Multidrug Resistant Tuberculosis

Recommendations for Reducing Risk during Travel for Healthcare and Humanitarian Work

Barbara J. Seaworth, Lisa Y. Armitige, Naomi E. Aronson, Daniel F. Hoft, Michael E. Fleenor, Adrian F. Gardner, Drew A. Harris, Rachel L. Stricof, and Edward A. Nardell

Abstract

Healthcare and humanitarian workers who travel to work where the incidence of multidrug-resistant tuberculosis (MDR TB) is high and potential transmission may occur are at risk of infection and disease due to these resistant strains. Transmission occurs due to inadequate transmission control practices and the inability to provide timely and accurate diagnosis and treatment of persons with MDR TB. Patients risk exposure if active TB is unrecognized in workers after they return to lower-risk settings. Guidance for risk reduction measures for workers in high-risk areas is limited, and no studies confirm the efficacy of treatment regimens for latent TB infection due to MDR TB. Bacille Calmette-Guérin (BCG) vaccination decreases the risk of active TB and possibly latent infection. IFN-γ release assays differentiate TB infection from BCG vaccination effect. A series of risk reduction measures are provided as a potential strategy. These measures include risk reductions before travel, including risk assessment, TB screening, education, respirator fit testing, and BCG vaccination. Measures during travel include use of respirators in settings where this may not be common practice, transmission control practices, triaging of patients with consistent symptoms, providing education for good cough etiquette, and provision of care in well-ventilated areas, including open air areas. Risk reduction measures after return include TB screening 8 to 10 weeks later and recommendations for management of latent TB infection in areas where the likelihood of MDR TB exposure is high.

To view the entire article please see:

http://www.atsjournals.org/doi/abs/10.1513/AnnalsATS.201309-312PS
The MISSION of the Heartland National TB Center is to build capacity with our partners. We will share expertise in the treatment and prevention of tuberculosis by developing and implementing cutting-edge trainings, delivering expert medical consultation, providing technical assistance, and designing innovative educational and consultative products.


Suzanne M. Marks, Jennifer Flood, Barbara Seaworth, Yael Hirsch-Moverman, Lori Armstrong, Sundari Mase, Katya Salcedo, Peter Oh, Edward A. Graviss, Paul W. Colson, Lisa Armitige, Manuel Revuelta, Kathryn Sheeran, and the TB Epidemiologic Studies Consortium

Abstract

To describe factors associated with multidrug-resistant (MDR), including extensively-drug-resistant (XDR), tuberculosis (TB) in the United States, we abstracted inpatient, laboratory, and public health clinic records of a sample of MDR TB patients reported to the Centers for Disease Control and Prevention from California, New York City, and Texas during 2005–2007. At initial diagnosis, MDR TB was detected in 94% of 130 MDR TB patients and XDR TB in 80% of 5 XDR TB patients. Mutually exclusive resistance was 4% XDR, 17% pre-XDR, 24% total first-line resistance, 43% isoniazid/rifampin/rifabutin-plus-other resistance, and 13% isoniazid/rifampin/rifabutin-only resistance. Nearly three-quarters of patients were hospitalized, 78% completed treatment, and 9% died during treatment. Direct costs, mostly covered by the public sector, averaged $134,000 per MDR TB and $430,000 per XDR TB patient; in comparison, estimated cost per non-MDR TB patient is $17,000. Drug resistance was extensive, care was complex, treatment completion rates were high, and treatment was expensive.

Article

Drug-resistant Mycobacterium tuberculosis poses substantial obstacles to tuberculosis (TB) control. In the United States, multidrug resistant (MDR) TB (resistant to at least isoniazid and rifampin) comprises only 1.0% -1.5% of TB cases but requires lengthy regimens of toxic drugs, imposes high costs on the health care system and society, and causes high mortality rates. Studies of MDR TB in the United States have been limited by small sample sizes, limited study periods, minimal information on outcomes and costs, or reliance solely on surveillance data (1–6), which omit some cases of acquired drug resistance and changes in regimens. Costs of treating MDR TB are not routinely collected or reported. Our study describes and analyzes characteristics associated with drug resistance, timely diagnosis, treatment practices, outcomes, and costs associated with MDR TB for cases reported to the Centers for Disease Control and Prevention (CDC) by California, New York, and Texas during 2005–2007. These 3 areas contribute about half of US MDR TB cases annually.

To view the entire article please see:
Excerpt from a letter to Dr. Barbara Seaworth from the IUATLD-NAR Executive Committee

On behalf of the Executive Committee of the International Union against Tuberculosis and Lung Disease, North American Region (Union NAR), it is our pleasure to inform you that you have been selected to receive the Union NAR Service Award. The Award is given to acknowledge your outstanding commitment to the control of tuberculosis during your career.

Your presence is requested at the award ceremony at the 18th Annual NAR Conference on Friday, February, 28, 2014. We look forward to hosting you and your fellow recipients at the conference, and to honoring you on behalf of the Union NAR.

Heartland Adult Mini-Fellowship

Heartland hosted its first Adult Mini-fellowship of 2014 during the week of May 5th-9th. The three physicians in attendance were Dr. Caitlin Reed, Medical Director, and Ms. Leona Mason, Nurse Practitioner of the Olive View-UCLA Medical Center (Inpatient TB Unit) in California and Dr. Joaquin Cervantes, a panel physician working in Ciudad Juarez, Mexico. Some Testimonials included:

- “Outstanding teaching and extraordinarily relevant to our current practice (full time inpatient TB work)”
- “Amazing opportunity to be able to discuss with all the tuberculosis in-patient clinicians, nurses and administrator. This has been incredibly inspiring and thought provoking”.
- “Great experience!”

We asked, “What did you like the most about this mini-fellowship?”

- “Frank and open discussion about behavioral issues in medically and socially complex TB patients. Full spectrum of complex medical and immigration/psychological/social issues.”
- “The ability to ask questions directly to those doing their work!”
- “The dedication of the staff for teaching me as much as possible”

The VISION of Heartland National TB Center is to provide excellence, expertise, innovation in training, medical consultation, and product development to reduce the impact of tuberculosis in our region.
Metro Health TB Clinic Moves to New Location

Downtown Chest Clinic to be located on the Texas Infectious Disease Center campus

Contact: Carol Schliesinger; (210) 207-8172

San Antonio (Mar 21, 2014) – The San Antonio Metropolitan Health District (Metro Health) Chest and Tuberculosis clinic located at 814 McCullough will close its doors to the public on Mar. 21. The clinic will relocate to a new location on the Texas Center for Infectious Diseases campus located at 2303 SE Military Drive. The new clinic is scheduled to open April 8, 2014. During the transition phase, temporary facilities will be available at 2303 SE Military Drive, Building 5 14, commencing March 26. With this move, clinic staff will have increased access to specialized physicians, sophisticated laboratory testing, as well as enhanced training opportunities and x-ray capabilities.

The new 4,879 square-foot clinic features 4 exam rooms and allows increased access to specialists working at the TCID campus, providing faster and more convenient services for clients. In addition, on-site x-ray capabilities and cafeteria provides more convenience to patients and their family. The clinic is easily accessible by several bus routes and in close proximity to interstate highway 37. The clinic offers free parking for its customers and represents Metro Health’s overall goal to be more neighborhood based.

The clinic relocation strengthens the TB programs for the entire region, and the proximity to TCID staff helps the team work through enforcement and quarantine issues. Services will be unavailable from Mar. 24 through March 31. Individuals needing services during this week should call 210-207-8823.

Tuberculosis (TB) is a bacteria that is spread through the air from one person to another. People that spend a significant amount of time near the sick person can breathe TB into their lungs. The TB Prevention and Control Program provides examination, diagnosis and treatment with directly observed therapy (DOT) for people with suspected or confirmed active tuberculosis disease. The program also provides screening and preventive medicine for those with a known exposure to TB or those from high-risk populations. For more information on Metro Health, visit http://sanantonio.gov/Health/HealthServices/TBServices.aspx

TB LINKS

TB Education and Training Network
http://www.cdc.gov/tb/education/Tbetn/default.htm

Find TB Resources
www.findtbresources.org

Tuberculosis Epidemiologic Studies Consortium (TBESC)
http://www.cdc.gov/tb/topic/research/TBESC/default.htm

Regional Training and Medical Consultation Centers’ TB Training and Education Products – (Joint RTMCC Products Page)
https://sntc.medicine.ufl.edu/rtmccproducts.aspx

Program Collaboration and Service Integration (PCSI)
http://www.cdc.gov/nchhstp/programintegration/Default.htm

****If your organization has any additional links for TB resources you would like published, please send them to Alysia.Wayne@uthct.edu****
New NTCA Epidemiology Section

On June 10, 2014, there will be a meeting of the new Epidemiology Section of the NTCA. Please see recently approved petition below for more information.

PETITION

For the establishment of an epidemiology section within the National Tuberculosis Controllers Association

WHEREAS, the purpose of the National Tuberculosis Controllers Association is to advance the elimination of tuberculosis in the United States; and

WHEREAS, tuberculosis remains a significant threat to the public health in the United States and around the world; and

WHEREAS, tuberculosis is a treatable, curable, and preventable disease, yet remains a major cause of morbidity and mortality; and

WHEREAS, understanding the collection, analysis, communication and dissemination of surveillance data, outbreak response, genotyping and research related to tuberculosis are areas of epidemiologic expertise which require specialized knowledge and skills; and

WHEREAS, there is a need for an organized body of individuals interested in the epidemiology of tuberculosis to:

- Promote excellence in the use of epidemiologic analysis and interpretation of data to inform tuberculosis prevention and control efforts
- Promote the use of epidemiologic data in program planning and decision-making at the local, state and national level
- Provide a network for collaboration and communication among epidemiologists engaged in the control and prevention of tuberculosis
- Build regional and national capacity in epidemiologic expertise through mentoring of epidemiologists
- Organize and facilitate TB-related educational opportunities for epidemiologists
- Promote understanding and collaboration between epidemiologists, clinicians and public health programs in the control and prevention of tuberculosis in communities
- Promote the evaluation and implementation of new epidemiologic tools (e.g., to collect and analyze data or to assess TB transmission), as they become available
- Promote and participate in a research agenda addressing the needs of tuberculosis controllers
- Advocate for national data-driven policies and resource allocations which promote and enable achievement of the goal of tuberculosis elimination in the United States

THEREFORE, we, the undersigned, hereby petition the Executive Board of the National Tuberculosis Controllers Association to approve the formation of an epidemiology section.
Just in Time Training for TB Nurses

Debbie Onofre, RN, BSN, Carolina Navarro, RN, BS, Jessica Quintero, BBA, Alysia Wayne and Barbara Sewall, MD
Heartland National TB Center

Introduction

An approach that could be used to meet the need for training would be to have the same team of TB nurses work with the patients' nurses and provide the training just in time. This approach is being tested at the Heartland National TB Center, where a team of TB nurses is working with the patients' nurses to provide just-in-time training. The nurses who provide this training are able to provide the training just in time, and the patients' nurses are able to provide the training just in time. This approach is being tested at the Heartland National TB Center, where a team of TB nurses is working with the patients' nurses to provide just-in-time training. The nurses who provide this training are able to provide the training just in time, and the patients' nurses are able to provide the training just in time.
### 2014 HNTC Training Calendar

<table>
<thead>
<tr>
<th>Date</th>
<th>Course</th>
<th>Location</th>
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<tbody>
<tr>
<td>Jun 10</td>
<td>National Society of Tuberculosis Clinicians Meeting</td>
<td>Atlanta, GA</td>
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<tr>
<td>Jun 11 - 13</td>
<td>National TB Controllers Association Conference</td>
<td>Atlanta, GA</td>
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<tr>
<td>Jul 2, 9, 16, 23</td>
<td>Introduction to TB Nurse Case Management Online</td>
<td>Online Course</td>
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<tr>
<td>Sep 3, 10, 17, 24</td>
<td>Introduction to TB Nurse Case Management Online</td>
<td>Online Course</td>
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<tr>
<td>Sep 16 - 18</td>
<td>TB-ETN Conference</td>
<td>Atlanta, GA</td>
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<tr>
<td>Oct 7</td>
<td>TB in the Correctional Setting</td>
<td>Florence, AZ</td>
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**The calendar will be updated in every newsletter as well as on the website to show trainings that have been confirmed**

Please visit our website: [http://www.heartlandntbc.org/training.asp](http://www.heartlandntbc.org/training.asp) to find detailed information concerning registration and participation.

Proposed topics are subject to change; check website for the latest updates.

Products from the Heartland National TB Center are available for download at [http://www.heartlandntbc.org/products.asp](http://www.heartlandntbc.org/products.asp)

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**RECENTLY PUBLISHED:** International Standards for Tuberculosis Care, Edition 3

*USAID: TB Care 1*

This document describes a level of care that all practitioners should seek to provide in managing patients with known or suspected TB. *The Standards* are intended to facilitate the engagement of care providers in delivering high-quality care for patients of all ages.