Facing the Reality of Multidrug-Resistant Tuberculosis: Challenges and Potential Solutions in India

AGENDA

Monday and Tuesday, April 18-19, 21, 2011
Indian National Science Academy
New Delhi, India

The increasing burden of drug-resistant tuberculosis (MDR TB/XDR TB) introduces new challenges to traditional TB control and treatment programs and calls upon the global health community to collaborate and share scientific information in new and different ways. This 2-day workshop is sponsored by the Forum on Drug Discovery, Development, and Translation of the U.S. National Academy of Sciences, Institute of Medicine (IOM), the Indian National Science Academy (INSA), and the Indian Council of Medical Research (ICMR). The workshop is the third in a series of international workshops convened by the U.S. IOM. The objectives of the workshop series are:

• The multi-disciplinary workshops span a wide spectrum of issues pertaining to the science and policy around drug-resistant tuberculosis – from biology, epidemiology, and surveillance; to diagnosis, treatment, and infection control; to issues pertaining to the drug supply chain, laboratory capacity, and needs of vulnerable populations. Each workshop will address some or all of these multiple disciplines and facilitate discussion about a broad “blueprint for action.”
• The workshops are an opportunity to present promising new research, and also to identify specific gaps in knowledge calling for more research, funding, and international attention.
• The workshop series is being hosted over a period of several years, which will create a venue and body of knowledge that can explicitly consider and address developments over a period of a few years, thus permitting relatively quick adjustments in knowledge and strategy.
• The workshop series convenes international experts, permitting exchange of information among experts from each of the participating countries and globally.
• Each workshop in the series will result in publication by the U.S. National Academies of a summary document that reports the proceedings from each country-specific workshop.

This workshop in New Delhi will address the current status of drug-resistant tuberculosis in India and across the globe; highlight key challenges to controlling the spread of drug-resistant strains; and discuss innovative strategies to advance and harmonize local and international efforts to prevent and treat drug-resistant TB.
8:30-9:00 a.m.  Registration and Tea

_Welcomes, Background, and Workshop Objectives_

9:00-9:40 a.m.  KRISHAN LAL
 Indian National Science Academy

GAIL CASSELL,  *Forum Co-Chair*
 Harvard Medical School
 Infectious Disease Research Institute

P.N. TANDON
 Indian National Science Academy

VISHWA MOHAN KATOCH
 Indian Council of Medical Research

_**Keynote Addresses**_

9:40-10:00 a.m.  ASHOK KUMAR
 Revised National TB Control Program (RNTCP)
 Ministry of Health and Family Welfare

10:00-10:20 a.m.  K. SRINATH REDDY
 Public Health Foundation of India

10:20-10:40 a.m.  *Setting the Stage: Global Challenges and Potential Solutions*

SALMAAN KESHAVJEE
 Harvard Medical School

10:40-11:05 a.m.  Tea Break

**SESSION I: DRUG-RESISTANT TB IN INDIA**

**Session Objectives:**

- Provide an introduction to the global challenge of drug-resistant TB and consequences of inaction.
- Describe the epidemiology of drug-resistant TB in India.
- Describe the drug-resistant TB risk factors and provide in-country perspectives of the issues and current strategies for prevention and control.

**Session Chairs:**

- Salmaan Keshavjee, Harvard Medical School
- V.K. Vijayan, Vallabhbhai, Patel Chest Institute
National Scale-Up of Drug-Resistant TB Diagnosis and Treatment

11:05-11:20 a.m.  K.S. SACHDEVA
Revised National TB Control Program (RNTCP)
Ministry of Health and Family Welfare

Overview of Drug-Resistant TB in India

11:20-11:35 a.m.  PROF. S.K. SHARMA
All India Institute of Medical Sciences (AIIMS)

11:35-11:50 a.m.  Importance of Engaging the Private Sector in MDR TB Prevention and Case-Finding
PUNEET DEWAN
WHO

11:50-12:05 p.m.  Improving Health System Performance to Address the Challenge of Drug-Resistant TB
ALEYAMMA THOMAS
Tuberculosis Research Centre, Chennai

12:05-1:15 p.m.  Lunch

---

SESSION II: GLOBAL BURDEN OF DRUG-RESISTANT TB

Session Objectives:
- Report on findings from previous IOM workshops in South Africa and Russia.
- Present the latest epidemiological and laboratory data describing the estimated burden of drug-resistant TB worldwide, with a focus on high-burden countries other than India (e.g., South Africa, China, and Russia).
- Highlight differences and different trajectories of the drug-resistant TB epidemic globally.

Session Chair:
- Gail Cassell, Harvard Medical School & Infectious Disease Research Institute

1:15-1:45 p.m.  Overview of Findings from IOM Workshop Series
China data provided by Mingting Chen, Centers for Disease Control

GAIL CASSELL
Harvard Medical School & Infectious Disease Research Institute
1:45-2:00 p.m.  *Overview of Global Drug-Resistant TB Burden*
WHO data provided by Matteo Zignol and presented by:

**SALMAAN KESHAVJEE**
Harvard Medical School

### SESSION III: PREVENTING TRANSMISSION OF DRUG-RESISTANT TB

**Session Objectives:**
- Provide an overview of the molecular evidence for transmission of drug-resistant TB.
- Discuss the background and rationale for India’s Revised National TB Control Program methods to prevent transmission of drug-resistant TB and the program’s future goals.
- Discuss the genetic evolution of *M. tb.* and current best practices in infection control.

**Session Chairs:**
- Ed Nardell, Harvard Medical School/Partners In Health
- Prof. S.K. Sharma, All India Institute of Medical Sciences

2:00-2:15 p.m.  *Drug-Resistant TB Transmission and Reactivation / Reinfection Phenomenon*

**S. SIVAKUMAR**
Tuberculosis Research Center, Chennai

2:15-2:30 p.m.  *Indian Program Efforts to Prevent Transmission of Drug-Resistant TB*

**PRAHLAD KUMAR**
National Tuberculosis Institute, Bangalore


**SEBASTIEN GAGNEUX**
Swiss Tropical and Public Health Institute

2:45-3:00 p.m.  *TB Infection Control Reconsidered – The Impact of Treatment on MDR TB transmission*

**ED NARDELL**
Harvard Medical School / Partners In Health

3:00-3:30 p.m.  *Roundtable Discussion*

3:30-3:45 p.m.  Tea Break
SESSION IV: RAPID METHODS OF DETECTING DRUG RESISTANCE AND STRENGTHENING OF LABORATORY CAPACITY

Session Objectives:
- Provide an overview of current diagnostic methods and identify gaps/current needs that are not being met with tests in use today.
- Consider the next generation of TB diagnostics (e.g., level of resistance that will be detected, use of a test at the point of patient care, specimen processing, etc.)
- Consider the validation of diagnostic tests and other quality assurance measures.

Session Chairs:
- Thomas Shinnick, U.S. Centers for Disease Control and Prevention (CDC)
- Sarman Singh, All India Institute of Medical Sciences

3:45-4:00 p.m.  
Treatment of Drug-Resistant TB

ROHIT SARIN  
Lala Ram Sarup Institute of Tuberculosis and Respiratory Diseases

4:00-4:15 p.m.  
Diagnosis of Drug-Resistant TB

CAMILLA RODRIGUES  
Hinduja Hospital and Medical Research Center

4:15-4:30 p.m.  
Moving Towards the Next Generation of Diagnostic Tests for Drug-Resistant TB: Quality Assurance Considerations in the Development of New Diagnostics

THOMAS SHINNICK  
Division of Tuberculosis Elimination  
U.S. Centers for Disease Control and Prevention (CDC)

4:30-4:45 p.m.  
Building Lab Capacity to Support the RNTCP

N. SELVAKUMAR  
Tuberculosis Research Centre, Chennai

4:45-5:00 p.m.  
Laboratory Capacity in India for the Diagnosis of Drug-Resistant TB: Update on EXPAND-TB Efforts

NEERAJ RAIZADA  
Foundation for Innovative New Diagnostics (FIND)

5:00-5:30 p.m.  
Roundtable Discussion
SESSION V: REACHING VULNERABLE POPULATIONS AFFECTED BY DRUG-RESISTANT TB

Session Objectives:
- Discuss ways to address priorities of reaching and treating drug-resistant TB patients in the large Indian population.
- Present data on the burden of drug-resistant TB and treatment methods in vulnerable populations such as children, migrant, refugee, and HIV-infected populations.

Session Chairs:
- Mercedes Becerra, Harvard Medical School
- Soumya Swaminathan, WHO

9:00-9:15 a.m.  Addressing Drug-Resistant TB in Pediatric Populations

SOUMYA SWAMINATHAN
WHO

9:15-9:30 a.m.  Burden of Pediatric Tuberculosis in Households of Patients with MDR TB

MERCEDES BECERRA
Harvard Medical School

9:30-10:00 a.m.  Drug Resistance in India’s HIV-Infected Population

D. BEHERA
Lala Ram Sarup Institute of Tuberculosis and Respiratory Diseases

Drug-Resistant TB in Migrant and Refugee Populations

KUNCHOK DORJEE
TB Program, Department of Health, Tibetan Government in Exile

10:00-10:30 a.m.  Roundtable Discussion

Facilitator: Anne Goldfeld, Global Health Committee / Cambodian Health Committee, Harvard Medical School

10:30-11:00 a.m.  Tea Break
### SESSION VI: CASE STUDIES IN INNOVATIVE DRUG-RESISTANT TB CONTROL EFFORTS

**Session Objectives:**
- Discuss the use of mobile technology to track disease, train the TB workforce, and improve overall TB health care delivery.
- Present innovative methods or alternative development strategies to improve control and treatment of drug-resistant TB.

**Session Chair:**
- Janet Tobias, Mt. Sinai School of Medicine

*Using Technology to Improve the Provision of TB Care*

11:00-11:15 a.m.  
**Case Study: Mobile Technology to Improve Drug-Resistant TB Control and Care in Karachi**

AAMIR KHAN [by teleconference]  
Indus Hospital, Pakistan

*Leveraging Unique Development Models to Improve Access to Care and Compliance with Treatment Regimens*

11:15-11:30 a.m.  
**Operation ASHA- Using Innovations and Biometrics to Prevent MDR TB and Provide a Social and Economic Return**

SHELLY BATRA  
Operation ASHA, New Delhi

11:30-11:45 p.m.  
**MDR TB in Ethiopia: Failure of the International Response and How an NGO Filled the Gap**

ANNE GOLDFELD  
Global Health Committee/Cambodian Health Committee  
Harvard Medical School

11:45-12:15 p.m.  
**Discussion**

12:15-1:15 p.m.  
Lunch

### SESSION VII: DRUG SUPPLY CHAIN

**Session Objectives:**
- Present current methods of drug procurement in India, successes, and current challenges to effectively delivering quality-assured second-line drugs to patients.
Session Co-Chairs:
- Iain Richardson, Eli Lilly and Company
- P. Saxena, Central TB Division, Directorate General of Health Services

1:15-1:30 p.m.  Setting the Stage: Challenges in Drug Supply Chain Logistics

PRAVANT YADAV
MIT-Zaragoza International Logistics Program

1:30-1:45 p.m.  Implementation of India’s National MDR TB Program

P. SAXENA
Revised National TB Control Program (RNTCP)
Ministry of Health and Family Welfare

1:45-2:00 p.m.  Potential for Impact in Second-Line TB Drug Pricing

INDER SINGH
Clinton Health Access Initiative (CHAI)

2:00-2:15 p.m.  Moving Towards a Functional Second-Line TB Drug Market

OWEN ROBINSON
Partners In Health

2:15-2:45 p.m.  Roundtable Discussion

Facilitator: Anne Goldfeld, Global Health Committee / Cambodian Health Committee, Harvard Medical School

2:45-3:15 p.m.  Tea Break
SESSION VIII: CLOSING PLENARY: THE INTERSECTION OF SCIENCE AND POLICY: CREATING A BLUEPRINT FOR ACTION

Session Objectives:
- Discuss potential policy approaches to address problems and gaps considered during the workshop.
- How can domestic programs and international partners work together to create a “blueprint for action” to address the problem of drug-resistant tuberculosis?
- Consider opportunities to address the problem of drug-resistant tuberculosis in India’s next 5-year budget plan.

Session Chairs:
- Elaine Gallin, QE Philanthropic Advisors
- Seyed E. Hasnain, Indian Institute of Technology

3:15-4:45 p.m.

Panelists:
- Kiran Katoch
- P.N. Tandon
- Gail Cassell
- Salmaan Keshavjee

Open Discussion with Workshop Participants