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HIV testing in people with presumptive tuberculosis: time for implementation

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Despite progress in the global response to the dual epidemic of HIV/AIDS and tuberculosis, an estimated 1·8 million people died from AIDS-related diseases in 2010,[1] including 350 000 deaths from HIV-associated tuberculosis.[2] In view of the fact that HIV/AIDS is treatable, albeit with lifelong therapy, and drug-sensitive tuberculosis is curable, such high mortality rates are unacceptable. WHO and the Joint UN Programme on HIV/AIDS (UNAIDS) have both embraced a bold vision of "zero new HIV infections, zero discrimination and zero AIDS-related deaths" by 2015, which has been reinforced by the 2012 World Tuberculosis Day theme that emphasises "zero tuberculosis deaths". In March, 2012, WHO launched its updated policy on collaborative tuberculosis and HIV activities,[3] with some important new recommendations, one of which was that routine HIV testing and counselling should be offered not only to patients diagnosed with tuberculosis, but also to all those being investigated for possible tuberculosis (hereafter referred to as presumptive tuberculosis). This recommendation implies that the HIV testing intervention should be moved upstream in the tuberculosis diagnostic pathway. In this Comment, we emphasise the logic behind this recommendation, argue that it will help to reduce mortality from HIV/AIDS and HIV-associated tuberculosis, and suggest how it can be implemented and monitored.

The results of several studies in sub-Saharan Africa[4,5] and India[6,7] have shown that the prevalence of HIV in individuals with presumptive tuberculosis is as high as that in patients with diagnosed tuberculosis, with prevalence varying according to the epidemiological context. Some data show that people with presumptive tuberculosis who are sputum smear negative and infected with HIV generally fare poorly. For example, 63% of patients with presumptive tuberculosis in Zimbabwe were infected with HIV; 85% had CD4 cell counts lower than 350 cells per µL; and during a 12-month follow up, 25% were diagnosed and treated for tuberculosis, 16% died, and only 15% started antiretroviral therapy.[4] These poor outcomes could be substantially improved by some simple interventions. First, if patients with HIV infection and presumptive tuberculosis are provided with structured HIV care that involves CD4 cell count assessment, co-trimoxazole preventive therapy, and antiretroviral therapy, this package will protect against serious HIV-related opportunistic infections, reverse immune deficiency, and prevent tuberculosis.[8] Second, such patients can be prioritised for new, high-sensitivity rapid diagnostics for tuberculosis, such as the nucleic acid amplification test, Xpert MTB/RIF (Cepheid, Sunnyvale, CA, USA). This test confirms tuberculosis disease within 2 h, and provides additional information about rifampicin resistance, which helps to improve the treatment and management strategy. Third, if a diagnosis of active tuberculosis can be confidently excluded, isoniazid preventive therapy can be used, for which there is increasing evidence for an additive and synergistic benefit when combined with antiretroviral therapy.[9]

Although to move HIV testing upstream in settings of high HIV prevalence makes intuitive sense, further evidence is needed for whether such a policy actually reduces morbidity and mortality in settings of low HIV prevalence, in view of the resource implications.

Although HIV testing and counselling in patients with diagnosed tuberculosis is widely implemented, monitored, and reported,[2] testing for HIV in patients

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with presumptive tuberculosis is not yet routine, and operational guidance is urgently needed. This is an area that demands high-quality, country-specific operational research, and different models can be applied and tested in various settings.[10] For example, patients could be tested for HIV when they are identified with presumptive tuberculosis or when they arrive at the laboratory to submit sputum samples. Follow-up will be crucial, and will need far better documentation than is recorded at present, with use of contact addresses and mobile phone numbers. An important question relates to monitoring—how and where should it be done, who should do it, and how should the results be reported? One possibility is to resurrect, renovate, or make better use of the so-called tuberculosis suspect register (after renaming it suitably), which is used in some countries and is controlled by the district or health facility tuberculosis officer.[10] An alternative model, which is being tested in India, is to record HIV testing and antiretroviral therapy uptake on the laboratory form and sputum laboratory register. The reporting of data should be based on quarterly cohorts, with cumulative data from peripheral to district to state to national levels that should ultimately be included in the annual WHO global tuberculosis and HIV reports.

In conclusion, we strongly believe that the shift of HIV testing upstream to include people with presumptive tuberculosis is feasible and could reduce HIV/AIDS and tuberculosis-related morbidity and mortality. Many unresolved questions remain about whether this approach applies equally to both generalised and concentrated HIV epidemics, and about how HIV testing should be done, monitored, and reported. No time can be wasted, and we need to move into an implementation phase and start finding the answers to these questions through an approach of learning by doing.

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