



EUR/TB/FS04
3 September 2007

Tuberculosis and HIV infection

The issue

HIV infection is the greatest single risk factor for developing tuberculosis (TB) ever identified. It is estimated that one third of the 40 million people living with HIV worldwide are coinfecting with TB. People living with HIV are up to 50 times more likely to develop TB in a given year than HIV-negative people. Furthermore, without proper treatment, approximately 90% of those living with HIV die within months of contracting TB.

The rapidly spreading HIV epidemic in eastern Europe and central Asia is expected to increase the number of people with TB in this part of the Region in the future, posing a potential threat to the effectiveness of TB control efforts. Given that the HIV epidemic is relatively new in the Region, the epidemiological impact of HIV and TB coinfection is still limited, but is likely to increase rapidly if universal access to HIV prevention, treatment and care is not soon achieved.

The HIV and TB epidemics are strongly influencing each other:

- HIV affects the immune system and increases the likelihood of people acquiring new TB infection;
- HIV promotes both progression of latent TB infection to active disease and the relapse of the disease in previously treated patients;
- TB is one of the leading causes of death in people living with HIV;
- TB is harder to diagnose in people living with HIV;
- TB occurs earlier in the course of HIV infection than other opportunistic infections; and
- TB is the only major AIDS-related opportunistic infection that poses a risk to HIV-negative people.

Both HIV and TB are highly associated with injecting drug use in many countries in the European Region. Other high-risk groups include sex workers, men who have sex with men, prisoners, the homeless and migrant populations.

Evidence has shown that, in the early stages of an HIV epidemic centred in the injecting drug user population, inadequate attention to effective harm reduction programmes, even in settings of good TB control, will result in a substantial number of additional deaths.

People living with HIV are more susceptible to multidrug-resistant TB (MDR-TB) through nosocomial transmission, malabsorption of TB medication, acquired rifampycin resistance and other types of poor response to TB treatment. However, coinfecting patients are also less likely to transmit resistant strains owing to the high mortality in MDR-TB/HIV patients.

The facts

- In the WHO European Region, there were almost 14 000 cases of TB/HIV coinfection in 2005 (5% of all new adult TB cases).
- TB was reported as the AIDS defining disease in 22% of all cases in western Europe, 24% of cases in central Europe and 52% of cases in the eastern part of the Region.
- In countries where TB is not generalized, both TB and HIV tend to be concentrated in the same subpopulations. The highest HIV prevalence among TB cases is accordingly seen in western Europe. Spain (where TB and HIV are strongly associated with injecting drug use) has the highest estimated prevalence of HIV among TB patients in the entire Region (16%), followed by Italy (13%), France (11%) and Portugal (11%). Among the eastern European countries, Ukraine has the highest estimated HIV prevalence in TB cases (8%), followed by Estonia (7%) and the Russian Federation (6%).
- Numbers of reported cases of TB/HIV coinfection remain low throughout the European Region, possibly owing to the time lag between HIV infection and the onset of AIDS, as well as to a lack of coordinated surveillance and collaboration between the two programmes.

The policy considerations

For many years, efforts to tackle TB and HIV have been largely separate, despite the overlapping epidemiology. Closer cooperation between TB and HIV/AIDS programmes will lead to more effective control of TB among people living with HIV and to significant public health gains.

WHO's interim policy on collaborative TB/HIV activities¹ provides guidance on what should be done to address the dual TB and HIV epidemic:

- establish organizational structures to plan and manage collaborative TB/HIV activities;
- decrease the burden of TB in people living with HIV: people should be screened for TB when they test positive for HIV and again whenever they attend the health services; if active TB is found, then treatment should be started; if people have latent infection but not active TB, isoniazid preventive therapy should be given, ensuring complete adherence to the therapy;
- decrease the burden of HIV in TB patients: all TB patients should be given counselling about HIV and encouraged to have an HIV test; if HIV-positive, they should be offered co-trimoxazole preventive therapy and, if necessary, be started on antiretroviral therapy; and
- conduct HIV surveillance among TB patients in all countries, irrespective of national HIV prevalence rates.

Countries should tailor their TB and HIV prevention and care interventions in the light of their national rates of incidence and prevalence of TB, HIV and AIDS, of TB/HIV coinfection levels and of the specific structures of their national health systems.

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¹ Interim policy on collaborative TB/HIV activities. Geneva, World Health Organization, 2004 (WHO/HTM/TB/2004.330) (http://whqlibdoc.who.int/hq/2004/who_htm_tb_2004.330.pdf, accessed 25 July 2007).