Joint efforts needed to stop transmission of tuberculosis in Europe

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Even though the number of notified tuberculosis (TB) cases in the World Health Organization (WHO) European Region has continuously gone down, from 474,794 in 2007 to 380,366 in 2011 [1], there is no room for complacency. The number of extrapulmonary TB (EPTB) cases in the European Union (EU) and the European Economic Area (EEA) is not decreasing and a considerable number of TB patients do not finish their TB treatment successfully.

On 24 March, World Tuberculosis Day, we commemorate the day when Robert Koch announced the discovery of the cause of TB, the bacillus *Mycobacterium tuberculosis*. In 2010, the European Centre for Disease Prevention and Control (ECDC) used the occasion of World Tuberculosis Day to raise awareness on multidrug-resistant TB (MDR-TB) in the EU/EEA [2]. A year later, ECDC created attention for children that are affected by TB [3,4], and in 2012, the focus was on tuberculosis in hard to reach populations and vulnerable groups that are especially prevalent in larger cities in the EU/EEA. This year we aim to raise awareness about TB occurring outside of the lungs, i.e. EPTB. Patients with EPTB constitute a group which does not receive specific attention in international TB control strategies but contributes to the burden of disease nevertheless. EPTB can affect almost any organ in the body. The most common organs of EPTB are pleura, lymph nodes, and the genitourinary tract [5].

In this issue of *Eurosurveillance*, Sandgren et al. [5] describe the EPTB epidemiology in the EU/EEA using 10 years of surveillance data. In the period 2002 to 2011, overall TB notification rates decreased, mainly due to a decrease in pulmonary TB. The notification rates of EPTB however, did not show a downward trend. Thus the proportion of cases with EPTB increased from 16% in 2002 to 22% in 2011. Only 34% of the EPTB cases were culture-confirmed compared to 63% of the pulmonary TB cases. These figures indicate the difficulties in diagnosing EPTB. They are also highlighted in a Euroroundup where eleven EU countries describe the challenges faced in diagnosing EPTB [6]. Countries report that EPTB is often not considered in the differential diagnosis because it is a rare disease. Furthermore, most medical professionals do not have experience in diagnosing EPTB. The fact that EPTB can present with a variety of symptoms that may mimic symptoms of other pathologies poses an additional challenge for the diagnosis. Finally, obtaining an appropriate sample for confirmation of EPTB was identified as an obstacle in the diagnostic process.

Another study in this issue on extrapulmonary TB describes the burden of TB meningitis in Germany [7]. Analysis of surveillance data from 2002 to 2009 showed that 422 (0.9%) of all TB patients had TB meningitis as main or secondary form of TB. In the 2002 to 2011 surveillance data from the EU/EEA, 2.9% of all EPTB cases for which a specific site of disease was known noted as major site meninges [5]. If we assume that the proportion with TB meningitis is the same in the 60,000 EPTB cases without known specific site of disease this would result in 0.7% of all notified TB patients having TB meningitis.

Monitoring of treatment outcome is one of the pillars of TB control and assesses how many of the potentially infectious TB cases notified were declared cured at the end of treatment. France has up to now not been able to report TB treatment outcome data to the European Surveillance System (TESSy) because data were not available at the national level. Therefore, it is interesting to see the report from Antoine et al. [8] on treatment outcomes of pulmonary TB cases notified in 2009. Compared to the EU/EEA data, the treatment outcomes in France seem to be less favourable although data are not fully comparable, i.e. in France 70% of the pulmonary TB cases had a successful treatment outcome whereas this was at 79% for the newly diagnosed pulmonary culture-positive cases in the EU/EEA [1]. A paper by Mor et al. [9] from Israel showed that both non-national migrants and Israeli citizens had higher treatment success rates compared to what was reported for the EU/EEA and for France. However, the treatment success rate for Israeli citizens was significantly better (96%) compared to non-national

migrants (81%). It would be interesting to use the lessons learned in Israel to further improve TB treatment in the EU/EEA.

In 2011, TB notification rates were below 10 per 100,000 population in 19 EU/EEA countries and below 20 in 22 countries [1]. Countries with a TB notification rate of <20 per 100,000 population are considered to have entered the TB elimination phase. Since many EU/EEA countries with a low notification rate diagnose a considerable percentage of their TB cases in migrants, elimination of TB as a public health problem (i.e. TB incidence <1 case per million population) may be not feasible. However, we believe that stopping the transmission of TB is feasible by early detection of cases, adequate treatment and comprehensive contact investigation.

At European level, several complementing activities are on-going to prevent and control the spread of TB. The ECDC activities on TB are guided by the Framework Action Plan to Fight Tuberculosis in the European Union (EU) [10]. Other documents relevant for TB prevention and control in Europe are the Berlin Declaration [11] and the Consolidated Action Plan to Prevent and Combat Multidrug- and Extensively Drug-Resistant Tuberculosis (M/XDR-TB) in the World Health Organization (WHO) European Region [12].

The reported data in this issue show that TB prevention and control needs to be further improved in Europe. To coordinate and to strengthen TB control in the EU/EEA and the WHO European Region, several TB networks have been established. This year, from 28 May until 31 May, three TB networks will meet in the Hague, the Netherlands: the Joint ECDC/WHO European Tuberculosis Surveillance Network, the Wolfheze Movement [13], and the ECDC coordinated European Reference Laboratory Network for Tuberculosis (ERLN-TB) [14]. For the first time, participants of the three networks will meet and discuss progress made since the endorsement of the above mentioned Berlin Declaration, the ECDC Action Plan, and the WHO Regional Office for Europe Consolidated Action Plan. The joint meeting should identify further activities necessary to reach the targets and outputs defined in the above mentioned plans to progress towards control of TB in Europe.

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