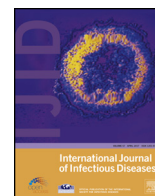


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Editorial

Ending the Global Tuberculosis Epidemic by 2030 – The Moscow Declaration and achieving a Major Translational Change in Delivery of TB Healthcare



According to the latest WHO Annual Global TB Report ([WHO, 2017a](#)), Tuberculosis (TB) remains the world's top infectious diseases cause of death, being responsible for an estimated 1.674.000 deaths worldwide in 2016. Alarmingly, there were 600.000 cases of rifampicin-resistant TB of which 490.000 had multidrug-resistant TB (MDR-TB). Less than 50% of these patients survive after receiving currently recommended WHO treatment regimens, illustrating the dire state of current global TB control efforts. The first WHO Global Ministerial Conference “Ending Tuberculosis in the Sustainable Development Era: A Multisectoral Response”, was held in Moscow, the Russian Federation, on 17th November 2017. Ministers from 75 countries agreed on the “Moscow Declaration” ([WHO, 2017d](#)) committing to urgent action to fulfill the WHO “End Tuberculosis” strategy by 2030 ([WHO, 2017b](#)). It also commits to increasing multisectoral action, tracking progress, and ensuring accountability. The Moscow declaration will inform the first UN General Assembly High-Level Meeting on TB to be held in New York in September 2018 to generate further commitments from member states.

Key sentences in the declaration read:

“Universal health coverage, sustainable financing for multisectoral action, rapid scale up of innovative approaches and tools, and discovery of new and better tools for prevention, diagnosis and treatment of TB will be fundamental to transform the fight.

We also recognize the urgent need for committing immediate, intensified, innovative and multisectoral actions to rapidly accelerate progress in both research and implementation”.

Thus fulfillment of the laudable vision of the Moscow Declaration will require a major translational transformation of health care systems in TB endemic countries, substantial investments in infrastructure, staff and staff education, laboratory facilities and availability of drugs.

The Moscow Declaration argues that it is only by broadly investing in health and ensuring that health care is accessible to all, that we can reach the “End Tuberculosis” goal of having less than 1 case per million inhabitants by 2030 ([WHO, 2017c](#)), and speak about “universal health coverage”. Thus the End-TB Strategy is not a new vertical program but a horizontal effort to strengthen health care overall and expand coverage. Implementing the Moscow Declaration will require an overall strengthening of health care systems with more facilities, staff, laboratories, diagnostics and

treatment availability and will benefit other areas for instance the fight against diabetes, malaria and HIV.

The interrelationship between TB and HIV remains a high priority for TB control. Not all countries recognize and openly acknowledge the HIV epidemic and public campaigns to inform about risk factors are in some countries against religious beliefs. Therefore to fulfill the End-TB Strategy the HIV epidemic need to be addressed. For instance the Middle East, – a generalization and may not apply to the region as a whole and wont be well received- is there a better way to phrase? with a rapidly growing and young population, has the fastest increase in new HIV cases world wide ([Gökengin et al., 2016](#)). Integration of health care providing for HIV and TB must be a priority and in donor- funded programs, for instance by the Global Fund to Fight AIDS, Tuberculosis and Malaria, funding should be made provisional on the merging of TB and HIV programs ([Linguissi et al., 2017](#)). In countries where the HIV epidemic is the major risk factor for new TB infections, and reactivation of latent foci, timeous access to antiretroviral therapy is critical.

There are approximately 2 billion people in the world with latent TB infection (LTBI) who remain completely asymptomatic. Many of these persons harbor viable *Mycobacterium tuberculosis* bacteria. Between 5% to 15% will progress to develop active TB disease during their lifetime due to a range of risk factors. Apart from poverty and homelessness, HIV infection and immunosuppression due to other diseases and treatment are potent causes and continue to fuel the TB epidemic. The number of people with LTBI is approximately ten times the numbers with active TB, estimated at 10.4 million people (90% adults; 65% male; 10% people living with HIV) (WHO World TB Report 2017). With a conservative estimate of 5% of people with LTBI progressing to developing active TB, approximately 100 million people with risk factors will develop active TB. In order to achieve the long term strategy of TB control and fulfill the End-TB Strategy, people with LTBI at risk of developing active TB must be identified and treated. Since tuberculin skin tests are neither specific or sensitive, the WHO recommended interferon-gamma release assays, (IGRAs), which have sensitivities of between 84–95% and specificities of 85–99% should be made available not only in high-risk communities in the western countries but more widely in high TB endemic countries, starting initially with specific high risk groups such as people living with HIV, prisoners and school children. Individuals identified with

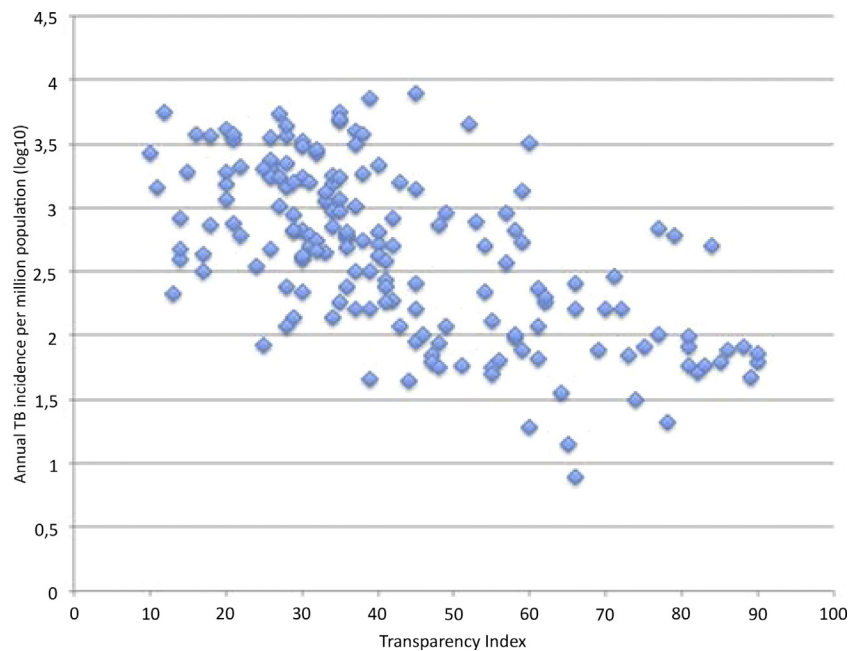


Figure 1. Spatial-temporal relationship between the Corruption Perceptions Index and the annual incidence of TB in countries.

LTBI can be effectively treated either with six months of isoniazid for fully susceptible TB or 3 months of weekly isoniazid and rifampine (Zenner et al., 2017).

With no effective TB vaccine available (Kaufmann et al., 2017a, b) the current emphasis on developing more effective treatment regimens with two new TB drugs bedaquiline and delamanid rolled out to all cases of MDR-TB becomes important. The vaccine issue is not related to MDRTB Rx. However, the cost of these drugs is a major barrier to their use. A recent study estimated the cost of generic bedaquiline at US\$8–\$17/month and for generic delamanid \$5–\$16/month (Gotham et al., 2017). Estimated generic prices were \$168–\$395 per course for the STREAM trial modified Bangladesh regimens (current costs \$734–\$1799), \$53–\$276 for pretomanid-based three-drug regimens and \$238–\$507 for a delamanid-based four-drug regimen (Gotham et al., 2017).

As rightly pointed out in the Moscow declaration, TB is no doubt closely related to poor socio-economic conditions (Grange and Zumla, 1999; Fineberg and Wilson, 1996). The significant decline in the incidence over time in the industrially developed nations in the last century have been attributed to improved nutrition, housing and socio-economic factors and occurred well before the introduction of TB drugs (Grange et al., 2001; Zumla et al., 2009). Implementing the Moscow Declaration will require a major uplift of entire health care systems which can reach out to marginalized populations both regards to finding the millions of ‘missing’ cases (Herbert et al., 2014), diagnosing them and more importantly ensuring long term follow up to ensure compliance to prevent occurrence of multi-drug resistant MDRTB. In order to reach disadvantaged groups, active engagement with marginalized groups like prisoners, drug users, migrants and refugees will be needed. This can only be done by investing in community workers, who can actively engage and build trust with these communities. Mobile teams need to be developed, trained and equipped. All these activities will require substantial increase in national and donor funding.

To achieve the goals of the WHO End-TB Strategy and for follow up on the Moscow Declaration, international donors will need to increase their financial support for health care systems focused on poverty related diseases in developing countries with more funding than current investments. It is therefore of concern that

the administration in one of the biggest donors of international aid for TB and HIV, the United States, is heading towards reduction in foreign aid spending (even though foreign aid comprise roughly 1% of the US state budget) (Brookings Institute, 2017). Therefore it seems inevitable that all countries even with the lowest gross domestic product, GDP, must now focus on finding the shortfall and become self dependent. In this context it is disturbing to see the spatial-temporal relationship between the Corruption Perceptions Index (Transparency International, 2016) and the annual incidence of TB in countries (Figure 1). The recent increase in political will to end the TB epidemic and engagement of a global caucus of Parliamentarians from across all continents (Herbert et al., 2017) is a welcome development and provides new hope for getting national governments in high TB endemic countries to be more transparent and committed, and find ways of investing more in TB control activities, and for western donors to increase their contributions for achieving the EndTB goals.

Conflicts of interest

Authors declare no conflicts of interest.

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