

# Tuberculosis and HIV Coinfection



HIV is the most important known risk factor for progression from latent tuberculosis infection to tuberculosis disease (CDC, 2007).

Persons with TB/HIV coinfection are five times more likely to die during anti-TB treatment than patients not infected with HIV (CDC, 2007).

All HIV patients should be screened for tuberculosis disease and latent tuberculosis infection and all TB patients should be tested for HIV infection (CDC, 2006).

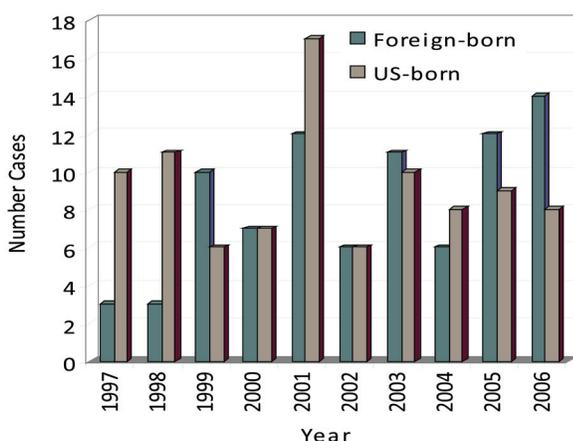
HIV contributed to the resurgence of tuberculosis in the 1980s and 1990s in the United States. Globally it contributes mightily to the problem of tuberculosis (TB) in developing countries (Geiter, 2001). It is estimated that nearly one-third of the 40 million people with HIV/AIDS worldwide are coinfecting with TB (WHO, 2007). TB coinfection with HIV has been called the “deadly intersection” because of the synergistic relationship between the organisms. HIV increases the likelihood of acquiring TB infection and is the single most important risk factor for progression from latent tuberculosis infection (LTBI) to active tuberculosis disease (Greiter, 2001). This brief global view of TB/HIV coinfection paints, in stark terms, what is at stake for patients, for prevention and for control of TB.

In Virginia, the epidemiology of TB/HIV coinfection is intimately bound to the populations at higher risk for TB: US-born African Americans and foreign-born residents from countries with high prevalence of TB or high prevalence of TB and HIV.

Virginia is a medium TB incidence state and is ranked ninth in the nation in 2006, with 332 cases reported. U.S.-born African American residents of Virginia are six times more likely to have TB than White U.S.-born residents. In 2000, foreign-born TB cases surpassed U.S.-born cases for the first time and have remained a majority of the cases in each year since. By 2006, 70% of Virginia TB cases occurred among the foreign-born.

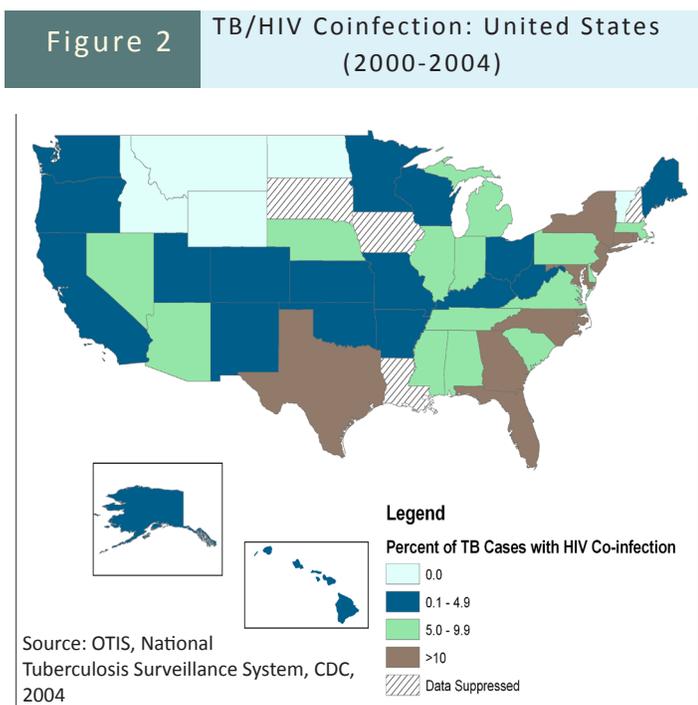
From 1997 to 2006, 176 TB cases were reported with HIV coinfection. Because the numbers are relatively small, year-to-year, fluctuations are common. For example, between 1997 and 2006, Virginia reported a low of 12 TB cases with HIV coinfection and a high of 29. More than half of these cases were U.S.-born and 93% of U.S.-born TB cases were African Americans. TB/HIV coinfection in Virginia is primarily an urban problem, with only eight percent of the cases reported from rural areas. Males comprised 70% of the

Figure 1 TB/HIV Coinfection: Virginia (N=176) (1997-2006)



cases. Eighty-nine percent of the cases were aged 25 to 64, with one percent of the cases reported among those 14 and under and only three percent reported among people sixty-five and older. Across all cases 66% were Black, 17% Hispanic, 12% White and five percent occurred among Asian/Pacific Islanders. Figure 1 illustrates the shift from US-born to foreign-born cases of TB/HIV coinfection in the last few years. For this time period, 48% of the cases were reported among the foreign-born.

In the United States, for the period 2000 to 2004, TB/HIV coinfection ranged from zero to 23% of TB cases reported (Figure 2.) In Virginia, for that period, 5.7% of TB cases had HIV coinfection.



## Critical Clinical Issues with TB and HIV coinfection

- Atypical presentation of TB.
- Drug-drug interactions.
- Treatment regimes for TB are different when patients have low CD4 counts.

See Iseman (2000) for more information.

## REFERENCES

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Iseman, Michael D. (2000) A Clinician's Guide to Tuberculosis. Philadelphia: Lippincott Williams & Wilkins, chapter 8.

World Health Organization. Frequently asked questions about TB and HIV. Retrieved June 23, 2007, from <http://www.who.int/tb/hiv/faq/en/print.html>

## Test, Screen, Treat

- Routine screening of HIV patients for tuberculosis disease and infection is recommended.
- For persons with HIV a tuberculin reaction of greater than or equal to 5 mm is classified as positive.
- HIV patients with a positive skin test should be evaluated for active disease.
- HIV patients with a positive tuberculin skin test should be evaluated for treatment of latent tuberculosis infection.