



The tuberculosis time bomb: taking control of the TB threat in Europe

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MDR-TB: the ERS calls for more EU funding for TB research and more political incentives to invest in TB drug development <http://ow.ly/t1Ggv>

Context

Tuberculosis (TB) has been described as the biggest killer in human history. *Mycobacterium tuberculosis* emerged over 70 000 years ago, and it has shared evolutionary paths with modern humans since their early migration out of Africa [1]. With the expansion of human populations and the emergence and change of livelihoods and lifestyles, *M. tuberculosis* evolved and diversified, and continues to do so today.

The prognosis of TB patients before the advent of the antibiotic era was very bleak. In the 1900s, exacerbated by poor hygiene and housing conditions, TB was killing one out of every seven people in Europe and Americas [2]. In cities, it caused 40% of working class deaths.

The identification of the tuberculosis bacillus in 1882 by Robert Koch represented a turning point that would be followed by the development of public health practices, vaccines and, in the 1940s and 1950s, antibiotics [3]. This led to the more effective treatment of TB, raising hopes that the disease would be defeated: the United Nations predicted the elimination of TB by the year 2025 [4]. Unfortunately, it seems now that we are coming close to the end of the antibiotic era. New strains of multidrug-resistant (MDR)-TB started to appear in the mid-1980s in some developed countries [5, 6], and, by 1993, the World Health Organization (WHO) had declared TB a global public health emergency [7]. The WHO currently estimates that one third of the world's population is infected with TB [8] and, in Europe, TB kills 7 people every hour [9].

What is the European Respiratory Society doing?

The European Respiratory Society (ERS) has been engaged in TB control since its foundation in 1990, and works closely with the WHO, the European Centre for Disease Prevention and Control and other relevant bodies and organisations [10–12]. Over the past 15 years, the ERS has offered more than 30 symposia and 120 presentations on TB control and related public health aspects to thousands of respiratory specialists from all over the world, through the ERS conferences.

The ERS has launched numerous actions on TB control and elimination. The latest one of these, the ERS/WHO consilium [13–15], which commenced in April 2013, is a very important global initiative to improve clinical management of difficult-to-treat TB cases or micro-epidemics. This free, web-based platform allows physicians who deal with complex multi- or extensively drug-resistant TB, TB/HIV and other TB cases to receive full personalised written treatment advice from two experts within a few days.

What needs to be advocated?

The circumstances in which multidrug resistance is allowed to develop must be addressed, and this requires political will. TB used to be characterised as a disease of poverty, and this remains the case today. The 18th

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FIGURE 1 The European Respiratory Society hosted an event on tuberculosis (TB) awareness on November 13, 2013. One of the key messages delivered at this event was that, despite the dire situation, TB elimination in Europe is possible. The TB awareness event was hosted by MEP, Prof. Maria Da Graça Carvalho (right).

century descriptions of cramped houses in cities bear similarities to the news stories media in Europe are reporting today about outbreaks of TB and the conditions surrounding the patients. While anyone can contract TB, the risk increases significantly among the most vulnerable.

This political will needs to be extended to a regional level, and in particular in terms of public health and cross-border healthcare. MDR-TB is rampant in some countries in the WHO European region, which often lack the resources or willingness to tackle diseases that primarily affect marginalised groups [16, 17]. To counteract the development of MDR-TB and its spread, public health funding must be made available in these countries, regions and cities.

According to a conservative estimate, the European Union currently spends at least 5.3 billion euros on TB annually [18]. Instead of continuing on this path, we need to focus on prevention in order to get sustainable results. More European funding is required for research and development of new diagnostics, drugs and vaccines. It is imperative that governments create incentives for researchers, clinics and the industry to invest more in the development of antibiotics. Few new antibiotics have come on-stream and many companies are even pulling out of antibiotic drug development as a result of poor return on investment [19–23].

These are some of the issues that were addressed in a recent ERS event, organised in the European Parliament in November 2013. This event was hosted by MEP Maria Da Graça Carvalho, and it brought together leading European TB experts, MEPs and representatives of non-government organisations, pharmaceutical companies and the European Commission (fig. 1). In this successful event, the ERS also launched its key messages on TB control, calling for clear targets and plans for TB control and elimination [24, 25].

The ERS is committed to political TB advocacy. In view of the World TB day on March 24 [2], and as a follow-up to the event in November, the ERS will organise a second event with MEP Carvalho on April 1 in the European Parliament. For the past 5 years the ERS has been responsible for the dissemination Work Package within the TB-PANNET project [26], a major FP7-funded TB research project aimed at fighting MDR-TB. In this particular event, the ERS will share the project outcomes and advocate further action on TB at the political level.

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