



Editorial

Noughts and crosses: The uncertain future of TB control in India

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Down the ages, a double armed heraldic cross served as the emblem of the kings of Sumeria, flew upon the pennants of Joan of Arc, fuelled the hermetic revival of René d'Anjou and was revered as the Patriarchal Cross of Jerusalem. Later, it became the mark of Godfrey, Duke of Lorraine. In 1902 in Berlin, the International Conference on Tuberculosis adopted the Cross of Lorraine as the inspirational symbol for the fight against tuberculosis (TB).

Worldwide, the burden of TB in the world decreased over the years. Yet, mankind's most ancient infective foe is far from finished. TB control, in fact, has been moving nearly 150 years behind schedule¹. In September 2015, the United Nations (UN's) eight Millennium Development Goals (MDGs) gave way to 17 Sustainable Development Goals (SDGs). The far more ambitious SDGs talk of "ending epidemics" rather than merely of "halting and reversing" epidemics, as the MDGs did. SDG-3 includes the all-important Target 3.3 that explicitly mentions TB. Thus, once again a new plan has been laid out—the World Health Organization's (WHO's) End-TB Strategy 2016-2035—a costed, scalable blueprint for a world free of TB—zero deaths, zero disease and suffering due to TB². But in a stunning revelation, the WHO's 2016 Global TB Report³ revised India's burden of TB sharply upwards, at 27 per cent of the global burden of incident tuberculosis, and 34 per cent of global TB deaths. The re-evaluation of India's TB demographics for the period 2000–2015 was based on household surveys, a single state-wide TB prevalence survey from the Western state of Gujarat (which was extrapolated to the rest of the coun-

try) sales of anti-TB drugs in pharmacies, and from India's new web-based notification system, the NIKSHAY. The WHO suggested that only 56% of incident cases were officially reported in 2014 and 59% in 2015, and up marked the estimate of incident cases in India in the year 2015 at 217 per 100,000 (as against its previous estimate of 127 per 100,000). Of the 2.8 million incident cases in 2015, just 1.7 were diagnosed and notified: 1.1 million were not. Disturbingly, of the 79,000 estimated cases of multi-drug resistant tuberculosis (MDR-TB) in 2015, just 31,000 were diagnosed.

So, what went wrong?

Contrasting India's increasing TB burden with the plummeting TB epidemic in China (which once had a TB population surpassing India's), in an article evocatively titled "The Dragon and the Tiger," the differences in the programmatic reforms between the two countries have been highlighted by Bhattar and colleagues from the Foundation for Medical Research, Mumbai⁴. These last years, China has given due recognition to tuberculosis as a public health problem. Among the 37 notifiable communicable diseases, TB appears right on top of the list of notified cases and deaths. China set up a disease command centre in Shanghai in 1998, and this led in 2002 to a 'CDC' in Beijing—a Centre for Disease Control and Prevention—much on the lines of CDC, Atlanta, USA. Now, CDCs exist in 28 other Chinese provinces, monitoring the changing dynamics of important diseases, and enabling the necessary policy changes based on the surveillance data. A dozen or so of the infectious diseases that once "dominated" China have been eliminated.

In November 2004, India launched its own Integrated Disease Surveillance and Planning (IDSP). But it has important differences from the Chinese model. For one, the IDSP is a decentralized, state-based program. Health and health issues are a subject of the state, and from past experience (such as in the case of the effete Malaria Control Program) state governments do not have an unblemished track record.

Still, India's web-based notification system has hit the ground running. Non-governmental organization (NGO)-based public private interfaces are already promising to be game-changers for the future. The final results of India's National TB Prevalence Survey, due in 2018, will be critical in driving the "90-90-90" goal (90% reduction in incidence, mortality and catastrophic health expenditures) by 2035.

It is clear now that almost all aspects of India's RNTCP need tuning. Despite a seemingly efficient 'Directly Observed Treatment Short Course (DOTS)' program—that directly monitors drug administration to patients—the relapse in first six months was more than 10%⁵—dishearteningly higher than in many other countries. With growing criticism against the alternate day treatment⁶, the National Expert Committee for Diagnosis and Management of TB has begun to consider a daily supervised program. Feasibility studies are being carried out in 100 districts. TB drugs will be united into "fixed dose combinations" in order to decrease the pill burden and improve patient-compliance⁷. At long last, a couple of new TB drugs—Bedaquiline and Delamanid—have seen the light of day.

Bedaquiline is not the last frontier: there will be other drugs in the not-so-distant future.

But as far as India's fight against TB goes, this might well be the final frontier.

India's Revised National Tuberculosis Control Program (RNTCP) now stands at the very intersection of Tuberculosis's veritable double-armed cross. One hopes that it will all not come to nought.

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