PUBLIC NOTICE

Guideline Development Group for the update of the WHO consolidated guidelines on the treatment of drug-resistant tuberculosis, 2024

Versoix, Switzerland
24-27 June 2024

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WHO Consolidated Guidelines on Tuberculosis. Module 4: Treatment. (2024 update)

Background

Tuberculosis (TB) remains a threat to global public health and is one of the major infectious causes of death in the world. (1) In 2022, an estimated 10.6 million people developed TB and 1.3 million died from the disease. About 410,000 new cases of rifampicin-resistant or multidrug-resistant tuberculosis (MDR/RR-TB) are estimated to emerge each year. While all of these would have been eligible for a second-line TB treatment regimen, just over 175,000 enrolments on treatment were reported by countries in 2022. Despite this, significant improvements in the availability of enhanced diagnostics and more effective medicines have occurred in recent years and this has led to earlier detection and higher success rates among patients with MDR/RR-TB in several national programmes. However, these successes have not been reproduced in the rest of the world, and the overall treatment success rate only reached 63% for MDR/RR-TB patients who started on treatment in 2020 worldwide. (1)

The current World Health Organization (WHO) recommendations for treating persons with drug-resistant TB are included in the WHO consolidated Guidelines for treatment of drug-resistant tuberculosis, released in 2022. (2) In recent years, several combinations of anti-TB medicines as well as various durations of the overall treatment have been tested by the researchers and national TB programmes. These regimens include the use of a new 6-month regimen including bedaquiline, delamanid and linezolid with or without the addition of levofloxacin or clofazimine or both (BDLL/C) that has been tested in the BEAT-Tuberculosis trial; and five 9-month regimens for MDR/RR-TB patients that have been tested in the endTB trial. As the use of new regimens of treatment offers the possibility of improved outcomes for patients, it is imperative that WHO reviews new evidence in a timely manner to determine if new recommendations on MDR/RR-TB treatment can be made. Therefore, these data from the clinical trials will constitute the body of evidence for review by a Guideline Development Group (GDG).

To advise WHO on the guideline update, a GDG composed of external experts is being convened in June 2024 to review the evidence and formulate evidence-based recommendations (see list and bios in the later section of this document). The GDG members are involved in the finalization of the guideline questions, scoring of outcomes, commenting on the evidence to be reviewed, completion of the GRADE tables, formulation of any new or updated recommendations and approval of the final guidelines document.

The consolidated guidelines will include all updated recommendations on the treatment of drug-resistant TB and incorporate other related WHO guidance to aid clinicians, nurses, users and member countries in implementing a comprehensive package of TB treatment and support. Before finalization, the guidelines will be reviewed by other experts serving in an External Review Group.

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1 Combined resistance to both rifampicin and isoniazid, the two most important first-line anti-TB drugs.
Key questions
The guidelines update will be framed by the following PICO questions.

1. Should a 6-month regimen using bedaquiline, delamanid, and linezolid with or without the addition of levofloxacin or clofazimine or both (BDLL/C) be used in patients with pulmonary RR-TB (with or without fluoroquinolone resistance) over the currently recommended 9-month regimen?
2. Should any 9-month endTB trial regimens be used in patients with pulmonary RR-TB (without fluoroquinolone resistance) over the currently recommended longer regimens?

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Brief biographies of the Guideline Development Group members

**CHAKAYA, Jeremiah Muhwa (Chair)**

**Constituency:** Clinician  
**Qualifications:** MBChB, MMed, DThM  
**Current position:**  
Technical Director and Chief Executive Officer, Respiratory Society of Kenya;  
Professor, Global Respiratory Health, Liverpool School of Tropical Medicine, UK  
**Institutional affiliation:** National Tuberculosis programme Kenya

Chakaya Muhwa hails from Kenya where he was born and educated and where he practices and teaches respiratory medicine. He graduated from the University of Nairobi with a basic degree in medicine and surgery (MBChB) in 1985 and a master’s degree in internal medicine (M.Med) in 1992. He then went on to study lung medicine at the National Lung and Heart Institute, University of London at the Royal Brompton Hospital and at the Kyorin University Hospital in Tokyo, Japan. Chakaya worked as a TB and lung disease researcher at the Centre for Respiratory Diseases Research at the Kenya Medical Research Institute and later served as the TB Program Manager at the Ministry of Health between 2003 and 2006. In 2020, Chakaya, was appointed a Professor, Global Respiratory Health, at the department of clinical sciences, Liverpool School of Tropical Medicine. He has held several positions at the international level, including, Vice Chair of the Stop TB Partnership Coordinating Board, Chair of the Strategic and Technical Advisory Group for TB (STAG-TB) of the World Health Organization (WHO), Chair of the Global Fund’s Technical Review Panel (TRP) and President of the International Union Against Tuberculosis and Lung Disease (The Union). Chakaya is a founder member of the Respiratory Society of Kenya (ReSoK) and has remained closely engaged with this organization. He is a member of the Pan African Thoracic Society and served in the executive committee of this organization. He has an honorary teaching position at the school of medicine, Kenyatta University, Nairobi, Kenya.

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**ASHESH, Ashna**

**Constituency:** Civil society, DR-TB survivor  
**Qualifications:** Lawyer & Public Health Professional  
**Current position:**  
Member of the Governance and Management Committee for National Technical Support Unit (NTSU), Central TB Division, Ministry of Health and Family Welfare of India; Vice Chair of SEAR STAG-TB, WHO; Member of SEA rGLC, WHO; and Member of WHO Civil Society Task Force - TB.  
**Institutional affiliation:** WHO Civil Society Task Force - TB; Survivors Against TB (SATB), India.
Ms. Ashna Ashesh is a lawyer, public health professional, MDR-TB Survivor, Member of the WHO Civil Society Task Force - TB, Vice Chair, WHO SEAR STAG-TB, and Member of the WHO SEA rGLC. She is associated with Survivors Against TB (SATB), a community collective that advocates for person and community-centered TB care. Ashna is a Member of the Governance and Management Committee for the National Technical Support Unit (NTSU), Central TB Division, Ministry of Health and Family Welfare, India. She has served as a Subject Expert and Member on the Sub-Committee of Experts for Gender-responsive and LGBTQIA++ affirmative action in TB, Central TB Division, Ministry of Health and Family Welfare, India. Ashna’s work focuses on a rights-based approach to care, community engagement, TB and social protection, TB and mental health, gender-responsive TB care, and diversity, equity and inclusivity in TB care.

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**BURHAN, Erlina**

**Constituency:** Clinician  
**Qualifications:** MD, MSc, Ph.D  
**Current position:** Pulmonologist at Persahabatan Hospital Jakarta and Professor of Pulmonology at the Faculty of Medicine, Universitas Indonesia  
**Institutional affiliation:** Persahabatan Hospital Jakarta; Faculty of Medicine - Universitas Indonesia

Prof. Erlina Burhan is a prominent figure in the medical community in Indonesia, widely recognized for her expertise in tuberculosis and other respiratory infections. As a pulmonologist at Persahabatan Hospital Jakarta and a Professor of Pulmonology at the Faculty of Medicine, Universitas Indonesia, her career has been distinguished by significant contributions to clinical practice and research. She participates in several international clinical trials, such as the operational research for the implementation of BPaL regimen in Indonesia, TRUNCATE-TB trial, which explored a shorter regimen for DS-TB treatment, and the innovative M72 TB vaccine study, supported by the Gates Medical Research Institute. She is currently in the Stop TB Partnership Global Board as a representative of the Private Sector Providers Constituency Delegation and serves as a Board Member of the Director International Union Against Tuberculosis and Lung Disease. She also holds various advisory and consultant roles, including for the World Health Organization, Indonesian National TB Program, and TB clinician in Timor Leste.

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**BYARUHANGA, Raymond**

**Constituency:** DR-TB expert, programme management  
**Qualifications:** MD, MBChB, MSc HSM (Master in Health Services Management)
Current position: Senior Technical Advisor, MDR TB Management
Institutional affiliation: National TB and Leprosy Programme, Ministry of Health, Uganda

Dr. Byaruhanga Raymond MD, M.Sc HSM, is the Senior Technical Advisor in the National TB and Leprosy Program at the Ministry of Health in Uganda. He has held this position for six years. Before joining the Ministry of Health, he was the Project Director of the USAID TRACK TB project, a flagship project of USAID that provided technical support to the National TB and Leprosy program. Furthermore, his position was pivotal in scaling up TB diagnostics and MDR TB management in the country. At the Ministry of Health, National TB and Leprosy Program (NTLP), he provides technical advice to the NTLP on MDR TB management. He has a pivotal role in scaling up TB active Case finding and increasing utilization of GeneXpert technology, hence increasing DR-TB case finding.

As a senior technical advisor, Dr Byaruhanga supported the revision and adoption of guidelines, especially the DR-TB guidelines, with guidance from the WHO. He was also involved in capacity building, cohort reviews and coordination of the WHO rGLC visits in the country. He is a member of the technical working group on programmatic management of the DR-TB in Uganda and a member of the national technical panel that holds patient reviews bi-weekly. He was involved in the development and implementation of the second DR-TB survey protocol and was the focal officer at the national TB program, Ministry of Health.

Dr. Byaruhanga holds a Bachelor degree in Medicine and Surgery from Makerere University and a Master degree in Health Services Management from Uganda Martyrs University. He authored a number of professional papers on corporate and good governance. He also authored and co-authored a number of publications in recognized journals including Impact of socio-economic factors on tuberculosis treatment outcomes in north-eastern Uganda: a mixed methods study; addressing the drug-resistant tuberculosis challenge through implementing a mixed model of care in Uganda and evaluation of Xpert MTB/XDR test for susceptibility testing of Mycobacterium tuberculosis to first and second-line TB drugs in Uganda. Dr. Byaruhanga brings on board direct technical skills in the implementation and management of DR-TB.

CIRILLO, Daniela Maria
Constituency: Technical expert, Microbiologist
Qualifications: MD, Ph.D
Current position: Group leader, Emerging Bacterial Pathogens Unit and Deputy Director of the Division of Immunology, Transplant, and Infectious Diseases at IRCCS San Raffaele Scientific Institute
Institutional affiliation: IRCCS San Raffaele Scientific Institute, Division of Immunology, Transplantation and Infectious Diseases

Daniela Maria Cirillo is a board-certified clinical microbiologist and the Head of the Emerging Bacterial Pathogen Research unit at IRCCS San Raffaele Scientific Institute in Milan. Dr Cirillo is also the Director of the ESCMID Collaborating Centre at Ospedale San Raffaele. Her research focuses on mechanisms of detection of drug resistance in MDROs of nosocomial origin and mycobacteria and application of NGS-based technology in clinical microbiology. Areas of expertise include clinical bacteriology and infection control, next-generation sequencing-based diagnostic tools, diagnostic capacity building in high-burden TB countries, research on new diagnostics for active and latent TB Infections, and nosocomial infection. She and her collaborators provide technical support to more than 12 Countries in Africa, Asia, and Europe. She is Co-Chair of the New Diagnostic Working Group of the Stop TB Partnership, core group member of the European Laboratory Initiative, a Member of the Core Group of the ERLN-TB and of core group of the WHO-SRL network, an Elected member of the Disease Network Coordination Committee (DNCC) for Tuberculosis at ECDC and President of the European Society of Mycobacteriology since 2016. Awardee of G Middlebrook prize in 2017.

DALEY, Charles

Constituency: Pulmonologist; TB expert
Qualifications: MD
Current position: Professor of Medicine, Chief of the Division of Mycobacterial and Respiratory Infections

Institutional affiliation: National Jewish Health

Charles L. Daley, M.D., is Professor of Medicine at National Jewish Health (NJH), the University of Colorado, and Icahn School of Medicine at Mount Sinai. He is Chief of the Division of Mycobacterial and Respiratory Infections at NJH. Dr Daley has served on expert panels for the WHO, CDC, IDSA, and ATS, including those addressing the diagnosis and treatment of drug-susceptible and drug-resistant TB. He served as Chair of the Green Light Committee, rGLC and Global Drug Resistant TB Initiative and received the ATS Global Lung Health Award in 2016 for his work with MDR-TB. Dr Daley was an Associate Editor for the American Journal of Respiratory and Critical Care Medicine and the European Respiratory Journal. As a scientist, Dr. Daley is actively involved in clinical, epidemiologic, and translational investigations of mycobacterial infections and bronchiectasis that has resulted in over 200 research publications, chapters and reviews. As a clinician, he focuses on the care of patients with mycobacterial infections.
DAVIES, Geraint (Gerry)

Constituency: Trials expert; Pharmacologist
Qualifications: MB, DTM&H, MRCP, MSc Epidemiology, PhD Pharmacology, FRCP
Current position: Professor of Infection Pharmacology
Institutional affiliation: Department of Clinical Infection, Microbiology and Immunology, University of Liverpool, UK (UoL); Liverpool University Hospitals Foundation Trust (LUHFT)

Gerry is Professor of Infection Pharmacology and Honorary Consultant in Infectious Diseases at the University of Liverpool. He is the TB lead clinician for Liverpool and an advisor to the British Thoracic Society MDR-TB Clinical Advice Service. He ran the TB programme at Hlabisa hospital, KwaZulu/Natal, South Africa, from 1994-1998, later obtaining an MSc in Epidemiology from the London School of Hygiene and a PhD in Pharmacology from the University of Liverpool. From 2007-2009, he was based at the Mahidol-Oxford Research Unit in Bangkok, where he worked on anti-tuberculosis and influenza therapy and subsequently as theme leader in HIV-TB pharmacology at the Malawi-Liverpool-Wellcome Research Unit in Blantyre (2012-2014). Since 2005, he has been an editor for the Cochrane Infectious Diseases Group, specializing in tuberculosis, and has extensive experience in Phase II and III clinical trials in tuberculosis in differing roles. He played a prominent role in the EU Innovative Medicines Initiative product development partnerships PreDiCT-TB and UNITE4TB and has served on numerous WHO policy taskforces, guidelines development groups, and technical advisory groups over the last decade related to the treatment of tuberculosis. Since 2021, he has been a member of the UK Commission on Human Medicines Infection Expert Advisory Group.

DOCKHORN COSTA JOHANSEN, Fernanda

Constituency: Programme Manager
Qualifications: MD
Current position: Manager of National Tuberculosis Program
Institutional affiliation: Brazilian Ministry of Health

Fernanda Dockhorn Costa Johansen graduated from medical school in 2004 and completed a residency in internal medicine in 2007. After that, she moved to Mozambique with the Columbia University – NY (ICAP), working on the implementation of HIV programs (2007-2011). In 2011, she returned to Brazil and started activities in the NTP Brazil, being responsible for activities related to TB/HIV co-infection and DR-TB (2011-2020). She finished her master's degree in 2013 and, in 2016, started working as an
assistant doctor in a health unit in Brasília. In 2020, she joined the Global Laboratory Initiative (GLI) team, which still participates today, and she assumed the position of head of the NTP-Brazil in December 2020.

**FATIMA, Razia**

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<th>Constituency:</th>
<th>Programme manager</th>
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<tr>
<td>Qualifications:</td>
<td>MBBS Gold Medalist (Pakistan), MSC Epidemiology (UK), MPH (Pakistan), PhD Public Health (Norway)</td>
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<td>Current position:</td>
<td>National Coordinator, Common Management Unit for TB, HIV/AIDS and Malaria</td>
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<tr>
<td>Institutional affiliation:</td>
<td>Common Management Unit for TB, HIV/AIDS and Malaria and National TB Control Program - under Pakistan Ministry of National Health Services, Regulations &amp; Coordination (MoNHSR&amp;C)</td>
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Dr Fatima is working as National Coordinator, Strengthening Common Management Unit (CMU) for TB, HIV/AIDS and Malaria under Ministry of National Health Services, Regulations & Coordination (MoNHSR&C), Government of Pakistan. She has diverse experience in the field of public health with 20 years’ experience at national level and worked on important positions since March 2008 including Chief Research & Surveillance, Advisor TB. She is a Medical Doctor and obtained her PhD in Public Health from the University of Bergen, Norway (2015), her MSc in Epidemiology from LSHTM UK (2008), and her Master’s in Public Health (2009). She represented Pakistan at various international forums and was elected as Chair of the TB Section for the International Union against TB and Lung Disease and Co-chair of the Ethics Advisory Group. She has published more than 68 research papers on public health in international peer-reviewed journals.

**GURBANOVA, Elmira**

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<td>Qualifications:</td>
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<tr>
<td>Current position:</td>
<td>Clinician at the University of Tartu Clinic, Tartu, Estonia.</td>
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<td>Institutional affiliation:</td>
<td>University of Tartu Clinic, Tartu, Estonia</td>
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Elmira Gurbanova has gained practical experience of TB/M/XDR-TB clinical and programmatic management in Azerbaijan. From 2011, she was a member of the clinical committee on TB and MDR-TB functioning in the penitentiary system. In 2011, Dr Gurbanova joined the Global Fund TB project implementation unit in Azerbaijan. During her tenure, rapid tests were introduced into TB case finding.
and diagnostics algorithms in prisons, and treatment policies for TB/MDR-TB were revised in line with WHO recommendations. Dr Gurbanova contributed to the establishment of the unique WHO Collaborative Centre on TB control and prevention in prisons, with the main aim to spread an exemplary model for TB care in prisons and to generate new data for future decisions. Dr Gurbanova also has more than 10 years of international experience as a WHO TB consultant and as an international trainer in related fields. Dr Gurbanova holds a PhD degree in Medicine from the University of Tartu, Estonia, and she is the main/principal author of >10 publications in the field of TB/MDR-TB. Since 2018, Dr Gurbanova has been a practicing clinician at the University of Tartu Clinic, Estonia.

HESSELING, Anneke

Constituency:   Paediatrics and clinical management of TB, end-user
Qualifications:  MD, MSc, PhD
Current position:  Professor in Paediatrics and Child Health, Director of the Desmond Tutu TB Centre
Institutional affiliation:  The University of Stellenbosch

Anneke Hesseling is a South African clinician scientist dedicated to research in tuberculosis and HIV in children and adolescents and other special populations, including pregnant women and young people. She is a Distinguished Professor in Paediatrics and Child Health, at Department of Paediatrics and Child Health, Faculty of Medicine and Health Sciences, Stellenbosch University, where she is the Director of the Desmond Tutu TB Centre and has 20 years of experience in designing and conducting translational paediatric TB research in South Africa and in other high-burden settings and holds the first South African National Research Foundation SARChI chair in Paediatric Tuberculosis. Professor Hesseling has published more than 260 peer-reviewed papers and her Scopus H index is 50.

Professor Hesseling chairs the NIH IMPAACT TB Scientific Committee and leads or co-leads several IMPAACT protocols, including IMPAACT P1108, PHOENIX (A5300/I20013), IMPAACT 2020, and IMPAACT 2024. She is the PI for the Stellenbosch DAIDS-funded Clinical Trials Unit (SUN-CTU) network renewal application and the IMPAACT CRS leader for the Desmond Tutu TB Centre (DTTC, CRS 31790). She is also the PI for the CDC-funded TB Trial Consortium (TBTC) Stellenbosch site (CDC Site 33) 10-year grant and protocol chair for TBTC Study 35 (rifapentine pharmacokinetics and safety for TB prevention in HIV-infected and uninfected children) and a core member of the WHO Stop TB Paediatric and Adolescent Core Group. She has been the PI and co-investigator on several paediatric diagnostic and biomarker studies, paediatric phase I/II trials of delamanid and bedaquiline in children and is the PI of the TB-CHAMP phase 3 TB prevention trial of MDR-TB in children, and the South African PI on the
SHINE treatment shortening trial in children with drug-susceptible TB. Her group’s research has a strong focus on novel strategies to prevent TB in children with and without HIV co-infection, the evaluation of novel therapeutic strategies, and a special interest in diagnostic and biomarker research in young and HIV-affected children. Her group also conducts rigorous epidemiolocal and implementation science research, socio-behavioural research coupled with strong collaboration with programmes and community stakeholders to advance the health of children affected by TB or HIV.

**LANGE, Christoph**

**Constituency:** Clinician and Scientist  
**Qualifications:** MD, PhD  
**Current position:** 1) Medical Director and 2) Professor of Respiratory Medicine and International Health  
**Institutional affiliation:** 1) Research Center Borstel, Leibniz Lung Center, Borstel, Germany; 2) University of Lübeck, Lübeck, Germany

Christoph Lange is a German pulmonologist and infectious diseases specialist. He is the Medical Director of the Research Center Borstel, Leibniz Lung Center, and Professor of Respiratory Medicine & International Health at the University of Lübeck, Germany. He leads the clinical tuberculosis unit of the German Center for Infection Research (DZIF). Professor Lange holds international academic affiliations with the Baylor College of Medicine in Houston, Texas (USA) and the State University for Medicine and Pharmacy in Chisinau (Republic of Moldova). His research interests include the epidemiology, prevention, diagnosis, and treatment of tuberculosis, especially DR-TB. His recent work focuses on the development and application of precision medicine technologies to improve the management of patients with mycobacterial diseases.

**MEINTJES, Graeme**

**Constituency:** Researcher  
**Qualifications:** MBChB, MRCP, FCP, PhD, MPH  
**Current position:** Professor of Medicine, University of Cape Town  
Clinical Professor of Infectious Diseases, Queen Mary University of London  
**Institutional affiliation:** University of Cape Town, Queen Mary University of London

Graeme Meintjes is a Clinical Professor of Infectious Diseases at Queen Mary University of London (QMUL) and a Professor of Medicine at the University of Cape Town (UCT). He is an adult Infectious Diseases Specialist. He leads a research programme that focuses on the clinical conditions affecting...
patients with advanced HIV disease, including disseminated HIV-associated tuberculosis, the immune reconstitution inflammatory syndrome and cryptococcal meningitis. His group also investigates drug-resistant tuberculosis, diagnostics for TB and antiretroviral therapy strategies. He has been the PI or local PI of several clinical trials and conducts observational cohort studies that address questions related to disease pathogenesis. He has contributed to the development of management guidelines for HIV, TB, and cryptococcal meningitis at provincial and national levels and in WHO Guideline Development Groups. He is a member of the South African National Clinical Advisory Committee for drug-resistant TB.

NARENDRAN, Gopalan

Constituency: Pulmonologist or clinical researcher
Qualifications: M.B.,B.S., Diploma in tuberculosis and respiratory diseases, Master degree in respiratory diseases
Current position: Senior Deputy Director, Medical, Scientist “F” Medical
Institutional affiliation: Indian Council of Medical Research –National Institute for Research in Tuberculosis, Chetpet, Chennai, India (formerly called Tuberculosis Research Institute).

As a Pulmonologist from Madras Medical College, Dr Narendran joined under Dr Soumya Swaminathan in Tuberculosis research centre in 2002 and matured as a principal investigator in various trials under her mentorship. He has led the study on daily vs intermittent regimen of ATT in HIV-TB, which helped to ascertain the schedule of ATT in India. Dr Narendran was the nodal PI from India for the STREAM trial stage 2, which aimed at shortening and standardizing MDR-TB treatment. He worked with NIAID, NIH, and Bethesda on immune reconstitution inflammatory syndrome. He was awarded the black lock Thompson Gold Medal in surgery and the coveted NASI-Scopus Award in medical research in 2014. Recipient of the AP Chakrapani Oration Award this year by the Pulmonologist Association of Andhra Pradesh, India. Teaching is his passion and simplifying concepts has been his goal. He has been a mentor for various medical colleges, both undergraduate and postgraduate, and was posted to NIRT/TRC from India and abroad. He was also a former member of the MD curriculum for chest diseases in 2013. Dr Narendran is the secretary of the Data Safety Monitoring Committee and the institutional Ethics Committee of NIRT. Currently involved in trials in shortening TB treatment in India and exploring the cardiopulmonary vascular defects in post-COVID syndrome to find out if it preludes to overt cardiopulmonary insufficiency later. Currently, he has 58 publications with a h-index of 25 and an average impact factor of 7, with around 1500 citations.
NASEHI, Mahshid

Constituency: Clinician and epidemiologist
Qualifications: MD, MPH, PhD
Current position: Director, National Director for TB and Leprosy control department
Institutional affiliation: 1) National TB & Leprosy Control Department, Center for Control of Communicable Diseases, Iran; (2) Department of Epidemiology, School of Public Health, Iran University of Medical Sciences, Tehran, Iran.

Mahshid Nasehi is a medical doctor who has been working as the National Director of the TB and Leprosy Control Department in Iran since 2000 and simultaneously as an academic member and researcher in the Department of Epidemiology and Biostatistics at Iran University of Medical Sciences (since 2005). She started her work as a GP in a Primary Health Care Center. Then, she worked consecutively as District TB coordinator, Provincial TB coordinator, and Director of the Disease Control Office at the Provincial level in the Capital City, and finally, she joined the national level in 2000 as the National Director of the TB and Leprosy Control Department.

NGUYEN, Kim Cuong

Constituency: Clinician, DR-TB expert
Qualifications: MD, PhD
Current position: Vice Director
Institutional affiliation: National Lung Hospital, Hanoi, Vietnam

Dr Cuong Kim Nguyen is a senior clinician with experience in tuberculosis and lung diseases. He is currently the vice director of the National Lung Hospital in Hanoi, Viet Nam, and a senior lecturer at the Tuberculosis Department of Hanoi Medical University. Dr Cuong has also participated in TB research, including studies in drug-resistant TB treatment, active TB screening, and TB contact tracing.

VERNON, Andrew

Constituency: Researcher
Qualifications: MD, MHS
Current position: Branch chief
Institutional affiliation: TB Clinical Research/TRP in Division of AIDS/NIAID/NIH, USA
Andrew Vernon’s expertise lies in clinical research in tuberculosis. Throughout his career he has sought to advance the relationship of clinical and translational research to public health practice in the domain of infectious diseases. Dr Vernon began work in TB as trial coordinator for USPHS Study 22, testing a once-weekly rifapentine-based continuation regimen in drug-sensitive tuberculosis. From 1995 to 2002, he served as a project officer, and from 2004 to 2021, as Chief of the Clinical Research Branch, Division of TB Elimination, at CDC. The branch guided, supported, and participated in the CDC’s TB Trials Consortium (TBTC) activities, which arose from the USPHS Study 22 effort. TBTC is a multinational collaboration among local TB control programs, academic investigators, and CDC scientists, whose mission is to conduct programmatically relevant research in tuberculosis. The group has conducted a dozen major studies, and multiple PK and other sub-studies, enrolling over 18,000 persons worldwide. TBTC has collaborated with other major trials groups, including ACTG, IMPAACT, and the British Medical Research Council. TBTC’s most recent major trial (S31/A5349), performed in collaboration with NIH’s AIDS Clinical Trials Group, demonstrated the non-inferiority of a 4-month regimen for drug-sensitive TB. Dr Vernon worked on CDC’s COVID response from 2021-2022. In late 2022 Dr Vernon became Branch chief, TB Clinical Research/TRP in Division of AIDS/NIAID/NIH, where he and his staff work with the ACTG on TB clinical trials.

ZHANG, Wenhong

Constituency: Researcher
Qualifications: MD, PhD, Professor of Medicine
Current position: Director, Division of Infectious Diseases, Huashan Hospital, Fudan University;
Director, National Center for Infectious Diseases in China
Institutional affiliation: Department of Infectious Diseases, Huashan Hospital, Fudan University;
National Medical Center for Infectious Diseases in China.

Dr Wenhong Zhang is a distinguished researcher focusing on novel clinical trials and treatment regimens aimed at improving tuberculosis (TB) outcomes. His work encompasses the prevention of latent TB infection and the development of TB vaccines. Dr Zhang has designed and conducted several ground-breaking clinical trials. Notably, he led a phase III, multicentre, open-label, randomized controlled trial to compare the treatment success rates between the WHO’s shorter regimen and a refined ultra-short regimen for rifampicin-resistant TB (RR-TB). He also pioneered a platform trial evaluating the efficacy and safety of seven all-oral nine-month regimens in fluoroquinolone-susceptible RR-TB patients and a specific nine-month regimen for fluoroquinolone-resistant cases.
Further, Dr Zhang has overseen a multicentre, randomized controlled phase II/III non-inferiority trial involving drug-susceptible TB (DS-TB) patients. This trial evaluates the safety and efficacy of short-term regimens with varying dosages of rifapentine compared to the standard six-month treatment regimen. Additionally, he has conducted a trial assessing a one-month preventive regimen for students with latent TB infection. Throughout his career, Dr Zhang has made significant contributions to the field of infectious diseases and public health, evidenced by his authorship of over 200 peer-reviewed papers.