State of Alaska Epidemiology Bulletin

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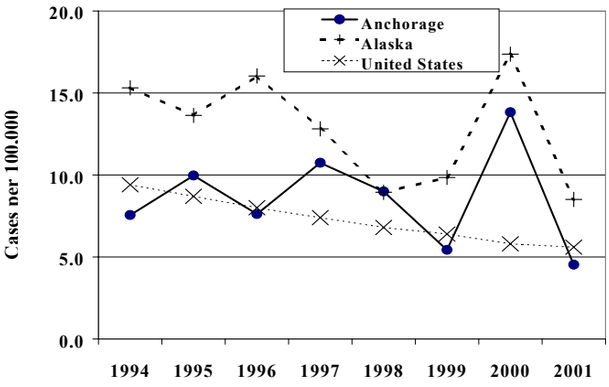
Bulletin No. 28 November 20, 2002

Tuberculosis in Anchorage, 2000-2001

During 2000 and 2001, 48 Anchorage residents were diagnosed with active tuberculosis (TB). Of the 36 cases in 2000, 9 were associated with one large extended family.[1] The surge in cases in 2000 was reflected in both the Anchorage and Alaska TB rates (Figure 1). Alaska's TB rate in 2000 was the highest in the country, at 17.2 cases per 100,000 population.

Figure 1. Tuberculosis Rates for Anchorage, Alaska, and the United States, 1994-2001



Demographics: Anchorage cases ranged in age from 4 months to 72 years; median age was 34 years (Figure 2). Thirty (63%) were male. Alaska Natives, Asian Pacific Islanders, and Blacks were disproportionately represented in the case population (Table 1). Fourteen cases (29%) were foreign-born, including 9 from Philippines, and 1 each from Algeria, Germany, Honduras, Republic of Korea, and Western Samoa. In comparison, in 2001, 50% of cases nationwide were foreign-born persons.[2]

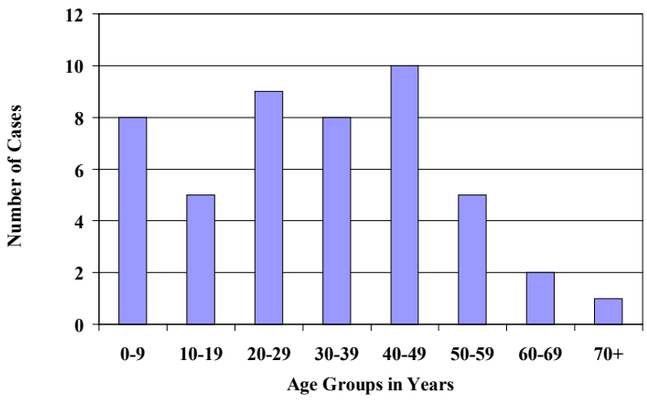


Table 1. Racial distribution of 2000-2001 TB cases and Anchorage population.

Race	Number of Cases	% of Cases	% of Anchorage Population*
White	9	19	79
Black	9	19	6
AK Native / American Indian	16	33	8
Asian / Pacific Islander	14	29	7
Total	48	100	100

*Anchorage population data from 2000 US Census

Site of infection: Forty-two cases (87.5%) had pulmonary TB, 3 (6%) had cervical scrofula. The remaining three cases had pleural TB, miliary TB, and mediastinal/sternal TB, respectively.

Microbiology: Forty-one cases (85%) had positive cultures of sputa, gastric aspirate, and/or biopsy for *Mycobacterium tuberculosis*. Of 30 pulmonary TB cases with culture-positive sputa, 17 (57%) were also smear positive for acid fast bacilli.

Antibiotic Resistance: Five (12%) of 41 persons with culture-positive TB had isoniazid-resistant strains. Three of the 5 were foreign-born, including two from Philippines and 1 from Republic of Korea. No cases with multi-drug-resistant TB (MDR-TB) were identified during 2000 - 2001.

HIV Coinfection: During 2000 to 2001, 28 cases (58%) had documentation of HIV testing; one case was HIV positive.

Discussion:

For many areas of the world, effective programs to identify and treat active TB cases with directly observed therapy (DOT) are lacking and MDR-TB continues to flourish.[3] The likelihood of importation of TB (and the threat of MDR-TB) in Anchorage will continue.

Shorter treatment regimens are desperately needed for both active TB and latent TB infection (LTBI). The minimum recommendation for treatment of active TB requires 6 months of directly observed therapy. For LTBI a 9-month course of isoniazid remains the preferred treatment-- the previously recommended short-course treatment for LTBI, a 2-month course of rifampin and pyrazinamide, has been associated with a number of cases of fatal and severe liver injury.[4]

Astute clinicians, ever vigilant for cases of active disease, remain critical to TB control. Cases must be promptly identified and reported, started on appropriate therapy, and given a full course of treatment by DOT. Thorough contact investigation and preventive therapy for persons with LTBI are also vital for long term success. In Anchorage we depend upon a small, dedicated team of public health professionals to ensure all persons with active TB complete DOT treatment safely and successfully and to perform contact investigations around active TB cases. In addition, they provide directly observed preventive therapy (DOPT) to a sizeable number of persons with LTBI who are at high risk of progression to active disease, for example, young children in a home of person with smear-positive pulmonary TB.

Control of TB in Anchorage will continue to require the close collaboration of the private and public health care communities.

References:

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2. Centers for Disease Control and Prevention. Reported Tuberculosis in the United States, 2001.
3. Espinal A, et al**.** Global trends in resistance to antituberculosis drugs. *N Engl J Med* 2001 344:1294-1303
4. Centers for Disease Control and Prevention. Public health dispatch: Update: fatal and severe liver injuries associated with rifampin and pyrazinamide treatment for latent tuberculosis infection. *MMWR* 2002;51:998-999.

(Submitted by Bruce Chandler, MD, MPH, Anchorage Department of Health & Human Services.)