



Tuberculosis: the story after the Primer

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Collaboration between authors and journal staff can contribute to expand the reach of Primers, including to areas where they would be most useful.

Our Primer on tuberculosis (TB)¹, the first coverage of this topic by *Nature Reviews Disease Primers*, was the result of months of hard work by a large, distinguished team of scientists and policy makers. We were motivated by the chance to provide an authoritative, global perspective for the benefit of biomedical scientists, putting current clinical and translational challenges in tackling the disease into context. We enjoyed the generous space we were given, backed by outstanding production quality.

Even before publication, we engaged the editors about how to increase access to the Primer, particularly in low-income and middle-income countries (LMICs), where TB burden is highest (BOX 1). The article was free to download during the initial month and overall for 8 months since publication (largely owing to the support of sponsors). As for all Primers, authors have access to a ReadCube link, as part of the [SharedIt](#) initiative, which enables the article to be freely read online. Encouraged by the editors, we actively disseminated the work via blog posts, media releases, conferences, social media and teaching courses. At the time of writing, the TB Primer has the highest Altmetric score of all Primers and it has been downloaded ~37,000 times since publication in 2016. This is our reward. We hoped such efforts would make the Primer more accessible to colleagues in LMICs, where the review can be a useful resource for researchers. Indeed, the journal informs me that the data suggest people are reading the Primer in, for example, Southeast Asia and Sub-Saharan African countries.

Sadly, 4 years since the Primer was published, the 'Captain of all these men of death', as John Bunyan called TB in the seventeenth century, is still the world's top infectious killer². TB still kills 4,000 people each day and 1.5 million people each year. For a curable infection, this death toll is shameful and unacceptable. On the positive side, since 2016, the field of TB has witnessed some major advances, with a promising new vaccine candidate³, an all-oral, 6-month regimen for extensively drug-resistant TB⁴ and a 1-month therapy for latent TB infection⁵. The WHO has recently recommended the phasing out of regimens containing injectable drugs and endorsed the introduction of a shorter all-oral bedaquiline-containing regimen for multidrug-resistant TB. In addition, the WHO has also approved two shorter regimens (1 month of daily rifapentine plus isoniazid, as well as 4 months of daily rifampicin) for latent TB infection.

What does the future hold? For the longest time, TB research suffered from lack of innovation and lack of good delivery systems for such innovations. Today, I do not see innovation as the rate-limiting step for ending TB, as science is already delivering novel tools and approaches. TB care delivery is what worries me. The slow pace of uptake of new tools and policies and the enormous funding gap keep me awake at night. Currently, the funding gap is almost US\$ 3.3 billion per year for TB prevention and care and US\$ 1.2 billion per year for research and development².

The United Nations Sustainable Development Goals include ending the TB epidemic by 2030. How do we achieve this goal, when country governments and leaders are not keeping their promises and allocating the resources to meet their lofty targets and goals?

Box 1 | Sharing knowledge, empowering research

In addition to journal subscriptions, there are several platforms (mostly online and freely available, such as social media, blogs and author post-prints) where authors and publishers can increase the visibility of their work. The Primer on Tuberculosis, for example, was tweeted by users from at least 63 countries, including those in Africa, South America and Asia. It was also featured on a [Nature Microbiology community blog](#). However, this online dissemination does not necessarily translate into readers having access to the final article. In low-income and middle-income countries (LMICs), academic institutions might lack the resources to subscribe to large numbers of publications. Enter the [Research4Life](#) programme, a public-private partnership of international organizations and up to 180 publishers, including Springer Nature. This programme provides free or low-cost online access to journals and books through participating partners. Since January 2018, the *Nature Reviews* journals have provided ~50 subscriptions to institutions in 32 countries. Resolving the issue of accessibility requires more than a single approach, and we encourage policy makers, stakeholders and publishers to continue to push the envelope and develop solutions for the benefit of the many.

- Lucia Brunello^a, Senior Editor, *Nature Reviews Disease Primers*

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The WHO Director-General, Dr Tedros Ghebreyesus, is famous for declaring that “Universal Health Coverage is a political choice.” Ending TB is also a political choice.

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Competing interests

The author declares no competing interests.

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