



Bulletin No. 11

June 3, 1991

Tuberculosis in Alaska, 1988-90

During 1988-90, a total of 178 tuberculosis cases (51, 59, and 68 cases during the three years consecutively) among Alaska residents were recorded by the Section of Epidemiology--an average of 59 cases per year, or 11.0 cases per 100,000 residents. The annual incidence rates for 1988 through 1990 are the lowest ever recorded in Alaska.

The mean age of the 178 patients at the time of diagnosis was 36 years (range: 0.5-91 years). Ninety-two (51.7%) were under the age of 35 years and, **since all tuberculin reactors in this age group are eligible for preventive therapy, were potentially preventable cases.** Forty-eight (27%) of the cases were less than 20 years old: occurrence of tuberculosis disease in this age group generally suggests active transmission of *M. tuberculosis* rather than activation of dormant infection.

One hundred seven (60%) of the cases were men. Alaska Natives accounted for 139 (78%) of the cases reported during 1988-90. Twenty-one patients (12%) were Asians or Pacific Islanders; 17 (9%) were white; and one was black. Incidence rates for Asians and Alaska Natives during 1990 were identical (59 cases per 100,000); the rate for whites (1.4 per 100,000) was much lower.

One hundred forty-one cases (79%) were culture-confirmed. Pulmonary disease was present in 157 (88%) of the 178 cases. Extrapulmonary tuberculosis comprised eight cases of pleural disease, five cases of lymphatic disease, and four cases of genitourinary disease.

In general, geographic localization of disease reflected the varying prevalence of tuberculosis infection/disease in Alaska during the epidemic period of the first half of this century. Eighty-three cases (47%) were residents of western Alaska; 42 patients (24%) lived in Southcentral Alaska; 35 (20%) in Interior Alaska; 14 (8%) in Southeast Alaska; and four (2%) in the Aleutian chain.

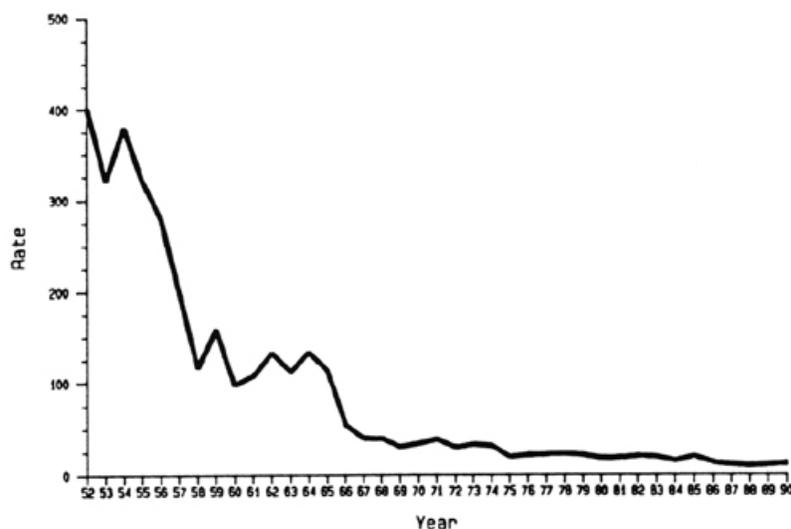
Twenty-five (14% of the 178) patients had histories of prior tuberculosis disease. They had either failed to complete recommended therapy or had been treated with now-obsolete antibiotic regimens.

Selected characteristics of tuberculosis cases, by year, Alaska, 1988 - 1990

	1988	1989	1990
No. of cases	51	59	68
Alaska rate (per 100,000)	9.5	11.0	12.4
US rate (per 100,000)	9.1	9.5	9.6
Mean age (yrs)	37.5	35.9	35.0
Alaska Natives (%)	71	87	77
Pulmonary disease (%)	92	83	90
Culture-confirmed (%)	84	71	82

Antibiotic-resistant strains of *M. tuberculosis* were cultured from only eight individuals (4.5%). Five patients had strains which were resistant to isoniazid alone; of these, four were related to the Chevak outbreak in 1989. Two cases had isolates resistant to streptomycin alone, and one patient (an immigrant from South Korea) had organisms resistant to both isoniazid and rifampin.

Annual Tuberculosis Case Rates, Alaska, 1952-90 (Rate per 100,000 population)



TUBERCULOSIS CASE FOLLOW-UP

Of the 178 cases reported during 1988-90, 131 (74%) have been retired from supervision by the Tuberculosis Control Program. Of these 131 patients, 105 (80%) completed all recommended anti-tuberculosis therapy; seven moved out-of-state; seven died;

six were lost to follow-up; and six (5%) did not complete a full (6- or 9-month) course of therapy despite intensive efforts by Program staff to encourage completion of therapy.

Treatment of tuberculosis cases under close supervision or by direct observation has been used increasingly since 1987. As of 5/1/91, at least 36 (63%) of 57 patients under treatment for tuberculosis were receiving directly-observed therapy (19 patients) or weekly-supervised therapy (17 patients).

COMMENTS

TB control strategies of the Section of Epidemiology focus on (1) timely identification of persons with TB disease and TB infection, (2) efforts to assure that all persons with active TB disease and all treatment-eligible tuberculin reactors are fully and appropriately treated, and (3) examination and follow-up of persons exposed to active TB disease. The Tuberculosis Control Program supplies anti-TB drugs free-of-charge, and the State Public Health Laboratories in Juneau and Anchorage process mycobacterial specimens without charge.

Efforts to eliminate TB from Alaska are critically dependent on the diligence with which health care providers suspect TB in patients with compatible signs/symptoms, take measures to establish the diagnosis, and report cases to the Section of Epidemiology so that appropriate public health follow-up can be conducted.

All suspected or confirmed cases of active TB disease should be reported to the Section of Epidemiology at 561-4406.