EDITORIAL

Service integration to reduce HIV-associated TB mortality

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Tuberculosis (TB) remains a leading cause of human immunodeficiency virus (HIV) associated mortality and morbidity among both adults and children worldwide,^{1,2} with an estimated 390 000 deaths from HIV-associated TB in 2014.³ Recent systematic reviews have found that TB is the most common cause of death in hospitalised adults and children living with HIV,⁴ and is responsible for 40% of causes of death confirmed by autopsy among people living with HIV.⁵ Preventing, diagnosing and treating TB in HIV-positive individuals remains an urgent public health priority. The provision of integrated TB and HIV services at the same place and time for people living with HIV is one of the key recommendations for HIV-associated TB.⁶ Integration can be achieved in different ways, including partial or full integration or co-location of services using either TB or HIV as an entry point.⁷

This issue of *Public Health Action* provides a before-after evaluation of the impact of integrating of TB and HIV activities across 12 'one-stop' services in two districts of Rwanda.⁸ Key activities included providing HIV counselling and testing in TB clinics, providing antiretroviral therapy in the TB clinic for the duration of TB treatment, screening all HIV patients for TB and contact tracing for TB patients via home-based visits. HIV testing, cotrimoxazole prophylaxis and initiation of antiretroviral therapy (ART) all increased after implementation of the service in both districts. Qualitative research indicated high levels of client and health provider satisfaction. Other indicators were unchanged.

There are limitations to the study. Sources of bias include the fact that data were assessed retrospectively, and less than half of facilities in the two districts were assessed. In particular, it is unclear how these facilities and districts were chosen, and the reported outcomes may not be representative of other sites. Nevertheless, operational research reports such as this are valuable in providing programme managers with an insight into what can be achieved in programmatic settings, in contrast to the carefully controlled and well-resourced context of a randomised trial.⁹

For Rwanda, this study provides some direction for action to further reduce HIV-associated TB mortality. The findings suggest that further improvements can be made in initiating ART in TB patients (only 71% initiated in Kicukiro district) and to improve outcomes

of TB treatment, in particular to reduce the relatively high mortality (11–15%), which is likely multifactorial and deserving of further investigation. Delayed diagnosis, late initiation of treatment, suboptimal adherence to treatment, and type of TB disease (pulmonary or extra-pulmonary) can all contribute to increased mortality in co-infected patients. Furthermore, the provision of isoniazid preventive therapy (IPT) is not widely practised and reported in Rwanda, and this also requires urgent attention.

Finally, there are other components to successful integration of HIV and TB care that are important to implement and monitor. Future studies reporting on the outcomes of integrated TB and HIV services are encouraged to report on the additional components, including earlier and prompt TB diagnosis, provision of IPT, and HIV testing and TB screening among family members of people living with HIV,⁶ all of which remain major challenges in the implementation of TB-HIV collaborative activities.¹⁰

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