



Bulletin No. 16
March 26, 1996
Tuberculosis in Anchorage, 1994-1995

The Alaska Division of Public Health, Section of Epidemiology maintains a registry of all persons diagnosed with active tuberculosis (TB) in Alaska. This registry includes 44 residents of Anchorage who were diagnosed with active TB disease during 1994 (21 cases) and 1995 (23 cases). Additional information was abstracted from case records maintained by the TB control programs of the Municipality of Anchorage Department of Health and Human Services and the Section of Epidemiology.

Demographics: Cases were equally divided by sex--22 male and 22 female. They ranged in age from 8 months to 86 years. Both the mean and median age of cases was 47 years; 50% of cases were 33 to 59 years of age (Table 1). The racial distribution included 22 Asian/Pacific Islanders, 13 Alaska Natives, 8 whites, and 1 black.

Using Anchorage population estimates, the average annual incidence of TB in Anchorage for the 2 year period was 8.5 cases per 100,000 persons, lower than the U.S. rate (9.4 cases per 100,000) and Alaska rate (15.3 cases per 100,000) for 1994.¹ While the incidence rates for the white and black populations were lower than the 1994 national rates, the rates for Asian/Pacific Islanders and Alaska Native/American Indian populations were 1.7 and 2.1 times, respectively, the 1994 national rates for these populations (Table 2).

Nineteen cases (43%) were foreign-born, including 18 (82%) of 22 Asian/Pacific Islanders and 1 of 8 whites. The 18 foreign-born Asian/Pacific Islanders were from the Philippines (10 cases), Korea (5 cases), and Laos, Vietnam, and Guatemala (1 case each). One of the eight white cases was born in Albania.

Site of Disease: Thirty-six cases (82%) were pulmonary and six cases (14%) were lymphatic, including five with cervical node disease. There was also one case of pleural TB and one case of miliary TB.

Drug Resistance: Of 36 cases with cultures positive for *Mycobacterium tuberculosis*, antibiotic sensitivity reports were available for 35. Of these, 4 cases (11%) had single drug resistance to isoniazid. All four with drug resistance were born in the Philippines. The remaining 31 cases were sensitive to all antibiotics tested: isoniazid, rifampin, and ethambutol, and in some cases, testing also included streptomycin and pyrazinamide. While no multidrug-resistant cases were noted during 1994-1995, persons with multidrug-resistant TB have been identified during preceding years.

Discussion: The Division of Tuberculosis Elimination, CDC, identified three strategies that are critical for the prevention and control of TB:

1. Identification and complete therapy of all persons with active TB.
2. Contact investigation to find, evaluate, and treat persons who have had contact with TB patients.
3. Screening populations at high risk for developing TB to locate persons with active disease and those infected with TB in need of preventive therapy to prevent progression to active disease.²

The standard of care, both in Anchorage and statewide, is for directly observed therapy (DOT) for all persons with active TB for the entire course of therapy. In Anchorage, DOT is administered by the DOT aide and public health nurses of the TB Control Program

Age group (years)	Cases
0-9	1
10-19	0
20-29	8
30-39	6
40-49	10
50-59	10
60-69	3
70-79	4
80-89	2
Total	44

Aggressive, timely, and thorough contact investigation of all active cases is critical to interrupt transmission and prevent further disease. Contact investigations may require the use of additional resources, especially interpreters for cases and contacts who do not speak English.

Current treatment recommendations of the American Thoracic Society, the Division of Tuberculosis Elimination of the CDC, and the State of Alaska TB Control Program are for initial four-drug therapy, especially in areas with 4% or greater primary resistance to isoniazid.³ Given the 11% rate of isoniazid resistance in Anchorage during 1994-1995, initial therapy with a minimum of four antibiotics is essential until antibiotic sensitivity results are available.

Table 2. Tuberculosis cases and incidence by race for Anchorage, 1994-95 and the United States, 1994				
			Annual incidence (per 100,000)	
Race	Cases	Population*	Anchorage (1994-95)	US (1994)**
Asian/Pacific Islander	22	14,576	75.5	45.3
Alaska Native/ American Indian	13	18,124	35.9	17.4
White	8	207,039	1.9	3.4
Black	1	18,041	2.8	26.8
Total	44	257,780	8.5	9.4

* Population estimates for Anchorage supplied by Greg Williams, State Demographer, Alaska Department of Labor.
** Source: Reported Tuberculosis in the United States, 1994, Division of Tuberculosis Elimination, CDC.

References:

1. Division of Tuberculosis Elimination, Centers for Disease Control and Prevention. Reported tuberculosis in the United States, 1994.
2. Division of Tuberculosis Elimination, Centers for Disease Control and Prevention. Screening for Tuberculosis and Tuberculosis Infection in High-Risk Populations: Recommendations of the Advisory Council for the Elimination of Tuberculosis. MMWR 1995; 44(RR-11):18-34.
3. American Thoracic Society. Treatment of tuberculosis and tuberculosis infection in adults and children. Am J Resp Crit Care Med 1994;149:1359-74.

(Thanks to Greg Williams, State Demographer. Contributed by Bruce Chandler, MD, MPH and the TB Control Program, Municipality of Anchorage Department of Health and Human Services.)

**CORRECTION TO BULLETIN 15 -
THE 24 HOUR EMERGENCY NUMBER FOR EPIDEMIOLOGY IS
1-800-478-0084**