

# TBeat

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## Therapy of Mutidrug-Resistant and Extensively Drug-Resistant Tuberculosis

Microbiology Spectrum - American Society for Microbiology Press - Published March 31, 2017

Available from <https://www.ncbi.nlm.nih.gov/pubmed/28361737>

Authors: Barbara J. Seaworth, David E. Griffith, Heartland National TB Center, UT Tyler Northeast

Editor: David Schlossberg, Philadelphia Health Department

SUMMARY

### ABSTRACT

The global epidemic of multidrug-resistant tuberculosis (MDR-TB) caused by *Mycobacterium tuberculosis* strains resistant to at least isoniazid and rifampin was recently reported as larger than previously estimated, with at least 580,000 new cases reported in 2015. Extensively drug-resistant tuberculosis (XDR-TB), MDR-TB with additional resistance to a second-line fluoroquinolone and injectable, continues to account for nearly 10% of MDR cases globally. Cases in India, China, and the Russian Federation account for >45% of the cases of MDR-TB. Molecular testing helps identify MDR more quickly, and treatment options have expanded across the globe. Despite this, only 20% are in treatment, and treatment is challenging due to the toxicity of medications and the long duration. In 2016 the World Health Organization updated guidelines for the treatment of MDR-TB. A new short-course regimen is an option for those who qualify. Five effective drugs, including pyrazinamide (PZA) when possible, are recommended during the initial treatment phase and four drugs thereafter. Revised drug classifications include the use of linezolid and clofazimine as key second-line drugs and the option to use bedaquiline and delamanid to complete a five-drug regimen when needed due to poor medication tolerance or extensive resistance. Despite multiple drugs and long-duration treatment regimens, the outcomes for MDR and especially XDR-TB are much worse than for drug-susceptible disease. Better management of toxicity, prevention of transmission, and identification and appropriate management of infected contacts are important challenges for the future.

Full article available at: <http://www.asmscience.org/content/journal/microbiolspec/10.1128/microbiolspec.TNMI7-0042-2017>

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# Fundamentals of HIV Medicine

## Chapter 32. Opportunistic Infections: Mycobacterial Infections

Author: Lisa Armitige, MD, PhD, Heartland National TB Center, UT Health Northeast

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### Learning Objective

Discuss the available tests and treatment modalities to appropriately manage patients with HIV and infection with *M. tuberculosis*, *M. avium* complex, and *Mycobacterium kansasii*, the most common mycobacterial disease associated with HIV infection.

### Key Points

- HIV infection markedly increases the likelihood of a patient progressing from latent tuberculosis infection (LTBI) to active TB disease.
- Interferon- $\gamma$  release assays (IGRAs) increase specificity but not sensitivity over tuberculin skin testing in the diagnosis of TB in HIV-infected patients.
- Rifamycins are a critical component of effective TB therapy in HIV patients but have many drug-drug interactions.
- *Mycobacterium avium* complex (MAC) disease most commonly presents as disseminated with fever, night sweats, weight loss, and gastrointestinal symptoms.
- Optimal treatment of MAC disease should include medications for both MAC and HIV (to reconstitute the immune system).
- MAC should be treated with multidrug therapy, including clarithromycin and ethambutol optimally.
- Individuals with a CD4 count  $<50$  cells/mm<sup>3</sup> should receive chemoprophylaxis for MAC with azithromycin or clarithromycin once they have been ruled out for active disease.
- *Mycobacterium kansasii* infection closely resembles TB with more frequent pulmonary presentation than MAC.
- First-line antituberculosis drugs (except for pyrazinamide) are highly effective against *M. kansasii*.
- Diagnosis and treatment of *M. kansasii* as outlined in the American Thoracic Society guidelines are the same for HIV-infected and –uninfected individuals.

For the complete chapter, please visit [oxfordmedicine.com](http://oxfordmedicine.com) and search for Fundamentals of HIV Medicine 2017. This content requires a subscription.



# A community perspective on the inclusion of pregnant women in TB drug trials

Authors:

Lindsay McKenna, Treatment Action Group, New York, USA, Mike Frick, Treatment Action Group, New York, USA, Cynthia Lee, Community Research Advisors Group, New York USA, Dorothy Namutamba, Community Research Advisors Group, Kampala, Uganda, Liani Smit, Community Research Advisors Group, Cape Town, South Africa, Marie Theunissen, Community Partners, Cape Town, South Africa, Wim Vandeveld, Global Tuberculosis Community Advisory Board, Cape Town South Africa, Suraj Madoori, Treatment Action Group, Washington, D.C., USA, Kathryn Snow, Department of Pediatrics, University of Melbourne, Melbourne, Australia, Barbara Seaworth, Community Research Advisors Group, San Antonio, USA

## Abstract

Affecting both mother and the existing pregnancy, tuberculosis (TB) increases the likelihood of poor birth outcomes. Despite substantial clinical need for TB prevention and treatment, pregnant women remain neglected by research initiatives. As members of three community advisory boards that provide input into TB drug trials, we offer a community perspective on the inclusion of pregnant women in TB drug research and discuss: (1) our perspective on the risk/benefit tradeoff of including pregnant women in research to address different forms of TB; (2) recent examples of progress in this area; (3) lessons learned from the HIV research field, where pregnant women have enjoyed better—although imperfect—representation in research; and (4) recommendations for different stakeholders, including researchers, regulatory authorities, ethics committees, and policymakers.

For full article: <https://academic.oup.com/cid/article/doi/10.1093/cid/cix533/3868849/A-community-perspective-on-the-inclusion-of?guestAccessKey=574ef095-b6d5-41e2-a4fc-ee892b137515>

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## Highlights



### Breathe Easy South Texas

Breathe Easy South Texas (BEST) is a project utilizing Texas 1115 Medicaid Waiver funds to expand testing and treatment for latent tuberculosis infection (LTBI), in high-risk populations in twenty South Texas counties. Twenty-five percent of these counties are classified highest risk counties for TB by Texas Department of State Health Services.

Read more at:

<https://www.cdc.gov/tb/worldtbd/2017/tbeliminationchampions.htm#B.E.S.T>

**2017 CDC U. S. Tuberculosis Elimination Champions – Breathe Easy South Texas (B.E.S.T.) Project, Texas Center for Infectious Disease (TCID) Campus – March 15, 2017**

**Front Row:** Vincent Nathan, PhD (Metro), Yolanda Cantu (DSHS), Michelle Mutchler (Metro), Kathy Bondoc (Metro), Terry O'Carroll (Metro), Adriana Perez (UHS), Annie Johnson (UHS), Tommy Camden (Metro)

**Back Row:** John Flavin (Metro), Lisa Armitige, MD (Heartland), Stephanie Ott (Heartland), Gale Morrow (DSHS), Lillian Ringsdorf, MD (DSHS), Norma Santos (Metro), Rachel Wilcox (Metro)

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## Highlights (cont.)



### Texas Department of State Health Services (DSHS) Residents in Preventive Medicine

In January, 2017, two DSHS Preventative Medicine Residents completed a rotation focused on public health aspects of tuberculosis at Heartland National TB Center. Students participated in activities with HNTC, San Antonio Metropolitan TB Clinic and at the Texas Center for Infectious Disease. **Raafia Muhammad, MD, MPH**, graduated with an MPH in Disaster Management from Benedictine University and an MD from Gulf Medical University. She completed an internship in Preliminary Surgery at Brookdale University Hospital.

Emilie Prot, DO, graduated with a DO from Ohio University Heritage College of Osteopathic Medicine. She completed an internship in Internal Medicine at St. Vincent Charity Medical Center and is currently a candidate for an MPH with the University of Texas Health Science Center.

*Heartland congratulates Dr. Muhammad and Dr. Prot on their graduation from the DSHS Preventative Medicine Residency.*



### Introducing Dr. Juzar Ali

Heartland is excited to announce one of our newest speakers, **Juzar Ali, MD, FRCP(C), FCCP**, LSU Alumni Klein Professor of Medicine Louisiana State University Health Sciences Center, Section of Pulmonary, Critical Care, and Allergy and Immunology. Dr. Ali has worked nationally and internationally in the field of tuberculosis, and at the LSU Health Sciences Center has developed programs that contribute to the education of medical students, allied health professionals, and the community.

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## Resources

### TB Education and Training Network

<http://www.cdc.gov/tb/education/Tbetn/default.htm>

### National TB Controllers Association

<http://www.tbcontrollers.org>

### Find TB Resources

[www.findtbresources.org](http://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

<https://sntc.medicine.ufl.edu/rtmccproducts.aspx>

### Program Collaboration and Service Integration (PCSI)

<http://www.cdc.gov/nchstp/programintegration/Default.htm>

### Centers for Disease Control and Prevention, Division of Tuberculosis Elimination

<http://cdc.gov/tb/>

\*\*\*If your organization has any additional links for TB resources that you would like published, please send them to [Alysia.Wayne@uthct.edu](mailto:Alysia.Wayne@uthct.edu)\*\*\*



# Trainings

## 2017 HNTC Training Calendar

Date(s)	Course	Location
July 14	Practical Aspects for the Interferon Gamma Release Assay (IGRA) Test	Webinar
September 6 - 7	TB Contact Investigation 101	Little Rock, AR
September 12 - 14	TB Nurse Case Management	San Antonio, TX
October 24 - 27	TB Intensive	San Antonio, TX
October 5, 12, 19, 26	Introduction to Contact Investigation	Online
October 20	Bi-State Infectious Disease Conference	St. Louis, MO
December 4 - 6	Four Corners	Ogden, UT

\*\*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/calendar.php> to find detailed information concerning registration and participation.

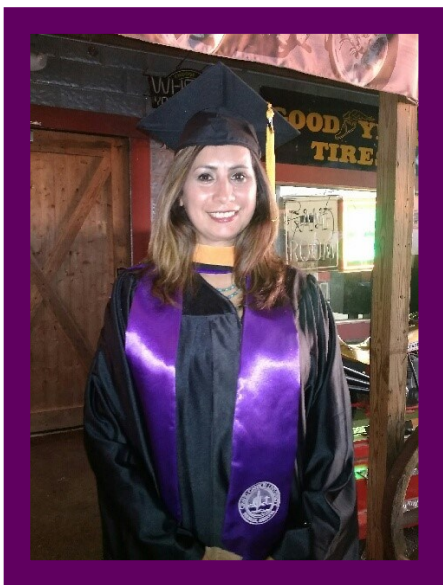
Proposed topics are subject to change; check website for the latest updates.

Products from the Heartland National TB Center are available for download at

<http://www.heartlandntbc.org/products/>

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## TB.BIT - CONGRATULATIONS DEBBIE



### Grand Canyon University

Phoenix, Arizona

Grand Canyon University, upon the recommendation of the faculty, and by virtue of the authority in them vested, have conferred upon

**Debbie Onofre, RN, BSN,**

**MSN**

who has satisfactorily pursued the studies, passed the examinations and complied with all other requirements therefore, the degree of

**Master of Nursing,  
Emphasis in Public Health**

Given in June of Two Thousand Seventeen

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## Heartland National TB Center Staff

2303 Southeast Military Drive, San Antonio, Texas 78223

Tel: 800-TEX-LUNG (839-5864); Fax: 210-531-4590

[www.heartlandntbc.org](http://www.heartlandntbc.org)

### Medical Director

Barbara Seaworth, MD  
(210) 531-4541

[barbara.seaworth@dshs.state.tx.us](mailto:barbara.seaworth@dshs.state.tx.us)

### Assistant Medical Director

David Griffith, MD  
(903) 877-7267

[david.griffith@uthct.edu](mailto:david.griffith@uthct.edu)

### Executive Director

Stephanie Ott, CPM  
(210) 531-4542

[stephanie.ott@uthct.edu](mailto:stephanie.ott@uthct.edu)

### Medical Consultant

Lisa Y. Armitige, MD, PhD  
(210) 531-4548

[lisa.armitige@dshs.state.tx.us](mailto:lisa.armitige@dshs.state.tx.us)

### Director of Education & Training

Jessica Quintero, M.Ed.  
(210) 531-4568

[jessica.quintero@uthct.edu](mailto:jessica.quintero@uthct.edu)

### Program Specialist

Alysia Wayne  
(210) 531-4540

[alysia.wayne@uthct.edu](mailto:alysia.wayne@uthct.edu)

### Nurse Consultant/Educator

Catalina Navarro, RN, BSN  
(210) 531-4569

[catalina.navarro@uthct.edu](mailto:catalina.navarro@uthct.edu)

### Training Specialist II

Delfina Sanchez, MA  
(210) 531-4528

[delfina.sanchez@uthct.edu](mailto:delfina.sanchez@uthct.edu)

### Web Site Content Coordinator

Edgar Salinas, BBA  
(210) 531-4520

[edgar.salinas@uthct.edu](mailto:edgar.salinas@uthct.edu)

### Nurse Consultant/Educator

Debbie Onofre, RN, BSN, MSN  
(210) 531-4539

[debbie.onofre@uthct.edu](mailto:debbie.onofre@uthct.edu)



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.

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.