

Epidemiology **B**ulletin

REPUBLIC OF CHINA

— Contents —

- 45 Tuberculosis Control in Taiwan
51 Prevalence of HTLV-III antibody among volunteer blood donors in Taiwan

Tuberculosis Control in Taiwan

Tuberculosis (TB) control in Taiwan began in the 1950's with the introduction of BCG vaccine for school children. In 1967, the Taiwan Provincial TB Control Bureau was formed. During the period 1947-1984, the TB mortality rate declined from 294.4 to 11.2 deaths per 100,000 population (Figure 1), and TB dropped from the third to the tenth leading cause of mortality. In addition to declining trends in mortality, island-wide population-based surveys conducted every five years since 1957 have shown a similar decline in the prevalence of TB (Figure 2). These surveys have also provided valuable information about the age, sex, and geographic distribution of TB cases. The prevalence of TB was highest in older age groups in each of the six surveys conducted to date, and the prevalence has declined steadily in all age groups (Table 1). The sex-specific prevalence rate is higher among males, and in the most recent survey (1982) the male to female ratio of sputum-positive cases was approximately 4:1. Compared to both large and small cities, these surveys have shown that towns and villages have the highest prevalence of sputum-positive TB, and that geographically, the prevalence of sputum-positive cases is highest in the east and southwest parts of the island.

Although some new TB cases are identified by the prevalence surveys, there are two principal methods of routine case-finding activities which are carried out year-round. The first of these is mass chest X-ray examination carried out by 15 mobile units based in Taipei, Taichung, Chiayi, and Tainan. Each year, these units examine 600,000-700,000 persons throughout the island. During the past five years, approximately 1.5-2.5% of persons examined have had radiologic evidence of pulmonary TB. Among those examined, approximately 65% are organized groups such as factory and government

Figure 1. Tuberculosis mortality in the Taiwan Area (1947-1984)

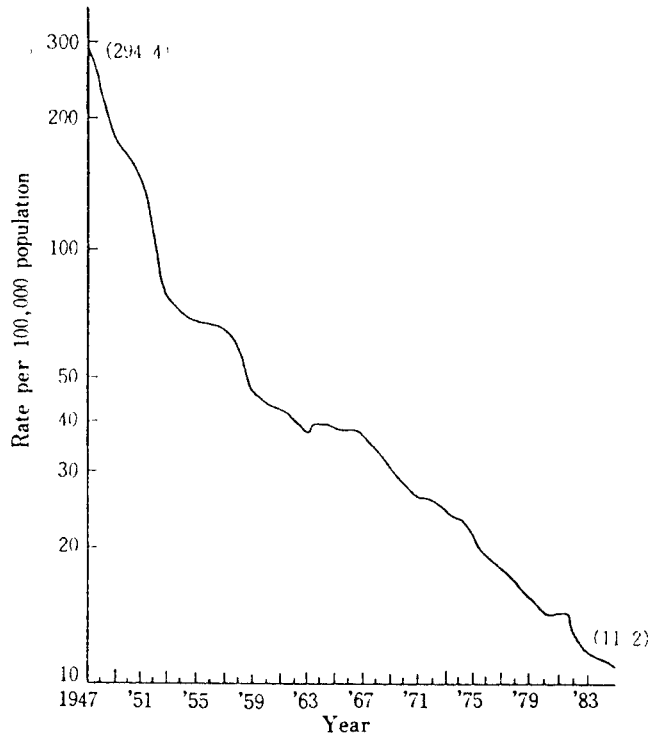


Figure 2. Trends in the prevalence of tuberculosis in the Taiwan Area from six prevalence surveys, 1957-1982

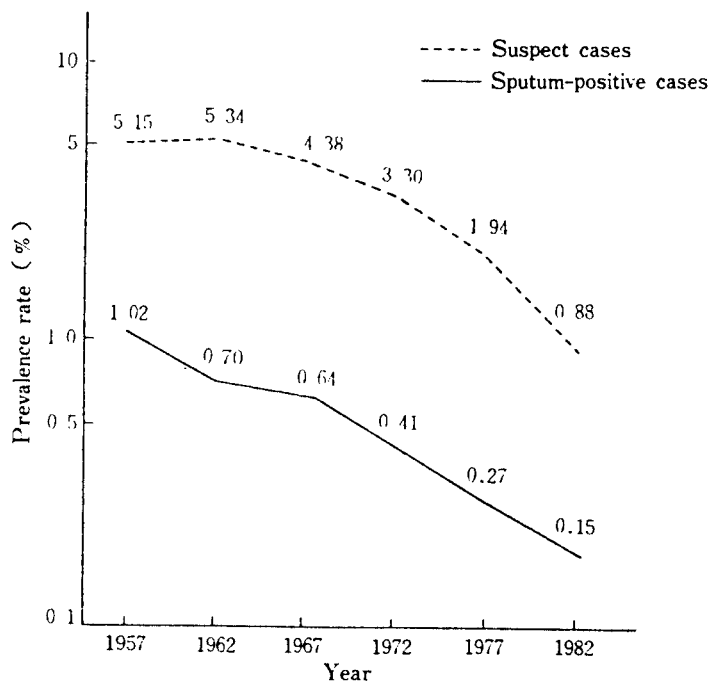


Table 1. Prevalence of sputum-positive cases of tuberculosis by age group from six prevalence surveys, 1957-1982

Age Group	Prevalence(%)					
	1957	1962	1967	1972	1977	1982
10-19	0.10	0.04	0.08	0.02	NE *	NE *
20-29	0.60	0.30	0.29	0.12	0.14	0.00
30-39	0.94	0.67	0.56	0.13	0.11	0.07
40-49	1.20	0.68	0.78	0.40	0.22	0.14
50-59	1.62	1.04	0.83	0.42	0.34	0.23
60+	1.43	1.49	1.28	1.50	0.78	0.37

* Not examined

workers, students, etc., about 5% are community-wide surveys, and the remaining 30% are selectively referred by health workers. The selectively referred group consists of individuals over the age of 45, or those with TB symptoms or contacts of known TB cases. This latter group has the highest prevalence of positive findings (2.6% in 1984). The other important case-finding activity is mass sputum examination carried out at health stations throughout the island. Each year, approximately 300,000 sputum specimens are examined, about half of which are initial specimens. Of these, about 2-4% have been positive during the past five years. The proportion of positive cases identified both by X-ray and sputum examination has been declining over the past five years.

Active TB cases identified from these sources are registered, and a TB health worker from the local health station visits each case household to refer contacts for examination and conduct health education. Although about 6,000 new infectious cases are registered each year, a comparison of data between the TB registry and the prevalence surveys indicates that only about 50-60% of cases are registered. The remainder are either undiagnosed, or are being treated by private physicians who have failed to report the cases to local health authorities. Of cases registered during the past 10-years, the majority (>60%) have moderate disease with cavitation, or advanced disease with or without cavitation at the time of diagnosis; there has not been a trend towards cases being diagnosed in earlier stages of illness. This finding suggests a need for more emphasis on health education so the general public can learn to recognize TB symptoms early and refer themselves for examination. Earlier diagnosis and treatment has better implications for both prognosis and for limiting the spread of infection to contacts.

TB chemotherapy in Taiwan has undergone several important changes in recent years. Most importantly, short-course chemotherapy was introduced in 1978 consisting of initial treatment for five months with isoniazid (INH), ethambutol (EMB), and rifampin (RIF), followed by INH alone for another five months. Of 16,865 cases initially treated