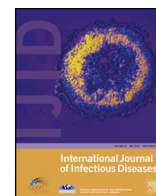




Contents lists available at ScienceDirect

International Journal of Infectious Diseases

journal homepage: www.elsevier.com/locate/ijid

Taking forward the World TB Day 2016 theme ‘Unite to End Tuberculosis’ for the WHO Africa Region



Francine Ntoumi^{a,b,*}, Pontiano Kaleebu^c, Eusebio Macete^d, Sayoki Mfinanga^e, Jeremiah Chakaya^f, Dorothy Yeboah-Manu^g, Matthew Bates^h, Peter Mwaba^{h,i}, Markus Maeurer^j, Eskild Petersen^{k,l}, Alimuddin Zumla^{h,m}

^a Fondation Congolaise pour la Recherche Médicale, Brazzaville, Republic of Congo

^b Institute for Tropical Medicine, University of Tübingen, Tübingen, Germany

^c Uganda Virus Research Institute Research Unit on AIDS, Entebbe, Uganda

^d Centro de Investigação em Saúde de Manhiça, and National Directorate of Public Health, Ministry of Health, Maputo, Mozambique

^e Muhimbili Medical Research Centre, National Institute for Medical Research, Dar es Salaam, Tanzania

^f Department of Medicine, Dermatology and Psychiatry, Kenyatta University, Nairobi, Kenya

^g Noguchi Memorial Institute for Medical Research, Accra, Ghana

^h UNZA-UCLMS Research and Training Project, University Teaching Hospital, Lusaka, Zambia

ⁱ Ministry of Health, Lusaka, Zambia

^j Division of Therapeutic Immunology, Department of Laboratory Medicine, Karolinska Institutet, and Centre for Allogeneic Stem Cell Transplantation, Karolinska University Hospital, Stockholm, Sweden

^k University of Aarhus, Aarhus, Denmark

^l The Royal Hospital, Muscat, Oman

^m Division of Infection and Immunity, University College London, and NIHR Biomedical Research Centre, UCL Hospitals NHS Foundation Trust, London, UK

ARTICLE INFO

Article history:

Received 1 March 2016

Accepted 3 March 2016

Corresponding Editor: Eskild Petersen, Aarhus, Denmark.

Keywords:

World TB Day

Tuberculosis

Treatment

Multidrug-resistant TB

EDCTP

Advocacy

Unite

SUMMARY

Tuberculosis (TB) remains a global emergency, with an estimated 9.6 million new TB cases worldwide reported in 2014. Twenty-eight percent of these cases were in the World Health Organization (WHO) Africa Region, where the annual case detection rate was 281 per 100 000 population—more than double the global average of 133 per 100 000. Of the 9.6 million people who developed TB, an estimated 1.2 million (12%) were HIV-positive, and the Africa Region accounted for 74% of these cases. Three million people with TB remain undiagnosed and untreated. Globally, an estimated 480 000 had multidrug-resistant TB (MDR-TB). Whilst of the African countries, only South Africa has reported a high prevalence of MDR-TB, it is likely that all of Sub-Saharan Africa has an unreported high load of drug-resistant TB. Tragically, in 2014, only 48% of individuals diagnosed with MDR-TB had successful treatment and an estimated 190 000 people died of MDR-TB. Of the global TB funding gap of US\$ 0.8 billion, the largest funding gap was in the Africa Region, amounting to US\$ 0.4 billion in 2015. The MDR-TB pandemic in particular now threatens to devastate entire regions and may fundamentally alter the life-expectancy and demographic profile of many countries in Sub-Saharan Africa. The theme designated for this year's World TB Day, March 24, 2016, is 'Unite to End TB'. From the Africa Region, there is an urgent need to seriously address the political, economic, and social factors that influence host-*Mycobacterium tuberculosis* interactions and result in disease. Recent political and funder initiatives that provide renewed hope for the alleviation of Africa's TB and TB/HIV problems are discussed.

© 2016 Published by Elsevier Ltd on behalf of International Society for Infectious Diseases. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Tuberculosis (TB) has remained a global emergency ever since it was declared as such by the World Health Organization (WHO) in 1993.¹ The theme designated for this year's World TB Day, March

24, 2016, is 'Unite to End TB'.² World TB Day is held to commemorate the day in 1882 when Professor Robert Koch announced his ground-breaking discovery of the cause of TB, the bacillus *Mycobacterium tuberculosis*.³ At the time of Koch's announcement in Berlin, TB was widespread and rampaging through Europe and the Americas, causing the death of one out of every seven people.⁴ Over the ensuing 60 years, TB rates in Europe

* Corresponding author.

E-mail address: fntoumi@fcrm-congo.com (F. Ntoumi).

and the USA started to decline, well before the advent of TB drugs and the bacillus Calmette–Guérin (BCG) vaccine, highlighting the fact that TB epidemics are driven by complex socio-economic factors and host–*M. tuberculosis* interactions.^{4–11}

It has been 134 years since Professor Koch's discovery of *M. tuberculosis*, and yet today TB remains the most common cause of death from an infectious disease worldwide.¹ According to the 2015 WHO Annual TB Report, an estimated 1.5 million people died of TB out of 9.6 million people who developed active TB worldwide in 2014.¹² Of these 9.6 million TB cases, 28% were in the WHO Africa Region, where the incidence rate was 281 new TB cases per 100 000 population. This is more than double the global average rate of 133 per 100 000.¹² An estimated 1.2 million out of the 9.6 million TB cases (12%) were HIV-positive and the Africa Region accounted for 74% of them. It is important to note that in 2014, three million people with TB went undiagnosed and untreated, or unreported. A significant proportion of these were in Sub-Saharan African countries. Critical to reducing the global burden of TB and slowing down TB transmission rates is the identification and treatment of all active cases of pulmonary TB, rendering them non-infectious.¹³ Furthermore, those individuals with a high risk of re-activation of latent TB infection need to be identified and treated.¹²

While the overall global incidence of TB has been declining slowly over the past decade, drug-resistant strains of *M. tuberculosis* have emerged worldwide. Tragically, in 2014, an estimated 190 000 people died of multidrug-resistant TB (MDR-TB),¹² and only 48% of the 480 000 people estimated by the WHO to have MDR-TB had received successful treatment. The number of MDR-TB cases in 2014 remained unchanged from the figure estimated in the previous year's 2013 WHO Annual TB Report. This may represent an underestimate, or could be explained by inadequate laboratory infrastructure and resources to correctly diagnose and report MDR-TB at the health facility and national levels. Whilst of the African countries, only South Africa has reported a high prevalence of MDR-TB, it is likely that all of Sub-Saharan Africa has a significant burden of unreported drug-resistant TB.

Over the past three decades the world has experienced the most profound of public health challenges with the appearance of new infectious pathogens with epidemic potential, such as Ebola virus (EBOV), severe acute respiratory syndrome coronavirus (SARS-CoV), Middle East respiratory syndrome coronavirus (MERS-CoV), and now Zika virus (ZIKV) and antibiotic-resistant bacteria. We have also seen the resurgence of malaria, TB, and other infectious diseases, which were being brought under control.¹⁴ We have also witnessed the emergence of the devastating HIV pandemic, which has largely been responsible for the breakdown of TB control programs. Together, TB and HIV have imparted a huge toll on health services and the economies of Sub-Saharan African countries.¹⁵ The MDR-TB pandemic in particular now threatens to devastate entire regions and may fundamentally alter the life-expectancy and demographic profile of many African countries.¹⁶

There is an urgent need to address priority needs for MDR-TB,¹⁶ especially in Africa, where resources and capacity are limited. MDR-TB has relevance beyond the worst affected countries, since TB does not respect national or international borders. The number of people forced to flee their homeland due to conflicts or natural disasters in the past few years has reached an all-time high worldwide.¹⁷ A large number of refugees are being cared for in low- and middle-income countries. Furthermore the large funding gap (difference between the actual funding needs of TB programs for TB prevention, diagnosis, and treatment and the actual amount of funds available) for the Africa Region was US\$ 0.4 billion in 2015.¹²

The WHO post-2015 global TB strategy aims to reduce global TB incidence by 90% before 2035.¹⁸ However, the data in the 2015 WHO Annual TB Report show a bleak global TB situation. Dr Lucia Ditiu, Executive Director of the Stop TB Partnership, aptly

summarized the situation recently by stating “It is a global disgrace and human tragedy that TB—a curable disease—is killing around 1.5 million people per year and nobody speaks about ending it”, and further “We know it can be done, we know how it can be done, we know how much it will cost us—we need to have the desire to do it and energy to move on. Ours can be the generation remembered as the one that turned the tide on this enormous yet treatable epidemic.”¹⁹

The Global Plan to End TB 2016–2020 launched by the Stop TB Partnership has three fundamental targets called 90–(90)–90:¹⁹

- Aim 1 is to have 90% of all people with TB diagnosed and treated.
- Aim 2 (which is coupled to aim 1) is to ensure that 90% of the most vulnerable populations in all countries (high- and low-income) are diagnosed and treated; these populations would include children, people living with HIV, miners, addictive substance users, prisoners, the homeless, and migrants, as well as others – we would like to include healthcare workers and patient carers in this list.
- Aim 3 is to ensure that 90% of people diagnosed successfully complete treatment with services to ensure adherence and social support.

In addition, the Global Plan calls for an additional US \$9 billion for research and development into improved diagnostics, treatment regimens, and vaccines that are highly effective and non-toxic. The current funding trends for TB research have been rather disappointing.²⁰ In the Africa Region, there is also an urgent need to seriously address the political, economic, and social factors, apart from HIV, that influence host–*M. tuberculosis* interactions and increase the risk of developing active TB, or re-activation of latent TB infection, and result in poor treatment outcomes.^{7–9}

So what more can researchers, healthcare workers, community groups, governments, the private sector, non-governmental organizations (NGOs), and funders do to effect a major shift from the current status quo with regard to global TB and TB/HIV control efforts in Africa? To achieve the laudable and ambitious 90–(90)–90 aims, the global scientific, political, and funder communities seriously need to ‘Unite to End TB’,²¹ and heed calls to action that have regularly been repeated on World TB Day^{5–11} for the scaling up of TB services for the improved diagnosis, management, and control of TB.²²

Recent political and funder initiatives have provided new hope for the WHO Africa Region to reduce the burden of TB and TB/HIV. Several novel and encouraging initiatives now present opportunities for the Sub-Saharan African scientific and political communities to engage more proactively in galvanizing resources, conducting priority scientific and operational research, and facilitating national TB program control efforts, and thereby to take forward boldly the aims of the Global Plan to End TB in Africa. Examples of these are the following:

- (1) The European Union supported EDCTP2 program (European and Developing Countries Clinical Trials Partnership), which provides unique opportunities for developing equitable, European–African partnerships in clinical research, capacity development, and training on poverty-related diseases, including TB and TB/HIV.^{23–25}
- (2) The Global TB Caucus, a formidable network of parliamentarians and political representatives from over 100 countries.²⁶
- (3) An African network called WARN-TB, which works with the WHO Tropical Disease Research Program (WHO-TDR) and plans to develop new approaches that will increase the numbers of people diagnosed and treated, build capacity for TB operational research, and support resource mobilization for TB control.²⁷

Download English Version:

<https://daneshyari.com/en/article/3361650>

Download Persian Version:

<https://daneshyari.com/article/3361650>

[Daneshyari.com](https://daneshyari.com)