

# LUNG CANCER IN ASBESTOS MINERS

TABLE 19.—Age Distribution of Adult Males for the Province of Quebec, 1951 \*

| Age Group  | Province  |            | Percentage in Cohort |
|------------|-----------|------------|----------------------|
|            | Number    | Percentage |                      |
| 20-44..... | 727,125   | 63         | 66                   |
| 45-54..... | 188,822   | 16         | 19                   |
| 55-64..... | 128,944   | 11         | 10                   |
| 65+.....   | 113,467   | 10         | 5                    |
| Total..... | 1,158,498 | 100        | 100                  |

\* Rapport, 1954.

a matter of the same intensity of interest as it is in younger persons.

Table 18 also answers a question previously raised. It shows that the members of the cohort have *not* died from lung cancer at an age earlier than the general population, and that such an explanation cannot be offered for the absence of lung cancer in 240 men with more than 40 years of employment referred to on page 643.

Before leaving this comparison of the Province with the miners, it should be shown that their age distributions are reasonably the same. That this is the case can be observed from Table 19.

It should be remembered that the miners retire and consequently, it can be expected that the oldest age group will be larger in the general population. The data presented in Table 20 indicate that the lung cancer rate generally decreases after age 70. Therefore, we could expect the rate for *all* people over 65 to be smaller than the rate for the group between 65 and 75, which would apply to the oldest group of miners. It is felt that by using the whole adult male population, we have developed rates for the general population which are somewhat lower than if we had been able to exclude the people in the general population over 75.

A comparison between the asbestos miners and the population of the Dominion as a whole was made, using statistical material from several sources. In one source, Phillips<sup>78</sup> gave age- and sex-specific rates for Canada for three periods between 1931 and 1952. The rates for males are given in Table 20.

These figures show strikingly the increase in rates between 1931 and 1952, and this

TABLE 20.—Annual Death Rates per 100,000 for Cancer of the Lung in Canada \*

| Age Group | Groups of Years |           |           |
|-----------|-----------------|-----------|-----------|
|           | 1931-1933       | 1941-1943 | 1950-1952 |
| Under 30  | 0.2             | 0.3       | 1.0       |
| 30-34     | 0.9             | 0.9       | 4.8       |
| 35-39     | 2.0             | 3.2       | 3.0       |
| 40-44     | 3.0             | 5.4       | 6.5       |
| 45-49     | 5.2             | 12.5      | 16.7      |
| 50-54     | 8.2             | 18.9      | 37.2      |
| 55-59     | 12.7            | 27.0      | 50.7      |
| 60-64     | 12.5            | 33.7      | 77.8      |
| 65-69     | 15.1            | 34.5      | 102.9     |
| 70-74     | 10.7            | 30.6      | 86.3      |
| 75-79     | 15.8            | 30.0      | 83.9      |
| 80-84     | 8.2             | 27.9      | 59.7      |
| 85+       | 11.4            | 14.3      | 71.0      |
| All Ages  | 2.8             | 7.1       | 15.8      |

\* "Mortality from Lung Cancer in Canada," 1931 to 1952.

increase is particularly marked after age 50, confirming an observation previously made, to the effect that until recently lung cancer has probably been underdiagnosed in the older age groups in the general population.

To use these figures for purposes of comparison, it is necessary to combine the rates for certain age groups in order to conform to the age distributions used in this study. Since the exact populations in each age group for the years indicated is not known, this must be an approximation. However, the rates would be somewhat as follows:

| Age Group | Rate  |
|-----------|-------|
| 20-44     | 5     |
| 45-54     | 27    |
| 55-64     | 69    |
| 65+       | 90-95 |

These rates are, in general, lower than those developed for the total (proved and suspected) cases of lung cancer among the asbestos miners. The only large difference, however, is in the age group of 65 years and over, and it is quite possible that the rate for this group may have increased for Canada between 1952 and 1954 as it did for the Province of Quebec (Table 17).

A further comparison has been made with an over-all rate obtained from the American Cancer Society for respiratory cancer deaths in Canada in 1953. This rate, for males, is 20.8 per 100,000, or 5 more per 100,000 than Phillips' 1950-1952 rate, and compares with 25.3 per 100,000 for proved cases and 33.8 per 100,000 for total cases among the