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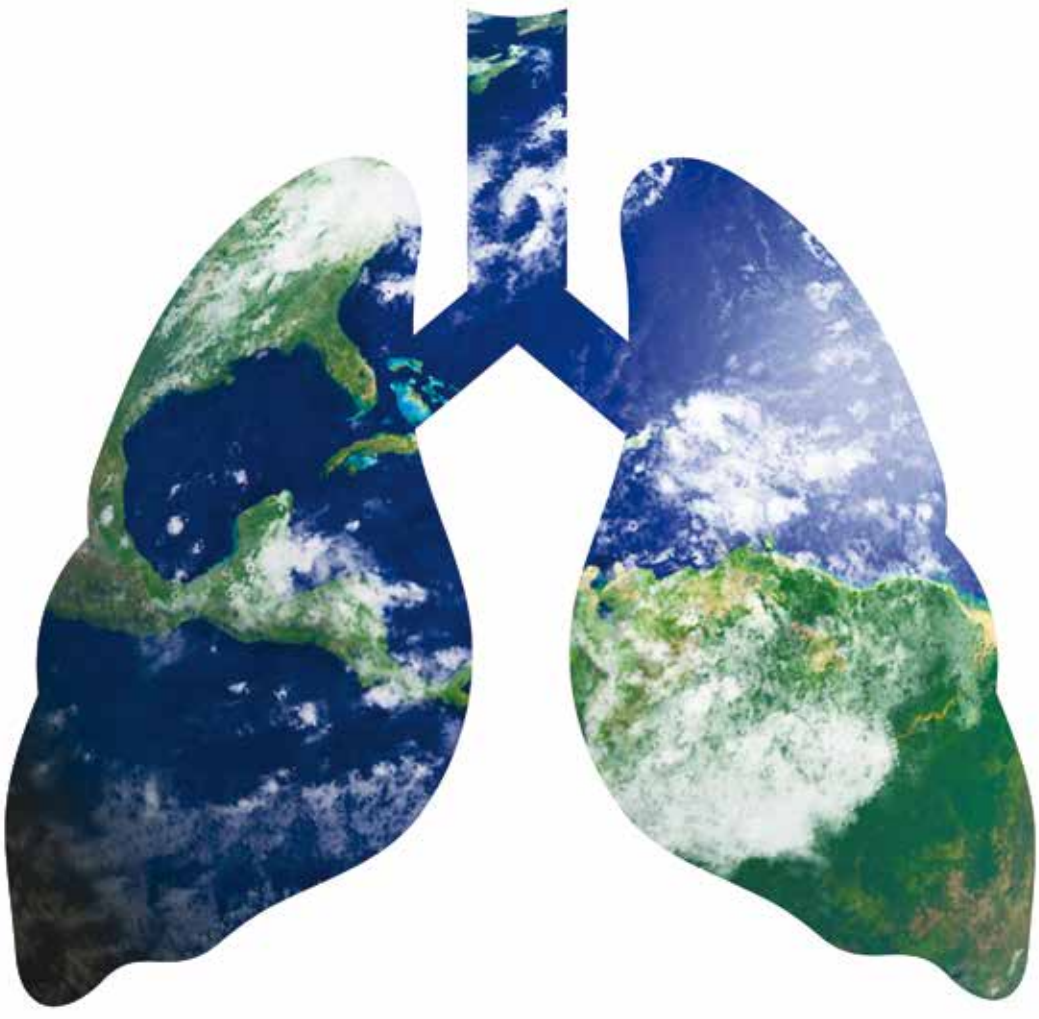
Tuberculosis control in Poland: The need to build on historical progress



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Impressive improvement...

"The numbers indicate that they have their act together," says Dr Neil Schluger, chief scientific officer at the World Lung Foundation, in reference to the medical authorities in Poland and their efforts to control tuberculosis (TB). It is hard to disagree, especially after considering the distance the country has travelled over the past half century.

For decades after the second world war Poland had one of the worst TB problems in Europe. The destruction that that conflict wreaked on the country provided fertile ground for the disease. The mortality rate in Warsaw soared from 155 per 100,000 people to 500 per 100,000 during the war.[1] In fact, childhood TB immunisation efforts in Poland after the war were among the first major programmes of the then new World Health Organisation (WHO) and Unicef.

Although such widespread TB arose from a temporary situation, as late as 1957 its reported incidence in Poland was still 290 per 100,000.[2] In the ensuing decades TB in the country, as well as in eastern Europe as a whole, underwent a general, long-term decline. Nevertheless, even Poland's much lower incidence rate in the early 1980s, in the 60s per 100,000, exceeded that of the Baltic states, Romania and Bulgaria.[3]

During the following decade, however, things changed. The breakdown of public-health services and the resurgence of TB that accompanied the end of communism in these other states did not take place in Poland. Instead, after a brief plateau, the decline continued. Poland's estimated TB incidence rate (22 per 100,000 in 2013) is now comparable to that of developed countries such as Portugal (26 per 100,000) and Japan (18 per 100,000).[4]

Two other signs point towards very effective TB control. First, unlike in the past, today the incidence of active TB increases markedly with age: among those aged above 45 it was 33 per 100,000 in 2012; for adults aged between 20 and 44 it was 14 per 100,000; and among teenagers and children it was just 3 per 100,000.[5] Therefore, rather than being the result of extensive ongoing transmission, much of the current prevalence is probably attributable to latent TB acquired earlier—when the disease was more common—becoming active.

Even more striking, drug resistance is only a minor problem in Poland. In 2013 multi-drug-resistant tuberculosis (MDR-TB) made up only 0.9% of all TB cases in Poland.[6] Almost all MDR-TB in the country is the result of individuals not completing their course of treatment, with only a handful of cases of person-to-person transmission.[7] Given that Poland borders three countries with high levels of MDR-TB—including Belarus, which has the world's highest proportion of multi-drug-resistance among new TB cases (35%)—"Poland's are comparatively respectable numbers", concludes Dr Schluger.

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...at a hiatus

Although the situation is a great improvement on the past, TB in Poland presents some ongoing challenges. Incidence remains well above that in the EU/European Economic Area as a whole (12.7%). More disconcerting still, it has stayed roughly constant since 2008 rather than continuing to drop, even while Europe as a whole, and states in eastern Europe in particular, have seen steady declines.[8]

Part of the problem is the past. Widespread latent TB in the population from earlier high-incidence eras inevitably has an effect in later years as it becomes active in certain patients. Another issue, however, is a shift that is typical of countries as they move to lower TB incidence; the nature of those affected in Poland has changed in the years of rapid TB decline.

Once a disease of the general population, TB now largely affects socially and economically marginalised groups, in particular the homeless, those with alcohol problems and the unemployed. In 1992 the proportion of those with TB who were unemployed was just 8.5%, below the then national unemployment rate of 12%. By 2012 the unemployed made up 43% of those of working age who developed the disease, even though the national unemployment rate was just 10%.[9] Similarly, some local Polish studies have found that the homeless are several hundred times more likely to have TB than the general population.[10] TB control in such groups presents two major problems: it is harder to find those who have the disease in the first place, and those who are found are much less likely to adhere to treatment programmes.

Polish TB control, however, does not appear to have shifted sufficiently to a focus on such specific populations. Symptomatic of this, TB patients are not typically tested for HIV in Poland. Although HIV rates are very low in the country, "you should know the HIV status of all TB patients", says Dr Schluger. More generally, in recent academic articles and public appearances, Polish TB experts have called for better oversight of TB and treatment of difficult-to-reach groups.[11] The concern is understandable; between 2007 and 2012, treatment success rates in Poland fell from 77% to 60%, with a large increase in those not able to be evaluated, presumably because they fell out of the system.[12]

Overall, then, TB control in Poland has been extremely successful in turning a general scourge into one affecting only pockets of the population. If the country's health officials want to go further, however, they will need to find new ways to help socially marginalised groups.

ENDNOTES

[1] Byerly, C., *"Good Tuberculosis Men": The Army Medical Department's Struggle with Tuberculosis*. Government Printing Office. 2014.

[2] Korzeniewska-Kosela, M., "Tuberculosis and gender: Epidemiological trends since 1957 in Poland". *European Respiratory Journal*, Sep 2011, 38(Suppl. 55), 2641.

[3] WHO Regional Office for Europe and European Commissions, *Highlights on Health in Poland*. 2001. Available at: http://ec.europa.eu/health/ph_projects/1999/monitoring/poland_en.pdf. Korzeniewska-Kosela, M., "Tuberculosis in Poland in 2012". *Przeglad Epidemiologiczny*, 2014, 68(2), 295-300, 389-93.

[4] Figures from WHO TB Database. Available at: http://www.who.int/tb/country/data/download/en/.

[5] Korzeniewska-Kosela, M., "*Tuberculosis in Poland in 2012*".

[6] WHO Regional Office for Europe and European Centre for Disease Prevention and Control (ECDC), *Tuberculosis surveillance and monitoring in Europe 2015. 2015*.

[7] Jagielski, T. et al., "A close-up on the epidemiology and transmission of multidrug-resistant tuberculosis in Poland". *European Journal of Clinical Microbiology & Infectious Diseases*, Jan 2015, 34(1), 41-53.

[8] WHO TB Database. Note that the data in Korzeniewska-Koseła's "Tuberculosis in Poland in 2012", which relies on reported rather than estimated incidence, show a slight decline, but this was still well below the drop that occurred in Europe as a whole.

[9] Zielonka, T., "Risk Factors for Tuberculosis and Specific Manifestations of Disease". *Przeglad Epidemiologiczny*, 2014, 68(4), 637-43; Korzeniewska-Koseła, "Tuberculosis in Poland in 2012"; Grzegorz Przybylski et al., "*Unemployment in TB Patients—Ten-Year Observation at Regional Center of Pulmonology in Bydgoszcz, Poland*". Medical Science Monitor, Nov 2014, 2(20), 2125-31.

[10] Romaszko, J. et al., "The incidence of pulmonary tuberculosis among the homeless in north-eastern Poland". *Central European Journal of Medicine*, Apr 2013, 8(2), 283-285.

[11] See, for example, Siemion-Szczesniak, I. et al., "Tuberculosis (TB) in homeless population in Poland". *European Respiratory Journal*, 2014, 44(Suppl. 58); and Jagielski, T. et al., "A close-up on the epidemiology and transmission of multidrug-resistant tuberculosis in Poland".

[12] WHO and ECDC, *Tuberculosis surveillance and monitoring in Europe 2015*.

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