

The Tuberculosis Situation in Argentina

For the purposes of conducting an epidemiological analysis of the tuberculosis situation, the National Institute of Tuberculosis (INT) of Argentina divided the country into six regions: North, at the border of Chile and Bolivia; Northeast, at the border of Paraguay and Brazil; Patagonian South; Central, Buenos Aires Province; Temperate Pampa; and Greater Buenos Aires, which includes the Federal Capital and its metropolitan communities representing more than a third of the country's population.¹

In 1974 a national study on risk of infection (individual inhabitant's probability of being infected or reinfected with tuberculosis in the course of a year) was begun with a prevalence study carried out on samples of schoolchildren from the city of Santa Fe, the Province of Santa Fe, and the six areas into which the country is divided. Five years later the risk study was completed, as was a second prevalence study carried out in the Province of Santa Fe. The data obtained made it possible to observe an annual risk of infection of 0.26 per cent, with a 4.6 per cent declining trend (1979-1980) in this province. The risk for the country was calculated at 0.5 per cent, with an estimated annual reduction trend of 5 per cent. Based on these results, the annual incidence was estimated at 25 to 30 bacilli-positive cases per 100,000 population.²

The data obtained from case reports yield a similar country rate (30 bacilli-positive cases per 100,000 population), although 100 per cent efficiency cannot be assumed for case-finding, bacilloscopic confirmation, or new case reporting. The incidence of bacilli-positive cases, calculated on the basis of estimated risk of infection (1 per cent) was 60 per 100,000 population in the northern and southern areas of the country, whereas reported cases were double that figure. The estimated incidence rate was higher than or equal to the reported rate in other areas. It is worth noting that 80 per cent of the country's 28 million inhabitants live in urban areas.

A possible explanation for the great difference between the estimated and reported incidence is that the selected population of 6-7 year-olds in the first grade in school excludes the less advantaged children, among whom the prevalence of infection is presumably greater. Although education is free and compulsory and practically the entire cohort attends the first grade, it is possible that a large number of children in this socioeco-

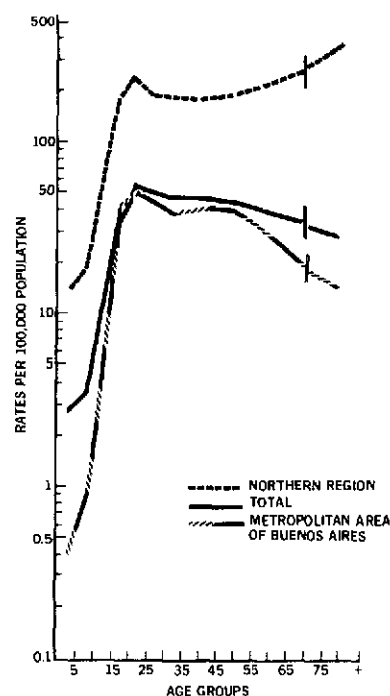
nomic group start school at an older age than the selected group. If this is the cause of the underestimated incidence, it would fundamentally affect the less developed areas (north and south). The estimation of risk trend would not be altered because both prevalence surveys would be affected by the same error factor.

Ten years after implementing the system for analyzing data reported to the National Institute of Tuberculosis (INT), reporting is thought to have reached a sufficiently high level of coverage that it begins to acquire value as an epidemiological indicator. It is evident that there are bound to be increases owing to greater coverage and diagnosis (especially in children), but these should not be sufficient to mask the actual reduction in incidence.

Table 1 shows the age distribution of total pulmonary tuberculosis cases confirmed by bacteriology and by direct examination of sputum for the entire country in 1980.

No reduction has been observed in the incidence of bacilli-positive cases during the past decade, even in the 15 to 29 age group where the effect of the program

Figure 1. Reported bacilliferous tuberculosis incidence rates per 100,000 population, by age group, Argentina, 1980.



SOURCE: NATIONAL TUBERCULOSIS INSTITUTE/MINISTRY OF PUBLIC HEALTH AND ENVIRONMENT, ARGENTINA.

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²Styblo, K. and A. Rouillon, *Bull Int Union Tuberc* 56(3/4): 128-137, 1981.

should be more easily appreciated. This could be due to the gradual extension of diagnostic coverage and reporting. In addition, the intense migration, especially of young adults, from areas of high prevalence toward the more developed urban centers obscures the reduction in the stable resident population in the analysis by province.

When the age-specific incidence rates of the entire country are compared with those of the metropolitan area of Buenos Aires and the northern region, large variations are observed which correspond to socioeconomic differences in said regions (Figure 1). The metropolitan area, with its 9,697,000 inhabitants and incidence rate of bacilli-positive cases of 29.4, and the northern region, with 977,000 inhabitants and a rate of 132.3, constitute the two extremes in incidence rates when considering the six regions into which the country is divided for the purpose of evaluating the tuberculosis problem. Since the areas where the problem is greater—north, northeast, and south—have a small proportion of the total population, they have little influence on the national average and on its variations.

The group under 15 years of age, where the program's activities are most effective, represents only 28.5 per cent of the total population due to the reduced natural increase (16.4 x 1,000). When this is coupled with a life

expectancy of 69.4 years which is also on the rise (1975-1980), the impact of the program may be limited due to the survival of a large number of elderly infected adults who continue to produce open cases of endogenous tuberculosis.³

Because of the reduced number of deaths, the analysis of tuberculosis mortality is carried out only every two years. In the last 12 years, mortality has decreased steadily at a rate of 5.8 per cent per year. In 1979-1980, the rate for the country was 6.2 per 100,000 population, 8.2 in males and 4.3 in females, ranging from 3.3 in the metropolitan area of Buenos Aires to 22.4 in the northern region.

It is interesting to compare the 1973-1974 and 1979-1980 age-specific death rates. The largest reduction in mortality occurs in the 5-14 age group, possibly due to the direct effect of BCG vaccination, which has wide coverage in the school age group and still very low coverage in the group under 5, and the reduction in transmission. This hypothesis would be strengthened if the increase in BCG coverage in the 0-4 age group were to produce a similar decrease in the death rates for that group in the coming years.

³Waalder, H.T. *Bull Int Union Tuber* 57(34): 202-205, 1982.

Table 1. Tuberculosis cases reported to the National Tuberculosis Institute and rates per 100,000 population, Argentina, 1980.^a

Age	Tuberculosis, all forms		Pulmonary tuberculosis		Pulmonary tuberculosis bacteriologically confirmed		Pulmonary tuberculosis with direct, positive examination	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
0 - 4	1,582	61.9	440	17.2	73	2.9	67	2.6
5 - 9	994	41.4	342	14.2	85	3.5	75	3.1
10-14	722	32.4	392	17.6	197	8.8	184	8.3
15-19	1,334	61.7	1,121	51.8	829	38.3	776	35.9
20-24	1,741	82.6	1,490	70.7	1,135	53.8	1,086	51.5
25-29	1,536	75.9	1,302	64.3	983	48.6	940	46.4
30-34	1,317	71.9	1,112	60.7	841	45.9	788	43.0
35-44	2,205	71.5	1,872	60.7	1,432	46.4	1,339	43.4
45-54	1,969	68.0	1,747	60.4	1,287	44.5	1,192	41.2
55-64	1,406	61.4	1,253	54.7	909	39.7	847	37.0
65-74	830	55.4	726	48.5	492	32.8	455	30.4
75	376	49.7	338	44.6	215	28.4	194	25.6
N/S ^b	394	—	314	—	218	—	211	—
Total	16,406	63.5	12,449	48.2	8,696	33.7	8,154	31.6

^a Adapted from tuberculosis case reports National Tuberculosis Institute, Argentina, 1979-1980.

^b Not specified.

The INT carries out training, epidemiological surveillance, and technical support activities for the national and provincial programs. The provinces send out a monthly report of new cases on standard forms which contain basic information. In addition to permitting analysis by province, age, sex, site of lesion and bacteriology, treatment background, etc., these forms make it possible to obtain samples from patients for the purpose of performing periodic evaluations of the operative results of treatment.

In 1982 an analysis was made of the information available on the epidemiological situation and on the program for each province. The selected epidemiological indicators were mortality, morbidity (incidence), infection, and meningitis in children 0-4 years old. The tables and graphs for each indicator were analyzed in terms of quality of the information and in relation to what is expected of an effective control program. The document was completed with a practical evaluation

task carried out as a self-instruction exercise by those responsible for the program in each province.

This type of exercise supplements the training received by program administrators during the annual course offered by the INT and other international courses, through applying the data to the special conditions of the program for which they are responsible, thus constituting continuing education, indirect supervision, and evaluation. The method could be utilized for regional evaluation of programs in other countries and for the evaluation of national programs, with the necessary adjustment to the different systems for registering information.

(Source: Tuberculosis and Acute Respiratory Diseases Program, Maternal and Child Health Program, PAHO.)

Infections due to Penicillinase-producing *Neisseria gonorrhoeae* in Florida, United States

From 1 January through 31 December 1981, a total of 436 infections due to penicillinase-producing *Neisseria gonorrhoeae* (PPNG) were reported in Florida—a marked increase over the number of cases in previous years. Only three cases were reported from 1976 through 1979, and 15 cases were reported in 1980. The increase in reported cases in 1981 was temporally related to a change in laboratory surveillance for PPNG strains. In mid-December 1980, all gonococcal isolates in cultures submitted to State branch laboratories were tested for beta-lactamase production, in contrast to the previous policy which limited testing to post-treatment isolates from patients not cured by their initial therapy. A total of 914 PPNG cases were reported in 1982, an increase of 110 per cent over the 436 cases reported in 1981. The epidemic has continued through the first quarter of 1983.

Most cases reported in Florida have been among residents of South Florida, especially the Miami-Dade County area. Dade County, with a population of 1.8

million (17 per cent of the State population) accounted for more than 60 per cent of the 1981 cases and more than half of the cases reported in Florida during 1982 (Table 1). Attempts at control were first made during

Table 1. Reported cases of penicillinase-producing *Neisseria gonorrhoeae* (PPNG) in Florida State and Dade County, 1979-1983.

Year	Florida State	Dade County	
	Number	Number	Percentage
1979	—	—	—
1980	15	10	67
1981	436	281	64
1982	914	466	51
1983 ^a	—	389	54

^aJanuary through March 1983.