Ten Against TB	Tijuana, MEX	April 3-4
Todd Harlow	TDH Border TB Task Force	Harlingen, TX	April 7
Del Garcia	TATB Technical Directors meeting	Juarez, MEX	April 25-26
Del Garcia	National Farmworker Health Conf.	Anaheim, CA	May 15-18
Todd Harlow	TDH Border TB Task Force	Harlingen, TX	May 29
Todd Harlow	USMBHA Annual Conference	Phoenix, AZ	June 3-6
Todd Harlow	TMA Border TB Task Force	San Antonio, TX	June 20
Todd Harlow	Laredo HD/Nuevo Laredo HD	Laredo, TX	August 14
Todd Harlow/Del Garcia	Midwest Stream Forum	Indianapolis, IN	Sep. 12-14
Todd Harlow	Hidalgo County nurses meeting	Edinburg, TX	Sep. 29
Todd Harlow/Del Garcia	"Effects of Pov. on Child Health"	El Paso, TX	Oct. 22-24
Todd Harlow	Hidalgo/Cameron Co. site visits	Valley area, TX	Nov. 4-6
Todd Harlow	California Binational Committee	Tecate, MEX	Nov. 18-20
Todd Harlow	Minorities in Health Conference	Austin, TX	Dec. 2
Todd Harlow/Del Garcia	TMA Border TB Task Force	San Antonio, TX	Dec. 5

Presentations made

Presenter	Meeting/conference	Site	Attendance
Savitri Tsering	TB Networking conference	Madison, WI	50-60
Dr. Tina Castenares	ALA TB and Migration conference	Salem, OR	40-50
Todd Harlow	USMBHA Annual Conference	Anaheim, CA	35
Todd Harlow	Hidalgo County nurses meeting	Edinburg, TX	35-45
Jillian Hopewell	ATS Annual Conference	San Francisco, CA	25
Todd Harlow	Laredo-Webb County Health Dept.	Laredo, TX	5
Todd Harlow	Nuevo Laredo Centro de Salud	Nvo Laredo, MEX	12
Todd Harlow/Del G.	Midwest Stream Forum session	Indianapolis, IN	20
Amy McMann	Southeast TB Controllers meeting	Georgia	25
Todd Harlow	Hidalgo County nurses meeting	Edinburg, TX	40
Todd Harlow/Del G.	"Effects of Poverty on Child Health"	El Paso, TX	35
Todd Harlow	Hidalgo County/Region 11	Harlingen, TX	25
Todd Harlow	California Binational Committee	Tecate, MEX	31
Del Garcia	East Coast Stream Forum	Raleigh, NC	36
Todd Harlow	Minorities in Health conference	Austin, TX	15

Articles submitted

Author	Publication	Submitted	Status
Todd Harlow	Streamline	January 11	Published February
Todd Harlow	Border Vision/Fronteriza	July 23	Published August
Todd Harlow	Notes From the Field (AJPH)	September 4	Under review

Abstracts submitted

Author	Conference	Date submitted	Status
Todd Harlow	IUATLD North American Region	November 1996	accepted
Todd Harlow	IUATLD Annual Conference	February 1997	accepted
Todd Harlow	USMBHA Annual Conference	March 1997	accepted
Jillian Hopewell	ATS Annual Conference	March 1997	accepted
Todd Harlow	"Effects of Poverty on Children's Health"	July 1997	accepted
Todd Harlow	Eastern Stream Forum	August 1997	accepted
Todd Harlow	Minorities in Health Conference	October 1997	accepted

Site visits/On-Site Training Sessions

Presenter	Clinic	Date	Attendance
Todd Harlow	Hidalgo County Health Department -- Edinburg	February 25th	35-45
Todd Harlow	Hidalgo County Health Department – Edinburg	April 7th	41
Todd Harlow	City of Laredo-Webb County Health Dept.	April 30th	4
Todd Harlow	Laredo HD/Nuevo Laredo Centro de Salud	August 14th	7
Todd Harlow	Hidalgo County Health Department – Edinburg	September 29th	38
Todd Harlow	HCHD – McAllen clinic	September 30th	2
Todd Harlow	HCHD – Elsa clinic	September 30th	2
Todd Harlow	HCHD – Donna clinic	September 30th	3
Todd Harlow	Hidalgo County jail	September 30th	2
Todd Harlow	South Texas Hospital	November 4th	1
Todd Harlow	HCHD – Mission clinic	November 5th	2
Todd Harlow	Hidalgo County jail	November 5th	2
Todd Harlow	HCHD – Pharr clinic	November 5th	3
Todd Harlow	HCHD – Weslaco clinic	November 5th	2
Todd Harlow	HCHD – Mercedes clinic	November 5th	1
Todd Harlow	Cameron County Health Dept. – San Benito	November 6th	2
Todd Harlow	San Diego County Dept. of Health Services	November 20th	3

CLINICAL MARKETING CONTACTS:

The following clinical contacts were made during 1997 as part of a concerted marketing effort by TB Net. The doctors and nurses below were contacted either to gauge interest in project implementation for their clinics, or to discuss enhancing operations in participating clinics. Other contacts were necessary to train new staff at participating health centers in TB Net enrollment, referral and follow-up protocols.

Contact	Clinic/Health Department	Location
Dr. Fernando Gonzalez	JUNTOS Project	El Paso, TX
Pat Cortelyou	Bernalillo County Health Department	Albuquerque, NM
Carol Martinez	Salud Family Health Center	Colorado
Linda Alfonso	Dona Ana Health District	Las Cruces, NM
Willa Hayes	Northwest Michigan Health Services	Traverse City, MI
Sue Thiel	Sheboygan County Health Dept.	Sheboygan, WI
Chris Nelson	Dane County Health Department	Madison, WI
Joan Kellenberg	Family Medical Center	Temperance, MI
Velia Luna	Deming County Health Department	Deming, NM
Jane Spall	Northwest Michigan Health Services	Bear Lake, MI
Judy Reilly	South Texas Hospital	Harlingen, TX
Helen de La Rosa	El Paso City-County Health Dept.	El Paso, TX
Debbie Perota	Pomona County Health Department	Pomona, CA
Lucille Talbot	La Clinica de Los Campesinos	Wild Rose, WI
Mary Brewer	Berrien County Health Department	Benton Harbor, MI
Verne Rivero	United Medical Centers	Del Rio, TX
Gilda Perez	Denver County Health Department	Denver, CO
Dr. Tina Fields	Cameron County Health Department	San Benito, TX
Carol Wilhelm	Brownwood Community Health Center	
Nina Sisley	Nueces County Health Dept.	Nueces Co., TX
Guaracy Carvalho	Live Oak County Health Department	Live Oak, TX
James Mobley	San Patricio County Health Dept.	Sinton, TX
Gloria Perez	Hidalgo County Health Department	Edinburg, TX
Dr. Tina Castanares	Migrant Health Program	Salem, OR
Rosa Morales	Hidalgo County Health Department	Edinburg, TX
Sonia Contreras	San Diego Co. Dept. of Health Svcs.	San Diego, CA
Irma Hockaday	Cameron County Health Department	San Benito, TX
Diana Pray	Gratiot Community Hospital	Gratiot, MI
Isabel Hernandez	TDH Region 8	Temple, TX
Ella Ochoa	Nebraska Assoc. of Farmworkers	N. Platte, NE
Michelle Krauska	Family Health - La Clinica	Wild Rose, WI
Marian O'Brien	Collier County Health Department	Naples, FL
Marie Francois	Immokalee County Health Dept.	Immokalee, FL
Katherine Como	Kent County Health Department	Kent Co., MI

Judy Anderson	Appleton Health Department	Appleton, WI
Geralyn Martinez	La Clinica de Los Campesinos	Wild Rose, WI
Gloria Salinas	Hidalgo County HD – Pharr clinic	Pharr, TX
Susan Oliver	Marian County Health Department	Salem, OR
Keith Ackerman	Northwest Michigan Health Services	Traverse City, MI
Dora Sanchez	Okeechobee County Health Dept.	Okeechobee, FL
Dr. John McAdam	St. Vincent's Hospital	New York, NY
Judy Maugham	St. Lucie County Health Department	Ft. Pierce, FL
Edith Rollison	San Patricio County Health Dept.	Sinton, TX
Melba Flores	Hidalgo County Health Department	Edinburg, TX
Dr. Laura Baber	City of Laredo-Webb Co. Health Dept.	Laredo, TX
Roger Garcia	City of Laredo-Webb Co. Health Dept.	Laredo, TX
Mike Trevino	Gateway Community Health Center	Laredo, TX
Joann Sassos	Collier County Health Department	Naples, FL
Betty Smith	Cameron County Health Dept.	Brownsville, TX
Dr. Solan	Clinica Adelante	Phoenix, AZ
Grace Romo	Family Health - La Clinica	Wild Rose, WI
Val Greenlee	Northwest Michigan Health Services	Shelby, MI
Gloria Pena	Laredo-Webb Co. Health Dept.	Laredo, TX
Joyce Hubbard	Santa Cruz Co. Health Dept.	Nogales, AZ
Gloria Mattey	Intercare Community Health Network	Eau Claire, MI
Judy Kloos	Marian County Health Department	Salem, OR
Mercedes Trejo	Hospital Basico	Nogales Sonora, MEX
Sandy McCullough	Crockett Co. Health Department	Crockett, TX
James O'Barr	Hudson Valley Migrant Health	Beacon, NY
Kathy Ahonen	Family Migrant Health Center	Temperance, MI
Margie Alderman	Hendry Co. Health Department	Hendry, FL
Marilyn Eipperle	Northwest Michigan Health Services	Bear Lake, MI
Karen Cowgill	District 7 Health	Idaho Falls, ID
Linnea Thistle	Ozaukee County Health Department	Port Washington, WI
Jackie Hemingway	Van Buren Health Department	Hartford, MI
Anne Crabbe	Eastern Shore Rural Health	Onancock, VA
Nancy Frees	Collier County Health Department	Naples, FL
Judy Harris	Northwest Michigan Health Services	Bear Lake, MI
Valerie Kerr	Mid Michigan Health District	St. John's, MI
Shannon Farrell	Osceola County Dept. of Health	Osceola, AR
Audria Garcia	Cameron County Health Department	Brownsville, TX
Ellen Snyder	San Bernardino Dept. of Health	San Bernardino, CA
Sister Jean Ott	St. Anthony's Hospital	Pembleton, OR
Ms. Sugars	Ft. Stockton Health Department	Ft. Stockton, TX
Karen McNeil	Sparta Health Center	Sparta, MI
Kathryn Koski	Los Angeles Dept. of Health Services	Los Angeles, CA
Rubi Morales	San Bernardino Dept. of Health	San Bernardino, CA

Sally Deisch	HRS/Palm Beach Co. Pub. Health Unit	Riviera Beach, FL
Cinthia Chaboya	Hospital Basico	Nogales Sonora, MEX
Lea Brown	Crockett County Health Department	Crockett, TX
Marsha Dragiewicz	Kent County Health Department	Grand Rapids, MI
Linda Anderson	Harris County Health Department	Pasadena, TX
Mary Ellis	Travis County Health Department	Austin, TX
Cindy Kinney	Minnesota Migrant Health Association	Minneapolis, MN
Lourdes Pena	Cameron County Health Department	Brownsville, TX
Linda Baxter	Tattnall County Health Department	Glenville, GA
Diane Grider	Yuma County Health Department	Yuma, AZ
Ann Sabatka	Brown County Health Department	Green Bay, WI
Nancy Duncan	St. Charles County Health Dept.	St. Charles, MO
Enriqueta Carmona	Starr County Health Department	Eagle Pass, TX
Josie Gonzalez	Hidalgo County Health Department	Elsa, TX
Elida Silva	Hidalgo County Health Department	Edinburg, TX
Brian Burgess	Community Health Care, Inc.	Vineland, NJ
Carolyn Davis	BJCHS, Inc.	Ridgeland, SC
JoAnn Vizelka	Brown County Health Department	Green Bay, WI
Dr. Stephen Ciesielski	Tri-County Community Health Center	Newton Grove, NC
Lori Gauch	Putnam County Health Department	Palatka, FL
Dr. Enrique Ramirez	Hospital Basico	Nogales Sonora, MEX
Paula Mattingly	Marion County Health Department	Lebanon, KY
Aurora Rodriguez	Hidalgo County Health Department	Mission, TX
Diane Davis	Maricopa County Health Department	Phoenix
Maria San Pedro	Cameron County Health Department	San Benito, TX
Juan Uribe	Cameron County Health Department	San Benito, TX
Katherine Arden	Trident Health District	Charleston, S.C.
Joann Anderson	Tattnall County Health Department	Glenville, GA
Ernest Agustin	Nassawadox Medical Center	Nassawadox, VA
Imelda Vargas	Hidalgo County Health Department	Elsa, TX
Kendall Carney	El Paso City-County Health Dept.	El Paso, TX
Art Quiroz	Dona Ana Health District	Las Cruces, NM
Charlotte Caudill	Columbia-Portland Comm. HC	Portland, TN
Warren Lee	Palm Glades Rural Health Assoc.	Belleglade, FL
Kristen Pate	Manatee County Health Dept.	Bradenton, FL
Amanda Brown	Florida Community Health Center	Indiantown, FL
Pamela Schmelde	Washara Health Department	Wautoma, WI
Lupita Salinas	Hidalgo County Health Department	McAllen, TX

STATE CONTACTS:

Marketing TB Net has also involved contacting state-level TB control officials to discuss project implementation on a statewide basis. The following people were contacted in 1997 for this purpose.

Contact	State Health Department	Location
Jeanne Smithpeter	New Mexico Department of Health	Santa Fe
Norm Keon	Michigan Department of Health	Lansing
Natalie Hawley	New York Department of Health	Albany
Savitri Tsering	Wisconsin Department of Health	Madison
Dr. Jack Dillenberg	Arizona Department of Health	Phoenix
Eileen Napolitano	New Jersey Department of Health	Newark
Jack Reynolds	Pennsylvania Dept. of Health	Harrisburg
Dr. Paul Arons	Florida Department of Health	Tallahassee
Pat Knutesen	Arizona Dept. of Health	Phoenix
Patricia Johnson	Tennessee Department of Health	Nashville
Marnell Kretschmer	Kentucky Dept. for Public Health	Frankfort
Pamela Vukelic	North Dakota Department of Health	Bismarck
Lynelle Phillips	State of Missouri Dept. of Health	Jefferson City
Shirley Dobbins	Ohio Department of Health	Columbus
Lupita Martinez	Texas Health Steps	Harlingen
Barbara Hummel	Colorado Health Department	Denver
Fred Sweet	Florida Department of Health	Tallahassee
Sandy Halford	E. Tennessee Regional Office	Knoxville
Maria Rodriguez	Pennsylvania Dept. of Health	Harrisburg
Mary Menges	State of Missouri Dept. of Health	Jefferson City
Vic Tomlinson	State of Missouri Dept. of Health	Jefferson City
Teresa Garrett	State of Utah Dept. of Health	Salt Lake City
Jan Young	State of California Dept. of Health	Berkeley
Chris Rushing	State of Nevada Dept. of Health	Carson City
James Goodrich	Iowa Dept. of Public Health	Des Moines
Michelle Kern	State of New York Dept. of Health	Albany
Sally Deisch	State of Florida Public Health Unit	Riviera Beach
Johnny Lloyd	State of Florida Dept. of Health	Gainesville
Marty Huber	Arizona Department of Health	Phoenix
Barbara Gibson	Kansas Dept. of Health & Environ.	Topeka
Greta Shepherd	Oklahoma Primary Care Assoc.	Oklahoma City
Andy Lopez	California Department of Health	Fresno
Mark Fussell	Florida Department of Health	Tallahassee

Appendices

Appendix A

Birth state-Age range crosstabulation

Count

		Age group										
		0-5	6-12	13-17	18-24	25-31	32-40	41-50	51-60	61-70	71+	Total
birth state	Unknown	7	16	5	39	32	43	11	9	2	1	165
	Mexico DF						1	1				2
	Guanajuato		1							1		2
	Chihuahua	2		1	6	5	7	1	2		4	28
	Coahuila			1	1	2	1	3				8
	Oaxaca			1	3	1	1	1	1			8
	Jalisco				3	3			1			7
	Durango						2	1	2			5
	Guerrero				2	2	6	1				11
	Hidalgo	1			1	3	1					6
	Michoacan					2	2	1				5
	Tamaulipas	1	1	2	4	5	3	4				20
	Tabasco					1	1					2
	Nuevo Leon					1	2					3
	Vera Cruz	1			2	3				2		8
	Quintana Roo				2	1	1					4
	Sonora							1				1
	Guatemala					5	1					6
	Texas	1	2	2	3	3	4	6		1		22
	North Carolina			1	1				1			3
	New York					1						1
	Florida		3									3
	Utah		1	1	1	1	1					5
	Idaho	2				2						4
	Colorado							1				1
	California	2	5	4	1	1						13
	Phillipines			1		1		1				3
	El Salvador	1			3	3	2	3		1	3	16
	Honduras					1						1
	Potosi						1					1
	Michigan		1									1
	Jamaica								1			1
	Queretaro									1		1
Total		18	30	19	72	79	80	36	17	8	8	367

M STATUS * case Crosstabulation

Count

		case									
		CURE	LOST TO FOLLOW UP	DEATH	TX CONTINUES	UNK	OTHER	MOVE	NON-TB	REFUSE TX	Total
M STATUS	SINGLE	69	7		22	8	9	9		3	127
	MARRIED	53	16	1	24	11	17	16		10	148
	DIVORCE	2	1				1				4
	OTHER	4	1	1							6
	UNK	28	20	1	7	7	6	3	1	4	77
Total		156	45	3	53	26	33	28	1	17	362

M STATUS * associated conditions Crosstabulation

Count

		associated conditions									Total
		DIABETES	SUBSTANCE ABUSE	ALCOHOL	HIV/AIDS	OTHER	NONE	UNK	HEPATITIS B		
M STATUS	SINGLE	1	3	4	1	2	80	35		1	127
	MARRIED	6	2	3	4	8	93	31	1		148
	DIVORCE						3	1			4
	OTHER	1				1	4				6
	UNK			2		2	32	41			77
Total		8	5	9	5	13	212	108	1	1	362

length of treatment * Age group Crosstabulation

Count

		Age group										Total
		0-5	6-12	13-17	18-24	25-31	32-40	41-50	51-60	61-70	71+	
length of treatment	4 mos.				4		1			1	1	7
	5 mos.				2	1	1					4
	6 mos.		3	4	8	11	11	5	3	1	2	48
	7 mos.				2	2	2	1		1		8
	8 mos.		1			3	2	1				7
	9 mos.	3	8	1		3		2	1		1	19
	10 mos.	1	2			1	3					7
	11 mos.	1										1
	12 mos.		1	1	5	5	6	1				19
	13 mos.				1	2	3				1	7
	14 mos.					1	1	2				4
	15 mos.					1						1
	16 mos.				1	1						2
	19 mos.										1	1
	22 mos.				1							1
Total		5	15	6	24	31	30	12	4	3	6	136

LIVING PLACE * case Crosstabulation

Count

		case									Total
		CURE	LOST TO FOLLOW UP	DEATH	TX CONTINUES	UNK	OTHER	MOVE	NON-TB	REFUSE TX	
LIVING PLACE	FARM WORKER CAMP	76	35		22	20	14	19		7	193
	HOME	53	3	2	25	5	16	8		6	118
	JAIL	4	1		4						9
	INS	2	1								3
	HOMELESS	2			2						4
	OTHER	1	4				1		1		7
	UNK	19	3		1	1	2	1		4	31
Total		157	47	2	54	26	33	28	1	17	365

birth state * sex Crosstabulation

Count

		sex		
		male	female	Total
birth state	Unknown	100	66	166
	DF	2		2
	Gua.	1	1	2
	Chihuahua	21	8	29
	Coahuila	4	4	8
	Oaxaca	8		8
	Jalisco	4	3	7
	Durango	2	3	5
	Guerrero	7	4	11
	Hidalgo	4	2	6
	Michoacan	3	2	5
	Tamaulipas	12	8	20
	Tabasco	1	1	2
	Nuevo Leon	2	1	3
	Vera Cruz	5	3	8
	Quintana Roo	4		4
	Sonora	1		1
	Guatemala	3	3	6
	Texas	9	13	22
	North Carolina	2	1	3
	New York	1		1
	Florida	2	1	3
	Utah	2	3	5
	Idaho	2	2	4
	Colorado		1	1
	California	6	7	13
	Phillipines	2	1	3
	El Salvador	7	9	16
	Honduras	1		1
	Potosi		1	1
	Michigan		1	1
	Jamaica	1		1
	Queretaro	1		1
Total		220	149	369

LIVING PLACE * M STATUS Crosstabulation

Count

		M STATUS					Total
		SINGLE	MARRIED	DIVORCE	OTHER	UNK	
LIVING PLACE	FARM WORKER CAMP	64	74	2	1	50	191
	HOME	42	54	1	5	14	116
	JAIL	2	2			5	9
	INS		2	1			3
	HOMELESS	3				1	4
	OTHER		2			5	7
	UNK	15	13			2	30
Total		126	147	4	6	77	360

length of treatment * M STATUS Crosstabulation

Count

		M STATUS					Total
		SINGLE	MARRIED	DIVORCE	OTHER	UNK	
length of treatment	4 mos.	2			1	4	7
	5 mos.	1	2			1	4
	6 mos.	12	19	1	2	11	45
	7 mos.	1	2			6	9
	8 mos.	2	3			2	7
	9 mos.	13	5			1	19
	10 mos.	4	3				7
	11 mos.	1					1
	12 mos.	11	7			1	19
	13 mos.		4			3	7
	14 mos.	1	1			2	4
	15 mos.		1				1
	16 mos.	1	1				2
	19 mos.		1				1
	22 mos.	1					1
Total		50	49	1	3	31	134

length of treatment * LIVING PLACE Crosstabulation

Count

		LIVING PLACE							
		FARM WORKER CAMP	HOME	JAIL	INS	HOMELESS	OTHER	UNK	Total
length of treatment	4 mos.	4	2				1		7
	5 mos.	2	1		1				4
	6 mos.	24	14	3				3	44
	7 mos.	3	3	1			1	1	9
	8 mos.	2	4					1	7
	9 mos.	10	5			2	1	1	19
	10 mos.	4	2					1	7
	11 mos.	1							1
	12 mos.	14	4					1	19
	13 mos.	5	2						7
	14 mos.		2	1			1		4
	15 mos.		1						1
	16 mos.	1	1						2
	19 mos.		1						1
	22 mos.		1						1
Total		70	43	5	1	2	4	8	133

length of treatment * sex Crosstabulation

Count

		sex		
		male	female	Total
length of treatment	4 mos.	6	1	7
	5 mos.	3	1	4
	6 mos.	29	19	48
	7 mos.	4	5	9
	8 mos.	4	3	7
	9 mos.	14	5	19
	10 mos.	4	3	7
	11 mos.		1	1
	12 mos.	10	9	19
	13 mos.	3	4	7
	14 mos.	4		4
	15 mos.	1		1
	16 mos.		2	2
	19 mos.	1		1
	22 mos.		1	1
Total		83	54	137

Appendix B

TB Net Portable Record Survey

Respondents:

Dr. Ed Zuroweste – Keystone Health Center, Chambersburg, Pa.
Ms. Willa Hayes – Northwest Michigan Health Services, Inc.
Ms. Lynda Alfonso – New Mexico Department of Health – TB Control
Ms. Jeanne Smithpeter – New Mexico Department of Health – TB Control
Dr. Allison Nist – Collier County, Fla. Health Department
Dr. Fernando Gonzalez – Pan American Health Organization – JUNTOS project
Ms. Savitri Tsering – Wisconsin Division of Health – TB Elimination

In an attempt to assess the utility, readability and content of the TB Net portable record, a survey was developed by MCN and sent to front-line clinicians and state health officials. Initially, 15 surveys were sent out, but only the above seven respondents returned their completed copies. However, considering the various regions of the country represented by these clinicians, as well as their combined expertise in TB control efforts, MCN feels that an accurate assessment of the portable record can be derived from these responses.
This report will be divided into four parts, one for each of the survey questions.

1. **"Does the portable record contain all the information you need to manage your TB patients?"**

Respondents unanimously answered "yes" to this question. Dr. Gonzalez from PAHO clarified his answer to mean the record contained all the "basic" information needed to treat his TB patients. So, possibly more in-depth information could be added to the record. However, the "Notes" section of the record could be used for specific treatment information that future treatment sites might need to continue that individual's therapy.

2. **"Is the record easy to use?"**

A. readable?

Six respondents answered "yes" to this question. Ms. Tsering answered "no," and added that a drug-o-gram that unfolded vertically instead of horizontally would be easier to read. She included a copy of her state's portable record -- with a vertical drug-o-gram -- as an example. Her recommendation was probably the most radical alteration suggested, and it is not without merit. The vertical drug-o-gram is more readable, but to format it for the TB Net portable record would mean making the record larger and no longer wallet-size.

B. properly sized?

Ms. Tsering, Ms. Smithpeter and Dr. Gonzalez all indicated that while the record was properly sized to fit into a wallet, some areas inside the record were too small to write on, which in turn made reading what others had written difficult at times. There are two possible solutions to this problem. First, MCN could slightly enlarge the portable record, which might create just enough room to make some categories more readable. Or, some blanks could be removed from the record, creating enough space to enlarge the remaining information categories.

C. properly formatted?

Only Ms. Tsering answered "no" to this question, as she believes a vertical drug-o-gram would be more readable than TB Net's current horizontal format. Other than this, the way the portable record organizes and presents patient information is clear, concise and effective.

D. categories in proper order of appearance?

This question was unanimously answered "yes." The absence of any additional comments on this question indicates that no reorganization or rearrangement of the categories inside the record need be made.

3. Can we contact you to discuss your ideas regarding the record?

As expected, all of the respondents expressed willingness to further discuss their responses with TB Net staff. Ms. Tsering was contacted to further discuss the possibility of altering the portable record's drug-o-gram.

4. Please offer any suggestions you may have in the space below.

This was where the aforementioned suggestions were made. Dr. Zuroweste, Dr. Nist, and Ms. Hayes all offered words of encouragement. Ms. Alfonso used the space to order 50-100 copies of the record for her state's public health clinics.

Conclusions:

Overall, the portable record was very well received. No one suggested additional categories, which more than anything else affirms the quality of information contained on the record.

As to the idea of making the drug-o-gram unfold vertically, at this time such a change need not be made. Keeping the record wallet-size is central to its portablitity, and is worth sacrifices in the area of readability.

Perhaps a close examination of the categories in the record should be made to find any redundancies or possibly unnecessary categories.

Appendix C

TB Net Clinician Interview Questions

1. What was your first experience with TB Net?
2. What is the most useful element of TB Net?
3. Can you give an example of this element at work?
4. Do you have any suggestions for improving TB Net operations?

TB Net Patient Interview Questions

1. Where were you enrolled in TB Net?
2. Was TB Net helpful for your TB treatment?
3. Could something have made it easier for you to receive treatment?
4. What made it possible (or not possible) for you to stay in treatment?

Appendix D

TRAINING SERVICES CHECKLIST

Please check any of the following training services that could benefit your clinic and return to MCN via fax or mail.

____ **TB Net protocols and operations**
- clinical system implementation and maintenance
- when to enroll patients
- how to enroll patients
- clinical referrals
- patient follow-up
- using the portable record
- patient confidentiality

____ **Case finding training**
- active case finding
- passive case finding

____ **Susceptibility and resistance testing**
- booster effect
- when to test and retest

____ **Case management training**
- DOT
- DOPT
- completion of regimen vs. cure assessment

____ **Treatment information**
- when to start prophylaxis
- Mexican vs. American treatment regimens
- combination drugs used in Mexico
- complimentary drugs available in U.S.

____ **TB epidemiology for mobile populations**
- TB Net data base contents
- lost to follow-up rates (TB Net vs. non-TB Net)
- patterns and types of migration

Appendix E

TB Net Case Studies

In an attempt to document specific TB Net interventions, and to clearly illustrate TB Net's role in the case management of its patients, the following case studies have been compiled. TB Net's capacity to facilitate patient referrals to continuing treatment clinics as well as to provide medical treatment information and past treatment sites has played a significant role in assuring adequate treatment of these patients.

The TB Net portable record is often all that is needed for a patient to continue treatment after leaving his or her initial treatment site. However, many TB Net cases are complicated, and require significantly more intervention on the part of TB Net staff to ensure completion of adequate treatment. In these instances, TB Net has played an integral role in the transfer of detailed TB treatment information from one care site to another, and often locates and prepares the receiving clinic for the TB Net patient's arrival.

The presentation of the following case studies is not meant to embody the breadth of TB Net activities, but instead to provide a general picture of how TB Net operates within the overall process of treating mobile populations. Some of these cases are remarkable; others are not. However, in part at least, these patients owe their successful competion of TB treatment to their enrollment in the TB Net tracking and referral network.

TB Net Case: 0016
TB Net ID#: ESLR120528
Occupation: retired

Date of birth: 5/28/12
Place of birth: Ciudad Juarez, Chihuahua

Diagnosis: This patient presented to the El Paso City-County Health and Environmental District complaining of a persistent cough and shortness of breath. He weighed 117 pounds. Chest X-ray results read: "PA and lateral views ... show bilateral fibrotic changes involving areas of the right upper lobe, left upper lobe, right lower lobe and probably right medial lobe. In addition, there is a large cavitary lesion measuring at least 10 cm in diameter with thick wall, somewhat irregular, localized in the right upper lobe. There is also evidence of bilateral hilar lymphadenopathy." He was diagnosed with "probable silicotuberculosis" on February 17, 1996. The patient is also diabetic and has a history of smoking cigarettes.

Treatment: The patient was started on a four-drug regimen administered via DOT through the EL Paso Health Department (INH 300 mg, RIF 600 mg, PZA 1300 mg, EMB 800 mg). His treatment was scheduled to last one year. His regimen in Denver was INH 300 mg, RIF 500 mg, PZA 1500 mg, EMB 800 mg. This regimen was later changed to: INH 800 mg, RIF 600 mg, PZA 2500 mg, EMB 2400 mg, B6 100 mg.

Complicating factors: The patient was initially non-compliant, and he continued to have positive cultures until July 5, 1996. He moved between Denver and Juarez, but had to go to the El Paso Health Department for his DOT, which was complicated because his shortness of breath made the long walk from Juarez difficult. Contact investigation in Denver resulted in five family members with positive PPD skin tests.

Referrals: TB Net made 7 referrals between El Paso, Denver, and Ciudad Juarez. The patient moved with some regularity, and his non-compliance meant he could not be prescribed medication, but instead had to have DOT wherever he went.

TB Net intervention: After becoming aware of the long walk the patient had to make to get to the health department in El Paso, TB Net consulted the JUNTOS binational project in Juarez. JUNTOS agreed to administer DOT to him using medication from the El Paso Health Department. TB Net also coordinated all transfer of treatment information between the three different entities involved in his treatment.

Outcome: The patient completed his treatment in March, 1997. He has had no recurrence of symptoms and is considered cured by the El Paso City-County Health and Environmental District.

TB Net Case: 0278
TB Net ID#: DISE930519
Occupation: child

Date of birth: 5/19/93
Place of birth: Lerdo de Tejada, Vera Cruz

Diagnosis: The patient, a four year-old girl, showed an "apparent right superior mediastinal mass" on her X-ray. Following sedation, scans were made using 5 mm collimation and helical technique from the thoracic inlet to the upper abdomen and reconstructed as 5 mm contiguous cuts on soft tissue, lung and bone windows. The thymus appeared normal and separate from the mass shown on her X-ray. The mass was extremely vascular, measuring 5 cm anteroposteriorly, 2 cm transversely and about 5 cm craniocaudally. The mass was separated from the thymus by a sliver of air and therefore constitued a consolidated and possibly atelectatic lung rather than a mediastinal mass. Mediastinal adenopathy could not be identified and there was no hilar adenopathy separate from the mass, although the mass did extend down into the right hilum. There was no displacement of the superior vena cava, the left hilum and left mediastinum were normal, the left lung was clear, and there was no pleural fluid on either side. The patient was a contact of an active case of tuberculosis (her grandfather), and had a positive PPD (15 mm) on January 6, 1997.

Treatment: After ruling out other possibilities, the patient was diagnosed with TB and started on a nine month regimen. She received DOT administered through the Marion County Health Department in Salem, Oregon.

Complicating factors: The girl's family wanted to send her back to Mexico, where she was going to live with the same grandfather from whom she had contracted tuberculosis. This seriously compromised her chances of being cured, but due to financial concerns the family had no choice but send her back.

Referrals: TB Net contacted Dr. Melba Muniz Martelon at the National Ministry of Health in Mexico to find a doctor in Vera Cruz who would care for the patient. She referred TB Net Dr. Alejandro Escobar Meza. The doctor was able to find a clinic that would provide free continuing treatment for the girl's tuberculosis.

TB Net intervention: TB Net made available copies of all test results done on the patient in Salem. This information made treating the girl possible once she made it to the clinic in Vera Cruz. TB Net was also able to provide consultation with doctors in Salem and Vera Cruz to ensure that the patient's treatment regimen was adequate.

Outcome: The patient completed treatment in September, 1997. By then, she had returned to her family in Salem. She has had no recurrence of symptoms and is considered cured of tuberculosis by the Marion County Health Department.

TB Net Case: 0346
TB Net ID#: ESOV271223
Occupation: child day care worker

Date of birth: 12/23/27
Place of birth: Czestochov, Texas

Diagnosis: This patient was originally diagnosed with active tuberculosis by the Hidalgo County (Texas) Health Department -- McAllen clinic, on October 17, 1996. After leaving Texas to work in a migrant farmworker camp as a day care worker, she presented to Northwest Michigan Health Services in Traverse City, Michigan, complaining of a productive cough. She had no medical records with her. The doctor prescribed a cough medication and sent her home. The next morning a nurse practitioner was reviewing the woman's chart when she noticed a brief verbal history of a positive TB skin test and some question as to whether the woman had TB infection or active tuberculosis. An outreach team from NMHSI visited the woman, confirmed her past treatment in Hidalgo County, and then contacted the McAllen clinic to verify treatment dates and regimens. Hidalgo County had a difficult time locating these records until TB Net intervened to facilitate the transfer.

Treatment: The woman was treated sporadically by Hidalgo County, stopping and starting treatment after hepatatoxicity complicated her Izoniazid, Rifampin and Ethambutol regimens. Her treatment dates are: 11/21/96 - 1/6/97; 2/21/97 - 3/11/97; 4/11/97 - 7/23/97. The woman's last X-ray, dated 2/28/97, was abnormal with active TB disease. She left for Michigan on 7/23/97. The woman is currently being treated by the Leeland County (Michigan) Health Department in Traverse City, Michigan.

Complicating factors: The woman's history of hepatatoxicity complicates her treatment, and the threat of drug resistance is still present. In addition, her job as a child care worker makes successful treatment even more important. The woman divides her time between Michigan and Texas, and her periodic migrations present a challenge to the continuity of her care as well as her access to medication.

Referrals: The woman has been referred from Hidalgo County to Northwest Michigan Health Services, and from NMHSI to the Leeland County Health Department. She will soon be referred back from Leeland County to the Elsa clinic of the Hidalgo County Health Department.

TB Net intervention: TB Net was contacted by NMHSI after nurses in the clinic were unable to access the patient's records at the Hidalgo County Health Department. TB Net has numerous connections along the Texas-Mexico border, and those contacts were used to expedite NMHSI's requests. This intervention also alerted Leeland County to the seriousness of this case, whereas before they were unwilling to treat the patient.

Outcome: The patient is currently responding well to her regimen, and will be able to travel back to Texas with little risk to those traveling with her. She plans to continue and complete her treatment in Texas.

TB Net Case: 0144
TB Net ID#: AVLS750322
Occupation: migrant farmworker

Date of birth: 3/22/75
Place of birth: Mexico

Diagnosis: The patient had a positive PPD skin test (10 mm induration) at the Northwest Michigan Health Services clinic in Bear Lake, Michigan, on 7/1/96. Her chest X-ray taken on 7/15/96 was negative for tuberculosis disease. SGOT and SGPT tests taken on 7/1/96 were within normal limits. SGOT and SGPT tests taken on 9/30/96, shortly before the woman left Michigan, were within normal limits.

Treatment: The patient was started on prophylaxis (INH 300 mg.) on 8/5/96 and was treated by NMHSI until 10/24/96, when she left for Bowling Green, Florida. She left NMHSI with three month's supply of INH, and NMHSI did not see the patient again until she returned on 9/9/97.

Complicating factors: The woman moved with some frequency during her treatment, and she did not complete her originally prescribed six-month regimen until Fall, 1997. Also, the woman was unclear of her medical history and had no medical records with her. She could not tell clinic staff how much medicine she had taken, saying only that she had taken "all she needed."

Referrals: TB Net referred the patient from NMHSI to Bowling Green, Florida. She was then reffered to Hidalgo County, Texas, and from there back to NMHSI in Bear Lake.

TB Net intervention: NMHSI contacted TB Net to enroll the patient shortly before she left Bear Lake for the first time in October, 1996. TB Net referred the patient to the health department in Bowling Green, and then saw to the transfer of her treatment information to the Hidalgo County Health Department. The woman's TB Net portable record facilitated her referral back to NMHSI in Spring, 1997. TB Net was contacted again by NMHSI when clinic staff needed verification of the patient's treatment by Hidalgo County.

Outcome: The woman has successfully completed prophylaxis, though the treatment took twice as long as originally anticipated. Verification was supplied by Hidalgo County, and NMHSI has cleared the patient of need for further treatment.

TB Net Case: 0055
TB Net ID#: MIMO620110
Occupation: salesman

Date of birth: 1/10/62
Place of birth: Delicias, Chihuahua

Diagnosis: The patient was originally diagnosed with active tuberculosis by the public health department in Odessa, Texas.

Treatment: The patient was started on a four-drug regimen by the Tyler Chest Hospital on 11/8/95. This regimen was later maintained by the clinic in Odessa, the El Paso City-County Health and Environmental District, and Dr. Carlos Herrera Azcona, a private physician in Delicias, Chihuahua.

Complicating factors: The patient did not want to undergo treatment for active TB disease. His non-compliance necessitated that he be admitted to the chest hospital in Tyler, Texas. He was released back to Odessa one-month later. Further complicating his regimen was a move to El Paso in the middle of his treatment and a subsequent move to Delicias, Chihuahua.

Referrals: TB Net was informed about this case by the Odessa Health Department, but clinic staff handled his admission into Tyler Chest Hospital. He was later reffered back to the Odessa Health Department, then the health department in El Paso, and finally to Dr. Herrera in Chihuahua.

TB Net intervention: Odessa was able to handle the patient's treatment until he decided to move to El Paso. TB Net facilitated the continuation of his regimen in El Paso, and also found the man a private doctor in Mexico who could treat him once he moved there. TB Net provided Dr. Herrera with the patient's treatment history up to that point, and remained in contact threoughout the patient's treatment.

Outcome: The patient completed his treatment in Mexico, and is considered cured by Dr. Herrera.

TB Net Case: 0146-0152
TB Net ID#: GOLY920726, GOGN580223 GOLE840718, GOLL851231, GOLM880826 GOLB660866, GOLB951002
Occupation: migrant farmworker family

Date of birth: 7/26/92; 3/22/58; 7/18/84; 12/31/85; 8/26/88; 8/6/66; 10/2/95
Place of birth: Mexico

Diagnosis: The parents of this famworker family brought their 3 year-old daughter into the Van Buren/Cass County (Michigan) Health Department for treatment of a serious cough and also because she had lost weight. She was diagnosed with active tuberculosis after a chest X-ray revealed an abnormality between her superior and lower right hilum. She was started on a four-drug regimen of Isoniazid, Rifampin, Pyrazinamide, and Ethambutol. After finding this case, the health department skin tested her family, all of whom came back positive for TB infection. There was no indication of active TB among any of the girl's family members.

Treatment: The girl was started on a 12-month regimen; the family began a 9-month regimen of INH for TB infection.

Complicating factors: The family traveled to find seasonal work, which placed them in continuously close contact as they drove. Seeing that the entire family remained compliant with treatment was essential to everyone's health.

Referrals: The family was referred from the Van Buren-Cass County Health Department to the Tattnall County Health Department in Atlanta, Georgia. The family was also referred back from Atlanta to Van Buren-Cass County.

TB Net intervention: Enrollment of this family in TB Net meant they could carry portable records of their treatment as they traveled. Their entire treatment history was contained in these wallet-size booklets, which they presented to Tattnall County upon their arrival in Atlanta. TB Net called ahead for the family to alert Tattnall County to their impending arrival, and was also able to provide them with the family's treatment records from Van Buren-Cass County. TB Net also informed Van Buren-Cass County before the family returned there to complete treatment.

Outcome: The girl has been cured of tuberculosis, and the rest of the family completed their prescribed regimens on time. They were all cleared by the Van Buren-Cass County Health Department.

Appendix F

1996 REFERRAL & FOLLOW-UP ASSESSMENT REPORT

Analysis of TB Net's SPSS database yields several statistics indicative of the success of referral and follow-up conducted by the network during 1996. Before examining the conclusions that can be reached by such analysis, the raw data as collected on SPSS is presented below.

- 203 total patients enrolled in 1996
- 148 total clinical referrals for TB Net patients
- 125 successful referrals (patient continued treatment after arriving at "new" clinic)
- 84.5% of TB Net referrals were successful (patient continued treatment)
- 23 patients "lost" in referral process
- 6 patients found after earlier being declared "lost to follow-up"
- 17 TB Net patients currently listed as "lost to follow-up"
- 6.7% of total patients currently "lost"
- 2.3% of active TB patients "lost"
- Excluding those patients who completed treatment after being classified as "lost", TB Net's referral effectiveness rises to 88%
- 13 successful referrals completed by currently "lost" patients
- 28 patients completed treatment (19 active TB, 9 PPD+)
- 56 active TB cases enrolled
- 28.6% of active TB cases cured
- 24 moves by "complete" patients
- .857 average moves per "complete" patient

In order to provide some perspective on TB Net's overall effectiveness, these statistics can be compared to Texas' statewide figures for active TB treatment (no statistics are available on prophylactic treatment, as these cases are not accurately reported by county health departments).

Year	# Lost	% Lost
1991	151	6
1992	150	6
1993	51	2
1994	53	2
1995	52	2

Compared to state figures for all patients receiving treatment for active TB disease, TB Net's "lost to follow-up" rate of 2.3% for active cases indicates a referral system that has met with some success, but still has room for improvement.

Analysis of referral trends among all TB Net cases reveals that most will seek treatment at two clinics (first where they are diagnosed, then where they continue treament after seasonal

migration). A success rate of 84.5% is not unacceptable, but with modifications to referral protocols, this percentage could improve. With only four exceptions, "lost to follow-up" cases disappeared during downstream migrations. Here are suggestions for improvement of the referral process:

- include home address on TB Net enrollment form
- change enrollment protocol to include asking potential enrollees where they are moving next
- at initial treatment site, ask patient where he/she was during the year prior to his/her diagnosis
- educate all participating TB Net clinic nurses to the importance of knowing patient destinations, planned dates of departure, and previous locales
- educate TB Net clinic nurses to the importance of alerting the Project Manager to the departure of a patient before the patient moves
- alert downstream clinics to the importance of reporting TB Net case arrivals

These revisions and additions to existing TB Net patient registration protocols should help improve referral success rates. Some of these changes have already been implemented, and the education process is on-going.

Conclusions:

Any proposal for improved referral in 1997 must include a recognition of the need for a sharper border focus in order to ensure better continuity of care. This is because many of TB Net's "lost" cases were in the process of being referred to border clinics in Texas.

Also, TB Net must be more firmly in place in the North before the Spring farmworker migration. This will facilitate more effective follow-up and also should help expand the project. Interviews with upstream field clinicians reveal a desire on the part of TB nurses to be better prepared to handle the annual influx of TB patients from the South. Clinics have already requested and received sufficient portable records. Also, having been through the process once already, they are more familiar with the network's operation and how to utilize this new resource.

Assessment of TB Net's follow-up protocols revealed no need for systematic changes. Some procedural changes are implicitly contained in alterations to the referral process, such as clinical case reporting and sharper focus on the border regions of Texas. These factors notwithstanding, TB Net's follow-up process is effective and efficient. Since October (when TB Net was in the process of relocating to the MCN offices), follow-up has been conducted at least once per month for every enrolled patient.

PATIENT FOLLOW-UP PROTOCOLS

When clinician contacts TB Net to enroll a patient:

1. Confirm that clinic is a TB Net member clinic (that they signed clinic enrollment form)
2. Confirm that patient signed consent form to be tracked by TB Net
3. Confirm that patient was issued a portable record
4. Fill out "TB Net Enrollment Form" over the phone with clinic, then enter into data base

- protocol is the same when TB Net contacts clinics to ask for new enrollees, except no clinic enrollment confirmation is needed

When clinician contacts TB Net to provide follow-up information:

1. Ask for and receive patient's TB Net identification number
2. Confirm patient's name is same as identification number indicates
3. Update patient information

- if patient identification number and name are not in system, he/she may be using an alias; check patient DOB to identify these TB Net patients and note alias for future reference
- Question: if so, do I tell the clinic that their patient is using an assumed name? I think not...

When clinic requests information on a TB Net patient:

1. Ask for and receive patient's TB Net identification number
2. Confirm patient's name as above
3. Have clinic fax a written copy of their request (using TB Net ID# to identify patient)
4. Call clinic and provide patient information only to the person requesting it
5. Send copy of "prospective clinic letter" if clinic is not already enrolled in TB Net; try to get clinic to join TB Net

When TB Net contacts clinic for patient update:

1. Identify patient by identification number to clinician
2. Confirm patient's name matches ID#
3. Ask if treatment regimen has changed
   - if yes: have clinic fax a copy of new treatment regimen along with any medical test results; include this along with "Follow-Up" form in patient's paper file
   - if no: update patient on SPSS data base as "continues treatment" unless otherwise

- If patient is no longer receiving treatment at that clinic: ask clinic where patient has moved to and include this information on follow-up form

Appendix G

TB Net First Quarter Report

The first three months of 1997 have seen significant expansion of MCN's TB Net tracking system, and projections for the next quarter indicate further growth. One of MCN's major concerns in 1997 will be to see that this growth is managed and coordinated effectively. The purpose of this report is to discuss this, and other issues, facing TB Net in 1997 as well as to present project outcomes to date.

After meetings with and recommendations from the Texas Department of Health, MCN focused its project expansion efforts along the Texas-Mexico border throughout the first quarter of the year. Todd Harlow, MCN's TB Net project manager, Domingo Navarro, TDH Region 11 TB coordinator, Tom Walch from the state health department and officials representing all 10 clinics from Hidalgo County met on February 25th to discuss TB Net implementation in border health clinics and outreach programs.

Numerous state health officials had anticipated potential resistance to TB Net from border outreach workers and health department nurses, as they would possibly see no benefit to tracking residents of their own counties. In order to address these concerns before they became a hindrance, Mr. Harlow emphasized that TB Net would provide a mechanism by which these nurses could receive updated treatment information on border residents who were continuing TB treatment or prophylaxis in northern states. Also, TB Net could provide a more effective means of referring their patients to out-of-state clinics, as the interstate transfer forms they currently use apparently disappear in a blur of state health department red tape.

By emphasizing TB Net's feedback capacities and assuring the nurses they would not have to fill out additional forms (outside the portable record issued to every TB Net patient), these clinicians soon became excited about the prospect of tracking and effectively treating their mobile TB patients. An additional meeting was scheduled for April 7th, at which time Mr. Harlow will instruct Region 11 nurses and border outreach workers on how to implement and utilize the system in their clinics and outreach programs.

While MCN has focused its efforts on expanding TB Net to the Texas-Mexico border, considerable expansion is occurring in upstream states, as well. MCN has been invited to present TB Net to Wisconsin's state TB Networking meeting on April 2nd. On April 3rd, Dr. Tina Castenares from Washington state will present TB Net to a conference of health officials and front-line clinicians from Washington and Oregon. Ella Ochoa, head of the Nebraska Association of Farmworkers, has expressed interest in a TB Net presentation at a NAF conference at the end of April.

All of these states (plus Colorado and California) are in the process of trying to develop a tracking system for their state's seasonal workers and mobile patients, and all of them are looking at TB Net as an example of what to do. This could be problematic for TB Net. This

project's effectiveness hinges on its ability to create a binational network of migrant and public health clinics that are linked to a toll-free phone number for case referral and follow-up. If six or seven states have hybrid forms of TB Net implemented for their patients, the concept of a unified network of clinical linkages will be lost.

This in and of itself may not necessarily be so bad, but each system's tracking, referral and follow-up capabilities would be compromised by having fewer participating clinics. Instead, the migrant farmworkers and other mobile populations who seek TB treatment at multiple clinics during the course of their therapy would be better served by having a single interstate and binational tracking system recognized by every state that treats these people as a resource.

To achieve this, MCN would like these disparate states to implement TB Net in their clinics, rather than developing and implementing their own programs. This is why MCN presentations of TB Net at various meetings in the North are going to be so important. MCN will be able to market TB Net as a product that can be provided to each of these states. At the same time, these states will be able to avoid the cost and time of developing and implementing a new tracking system, as one that already works will be at their fingertips.

Another important aspect of TB Net is data collection. The SPSS data base that houses all patient information includes such epidemiologic categories as occupation, place of residence, associated conditions (HIV/AIDS, alcoholism, substance abuse, diabetes, Hepatitis B), age, gender, type of infection, as well as treatment regimens, durations and histories.

Having said that, a major issue facing TB Net is what to do with this data. Also, should additional or different information be collected for analysis. With the help of TB Net's medical consultants, MCN has examined the possibility of publishing a paper with analysis of this data in a medical journal. At the moment, the consensus is that sufficient data have not been collected, making publishing a difficult proposition. However, that may soon change. Thus, honest and rigorous epidemiologic examination of TB Net outcomes will be a major issue in the next quarter and beyond.

Having discussed MCN's concerns about keeping a handle on the future growth of TB Net and publishing a scientific paper in a medical journal, the other purpose of this report – project outcomes to date – will now be addressed.
As of March 29th, 249 patients were enrolled in TB Net, including both active TB cases and those receiving receiving prophylactic treatment. While 300-400 patients will be added to the system from Hidalgo County alone in early April, these new cases (as well as those from upstream states) will have no bearing on first quarter outcomes.

The enclosed tables are epidemiologically significant statistical breakdowns of TB Net patients. They will provide most of the specifics. However, a few of these outcomes merit further discussion. To date, TB Net has lost six its 56 active TB cases, and cured 21. From this, an accurate assessment of TB Net's effectiveness can be made. After factoring out those patients who refused treatment, died or are continuing treatment, 77.8% of enrollees who have had time to complete their active TB treatment regimens successfully did so.

As for those receiving prophylaxis, the same process yields a 56% success rate, as 14 cases have completed their regimens while another 11 were lost to follow-up. However, considering that 71.4% of cases receiving prophylaxis are still on treatment (135 total), the proverbial jury is still out on TB Net's effectiveness at treating these patients.

To gauge this system's success, TB Net requested Texas' overall lost to follow-up rates for prophylactic cases, but found that no numbers were available. Due to inaccurate or non-existent reporting practices by county health departments providing prophylaxis, the state could not provide an accurate assessment of prophylactic treatment completion rates.

In general, TB Net's figures speak for themselves. They indicate that the system has met with mixed results, that it has shown the potential to effectively treat historically problematic populations but has much room for improvement. As the system becomes more firmly in place and more effectively utilized in participating health clinics, and as MCN staff become more versed in assisting these – and new – clinics with TB Net operations, success rates should improve.

In the meantime, MCN will focus its second quarter efforts on ensuring that effective referral and follow-up take place while TB Net's patients are pursuing seasonal work in upstream states. At the same time, managing the considerable growth TB Net is experiencing will be at the forefront of MCN's efforts. MCN is excited about the future of this project, and committed to ensuring that every step is taken to realize TB Net's potential to effectively treat historically underserved populations.

TB Net Second Quarter Report

TB Net has experienced considerable growth over the past three months, and judging by the nationwide interest in this project, this trend promises to continue into the third quarter of 1997 and beyond. However, this rapid expansion presents many challenges to the project, challenges which must be met and overcome if TB Net is to achieve its full potential.

This report contains:

- discussion of pressing issues
- epidemiological analysis of TB Net patients with second-quarter outcomes
- breakdowns of meetings and conferences attended
- listing of second quarter clinical enrollments

HRSA-funded California expansion effort: The Health Resources and Services Administration recently earmarked end-of-year funds for TB Net expansion into California. This funding will enable TB Net to establish strong linkages to California's state health department, as well as migrant health clinics and county health departments throughout California.

Using existing clinical linkages in Washington, Idaho and Oregon, TB Net should be able to track migrant farmworkers and other mobile populations upstream. To tackle the tracking problem along the California-Mexico border, TB Net plans a cooperative effort with San Diego County's binational TB tracking project. Dr. Kathy Moser, who heads the project in San Diego, has already expressed her willingness to cooperate, and the funds set aside to provide tracking materials to California should greatly help implementation.

Included in the grant proposal submitted to HRSA was a provision to target three additional states for a focused expansion effort. These states will be determined by the results of a survey to be developed by MCN and sent to state TB controllers who have already expressed interest in TB Net.

An additional provision will provide funds for printing and distributing a TB Services Directory for the United States and Mexico. This ambitious undertaking would create a complete listing of migrant and public health clinics throughout the U.S. and Mexico that provide TB services to mobile populations. Needless to say, this could prove to be an invaluable tool for clinicians who need assistance referring patients.

Collaboration with the Eastern Stream TB Network: The Eastern Stream TB Network, established by the North Carolina Primary Health Care Association with funding from the Robert Wood Johnson Foundation, has been in operation for three years, but will come to an end at the end of 1997. The project focuses primarily on referring migrant farmworkers upstream from Putnam County, Florida, to tobacco farms in North Carolina. After enrolling active TB cases

and positive reactors from the Putnam County Health Department, the system uses upstream clinical linkages to track the farmworkers after they move north.

Amy McMann, the Eastern Stream TB Coordinator for NCPHCA, has been working with TB Net to facilitate enrollment of these patients into TB Net by the end of the year. Potential stumbling blocks include confidentiality issues, finding the farmworkers so they can sign TB Net consent forms and receive portable records, and implementing TB Net in identified Eastern Stream clinics.

TB Net Clinic System Manuals have been shipped to Ms. McMann so she can deliver them to identified TB clinics in North Carolina, and the Putnam County Health Department has expressed interest in joining TB Net. If successful, this linkage would create a strong network of TB Net clinics up and down the East Coast.

Expansion into Mexico: Significant progress was made during the second quarter regarding project expansion into Mexico. From the outset, forging strong clinical linkages in Mexico was a major goal of this project, as TB Net's success in Mexico will go a long way toward establishing its viability as a tracking system. Collaboration with Ten Against TB has proven to be a major factor in TB Net's ability to track patients to and from Mexico. In Tijuana, and again at a technical directors meeting in Juarez, Ten Against TB resolved to adopt TB Net as a mechanism for binational TB data transfer. This endorsement of the project has allowed Mexican clinics to implement TB Net, and their familiarity with this tracking system has been essential to TB Net's ability to refer patients to clinics in Mexico.

Clinical re-orientation: Many of TB Net's participating clinics, especially those in upstream states like Michigan and Wisconsin, are seasonal clinics open only during the Summer. In many instances, these clinics have reopened with entirely new staff. This has necessitated a wholesale re-orientation of nurses and outreach workers in the operation of TB Net.

Patient enrollment and follow-up protocols have been a major cause of confusion for these new clinicians, and TB Net has trained at least 25 nurses and outreach workers at 12 clinics that already participate in TB Net. Only in the last few weeks have these clinics been sufficiently versed in TB Net to begin enrolling new patients and start providing follow-up information on patients enrolled in the network.

Without exception, these new personnel have been enthusiastic about having TB Net as a resource, and they have all shown a willingness to cooperate and participate in TB Net. New patients are starting to trickle in from these clinics, and more are sure to follow as they become more familiar with how to utilize TB Net as a resource for tracking and referring their mobile patients.

Data base conversion to FoxPro/EpiInfo: The third quarter of 1997 could be the last in which TB Net utilizes SPSS software for its data base. SPSS is a powerful statistical program, capable of computing hundreds of variables simultaneously, but it is not designed for epidemiology and annual licensing fees are $400.

Instead of continuing with SPSS, TB Net plans to convert its data base to FoxPro, EpiInfo, or a combination of both. FoxPro costs $100, and EpiInfo is a public domain program. The Texas Department of Health, several other state departments of health, and some clinics in Mexico all use FoxPro and/or EpiInfo. Also, these programs are capable of conducting the kind of analysis TB Net is interested in at least as well as SPSS. For these reasons, TB Net will convert its data base by the end of 1997.

However, a computer consultant may be required to assist in the conversion of the TB Net data base, and this could become expensive. Hopefully, with the assistance of the Texas Department of Health, in-house services can be provided, and thereby save a significant amount of money. In the meantime, SPSS continues to work well. This software was used to calculate the cross-tabulations and graphs presented later in this report.

TB Net border implementation: During the second quarter, much effort was focused on expanding border utilization of TB Net. Todd Harlow, TB Net project manager, met with nurses from Hidalgo, Cameron, and Webb counties during this time, and also attended several meetings and conferences where border implementation of TB Net was discussed (a complete list of meetings/conferences attended is included in this report).

Unfortunately, success in this regard has been limited. Only 12 patients have been enrolled by clinics in all three of these counties. Clearly, much needs to be done to enhance TB Net along the Texas-Mexico border, and the third quarter will see a renewed effort to educate border nurses, outreach workers, and administrators in the clinical operation of TB Net.

Operational note: TB Net's compliance review by the Texas Department of Health has been postponed until the end of 1997.

Second quarter meetings and conferences attended

Staff/Presenter	Meeting/Conference	Site	Date
Savitri Tsering	TB Networking conference	Madison, Wisconsin	April 2
Del Garcia	Ten Against TB	Tijuana, Mexico	April 3-4
Dr. Tina Castenares	ALA TB and Migration conference	Salem, Oregon	April 3
Todd Harlow	Hidalgo County nurses meeting	Edinburg, Texas	April 7
Todd Harlow	TDH Border TB Coalition	Harlingen, Texas	April 7
Del Garcia	TATB Technical Directors meeting	Juarez, Mexico	April 25-26
Todd Harlow	Laredo-Webb County Health Dept.	Laredo, Texas	April 30
Del Garcia	National Farmworker Health Conf.	Anaheim, California	May 15-18
Todd Harlow	"Binational Health Data Transfer"	Anaheim, California	May 15-18
Jillian Hopewell	ATS Annual Conference	San Francisco, Calif.	May 17
Todd Harlow	TDH Border TB Task Force	Harlingen, Texas	May 29
Todd Harlow	USMBHA Annual Conference	Phoenix, Arizona	June 3-6
Todd Harlow	TMA Border TB Task Force	San Antonio, Texas	June 20

Second quarter clinical enrollment

Clinic/Health Department	Location	Contact
Okeechobee County Health Department	Okeechobee, Florida	Dora Sanchez
St. Lucie County Health Department	St. Lucie, Florida	Judy Maugham
Marion County Health Department	Salem, Oregon	Judy Kloos
San Patricio County Health Department	San Patricio County, Texas	Edith Rollison
St. Vincent's Hospital	New York, New York	Dr. John McAdam
Stovall Medical Center	Granville, North Carolina	TB nurse
Oak Orchard Community Health Center	Brockport, New York	TB nurse
Clinica Adelante		
Santa Cruz County Health Department	Nogales, Arizona	Joyce Hubbard
Hospital Basico	Nogales Sonora, Mexico	Mercedes Trejo
BJCHS, Inc.	Ridgeland, South Carolina	Carolyn Davis
Community Health Center, Inc.	Vineland, New Jersey	Brian Burgess
Keystone Community Health Center	Chambersburg, Pennsylvania	Dr. Ed Zuroweste
Tri-County Community Health Center	Newton Grove, N. Carolina	Dr. Steve Ciesielski
Putnam County Health Department	Palatka, Florida	Cheryl Hampton
Hudson Valley Migrant Health	Beacon, New York	James O'Barr
Crockett County Health Department	Crockett, Texas	Sandy McCullough
Hendry County Health Department	Hendry, Florida	Margie Alderman

Second Quarter Data Analysis

Current status of TB Net patients

Count

		current status									
		Cured	Lost to follow-up	Death	Treatment continues	Unknown	Other	Moved	Non-TB	Refuses treatment	Total
Type	TB	25	6	2	27			1	1	2	64
	PPD+	14	11	1	165	9	9	12	1	4	226
Total		39	17	3	192	9	9	13	2	6	290

Current treatment status by age group

active cases and positive reactors

		case									
		Cured	Lost to follow-up	Death	Treatment continues	Unknown	Other	Moved	Non-TB	Refuses treatment	Total
Age group	0-5				14						14
	6-12	2			18	1		3	1		25
	13-17	1	1		9	1		1		1	14
	18-24	6	2		47	3	1				59
	25-31	6	3	1	40	3	1	2		4	60
	32-40	12	6	1	37	1	5	4		1	67
	41-50	4	3		18		1	2			28
	51-60	1			7		1	1			10
	61-70	2			1						3
	71+	3	2	1	1				1		8
Total		37	17	3	192	9	9	13	2	6	288

Current treatment status by gender

Count

		case									
		Cured	Lost to follow-up	Death	Treatment continues	Unknown	Other	Moved	Non-TB	Refuses treatment	Total
gender	male	27	11	2	117	4	3	6	1	2	173
	female	12	6	1	75	5	6	7	1	4	117
Total		39	17	3	192	9	9	13	2	6	290

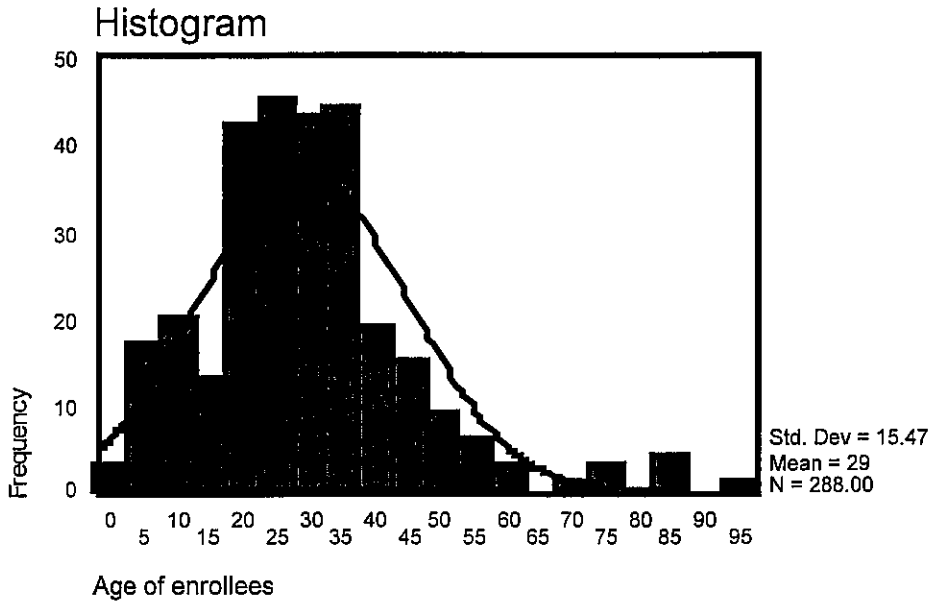
Current treatment status by drug resistance

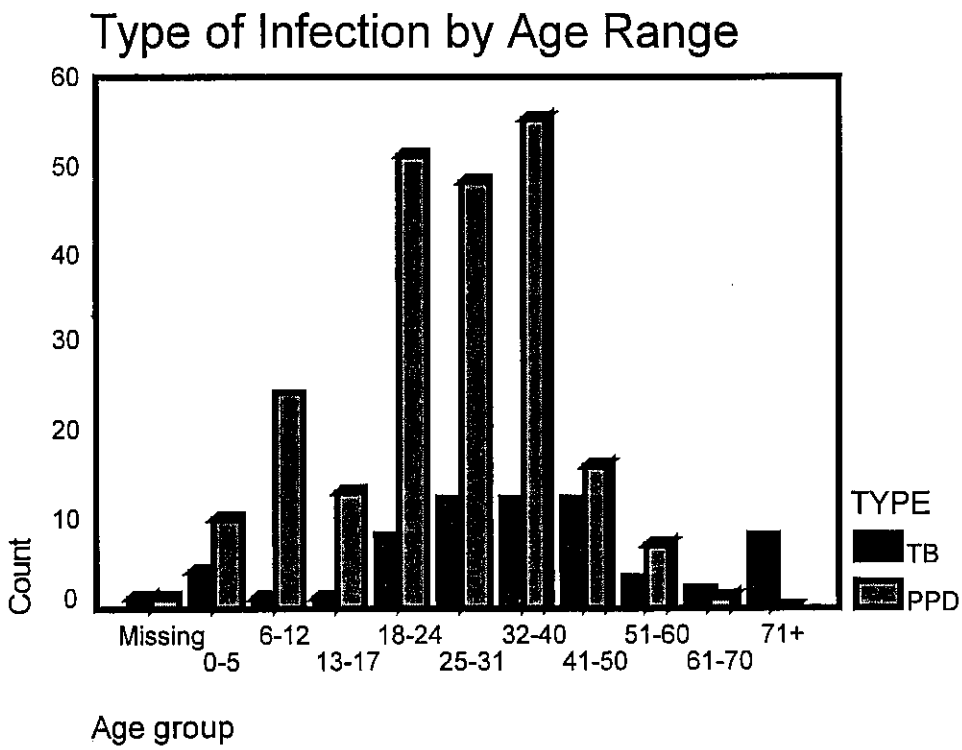
active cases and positive reactors

		case									
		Cured	Lost to follow-up	Death	Treatment continues	Unknown	Other	Moved	Non-TB	Refuses treatment	Total
Drug resistance	Yes	1			5		1			2	9
	No	33	15	3	170	7	6	13	2	3	252
	Unknown	2	2		17	2	2			1	26
Total		36	17	3	192	9	9	13	2	6	287

Age calculations of TB Net enrollees

	N		Mean		Median	Std. Deviation	Minimum	Maximum	Percentiles		
	Valid	Missing							25.00	50.00	75.00
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
AGE	288	2	29.22	.91	28.00	15.47	1	95	20.25	28.00	36.00





TB Net Third Quarter Report

TB Net has experienced considerable growth over the past three months, and judging by the nationwide interest in this project, this trend promises to continue into the fourth quarter of 1997 and beyond. However, this rapid expansion presents many challenges to the project, challenges which must be met and overcome if TB Net is to achieve its full potential.

This report contains:

- discussion of pressing issues
- epidemiological analysis of TB Net patients with third-quarter outcomes
- breakdowns of meetings and conferences attended
- listing of abstracts and articles submitted in the third quarter
- listing of third quarter clinical enrollments
- profile of "lost" TB Net patients

Improving follow-up rates over last year's Fall migration: The Fall migration season annually presents TB Net with its greatest challenge. The vast majority of TB Net's "lost" patients are moving south when follow-up breaks down. To address and remedy this problem, TB Net has focused extensively on implementation in border-area health departments. Visits to health departments in Laredo, Edinburg, McAllen, Elsa and Donna, Texas, as well as Nuevo Laredo, Mexico, have raised awareness of TB Net among clinic staff at these sites and prepared them to handle the coming influx of TB Net patients from the North in addition to their regular caseload of mobile binational patients.

TB Net was also presented to a meeting of Hidalgo County nurses and outreach workers in order to prepare them to enroll and refer mobile TB patients from this border region. Also present at this meeting were promotoras from the Midwest Migrant Health Information Office. Their willingness to conduct outreach and assist the health department with DOT and DOPT should be a great help to TB control efforts in the Valley.

On the other end, TB Net has also concentrated on migrant health centers in upstream states. Last year, many TB Net patients left their clinics without providing forwarding addresses or phone numbers. Consequently, follow-up on these patients was quite difficult. This year, the focus has been on having nurses at these migrant health centers gather that information before the patients leave. Having addresses to find patients once they relocate makes the referral process much smoother. Hopefully, these efforts will result in improved completion rates for TB Net patients.

Enhancing border implementation of TB Net: As was discussed above, considerable emphasis has been placed on border implementation of TB Net. In addition to educating border nurses on TB Net operations, efforts have been made at the regional level to improve utilization

of this project. TB Net is now planning a meeting with state and Region 11 officials to discuss strategy in this regard. Issues include determining which patients should be enrolled, coordinating with local binational initiatives, and enhancing administrative support of TB Net.

Modification of the SPSS data base: An effort aimed at improving the quality of epidemiologically significant data collection has resulted in modifications to the SPSS data base. By adding categories such as age range, duration of treatment and site of diagnosis, and by reprograming other categories like birth state and living place, TB Net has expanded its capacity to analyze patient data. It is now possible to analyze infection rates by age range and birth state. TB Net can also determine the average duration of treatment for its patients. Also, TB Net can determine if a patient's living place (a farmworker camp versus an apartment, for instance) affects his or her completion rates and length of treatment.

These modifications came after consulting with Dr. Alan Dever, an epidemiologist at the Mercer University School of Medicine. In the future, TB Net hopes to identify TB "hot spots" by analyzing data on site of diagnosis and current residence. Also planned is a mapping project that tracks patterns of mobility of TB Net's patient base.

Using existing data variables, TB Net has developed a "Lost Patient Profile" that describes the characteristics of the hardest-to-treat mobile patients. The profile is contained on page 7 of this report.

Continued collaboration with the Eastern Stream TB Network: TB Net continued to work with the Eastern Stream TB Network throughout the third quarter of 1997. Amy McMann, ESTBN coordinator, presented TB Net at several venues, including the Southeastern TB Controllers Annual Meeting in September. Also, by conducting numerous site visits, Ms. McMann has educated dozens of clinicians in North Carolina about TB Net operations, and has positioned TB Net to be a valuable tool for health centers throughout the Eastern Stream.

Publishing TB Net: As part of MCN's ongoing efforts to present epidemiological data on TB in mobile populations, and to raise awareness of the project in the medical and clinical community, TB Net's medical consultants have identified a need to publish TB Net in medical journals. To do so, MCN submitted a paper to the *Notes From the Field* section of the *American Journal of Public Health.* The paper is currently under review.

For the future, MCN plans to publish TB Net data as part of its *Monograph* series. Also, a more involved, scientific paper will be submitted to the *Journal of Health Care for the Poor and Underserved.*

MCN believes that publishing epidemiological data and TB Net outcomes are essential to its ongoing efforts to raise awareness about farmworker health issues.

Third Quarter Publications/Abstracts

Publication/Abstract	Date submitted	Status
TB Net for Pediatric Patients	June 27th	presentation planned in El Paso, Oct. 23rd
Eastern Stream Forum	July 3rd	presentation planned in Raleigh, Nov. 22nd
Border Vision/Frontenza	July 6th	published in July/August issue
Notes From the Field	August 7th	under review

Third Quarter TB Net Travel/Presentations

Staff/Presenter	Location	Presentation	Date
Todd Harlow	Laredo/Nuevo Laredo	TB Net clinical implementation	Aug. 14th
Amy McMann	Southeast TB Controllers mtg.	TB Net for mobile populations	Sep. 8th
Todd Harlow	Midwest Stream Forum	TB Net breakfast round table	Sep. 13th
Todd Harlow	Hidalgo County nurses meeting	TB Net implementation	Sep. 29th

Third Quarter Contacts/Clinical Enrollment

Contact	State/Clinic	Title
Kathryn Koski	Los Angeles County HD	TB Control Program Advisor
Pat Johnson	Tennessee Department of Health	Director of Tuberculosis Control
Shirley Dobbins	Ohio Department of Health	Tuberculosis Program Consultant
Gloria Mattey	Intercare Community Health Network	TB nurse
Jennifer Pauk	Farmworker Health Services	Field Operations Administrator
Marnell Kerschner	Kentucky Dept. for Public Health	Public Health Advisor – TB
Leeza Stoller	Curry National Tuberculosis Center	Director
Lynelle Phillips	Missouri Department of Health	Tuberculosis Control Director
Pam Vukelic	North Dakota Department of Health	TB/HIV/AIDS Program Manager
Karen M	Sparta (Michigan) Health Department	TB nurse
Marsha Dragiewicz	Kent County (Michigan) Health Dept.	TB nurse
Diane Grider	Yuma (Arizona) Health Department	TB nurse
Ann Sabatka	Brown County (Mich.) Health Dept.	TB nurse
Kendall Carney	El Paso Health & Environmental Dist.	TB control
Lori Gauch	Putnam County (Fla.) Health Dept.	TB nurse
Mary Ellis	Travis County (TX) Health Dept.	TB nurse

Third Quarter Outcomes

Current status of TB Net patients

Count

		case									
		Cured	Lost to follow-up	Death	Treatment continues	Unknown	Other	Moved	Non-TB	Refuses treatment	Total
TYPE	TB	33	6	2	21			1	1	4	68
	PPD	53	17	1	151	8	16	12		10	268
Total		86	23	3	172	8	16	13	1	14	336

Current treatment status by age range

Active cases and positive reactors

		case									
		Cured	Lost to follow-up	Death	Treatment continues	Unknown	Other	Moved	Non-TB	Refuses treatment	Total
Age group	0-5	4			14						18
	6-12	9	1		13	1		3			27
	13-17	6	2		6		2	1		1	18
	18-24	13	5		42	3	4	1			68
	25-31	17	4	1	38	3	2	2		5	72
	32-40	18	5	1	39	1	3	5		4	76
	41-50	9	4		14		3			2	32
	51-60	2			5		2	1		2	12
	61-70	2			1						3
	71+	4	2	1					1		8
Total		84	23	3	172	8	16	13	1	14	334

Current treatment status by drug resistance

Active cases and positive reactors

		case									
		Cured	Lost to follow-up	Death	Treatment continues	Unknown	Other	Moved	Non-TB	Refuses treatment	Total
Drug resistance	Yes	2			4		1			3	10
	No	74	23	3	156	6	13	13	1	8	297
	Unknown	7			12	2	2			3	26
Total		83	23	3	172	8	16	13	1	14	333

Current treatment status by gender

Active cases and positive reactors

		case									
		Cured	Lost to follow-up	Death	Treatment status	Unknown	Other	Moved	Non-TB	Refuses treatment	Total
gender	male	53	18	2	107	4	6	6	1	4	201
	female	33	5	1	65	4	10	7		10	135
Total		86	23	3	172	8	16	13	1	14	336

"Lost" Patient Profile

Analysis of the TB Net SPSS data base yields some interesting data on patients lost to follow-up after being enrolled in the tracking network. Findings include:

- 23 patients (positive reactors and active cases) are currently classified as "lost to follow-up"
- 21 of these 23 patients were moving downstream when they were "lost"
- 7 of these patients were *definitely* going to Mexico
- 6 were heading to U.S. border areas
- 7 simply disappeared from their initial treatment site
- both of the "lost" cases that were moving upstream were being referred to the same health center (La Clinica de Los Campesinos in Wild Rose, Wisconsin)

Epidemiological findings include:

- 0 patients age 12 or under have been "lost"
- 25% of lost patients are in the 32-40 age range; 22.6% of overall enrollment is 32-40
- 45.8% are from an unknown birth state or country
- 25% are from either Oaxaca, Mexico or El Salvador
- 0 drug-resistant cases have been lost
- 33.3% of lost patients are married, 16.7% are single, 37.5% have unknown marital status; overall, 39.5% are married, 34.4% are single, and 21% have unknown marital status
- 62.5% of lost patients are farmworkers, 16.7% are unemployed; 57.3% of overall enrollment are farmworkers, 5% are unemployed
- 75% of lost patients are male, while 59.6% of the overall enrollment is male

TB Net's "lost" patients are far more likely to have unknown birth places and marital status than those who have either completed treatment or are continuing on treatment. "Lost" patients are also far more likely to be unemployed.

From this analysis, a general profile of TB Net's lost patients can be generated. A patient lost to follow-up is most likely to be:

- male
- between 32-40
- married or with unknown marital status
- from Oaxaca, El Salvador, or of unknown birth origin
- a farmworker
- non-drug-resistant on prophylactic treatment
- moving South when lost

"Lost" Patient Data

Age group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6-12	1	4.2	4.3	4.3
	13-17	2	8.3	8.7	13.0
	18-24	4	16.7	17.4	30.4
	25-31	4	16.7	17.4	47.8
	32-40	6	25.0	26.1	73.9
	41-50	2	8.3	8.7	82.6
	51-60	1	4.2	4.3	87.0
	71+	3	12.5	13.0	100.0
	Total	23	95.8	100.0	
Missing	System Missing	1	4.2		
	Total	1	4.2		
Total		24	100.0		

birth state

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unknown	11	45.8	47.8	47.8
	Chihuahua	1	4.2	4.3	52.2
	Coahuila	1	4.2	4.3	56.5
	Oaxaca	3	12.5	13.0	69.6
	Jalisco	1	4.2	4.3	73.9
	Durango	1	4.2	4.3	78.3
	Tamaulipas	1	4.2	4.3	82.6
	Florida	1	4.2	4.3	87.0
	El Salvador	3	12.5	13.0	100.0
	Total	23	95.8	100.0	
Missing	System Missing	1	4.2		
	Total	1	4.2		
Total		24	100.0		

Drug resistance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	22	91.7	95.7	95.7
	DON'T KNOW	1	4.2	4.3	100.0
	Total	23	95.8	100.0	
Missing	System Missing	1	4.2		
	Total	1	4.2		
Total		24	100.0		

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SINGLE	4	16.7	18.2	18.2
	MARRIED	8	33.3	36.4	54.5
	OTHER	1	4.2	4.5	59.1
	UNK	9	37.5	40.9	100.0
	Total	22	91.7	100.0	
Missing	System Missing	2	8.3		
	Total	2	8.3		
Total		24	100.0		

Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FARMWORKER	15	62.5	65.2	65.2
	RETIRED	1	4.2	4.3	69.6
	STUDENT	1	4.2	4.3	73.9
	UNEMPLOYED	4	16.7	17.4	91.3
	CONSTRUCTION	1	4.2	4.3	95.7
	CHILD	1	4.2	4.3	100.0
	Total	23	95.8	100.0	
Missing	System Missing	1	4.2		
	Total	1	4.2		
Total		24	100.0		

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	18	75.0	78.3	78.3
	female	5	20.8	21.7	100.0
	Total	23	95.8	100.0	
Missing	System Missing	1	4.2		
	Total	1	4.2		
Total		24	100.0		

Type of Infection

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	TB	8	33.3	34.8	34.8
	PPD+	15	62.5	65.2	100.0
	Total	23	95.8	100.0	
Missing	System Missing	1	4.2		
	Total	1	4.2		
Total		24	100.0		

Appendix H

SPSS DATA BASE CATEGORIES LIST

These data elements are collected on all patients enrolled in TB Net:

TB Net number (in order of registration)
Month enrolled
Name (first and last)
Personal identification code
Gender
Date of birth
Age
Age Range
Race
Place of birth (city, state, country)
Marital status
Type (TB or PPD+)
Case status
Drug resistance
Occupation
Residence (home, jail, farmworker camp, etc.)
Associated conditions (diabetes, HIV, etc.)
Treatment start date
Treatment end date
Treatment Duration
Treatment site (site of first treatment)
Continued treatment sites
Clinical Contact
Month-by-month status updates

SPSS DATA CODES

Gender:

1 - male
2 - female

Age range:

1 - 0-5
2 - 6-12
3 - 13-17
4 - 18-24
5 - 25-31
6 - 32-40
7 - 41-50
8 - 51-60
9 - 61-70
10 - 71+

Race:

1 - white
2 - hispanic
3 - african-american
4 - indian-american
5 - other

Birth state:

1 - unknown
2 - Mexico DF
3 - Guanajuato
4 - Chihuahua
5 - Coahuila
6 - Oaxaca
7 - Jalisco
8 - Durango
9 - Guerrero
10 - Hidalgo
11 - Michoacan
12 - Tamaulipas
13 - Tabasco
14 - Nuevo Leon
15 - Vera Cruz
16 - Quintana Roo
17 - Sonora
18 - Guatemala
19 - Texas
20 - North Carolina
21 - New York
22 - Florida
23 - Utah
24 - Idaho
25 - Colorado
26 - California
27 - Georgia
28 - Phillipines
29 - Arizona
30 - El Salvador
31 - Honduras
32 - Potosi
33 - Michigan
34 - Jamaica
35 - Queretaro

Birth country:

1 - Mexico
2 - US
3 - El Salvador
4 - Phillipines
5 - other

Marital status:

1 - single
2 - married
3 - divorced
4 - other
5 - unknown

Type of infection:

1 - TB
2 - PPD+
3 - other

Status:

1 - complete
2 - lost to follow-up
3 - death
4 - treatment continues
5 - unknown
6 - other
7 - moved
8 - non-TB
9 - refuses treatment

Associated conditions:

1 - diabetes
2 - substance abuse
3 - alcohol
4 - HIV/AIDS
5 - other
6 - none
7 - unknown
8 - hepatitis B

Drug resistance:

1 - yes
2 - no
3 - unknown

Occupation:

1 - migrant farmworker
2 - housewife
3 - retired
4 - student
5 - unemployed
6 - unknown
7 - other
8 - construction
9 - child

Residence:

1 - farmworker camp
2 - home
3 - jail
4 - INS
5 - homeless
6 - other
7 - unknown

Duration:

4 - 4 months
5 - 5 months …
24 - 24 months

Monthly status updates:

1 - complete
2 - lost to follow-up
3 - moved
4 - death
5 - non-TB
6 - refuses treatment
7 - other
8 - continues
9 - unknown
10 - --------