

High Tuberculosis and HIV Coinfection Rate, Johannesburg

To the Editor: Tuberculosis (TB) is the leading cause of illness and death among HIV-1-infected patients in sub-Saharan Africa (1–3), but valid data on the population-level interaction between the TB and HIV epidemics are scarce (4). Our objective was to determine the extent of this dual epidemic in our setting, a hospital in Johannesburg, South Africa. We did this by introducing bedside TB and HIV counseling. We also intended to increase the use of voluntary counseling and testing for our TB patients and facilitate referral to our antiretroviral clinic.

From February to April 2006, 2 volunteers from Community AIDS Response (CARE) counseled patients admitted to the medical wards of the Helen Joseph Hospital. This regional hospital serves a catchment population of >500,000 people, predominantly low-income black Africans. Counselors provided TB and HIV wellness and adherence information, HIV pretest counseling, and referral to the Themba Lethu Clinic for rapid testing that used standard CARE modules.

Basic demographic, TB, and HIV data from patient records were documented on standard data collection forms. Missing data were extracted from the hospital database and Therapy Edge-HIV, the data management system used by the HIV clinic. HIV testing was conducted with a fourth-generation ELISA or rapid finger prick antibody test, according to World Health Organization guidelines.

Most admissions were for pulmonary TB. A total of 467 patients receiving TB treatment were counseled; 8 of these patients refused the TB counseling service, and 2 refused voluntary counseling and testing for HIV. These 467 patients constituted 13% of medical admissions and excluded the 1,075

patients seen at the hospital's outpatient clinic with suspected TB for this 3-month period. Our impression is that this figure constitutes an underrepresentation of the total TB admissions because TB counselors were not able to see every patient with TB.

Laboratory data were retrievable for 373 inpatients. For 301 (81%) of the 373 patients, TB blood culture, smear, or culture results could be traced. Hence, 72 (19%) of 373 patients who were receiving TB treatment had no record of a diagnostic effort to confirm TB. A total of 284 (76%) HIV test results could be traced; 270 (95%) of the 284 accessible TB patients had concurrent HIV infection (Table).

Most (123 [89%]) documented HIV results were from ELISAs performed during admission. Rapid testing performed in the ward was unacceptable to patients because confidentiality was compromised in large, busy wards and patients were often too ill to move to a side room. The system of making an appointment with the HIV clinic at the time of discharge failed because few patients (5%) actually had the rapid test after admission or began antiretroviral therapy. Those who began such therapy would have been captured on our database.

The level of concurrent TB and HIV coinfection at the hospital was 95%. To the best of our knowledge, this is the highest level ever described in the peer-reviewed English-language literature (5). This finding may reflect the selection bias for our inpatients, who generally would have more coexisting conditions than outpatients do. Also, HIV data were missing for 24% of the 373 patients, a fact that may also influence this finding.

The peak age incidence of TB in our population corresponds with previously published data and is similar to the peak age incidence of the HIV epidemic in South Africa (6). In one third of the admitted patients, no TB investigations were undertaken. This may be because patients provided a history of TB diagnosed elsewhere, or it may reflect the high rate of sputum smear negativity in the HIV-infected population, which lowers the clinician's threshold for empiric TB treatment.

Mycobacteremia appeared to be less common (14%) than reported in other African studies (7). However, we did not have a complete dataset—only 195 (52%) of the 373 patients could be evaluated.

TB and HIV have reached unprecedented levels in our urban inpatient population. TB and HIV must be viewed as different sides of the same coin, and services and staff must change accordingly. We need to use the opportunity of hospital admission to educate patients on the interaction between these 2 epidemics and facilitate patient referral for long-term management. Such management would include voluntary counseling and testing, as well as antiretroviral medication. The latter is a recognized strategy of TB control because it reduces the risk for TB by 70%–90% (8).

In addition, all inpatient procedures in our TB/HIV control programs need to be strengthened. Infection control interventions to limit the high rates of nosocomial transmission of TB to other vulnerable patients and staff need to be instituted. At our hospital, we are committed to these approaches. To this end, we have secured

Table. Results of HIV testing by method of HIV diagnosis among accessible patients with tuberculosis, Johannesburg, South Africa

Method	No. positive/ no. patients (%)	No. negative/ no. patients (%)
ELISA	110/123 (89)	13/123 (11)
Rapid test	32/32 (100)	0/32 (0)
Clinical diagnosis only	61/61 (100)	0/61 (0)
HIV status known to patient	67/68 (99)	1/68 (1)
Total	270/284 (95)	14/284 (5)

a Presidents Emergency Plan for AIDS Relief Grant via the nongovernmental organization Right to Care, which shares our vision. Urgent and extraordinary measures are indeed required in our combined control programs to achieve the Millennium Development Goals for TB/HIV.

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Tuberculosis Trends, Vietnam

To the Editor: The aims of the global strategy for tuberculosis (TB) control, the directly observed treatment short-course (DOTS) strategy, of the World Health Organization (WHO) are to detect $\geq 70\%$ of new smear-positive pulmonary TB cases and cure $\geq 85\%$ of these detected cases (1). If these aims are met in a setting of low prevalence of multidrug-resistant TB and HIV infection, TB incidence is predicted to decrease by $>7\%$ annually (2). Vietnam has a low prevalence of multidrug-resistant TB (2.3% in 1996-1997 [3]) and a low level of HIV infection in the adult population (0.4% in 2003, range 0.2%-0.8% [4]). It is the only country of 22 countries with the highest number of TB cases worldwide that has reached and exceeded WHO targets for TB control since 1997 (5,6). However, this country has not shown any decrease in TB reporting (5).

Reports may not reflect TB incidence if the proportion of cases detected and treated by the National Tuberculosis Program (NTP) varies over time. This incidence can be captured by assessing diagnostic efforts. We assessed whether TB case reporting rates in Vietnam are not decreasing because of increased diagnostic efforts in urban, rural, and remote (mountainous) settings. Characteristics of the NTP in

Vietnam have been reported (6,7). The research board of the National Hospital for Tuberculosis and Respiratory Diseases in Hanoi provided scientific and ethical clearance for this study.

Reporting and laboratory register data were collected from 66 randomly selected districts; sampling was stratified to include 20 urban, 30 rural, and 20 remote districts. The NTP defines a suspected TB case-patient as a person with a cough for >3 weeks. A suspected case-patient was a person with a diagnostic sputum smear examination result for acid-fast bacilli by direct microscopy. A total of 20% of suspected case-patients were randomly selected and their data were used. Diagnostic effort was the number of suspect cases per 10,000 persons. A case-patient was a person with new smear-positive pulmonary TB. The reporting rate was the number of cases per 100,000 persons. Population sizes were derived from the national population census of 1999 and projected populations (8).

We calculated trends in reporting rates for 1997-2004 by age, sex, and setting (urban, rural, and remote) before and after adjustment for diagnostic effort by using Poisson regression and expressed the average annual percentage change with 95% confidence intervals. Observed trends were adjusted for variation in diagnostic effort over time by standardizing the number of notified cases to the rate of suspected cases in 1997 for that particular setting, age, and sex category.

Total number of cases and suspected cases during 1997-2004 were 28,470 and 138,130 in urban districts, 20,328 and 157,296 in rural districts, and 6,879 and 62,227 in remote districts, respectively. The overall reporting rate per 100,000 persons in 2000 was 78 in urban districts, 64 in rural districts, and 42 in remote districts. The annual change in overall reporting rates was 0.0% in urban districts, 0.4% higher in rural districts, and 0.2% lower in remote districts (Figure). Reporting rates decreased annually in elderly persons