live full, economically active lives will be condemned to a premature, preventable death.

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Tuberculosis in prisons in sub-Saharan Africa – a potential time bomb

The World Health Organization (WHO) estimates that there are 10 million new cases of tuberculosis (TB) reported worldwide each year, and 1.7 million people die from the disease.1 The incidence of TB in sub-Saharan Africa (SSA) remains very high at over 300 new cases of TB per 100 000 population in 2007.2 The TB epidemic in SSA is fuelled by the HIV epidemic, and up to 70% of adults with TB in SSA,3 probably owing to poor TB programme performance, and isoniazid preventative therapy for HIV-positive prison inmates active screening, contact investigation, reduction of transmission, and guards.7

TB from SSA,3 probably owing to poor TB programme performance, and isoniazid preventative therapy for HIV-positive prison inmates active screening, contact investigation, reduction of transmission, and isoniazid preventative therapy for HIV-positive prison inmates and guards.7
their families and community and may thus transmit the disease further. The restricted and confined conditions for prisoners and prison staff, poor nutrition, poor ventilation, stress and inadequate prison health services, condone to the emergence and enhanced transmission of drug-resistant TB, which may then spread into the community.

Alarming data from SSA show that the incidence of multi- and extensively drug-resistant tuberculosis (MDR-TB and XDR-TB) is increasing.\(^9\) Drug-resistant TB threatens all SSA national TB programmes because of problems with rapid identification, providing appropriate and effective treatment, and poor treatment outcomes.\(^8,9\) Disease surveillance and reporting of TB in prisons is often weak or non-existent, and the problem of TB and drug-resistant TB remains poorly defined. The WHO status report\(^10\) on TB in prisons reports an urgent need to ensure effective and efficient diagnosis and treatment of drug-resistant forms of TB. It recommends the development of an effective national TB programme to reduce the emergence of new drug-resistant strains of Mycobacterium tuberculosis, both inside and outside prisons, by effectively detecting and treating all MDR-TB cases. However, these guidelines have generally been ignored and not implemented in SSA, illustrating the large gap between the WHO recommendations and the reality in SSA prisons. Drug-resistant TB has been demonstrated in Zambian\(^1\) and Botswana\(^2\) prisons. These countries have no data on drug-resistant TB in prisons or adequate drug resistance surveillance systems in place, 7 years after the studies. An article entitled *Death and disease in Zimbabwe's prisons* describes the terrible conditions faced by prisoners in SSA.\(^4\) Overcrowding, poor nutrition, poor sanitation, HIV infection and poor health care are obvious causes for the escalating death toll in Zimbabwe's prisons; TB is reported as the biggest killer disease. 

Prisons in SSA have no proper isolation facilities to treat MDR/ XDR-TB. Such facilities are also scarce in district and referral hospitals, highlighting this wider problem. Since many XDR-TB patients are untreatable, where should prison inmates with XDR-TB be housed and what will happen to them? There is a great need to improve prison health services and to introduce rapid point-of-care diagnostics for TB and screening for drug resistance in prisons.\(^5\) Recommendations for infection control isolation of patients and protection of medical staff apply to all institutions but are not in place and not practical or applicable in SSA prisons. Isolation of prison inmates with active TB during the infectious phase is important and not practical or applicable in SSA prisons. Other serious infectious diseases are also rapidly transmitted in prisons, including HIV, respiratory and skin infections, and STDs. Serious political and funding attention is required urgently\(^6\) to improve health services in SSA to prevent the potential time bomb of drug-resistant TB exploding and undermining the gains of TB control programmes.

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**References**