conventionally called the "neonatal" period. Of the 4,117 neonatal deaths, 2,459 or nearly 60% died during the first day of life and 3,626 or 88% died during the first week. Deaths occurring during the hazardous neonatal period are caused mainly by conditions associated with pregnancy, difficult labour or congenital malformations. As in the case of total infant deaths, the Canadian neonatal death rate dropped by half since 1951, from 22.6 to 11.9 in 1972, with substantial improvements in all the provinces (see Table 4.44).

Causes of infant deaths. Of the 5,938 infants dying in 1972, 2,942 or close to 50% died of "perinatal" conditions of very early infancy (see Table 4.43). There were 1,132 deaths from anoxia or hypoxia (absence or deficiency of oxygen), and 694 due to immaturity of the foetus. Still in the "perinatal" mortality group, 543 deaths were ascribed to difficult labour or some disease or condition in the mother, and 308 to some condition of the placenta or umbilical cord. Congenital malformations accounted for an additional 1,330 deaths. Of the 603 deaths from respiratory diseases, 427 were due to pneumonia. Suffocation by food and other objects caused 210 infant deaths in 1972. Exactly half of the 194 infant deaths from infective and parasitic diseases were due to dysentery.

4.7.3 Life expectancy

Life tables are measures of life expectancy compiled from the death rates prevailing over a period. They assume that a given cohort of people (usually 100,000) are born simultaneously in a particular year and continue to be subject all their lives to the death rates prevailing in that year, or perhaps to the average death rates for, say, a three-year period centred around that year. The "expected" deaths in the cohort are calculated (in the case of a "complete" life table) for the first year of life, second year of life, etc., and the diminishing cohort is "followed" for 100 or more years until it has been virtually eliminated. Life expectancy at birth is calculated for the entire cohort and, subsequently, remaining life expectancy is calculated for the survivors at one year, two years, etc. It should be noted that the assumptions of such a life table are never fulfilled in practice and that the hypothetical cohorts in life tables do not represent any actual population. Usually, the persons in an actual cohort born in the life-table year will have a higher life expectancy that those in the life-table cohort because during their lifetimes public health conditions will presumably constantly improve and standards of medical care will also presumably advance.

Seven official sets of life tables have been published to date, based on deaths in the three-year period around each of the censuses of 1931, 1941, 1951, 1956, 1961, 1966 and 1971. The first five of these sets contained tables for Canada and for the five main regions, while the 1966 and 1971 sets included tables for all of the provinces. The Canadian life table values for the 1971 period are given for selected ages in Table 4.46. This table shows that at 1970-72 mortality rates 2,002 of 100,000 males born would have died in their first year with 97,998 surviving to one year of age, that 126 more would have died in their second year with 97,872 reaching their second birthday and so on. There would be 191 survivors at 100 years of age. The "probability of dying" column represents the ratio between the population at each age and the number of "expected" deaths in the coming year. Finally the "Expectation of life" column shows the number of remaining years of life that can be expected at each age, given the 1970-72 mortality rates.

Table 4.46 also shows that the male probabilities of dying were higher than the corresponding female probabilities throughout the table. Mortality rates and consequently the probabilities of dying were lowest at the age of about 10 for both sexes. Above this age, the male probabilities rose quite rapidly, reflecting accidents to teen-age boys; the female probability rose more gradually. Male mortality was fairly constant from the age of 20 up into the late 30s, and then increased steadily with advancing age. Female mortality rose slowly between the ages of 10 and 25 and then more rapidly for the remainder of the life period. It may be observed that about 11,200 of the male cohort would have died by age 50 as compared with roughly 6,600 of the corresponding female cohort, and that 58,575 males would reach age 70 as compared with 75,995 females.

Life expectancy values over the 1951-71 period are shown in Table 4.47. By 1971, Canadian life expectancy at birth had reached an all-time high of 69.3 years for males and nearly 76.4 years for females. These figures are roughly comparable to the expectancies of other countries with highly developed programs of medical care. Because of infant mortality, which is still quite substantial, life expectancies for male and female infants one year old were still