## VITAL STATISTICS.

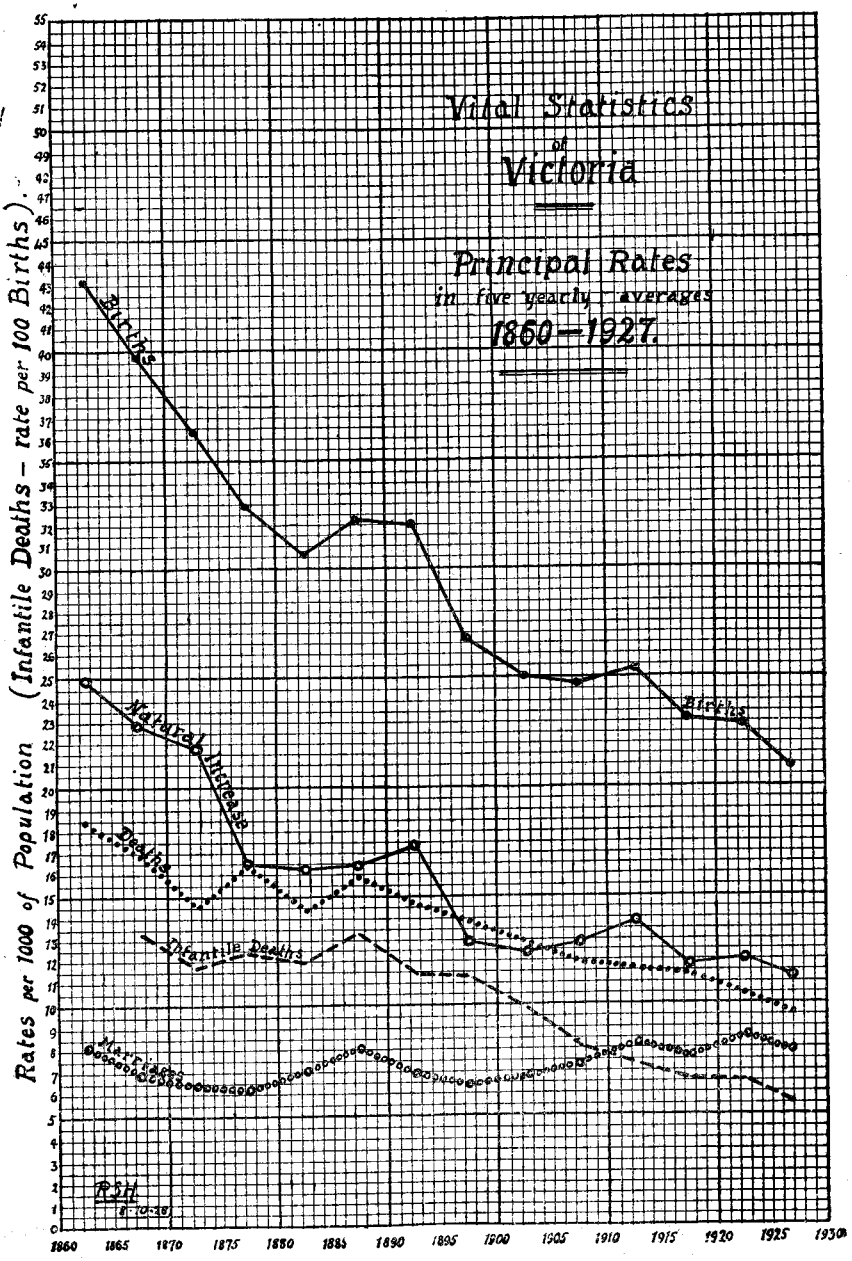
**Registration of Births, Deaths, and Marriages.**

The present official system of compulsory registration of births, deaths, and marriages in Victoria has been in force since 1853, and the registers—framed on the best models—are replete with all necessary information bearing on the family history of the people. The statutory duties under the Registration Acts are performed by the Government Statist, who has control over the local registrars of births and deaths, and the registrars of marriages, and (so far as regards their registration duties) over the clergymen who celebrate marriages. Copies of entries certified by him or by the Assistant Government Statist are *primâ facie* evidence in the Courts of Australia of the facts to which they relate. At the head office in Melbourne there is kept for reference a complete collection of all registrations effected since 1st July, 1853, as well as originals or certified copies of all existing church records relating to earlier periods, as far back as 1837. Since the present system was instituted approximately 4,250,000 original entries have been made in the indexes, of which 1,022,000 relate to marriages, 2,198,000 to births, and 1,030,000 to deaths.

Applicants for searches or certificates of births, deaths, or marriages should, in applying to the Government Statist, furnish particulars of the date and place of the event; also the names of the parties in the case of a marriage, and the name, age (if a death), and parentage in the case of a birth or death. The fee for a search in the Official Records, or an extract of an entry, is 2s. 6d., and for a certificate, including the cost of search, 7s. 6d. (except where application is made within three months of the registration of the event when 5s. only is charged). For a search in the early church records, prior to 1st July, 1853, the fee is only 1s., a further sum of 1s. being payable if a certificate is required.

As evidence of the extent by which the information in the records is availed of, the number of transactions which took place in 1927 was 45,912, yielding £5,449 revenue. Included in the above number were 7,513 free ordinary searches and 507 free certificates.

The *Year-Book* for 1916–17 contains on pages 301 to 303 a statement of the law relating to marriages and the registration of births and deaths in Victoria. Since 1915, when the Acts were consolidated, minor validating and other Acts (Nos. 2775, 2998, 3127, and 3282) have been passed.


Vital Statistics
of
Victoria
Principal Rates
in five yearly averages
1860—1927.
Rates per 1000 of Population (Infantile Deaths – rate per 100 Births).
Births
Natural Increase
Deaths
Infantile Deaths
Marriages
R.S.H.
8-10-28.
1860
1865
1870
1875
1880
1885
1890
1895
1900
1905
1910
1915
1920
1925
1930

**Summary of Vital Statistics, 1927.**

The principal numbers and rates—male and female—relating to Vital Statistics in Victoria for the year 1927, are given in the following table :—

SUMMARY OF VITAL STATISTICS, VICTORIA, 1927.

| Division. | Sex. | Population. | Number of— | | | Rate per 1,000 of Population. | | Deaths under One Year per 1,000 Births |
|---|---|---|---|---|---|---|---|---|
| | | | Births. | Deaths. | Deaths under One Year. | Births. | Deaths. | |
| Greater Melbourne | Males | 453,580 | 9,188 | 5,049 | 647 | 20·26 | 11·13 | 70·42 |
| | Females | 506,200 | 8,712 | 4,697 | 471 | 17·21 | 9·28 | 54·06 |
| | Total | 959,780 | 17,900 | 9,746 | 1,118 | 18·65 | 10·15 | 62·46 |
| Rest of the State | Males | 406,417 | 8,880 | 3,933 | 487 | 21·85 | 9·68 | 54·84 |
| | Females | 361,216 | 8,294 | 3,094 | 361 | 22·96 | 8·57 | 43·53 |
| | Total | 767,633 | 17,174 | 7,027 | 848 | 22·37 | 9·15 | 49·38 |
| Victoria | Males | 859,997 | 18,068 | 8,982 | 1,134 | 21·01 | 10·44 | 62·76 |
| | Females | 867,416 | 17,006 | 7,791 | 832 | 19·61 | 8·98 | 48·92 |
| | Total | 1,727,413 | 35,074 | 16,773 | 1,966 | 20·30 | 9·71 | 56·05 |

NOTE.—Particulars of marriages are available only for the whole State.

## MARRIAGES.

**Marriages—Numbers and Rates.**

Marriages in Victoria in 1927 numbered 13,608. This was the third highest number for one year in the history of the State, being 1,290 less than the greatest number previously recorded—that for 1920.

The ordinary marriage rate—per 1,000 of the total population—like birth and death rates similarly estimated, is somewhat unreliable in comparatively newly settled countries like Australia, especially in earlier periods, but it affords a ready and approximate comparison between years not widely separated.

The following table shows the number of marriages, the quarters in which they were registered, and the proportion per 1,000 of the population, since 1854 :—

MARRIAGES IN EACH QUARTER, VICTORIA, 1855 TO 1927.

| Period. | Average Annual Number of Marriages. | Quarter of Registration. | | | | Rate per 1,000 of Mean Population. |
|---|---|---|---|---|---|---|
| | | March. | June. | September. | December. | |
| 1855–59.. | 4,362 | * | * | * | * | 10·24 |
| 1860–64.. | 4,418 | 1,068 | 1,166 | 1,079 | 1,105 | 8·16 |
| 1865–69.. | 4,533 | 1,123 | 1,144 | 1,113 | 1,153 | 6·94 |
| 1870–74.. | 4,823 | 1,168 | 1,299 | 1,131 | 1,225 | 6·40 |
| 1875–79.. | 5,023 | 1,239 | 1,307 | 1,207 | 1,270 | 6·21 |
| 1880–84.. | 6,296 | 1,528 | 1,611 | 1,483 | 1,674 | 7·07 |
| 1885–89.. | 8,208 | 1,899 | 2,196 | 1,915 | 2,198 | 8·04 |
| 1890–94.. | 7,945 | 1,995 | 2,100 | 1,838 | 2,012 | 6·88 |
| 1895–99.. | 7,627 | 1,816 | 2,074 | 1,778 | 1,959 | 6·44 |
| 1900–04.. | 8,201 | 2,000 | 2,252 | 1,930 | 2,019 | 6·78 |
| 1905–09.. | 9,209 | 2,185 | 2,548 | 2,182 | 2,294 | 7·36 |
| 1910–14.. | 11,244 | 2,664 | 3,000 | 2,644 | 2,936 | 8·29 |
| 1915–19.. | 10,908 | 2,437 | 2,754 | 2,815 | 2,902 | 7·62 |
| 1920–24.. | 13,598 | 3,252 | 3,578 | 3,152 | 3,616 | 8·64 |
| 1925 .. | 13,370 | 3,064 | 3,594 | 3,201 | 3,511 | 8·00 |
| 1926 .. | 13,405 | 3,012 | 3,757 | 3,085 | 3,551 | 7·90 |
| 1927 .. | 13,608 | 3,152 | 3,835 | 3,000 | 3,621 | 7·88 |

* Not available.

The highest number of marriages in the history of the State—14,898, and also the highest rate per 1,000 of the population since 1857—9·85, were recorded in 1920. This was mainly due to the marriages of a large number of returned soldiers who had settled down to ordinary civilian life.

**Marriage rates in Australasia.** The subjoined statement shows the marriage rate per 1,000 of the population in the various Australian States, the Commonwealth of Australia, and New Zealand, in quinquennial periods for the years 1910 to 1924, and for the years 1925 to 1927 :—

MARRIAGES PER 1,000 OF MEAN POPULATION IN AUSTRALASIA, 1910 TO 1927.

| Period. | Victoria. | New South Wales. | Queensland. | South Australia. | Western Australia. | Tasmania. | Australia. | New Zealand. |
|---|---|---|---|---|---|---|---|---|
| 1910–14 | 8·29 | 9·17 | 8·54 | 9·38 | 8·22 | 7·94 | 8·72 | 8·51 |
| 1915–19 | 7·62 | 7·96 | 7·59 | 7·94 | 6·62 | 6·90 | 7·75 | 7·30 |
| 1920–24 | 8·64 | 8·55 | 7·80 | 8·53 | 7·60 | 7·93 | 8·38 | 8·44 |
| 1925 .. | 8·00 | 8·14 | 7·60 | 7·82 | 7·46 | 7·05 | 7·91 | 7·85 |
| 1926 .. | 7·90 | 8·28 | 7·34 | 8·06 | 7·58 | 6·79 | 7·92 | 7·90 |
| 1927 .. | 7·88 | 8·45 | 7·04 | 7·88 | 8·07 | 6·82 | 7·95 | 7·62 |

The marriage rate in England and Wales in 1927 was 7·85.

The marriages in Australia for 1927 numbered 49,036, as against 47,865 in 1926, 46,899 in 1925, 45,869 in 1924, 44,541 in 1923, and 44,731 in 1922. Of the total for 1927, 13,608 took place in Victoria, 20,052 in New South Wales, 6,277 in Queensland, 4,501 in South Australia, 3,108 in Western Australia, 1,432 in Tasmania, 29 in the Northern Territory, and 29 in the Federal Capital Territory.

**Marriages to marriageable men and women.**

The marriages in proportion to the population, to the unmarried men and widowers aged 21 to 55, and to the unmarried women and widows aged 18 to 50, in each census year, 1857 to 1921, are given in the following table :—

MARRIAGES PER 1,000 OF POPULATION AND OF SINGLE MEN AND WOMEN, 1857 TO 1921.

| Year of Census. | Exclusive of Chinese and Aborigines. | | | | | | |
|---|---|---|---|---|---|---|---|
| | Enumerated Population. | Number of Unmarried and Widowed. | | Marriages. | Proportion of Marriages per 1,000 of the— | | |
| | | Men (aged 21 to 55). | Women (aged 18 to 50). | | Population. | Unmarried and Widowed Men (aged 21 to 55). | Unmarried and Widowed Women (aged 18 to 50). |
| 1857 .. | 383,668 | 88,456 | 18,128 | 4,465 | 11·64 | 50·48 | 246·30 |
| 1861 .. | 513,896 | 98,665 | 24,009 | 4,528 | 8·81 | 45·89 | 188·60 |
| 1871 .. | 712,263 | 77,078 | 40,836 | 4,715 | 6·62 | 61·17 | 115·46 |
| 1881 .. | 849,438 | 77,250 | 75,098 | 5,732 | 6·75 | 74·20 | 76·33 |
| 1891 .. | 1,130,463 | 133,576 | 113,276 | 9,007 | 7·97 | 67·43 | 79·51 |
| 1901 .. | 1,193,340 | 123,691 | 137,267 | 8,468 | 7·10 | 68·46 | 61·69 |
| 1911 .. | 1,309,503 | 132,642 | 158,556 | 10,984 | 8·39 | 82·81 | 69·28 |
| 1921 .. | 1,526,659 | 136,569 | 163,488 | 14,009 | 9·18 | 102·57 | 85·69 |

NOTE.—The figures in this table relate to the twelve months of which the date of census is the central point.

**Factors in marriage rates.**

An examination of the figures for the eight census periods shows how the crude marriage rate is affected by the proportion of marriageable persons in the community. The maximum marriage rate (per 1,000 of population), which occurred in 1857, was co-incident with the highest proportion of marriageable

persons, while the minimum rate—in 1871—was associated with the lowest proportion of such persons. A further examination of the figures shows that the ordinary marriage rate is more directly affected by the proportion of eligible men than by that of eligible women in the population. Thus, the percentage of single women aged 18 to 50 rose from 4·7 in 1857 to 10·7 in 1921, while that of single men aged 21 to 55 fell from 23 to 8·9 in the same period. After allowing for the more uniform distribution of males and females of marriageable ages in the later years, the decrease in the percentage of marriageable men coincides fairly closely with the decline in the ordinary marriage rate. The female marriage rates show that, of females aged 18 to 50, the proportion entering wedlock each year fell from about 1 in 4 in 1857, and nearly 1 in 5 in 1861, to 1 in 16 in 1901, 1 in 15 in 1911, and nearly 1 in 12 in 1921.

The large number of discharged soldiers, who were settling down to civilian life, was responsible to a great extent for the high crude marriage rate recorded in 1921. This factor, however, only partially accounts for the very high proportion of marriageable men and women who entered wedlock in that year in comparison with the years 1901 and 1911, as, quite apart from the effect produced by the marriages of discharged soldiers, the improvement in the rate shown in 1911 became more prominent in the next decennial year.

**Marriages to marriageable males in Australasia.**

The following statement shows for the period 1900–02 and for the years 1911 and 1921 the number of marriages per 1,000 marriageable males in Victoria, the other States of Australia, and New Zealand. It has been assumed that marriageable males are unmarried men and widowers aged 21 to 55 :—

MARRIAGES PER 1,000 MARRIAGEABLE MALES IN AUSTRALASIA.

| — | 1900–02. | 1911. | 1921. | Increase per cent. in 20 Years. |
|---|---|---|---|---|
| Victoria .. .. .. | 56·0 | 67·3 | 81·7 | 45·9 |
| New South Wales .. .. | 58·3 | 68·0 | 73·9 | 26·8 |
| Queensland .. .. .. | 41·6 | 54·9 | 62·1 | 49·3 |
| South Australia .. .. | 56·8 | 81·3 | 88·7 | 56·2 |
| Western Australia .. .. | 41·9 | 45·8 | 62·5 | 49·2 |
| Tasmania .. .. .. | 65·7 | 69·3 | 81·9 | 24·7 |
| Australia .. .. .. | 55·7 | 64·7 | 77·2 | 38·6 |
| New Zealand .. .. | 55·1 | 58·8 | 78·9 | 43·2 |

In each State the proportion of marriageable men who married during the year 1921 was greater than that for the period 1900-02 or for 1911, the excess over the proportion for the earlier period, expressed as a percentage, being 56 in South Australia, 49 in Western Australia, 49 in Queensland, 46 in Victoria, nearly 27 in New South Wales, and nearly 25 in Tasmania. The comparatively low marriage rates for men in Western Australia and Queensland were due to the unequal distribution of marriageable men and women. At the 1921 census, to every 1,000 unmarried and widowed women aged 18 to 50 the numbers of bachelors and widowers between 21 and 55 years of age in each State and Australia were as follows :—Victoria, 837 ; New South Wales, 1,015 ; Queensland, 1,230 ; South Australia, 892 ; Western Australia, 1,330 ; Tasmania, 889 ; and Australia, 984.

**Marriageable persons in Metropolis and Country.**

An examination of the sex distribution of persons residing in Greater Melbourne and the rest of the State discloses the fact that, whether the comparison be made for all ages or for marriageable ages only, there is a great preponderance of women over men in the metropolis, while in the remainder of the State the men are in excess. In Greater Melbourne in 1921 there were 63,337 marriageable men aged 21 to 55, as compared with 95,024 marriageable women aged 18 to 50. In the rest of the State the eligible men and women at those ages numbered 73,232 and 68,464 respectively. It is thus seen that, while there was a surplus of 31,687 marriageable females in the metropolis as compared with males, there was a deficiency of 4,768 in the country.

The number of such males per 1,000 marriageable females in the metropolis was 667, while in the rest of the State the corresponding number was 1,070.

The following statement shows the proportions of marriageable men and women per 1,000 of the respective populations in Greater Melbourne and the rest of the State :—

MARRIAGEABLE MEN AND WOMEN PER 1,000 OF POPULATION IN GREATER MELBOURNE AND THE REST OF THE STATE, 1921.

| District. | Males. | Females. |
|---|---|---|
| Greater Melbourne .. | 82·6 | 124·0 |
| Rest of the State .. .. | 95·8 | 89·5 |

**Marriage rate in age groups.**

The marriage rates of marriageable men and women at different periods of life have been computed for various age groups at each of four census periods, and are shown in the following table :—

MARRIAGES PER 1,000 MARRIAGEABLE MEN AND WOMEN IN AGE GROUPS.

| Age Group— | Men. | | | | Women. | | | |
|---|---|---|---|---|---|---|---|---|
| | 1891. | 1901. | 1911. | 1921. | 1891. | 1901. | 1911. | 1921. |
| 15–21 .. | .. | .. | .. | .. | 23·6 | 18·8 | 23·3 | 25·7 |
| 21–25* .. | 44·3 | 44·6 | 55·2 | 64·9 | 106·0 | 87·2 | 105·6 | 129·8 |
| 25–30 .. | 85·9 | 90·5 | 118·6 | 148·2 | 100·5 | 84·7 | 112·1 | 135·3 |
| 30–35 .. | 75·2 | 82·1 | 101·1 | 126·0 | 66·4 | 57·9 | 66·0 | 79·6 |
| 35–40 .. | 51·1 | 62·6 | 72·9 | 91·1 | 46·4 | 37·2 | 43·0 | 43·3 |
| 40–45 .. | 33·4 | 39·9 | 44·7 | 50·5 | 27·7 | 22·3 | 20·7 | 22·2 |
| 45–50 .. | 25·9 | 29·8 | 34·9 | 35·0 | 17·8 | 14·3 | 5·5 | 13·5 |
| 50 and upwards | 9·1 | 9·1 | 12·1 | 12·8 | 4·2 | 2·4 | 2·6 | 3·1 |

* In the case of men, 20–25.

**Marriage rates of bachelors, widowers, spinsters, and widows.**

The probabilities of bachelors and spinsters marrying and of widowers and widows re-marrying have been obtained by comparing their marriages at specified ages with the respective numbers in the community at those ages at the census of 1921. The marriages per 1,000 of the above-mentioned persons are given in the following table for the year mentioned :—

MARRIAGES PER 1,000 BACHELORS, WIDOWERS, SPINSTERS, AND WIDOWS, 1921.

| Age Group. | Marriages to every 1,000— | | | |
|---|---|---|---|---|
| | Bachelors. | Widowers. | Spinsters. | Widows. |
| 15–21 .. .. .. | .. | .. | 25·7 | .. |
| 21–25* .. .. .. | 64·8 | 114·3 | 129·5 | 179·4 |
| 25–30 .. .. .. | 147·4 | 165·2 | 134·1 | 132·2 |
| 30–35 .. .. .. | 123·3 | 170·4 | 77·5 | 84·4 |
| 35–40 .. .. .. | 85·4 | 129·4 | 37·5 | 64·8 |
| 40–45 .. .. .. | 40·8 | 105·6 | 18·9 | 31·3 |
| 45–50 .. .. .. | 25·7 | 71·5 | 10·6 | 18·9 |
| 50 and upwards .. .. | 6·7 | 20·2 | 3·3 | 2·9 |

* In the case of men, 20–25.

The figures show that the probability of a widower marrying within a year is greater than that of a bachelor of similar age, and further, that the difference in favour of the former is much greater at ages

over 30 than at earlier ages. Comparing the marriage rates for widows with those for spinsters it is seen that at every age under 50, except the age group 25–30, the chance of a widow marrying is considerably greater than that of a spinster of the same age. As 78 per cent. of both widowers and widows are over 50 years—a period of life when the chance of re-marrying is small—and the great majority of the bachelors and spinsters are under that age—a period when the probability of marrying is much greater—it was to be expected that the rates for the two former would be much lower than those for the two latter sections. In proportion to their respective numbers, the marriages of widowers were only slightly more than half as numerous as those of bachelors, and the marriages of widows were less than one-fourth of those of spinsters.

**Ages of bridegrooms and brides.**

The ages of bridegrooms and brides who were married in 1927 are shown in combination for various groups in the table which follows :—

AGES OF BRIDEGROOMS AND BRIDES IN COMBINATION, IN VICTORIA, 1927.

| Ages of Bridegrooms. | Ages of Brides. | | | | | | | | | | | | | | | | | | Total Bridegrooms. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 and over. | |
| 16 | .. | 1 | ... | .. | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | .. | ... | ... | 1 |
| 17 | ... | 1 | 4 | 6 | ... | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 15 |
| 18 | ... | 1 | 8 | 17 | 22 | 10 | 2 | 9 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 70 |
| 19 | 1 | 5 | 16 | 25 | 43 | 26 | 15 | 37 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 170 |
| 20 | ... | 3 | 15 | 36 | 56 | 60 | 46 | 82 | 11 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 309 |
| 21 to 25 | ... | 6 | 58 | 158 | 259 | 363 | 375 | 1,996 | 447 | 52 | 10 | 3 | 1 | ... | 1 | ... | ... | ... | 3,729 |
| 25 to 30 | ... | 3 | 24 | 39 | 90 | 164 | 239 | 2,157 | 1,755 | 331 | 49 | 10 | 3 | ... | .. | ... | ... | ... | 4,864 |
| 30 to 35 | .. | 1 | 3 | 7 | 23 | 32 | 59 | 528 | 836 | 441 | 134 | 24 | 8 | 1 | ... | ... | ... | ... | 2,097 |
| 35 to 40 | ... | .. | 1 | 5 | 4 | 9 | 19 | 132 | 305 | 295 | 222 | 46 | 14 | 3 | .. | .. | ... | ... | 1,055 |
| 40 to 45 | ... | ... | ... | 1 | 1 | 3 | 3 | 43 | 77 | 138 | 123 | 81 | 28 | 11 | 1 | .. | ... | ... | 510 |
| 45 to 50 | .. | ... | ... | ... | ... | 3 | 1 | 10 | 27 | 54 | 73 | 60 | 43 | 13 | 3 | 2 | 1 | 1 | 291 |
| 50 to 55 | ... | ... | .. | ... | ... | 1 | 1 | 3 | 10 | 19 | 39 | 40 | 40 | 29 | 11 | 4 | 3 | .. | 200 |
| 55 to 60 | ... | ... | ... | ... | ... | ... | ... | ... | 5 | 14 | 15 | 18 | 33 | 14 | 9 | 8 | 1 | .. | 117 |
| 60 to 65 | .. | ... | ... | ... | ... | ... | ... | ... | 1 | 4 | 15 | 10 | 20 | 13 | 17 | 12 | 4 | ... | 96 |
| 65 to 70 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | 3 | 5 | 9 | 10 | 6 | 11 | 2 | 1 | 51 |
| 70 to 75 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 2 | ... | 4 | 8 | 5 | 4 | ... | 25 |
| 75 and over | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 1 | 1 | 3 | 8 |
| Total Brides | 1 | 21 | 129 | 294 | 498 | 675 | 760 | 4,997 | 3,479 | 1,351 | 684 | 299 | 200 | 98 | 58 | 43 | 16 | 5 | 13,608 |

Although age inequalities among contracting parties were relatively few, they were striking in degree. Thus four men between 45 and 50, and two men between 50 and 55, married women under 21, while eighteen women between 40 and 60 were married to men who were

under 30 years. The great majority of the parties were, however, of suitable ages. Of every 1,000 men married during the year, 713 were older and 183 younger than their brides, and 104 were of the same age as their partners.

**Proportion of marriages at various ages.**

The proportions of both sexes marrying in the various age groups are shown in the succeeding table for the periods 1881–90 and 1911–20, and the year 1927:—

PROPORTIONS OF MALES AND FEMALES MARRYING AT DIFFERENT AGES, 1881–90, 1911–20, AND 1927.

| Age Group. | Proportion per 1,000 of total— | | | | | |
|---|---|---|---|---|---|---|
| | Bridegrooms. | | | Brides. | | |
| | 1881–90. | 1911–20. | 1927. | 1881–90. | 1911–20. | 1927. |
| Under 15 ... ... | ... | ... | .. | ·15 | ·07 | ·07 |
| 15 to 16 ... ... | ... | ... | ... | 1·17 | ·75 | 1·54 |
| 16 to 17 ... ... | ·03 | ·16 | ·07 | 6·53 | 3·79 | 9·48 |
| 17 to 18 ... ... | ·29 | ·62 | 1·10 | 20·32 | 12·65 | 21·61 |
| 18 to 19 ... ... | 1·46 | 3·81 | 5·14 | 42·94 | 29·53 | 36·60 |
| 19 to 20 ... ... | 5·62 | 9·53 | 12·49 | 65·03 | 44·34 | 49·60 |
| 20 to 21 ... ... | 15·19 | 16·82 | 22·71 | 73·84 | 54·41 | 55·85 |
| 21 to 25 ... ... | 321·02 | 255·25 | 274·03 | 432·34 | 360·34 | 367·21 |
| 25 to 30 ... ... | 365·48 | 356·68 | 357·44 | 223·83 | 286·34 | 255·66 |
| 30 to 35 ... ... | 134·57 | 166·37 | 154·10 | 62·07 | 105·01 | 99·28 |
| 35 to 40 ... ... | 58·29 | 84·52 | 77·53 | 29·53 | 50·44 | 50·27 |
| 40 to 45 ... ... | 32·54 | 42·03 | 37·48 | 17·10 | 24·21 | 21·97 |
| 45 to 50 ... ... | 24·77 | 28·21 | 21·38 | 12·23 | 15·13 | 14·70 |
| 50 to 55 ... ... | 18·40 | 16·55 | 14·70 | 6·74 | 6·60 | 7·20 |
| 55 to 60 ... ... | 11·49 | 9·65 | 8·60 | 3·40 | 3·29 | 4·26 |
| 60 and over ... ... | 10·85 | 9·80 | 13·23 | 2·78 | 3·10 | 4·70 |
| Total ... ... | 1,000·00 | 1,000·00 | 1,000·00 | 1,000·00 | 1,000·00 | 1,000·00 |

Of every 1,000 women who were married during 1927, 542 were under 25 years, and 256 were aged 25–30, as against 506 and 286 at corresponding ages in the years 1911 to 1920, and 642 and 224 in the years 1881 to 1890.

**Age at marriage.**

A high proportion of re-marriages has the effect of increasing the average marrying age of bridegrooms and brides. This is readily seen by comparing for 1927 the mean age at marriage of bachelors, 28·19, with that of divorced men, and of widowers—40·44 and 47·24 respectively. The average age of spinsters marrying was 25·37, as against 35·38 for divorced women and 43·62 for widows. The average age of men marrying women under 45 and

of their brides for certain periods since 1869 is shown in the following table :—

MEAN AGES AT MARRIAGE.

| Period. | Average Age of— | |
|---|---|---|
| | Brides under 45. | Bridegrooms of Brides under 45. |
| | Years. | Years. |
| 1870–74 ... ... | 24·13 | 29·93 |
| 1880–84 ... ... | 23·83 | 28·61 |
| 1890–94 ... ... | 24·66 | 28·66 |
| 1900–04 ... ... | 25·44 | 29·70 |
| 1905–09 ... ... | 25·88 | 29·80 |
| 1910–14 ... .. | 25·76 | 29·25 |
| 1915–19 ... .. | 25·97 | 29·40 |
| 1920–24 ... .. | 25·92 | 29·20 |
| 1925 ... .. | 25·75 | 29·00 |
| 1926 ... ... | 25·62 | 28·87 |
| 1927 ... .. | 25·50 | 28·71 |

The mean age of women under 45 who married in 1927 differed very slightly from the average of the previous five years. In Victoria in 1927 the mean marrying age of all brides was 26·34, and of all bridegrooms, 29·51.

**Birthplaces of persons marrying.**

Marriage records show that, of the persons married in Victoria during 1927, 86·1 per cent. were born in Australia, 11·2 per cent. in the United Kingdom, and 1·3 per cent. in other British Possessions, and that only small proportions, about 1·9 per cent. of the bridegrooms and 1·0 per cent. of the brides, were natives of foreign countries. The numbers born in Australia and other countries are shown in the subjoined table for the years 1913 and 1927 :—

BIRTHPLACES OF PERSONS MARRIED, 1913 AND 1927.

| Where Born. | Bridegrooms. | | Brides. | |
|---|---|---|---|---|
| | 1913. | 1927. | 1913. | 1927. |
| Australia ... ... | 9,628 | 11,346 | 10,274 | 12,092 |
| New Zealand ... ... | 155 | 113 | 82 | 106 |
| England and Wales ... | 972 | 1,338 | 644 | 915 |
| Scotland ... ... ... | 213 | 359 | 141 | 231 |
| Ireland ... ... ... | 126 | 124 | 83 | 84 |
| Other British Possessions ... | 40 | 76 | 24 | 49 |
| Germany ... ... ... | 46 | 26 | 19 | 5 |
| Russia ... ... ... | 17 | 13 | 3 | 8 |
| Italy ... ... ... | 15 | 65 | 12 | 40 |
| United States ... ... | 30 | 21 | 14 | 6 |
| Other Foreign Countries ... | 82 | 127 | 28 | 72 |
| Total ... ... | 11,324 | 13,608 | 11,324 | 13,608 |

**Conjugal condition of persons marrying.**

The following statement shows the percentages of persons in each conjugal condition who have married in different periods since 1870 :—

## CONJUGAL CONDITION OF PERSONS MARRYING, 1871–1927.

| Conjugal Condition. | Percentage of total Marriages. | | | | | |
|---|---|---|---|---|---|---|
| | 1871–80. | 1881–90. | 1891–1900. | 1901–10. | 1911–20. | 1927. |
| Bachelors and Spinsters.. | 80·59 | 85·84 | 87·22 | 88·46 | 90·31 | 91·48 |
| Bachelors and Widows .. | 7·10 | 4·72 | 4·23 | 3·66 | 3·15 | 2·71 |
| Widowers and Spinsters.. | 7·75 | 6·17 | 6·07 | 5·70 | 4·81 | 4·09 |
| Widowers and Widows .. | 4·56 | 3·27 | 2·48 | 2·18 | 1·73 | 1·72 |

NOTE.—In this table divorced men and women are included with bachelors and spinsters respectively.

Of every 1,000 persons of each sex married in Victoria during 1927, 58 were widowers and 44 were widows, as against 63 and 47 respectively in 1926, 65 and 48 in 1925, 64 and 51 in 1924, 65 and 47 in 1923, and 71 and 55 in 1922.

**Divorced persons re-marrying.**

The number of divorced persons re-married during 1927 was 465, which was 5 less than the number for the preceding year. Of the 133,610 persons married during the last five years, divorced persons numbered 2,208, or 1 in every 61 persons, as compared with 1 in every 98 in the period, 1916–20. The following are the numbers of divorced persons who have re-married since 1922 :—

## DIVORCED PERSONS RE-MARRYING, 1923 TO 1927.

| Year. | Males. | Females. | Total. |
|---|---|---|---|
| 1923 .. .. .. | 209 | 192 | 401 |
| 1924 .. .. .. | 196 | 201 | 397 |
| 1925 .. .. .. | 238 | 237 | 475 |
| 1926 .. .. .. | 243 | 227 | 470 |
| 1927 .. .. .. | 227 | 238 | 465 |

The divorced persons in the State at the census of 1921 numbered 2,313, of whom 1,092 were men and 1,221 women. A comparison of the re-marriages of divorced males and females during 1921 with these

numbers shows that, according to the experience of that year, 17·2 per cent. of the males and 13·5 per cent. of the females re-marry each year. As these proportions greatly exceed the rates for other sections of the community it is evident that many divorces are obtained with a view to early re-marriage.

**Marriages of minors.**

The proportions of bridegrooms and brides under 21 years of age are given in the subjoined table for the years 1923 to 1927 :—

| Year. | Percentage under 21 years of age. | |
|---|---|---|
| | Bridegrooms. | Brides. |
| 1923 .. .. | 3·51 | 15·14 |
| 1924 .. .. | 3·58 | 16·03 |
| 1925 .. .. | 4·28 | 16·32 |
| 1926 .. .. | 4·08 | 17·20 |
| 1927 .. .. | 4·15 | 17·47 |

**Marriages in religious denominations.**

The numbers and proportions of marriages solemnized according to the rites of the principal religious denominations and of those performed by registrars of marriages, for the years 1916 and 1927, are shown in the following table:—

MARRIAGES IN VARIOUS DENOMINATIONS.

| Denomination. | 1916. | | 1927. | |
|---|---|---|---|---|
| | Number. | Percentage of Total Marriages. | Number. | Percentage of Total Marriages. |
| Church of England .. .. | 3,007 | 26·51 | 3,916 | 28·78 |
| Roman Catholic Church .. | 2,108 | 18·59 | 2,579 | 18·95 |
| Presbyterian Church .. .. | 2,055 | 18·12 | 2,508 | 18·43 |
| Methodist Church .. .. | 1,645 | 14·51 | 2,001 | 14·70 |
| Congregational Church .. | 1,104 | 9·74 | 558 | 4·10 |
| Baptist Church .. .. | 532 | 4·69 | 582 | 4·28 |
| Church of Christ .. .. | 268 | 2·36 | 323 | 2·37 |
| Lutheran Church .. .. | 65 | ·57 | 65 | ·48 |
| Salvation Army .. .. | 54 | ·48 | 76 | ·56 |
| Hebrew .. .. .. | 42 | ·37 | 59 | ·43 |
| Other Sects .. .. .. | 99 | ·87 | 96 | ·71 |
| Registrars of Marriages .. | 362 | 3·19 | 845 | 6·21 |
| Total .. .. | 11,341 | 100·00 | 13,608 | 100·00 |

Marriages by Anglican clergymen represented 28·78 per cent. of the total in 1927, as compared with 28·62 per cent. in 1926,

29·10 per cent. in 1921, 26·51 per cent. in 1916, and 21·18 per cent. in the period 1904–08. Excepting the ratios for the Roman Catholic, Presbyterian, and Methodist churches, there were great disparities between the proportion of marriages celebrated according to the rites of each of the principal denominations and the proportionate number of adherents possessed by it in the community.

**Civil marriages.** In 1927, 6·21 per cent., in 1926, 4·61 per cent., in 1925, 3·95 per cent., in 1924, 4·95 per cent., in 1923, 3·87 per cent., and, in 1914 and 1913, 2·6 per cent. of the total marriages in Victoria were celebrated by lay registrars, as against 1 per cent. in 1909, and about 7 per cent. in the decade ended 1890. The decrease which occurred between the earlier period and 1909 was due to the competition of matrimonial agencies which sprang up about 1894, and the increase since 1909 has probably been due to the *Marriage Act* 1909 (now incorporated in the *Marriage Act* 1915—No. 2691) permitting the removal from the list of registered clergymen of the names of those who make a business of celebrating marriages. The proportion of civil marriages in Victoria averages only about one-seventh of the proportion in England and Wales, and approximately one-fourth of the proportion in New Zealand.

**Registered clergymen.** The ministers qualified by registration to celebrate marriages in Victoria numbered 1,703 on 31st December, 1927. The numbers of ministers in each denomination (excepting Jews and Quakers) and lay registrars of marriages were as follows :—

REGISTERED MINISTERS OF EACH DENOMINATION.

| Denomination. | Number of Registered Ministers. | Denomination. | Number of Registered Ministers. |
|---|---|---|---|
| Church of England .. | 445 | Ballarat Town Mission.. | 1 |
| Roman Catholic .. | 354 | New Church .. .. | 3 |
| Presbyterian .. .. | 310 | Greek Orthodox Church | 2 |
| Methodist .. .. | 284 | Unitarian .. .. | 1 |
| Congregational .. .. | 56 | International Bible Students' Association | 1 |
| Baptist .. .. | 90 | Latter Day Saints (Mormons) .. .. | 1 |
| Church of Christ .. | 74 | Open Brethren .. | 3 |
| Lutheran .. .. | 26 | Total Clergymen .. | 1,703 |
| Salvation Army .. | 34 | Lay Registrars of Marriages .. .. | 24 |
| Latter Day Saints (Reorganized) .. .. | 3 | Grand Total .. | 1,727 |
| Seventh Day Adventist .. | 10 | | |
| Catholic Apostolic .. | 2 | | |
| Free Christian .. .. | 2 | | |
| Australian Church .. | 1 | | |

Marriages of Jews and Quakers are exempted from the law relating to marriages in Victoria, and are deemed legal and valid if celebrated according to their respective usages.

## BIRTHS.

**Births—Numbers and Rates.**

The number of births registered in Victoria during the year 1927 was 35,074, of which 18,068 were of males and 17,006 of females. This was 288 less than the number recorded for the preceding year. Stillbirths, which are excluded from both births and deaths, numbered 1,061, and corresponded to a ratio of 3·0 per 100 infants born alive in 1927. There were 1,062 male to every 1,000 female births in 1927, as compared with 1,061 in 1926, 1,073 in 1925, 1,049 in 1924, and 1,073 in 1923.

In young communities, birth rates calculated per 1,000 of the population are to some extent unreliable and misleading. In the earlier periods, when, owing to immigration, the population consists for the most part of men and women at the reproductive period of life, the rates are obviously high. As time proceeds, however, notwithstanding that immigration of reproductive adults may be maintained, the proportion of such adults to the total population must diminish, and with it, of necessity, the birth rate.

The following table shows the number of births—male and female—the quarters in which they were registered, and the proportion per 1,000 of the population, since 1854 :—

BIRTHS IN EACH QUARTER, VICTORIA, 1855 TO 1927.

| Period. | Average Annual Number of Births. | Sex. | | Quarter of Registration. | | | | Rate per 1,000 of Mean Population. |
|---|---|---|---|---|---|---|---|---|
| | | Males. | Females. | March. | June. | September. | December. | |
| 1855–59 | 17,154 | 8,742 | 8,412 | * | * | * | * | 39·49 |
| 1860–64 | 24,060 | 12,379 | 11,681 | 5,614 | 5,991 | 6,534 | 5,921 | 43·29 |
| 1865–69 | 25,963 | 13,219 | 12,744 | 6,027 | 6,543 | 7,105 | 6,288 | 39·77 |
| 1870–74 | 27,359 | 13,944 | 13,415 | 6,478 | 6,769 | 7,467 | 6,645 | 36·35 |
| 1875–79 | 26,584 | 13,639 | 12,945 | 6,333 | 6,686 | 7,211 | 6,354 | 32·85 |
| 1880–84 | 27,286 | 13,965 | 13,321 | 6,374 | 7,025 | 7,300 | 6,587 | 30·64 |
| 1885–89 | 32,941 | 16,883 | 16,058 | 7,824 | 8,289 | 8,814 | 8,014 | 32·27 |
| 1890–94 | 36,945 | 18,901 | 18,044 | 8,669 | 9,604 | 9,735 | 8,937 | 31·99 |
| 1895–99 | 31,675 | 16,213 | 15,462 | 7,746 | 8,078 | 8,323 | 7,528 | 26·76 |
| 1900–04 | 30,316 | 15,544 | 14,772 | 7,384 | 7,682 | 7,880 | 7,370 | 25·08 |
| 1905–09 | 30,994 | 15,879 | 15,115 | 7,489 | 7,832 | 8,076 | 7,597 | 24·76 |
| 1910–14 | 34,500 | 17,717 | 16,783 | 8,329 | 8,619 | 8,850 | 8,702 | 25·42 |
| 1915–19 | 33,101 | 17,014 | 16,087 | 8,228 | 8,336 | 8,514 | 8,023 | 23·13 |
| 1920–24 | 36,022 | 18,549 | 17,473 | 8,729 | 8,970 | 9,367 | 8,956 | 22·89 |
| 1925 .. | 35,922 | 18,593 | 17,329 | 8,938 | 8,790 | 9,195 | 8,999 | 21·49 |
| 1926 .. | 35,362 | 18,203 | 17,159 | 8,832 | 8,861 | 8,950 | 8,719 | 20·84 |
| 1927 .. | 35,074 | 18,068 | 17,006 | 8,508 | 8,742 | 9,265 | 8,559 | 20·30 |

* Not available.

**Birth Rates in Australasia.**

The following statement shows the birth rates per 1,000 of the population of each State, the Commonwealth of Australia, and New Zealand, since 1909 :—

BIRTHS PER 1,000 OF MEAN POPULATION IN AUSTRALASIA, 1910 TO 1927.

| Period. | Victoria. | New South Wales. | Queensland. | South Australia. | Western Australia. | Tasmania. | Australia. | New Zealand. |
|---|---|---|---|---|---|---|---|---|
| 1910–14 | 25·42 | 28·79 | 28·81 | 27·98 | 28·63 | 29·90 | 27·73 | 26·15 |
| 1915–19 | 23·13 | 26·64 | 27·86 | 25·51 | 25·21 | 27·78 | 25·89 | 24·37 |
| 1920–24 | 22·89 | 25·27 | 25·59 | 23·37 | 23·52 | 26·54 | 24·40 | 22·99 |
| 1925 .. | 21·49 | 24·01 | 23·82 | 21·06 | 22·23 | 24·24 | 22·89 | 21·17 |
| 1926 .. | 20·84 | 22·89 | 22·58 | 20·55 | 22·14 | 23·62 | 22·02 | 21·05 |
| 1927 .. | 20·30 | 22·69 | 22·24 | 20·12 | 22·03 | 23·01 | 21·67 | 20·29 |

The birth rate in England and Wales in 1927 was 16·6.

The births in Australia were fewer by 4,285, or 3·1 per cent., in 1927 than in 1914, although in the intervening period the population had increased by 24·7 per cent. The number in 1927 was 133,698, as compared with 137,983 in 1914. Of the total recorded for 1927, 35,074 occurred in Victoria, 53,839 in New South Wales, 19,833 in Queensland, 11,492 in South Australia, 8,482 in Western Australia, 4,833 in Tasmania, 68 in the Northern Territory, and 77 in the Federal Capital Territory.

The birth rate of a community is almost wholly dependent upon the proportion of wives at the reproductive period of life and their internal age distribution. As these elements, especially the former, differ widely in certain Australian States, the crude rates of the different States are scarcely comparable. The figures for the census of 1921 showed that in every 1,000 of the respective populations of each State and the Commonwealth the married women aged 15 to 45 numbered 116·1 in Victoria, 127·5 in New South Wales, 119·3 in Queensland, 125·3 in South Australia, 118·0 in Western Australia, 117·3 in Tasmania, and 121·9 in Australia. In the case of Victoria, the deficiency in the proportion of married women at the ages mentioned was accentuated by a comparatively small proportion of them being at the younger and more fertile ages. During the years 1920–22 the crude nuptial birth rate per 1,000 of the population was lower in Victoria than in any other State. When, however, the rates for the other States were adjusted to Victorian conditions by eliminating the differences referred to, they were altered as follows :—New South Wales was reduced by 2·7

per 1,000 of the population, Queensland by 1·4, South Australia by 1·6, Tasmania by 1·1, and Australia by 1·3, while the rate for Western Australia was increased by ·4. The result was that, according to the adjusted figures, the nuptial rate for Victoria was more satisfactory than the rates for two of the other States, viz., New South Wales and South Australia.

**Births to wives in Australasia and England.**

The next table shows the nuptial births per 1,000 married women under 45 (not allowing for their differing age distribution) in each State, New Zealand, and England and Wales in the four census years 1891, 1901, 1911, and 1921 :—

NUPTIAL BIRTHS PER 1,000 MARRIED WOMEN UNDER 45 YEARS OF AGE.

| Country. | Nuptial Births per 1,000 Married Women aged 15 to 45. | | | | Decrease per cent. in 20 years. |
|---|---|---|---|---|---|
| | 1891. | 1901. | 1911. | 1921. | |
| Victoria .. .. | 297·0 | 229·0 | 223·0 | 190·5 | 16·8 |
| New South Wales .. | 298·9 | 235·6 | 235·4 | 194·2 | 17·6 |
| Queensland .. .. | 315·0 | 251·0 | 244·8 | 213·6 | 14·9 |
| South Australia .. | 311·1 | 235·0 | 235·9 | 186·9 | 20·5 |
| Western Australia .. | 352·8 | 244·0 | 221·8 | 190·9 | 21·8 |
| Tasmania .. .. | 315·9 | 254·6 | 244·8 | 216·9 | 14·8 |
| New Zealand .. | 279·1 | 246·1 | 211·7 | 181·0 | 26·9 |
| England and Wales .. | 268·8 | 234·2 | 196·2 | 176·3 | 24·7 |

**Birthplaces of parents of nuptial children.**

The birth records of children born in wedlock show that, in Victoria, in 1927, 81 out of every 100 children were born to Australian parents, and 94 out of every 100 to one or both parents born in Australia. Of the total fathers, the percentages born in the States or countries mentioned hereafter were as follows :—78·1 in Victoria ; 86·7 in Australia ; ·6 in New Zealand ; 8·0 in England and Wales ; 1·9 in Scotland ; ·9 in Ireland ; ·3 in other British Possessions ; and 1·6 in foreign countries. The corresponding percentages for mothers were :—Victoria, 80·0 ; Australia, 88·8 ; New Zealand, ·6; England and Wales, 7·2 ; Scotland, 1·7 ; Ireland, ·6; other British Possessions, ·2 ; and foreign countries, ·9.

**Standardized birth rates per 1,000 wives in Victoria.**

An accurate view of the alteration in the fertility of wives is obtained by comparing the ratio of nuptial births to wives at reproductive ages, and allowing for the difference in their age distribution at each period. The following

table shows for Victoria the distribution of married women in six five-year groups in the last six census years :—

PROPORTION OF MARRIED WOMEN IN AGE GROUPS TO TOTAL BETWEEN 15 AND 45 IN THE LAST SIX CENSUS YEARS.

| Census Year. | Proportion in each Age Group to Every 1,000 Married Women between 15 and 45. | | | | | |
|---|---|---|---|---|---|---|
| | 15–20. | 20–25. | 25–30. | 30–35. | 35–40. | 40–45. |
| 1871 .. .. | 20·3 | 130·4 | 211·4 | 230·7 | 233·2 | 174·0 |
| 1881 .. .. | 17·3 | 159·5 | 204·6 | 206·0 | 209·7 | 202·9 |
| 1891 .. .. | 13·5 | 156·9 | 275·2 | 244·1 | 172·1 | 138·2 |
| 1901 .. .. | 8·1 | 99·0 | 198·3 | 249·6 | 249·2 | 195·8 |
| 1911 .. .. | 12·4 | 113·8 | 206·9 | 226·6 | 221·2 | 219·1 |
| 1921 .. .. | 9·2 | 105·3 | 222·5 | 247·9 | 221·1 | 194·0 |

To estimate the effect which the alteration in age distribution has on the birth rate, the proportion in each of the above groups was multiplied by the average natality rate for the group according to a standard table—the standard used for this purpose being the Swedish table of 1891. The sum of the products for each census year represented the number of births which would have occurred in that year per 1,000 married women between 15 and 45 had the fertility of these women remained unaltered, i.e., the potential births. The year 1871 was used as a basis with which to compare the five subsequent census years, and adjustments were applied to the actual births (per 1,000) occurring in those years, so as to make them conform to the age constitution in the first-mentioned year. The correction factors were obtained by taking the number of births per 1,000 married women aged 15–45 which would have occurred in 1871 had the standard natality rates prevailed, and dividing this number by the corresponding numbers of potential births for 1881, 1891, 1901, 1911, and 1921. The above method was applied to find what proportion of the alteration in the ratio of births to married women under 45 was due to causes other than varying age constitution. The last mentioned factor has been taken into account in the computation of the birth rates appearing in column (5) of the subjoined table :—

STANDARIZED NUPTIAL BIRTH RATES.

| (1) Census Year. | (2) Married Women between 15 and 45 years of age. | (3) Nuptial Births. | (4) Nuptial Births per 1,000 Married Women 15–45. | (5) Standarized Nuptial Births per 1,000 Married Women 15–45. | (6) Factor for Correction of Rate in Column 4. |
|---|---|---|---|---|---|
| 1871 .. | 88,561 | 26,805 | 302·67 | .. | .. |
| 1881 .. | 84,831 | 25,675 | 302·66 | 303·14 | 1·0016 |
| 1891 .. | 120,700 | 35,853 | 297·04 | 281·98 | 0·9493 |
| 1901 .. | 127,858 | 29,279 | 229·00 | 238·75 | 1·0426 |
| 1911 .. | 139,398 | 31,080 | 222·96 | 231·50 | 1·0383 |
| 1921 .. | 177,803 | 33,879 | 190·50 | 195·47 | 1·0261 |

An inspection of the rates in column (5) shows that there was a fall of 7 per cent. in 1891 as compared with 1881, a further serious decline of over 15 per cent. in 1901 as compared with 1891, a decrease of 3 per cent. in 1911 as compared with 1901, and a further decline of nearly 16 per cent. in 1921 as compared with 1911, which were not due to variations in the age distribution of the married women between 15 and 45 in the community. A further examination of the standardized nuptial birth rates appearing in this column shows that the births in 1921 to every 1,000 married women of reproductive ages were 108 fewer than in 1881, 87 fewer than in 1891, 43 fewer than in 1901, and 36 fewer than in 1911.

**Standardized nuptial birth rate for Victoria.**

Nuptial birth rates (per 1,000 of the total population) for widely separated periods do not give a correct indication of the relative fertilities of those periods, unless the number of married women at reproductive ages in proportion to the population and the age constitution of such women have remained unchanged. In order to allow for the disturbance which may have been introduced through variations in these elements it is necessary that adjustments be made in the crude rates. The factor to correct the result of changes in the proportion of married women between 15 and 45 is obtained by comparing the number of such women in the community at the period of observation with the number in a standard population. The method of obtaining the correcting factor for the disturbance due to the second element was explained in a previous paragraph.

The following table shows the crude nuptial birth rates in six census years, the adjustments to be applied thereto for the reasons mentioned above, the amended birth rates, and the difference between these and the crude rates. The standard used in the computation of the correction factors was the Victorian population of 1871. Standardized birth rates per 1,000 of the population in the years 1881, 1891, 1901, 1911, and 1921 are as follows :—

STANDARDIZED NUPTIAL BIRTH RATES PER 1,000 OF POPULATION.

| Year. | Enumerated Population. | Nuptial Births. | Nuptial Births per 1,000 of Population (crude Rates). | Wives aged 15–45 per 1,000 of Population. | Correction Factor for variations in— | | Standardized Birth Rate. | Difference between crude and standardized Rates. |
|---|---|---|---|---|---|---|---|---|
| | | | | | Proportion of Wives aged 15–45. | Age Distribution of Wives aged 15–45. | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 1871 | 731,528 | 26,805 | 36.64 | 121.1 | .. | .. | .. | .. |
| 1881 | 862,346 | 25,675 | 29.77 | 98.4 | 1.2307 | 1.0016 | 36.69 | 6.92 |
| 1891 | 1,140,405 | 35,853 | 31.44 | 105.8 | 1.1446 | 0.9493 | 34.39 | 2.95 |
| 1901 | 1,201,341 | 29,279 | 24.37 | 106.4 | 1.1382 | 1.0426 | 28.77 | 4.40 |
| 1911 | 1,315,551 | 31,080 | 23.63 | 106.0 | 1.1425 | 1.0383 | 27.89 | 4.26 |
| 1921 | 1,531,280 | 33,879 | 22.12 | 116.1 | 1.0431 | 1.0261 | 23.68 | 1.56 |

An inspection of the crude rates in the fourth column of the above table shows that nuptial births per 1,000 of population apparently declined by 6·87 in 1881, 5·20 in 1891, 12·27 in 1901, 13·01 in 1911, and 14·52 in 1921, as compared with the first-mentioned census date. After making allowance for the disturbing elements known to exist, the apparent decline of 6·87 in 1881 is altered to an increase of ·05 per 1,000, while the decline of 1891 is reduced from 5·20 to 2·25, that of 1901 from 12·27 to 7·87, that of 1911 from 13·01 to 8·75, and that of 1921 from 14·52 to 12·96 per 1,000 as compared with 1871. Between 1901 and 1921 there was a reduction of nearly 18 per cent. in the rate due to other than normal causes.

**Chinese and half-caste Chinese births.**

During the last ten years the births to Chinese parents numbered 38, or 1 in every 8,760 births. There were 220 Chinese half-caste births (fathers only Chinese), or 1 in every 1,513 births registered in the same period.

**Ages of parents of nuptial children.**

The average ages of fathers and mothers of nuptial children whose births were recorded in 1927 were 33·23 and 29·64 years respectively, which were 4·52 and 4·14 years above the average ages of bridegrooms marrying brides under 45 years of age, and of such brides for the same year. The proportions of both parents in various age groups are shown in the following table for the year mentioned :—

PERCENTAGE OF PARENTS IN AGE GROUPS, 1927.

| Father. | | Mother. | |
|---|---|---|---|
| Age Group. | Proportion per 100 Births. | Age Group. | Proportion per 100 Births. |
| Under 20 ... ... | ·46 | Under 20 ... ... | 3·88 |
| 20 to 25 ... ... | 11·23 | 20 to 25 ... ... | 21·66 |
| 25 to 30 ... ... | 26·27 | 25 to 30 ... ... | 29·32 |
| 30 to 35 ... ... | 25·50 | 30 to 35 ... ... | 24·23 |
| 35 to 40 ... ... | 19·34 | 35 to 40 ... ... | 15·28 |
| 40 to 45 ... ... | 10·14 | 40 to 45 ... ... | 5·19 |
| 45 to 50 ... ... | 4·61 | 45 and over ... | ·44 |
| 50 and over ... ... | 2·45 | | |
| Total ... | 100·00 | Total ... | 100·00 |

It will be seen that, on the experience of 1927, 51·0 per cent. of the mothers were between ages 20 and 30, and 39·5 per cent. between ages 30 and 40. The proportions of fathers at these ages were 37·5 and 44·8 per cent. respectively. Of every 1,000 nuptial births, about 39 were due to mothers under 20 years, and about 4 to mothers

aged 45 years and upwards. The *Year-Book* for 1916–17 contains on page 326 information relating to the ages of mothers of first-born children.

**Birth rates in town and country.**

In editions of this work prior to 1923 birth rates for the various municipalities and divisions of the State were based on the births occurring therein in relation to their respective populations.

This method made no allowance for prospective mothers travelling from rural districts to towns where better lying-in facilities and attention were available, or to the metropolis, or for metropolitan residents, *enceinte*, travelling from one municipality to another. By reason of this the rates for the metropolis and urban districts were unduly inflated at the expense of the rural districts, and the recorded variations in the rates of the various municipalities were incorrect. Also, no provision was made for births which had occurred in the Women's and other public hospitals being credited to the districts in which the mothers resided. As about one-sixth of the metropolitan births now occur in these institutions the rates for certain municipalities—particularly the poorer and more congested ones—were necessarily considerably understated.

In 1923, therefore, it was decided to allot all births registered in Victoria to the place of usual residence of the mother. Upon this being done for the year mentioned it was found that the total for the metropolis, i.e., the births registered therein, had decreased by approximately 1,200. This practice has been adhered to, and in the years 1924 to 1927 the decrease was approximately 1,250, 1,350, 1,280; and 1,220 respectively. These numbers give a fair indication of the extent by which the rates in districts outside the metropolitan area suffered under the discarded system of compilation.

The following table, computed on the above-mentioned basis, shows the number of births per 1,000 of the population in the metropolitan, other urban, and rural districts for the years 1923 to 1927:—

BIRTH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS, 1923 TO 1927.

| Division. | Births per 1,000 of Mean Population. | | | | |
|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. |
| Metropolitan District .. | 21·10 | 20·90 | 19·93 | 19·31 | 18·65 |
| Country Towns (other urban) .. | 22·08 | 21·25 | 20·41 | 20·11 | 19·50 |
| Rest of State .. .. | 24·03 | 23·81 | 24·13 | 23·44 | 23·24 |
| Total State .. .. | 22·31 | 22·01 | 21·49 | 20·84 | 20·30 |

**Birth rates in metropolitan municipalities.** The appended statement shows, for the years 1923 to 1927 the number of births, and the births per 1,000 of the mean population in the metropolitan municipalities :—

## BIRTH RATES IN METROPOLITAN MUNICIPALITIES, 1923 TO 1927.

| Municipality. | Number of Births. | | | | | Births per 1,000 of Mean Population. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1923. | 1924. | 1925. | 1926. | 1927. |
| Melbourne .. | 2,011 | 1,843 | 1,766 | 1,791 | 1,648 | 19·73 | 18·08 | 17·35 | 17·62 | 16·20 |
| Box Hill .. | † | † | † | 268 | 263 | † | † | † | 24·59 | 22·19 |
| Brighton .. | 482 | 479 | 523 | 433 | 493 | 20·51 | 19·21 | 20·19 | 16·20 | 17·94 |
| Brunswick .. | 1,130 | 1,206 | 1,113 | 1,191 | 1,164 | 24·26 | 25·22 | 22·61 | 23·51 | 21·74 |
| Camberwell .. | 632 | 746 | 833 | 864 | 911 | 22·97 | 23·96 | 24·01 | 22·72 | 22·12 |
| Caulfield .. | 1,050 | 1,073 | 1,057 | 1,105 | 1,039 | 21·35 | 19·84 | 18·34 | 17·96 | 15·87 |
| Coburg .. .. | 553 | 680 | 735 | 763 | 785 | 24·50 | 25·56 | 24·69 | 23·40 | 22·36 |
| Collingwood .. | 687 | 726 | 706 | 662 | 671 | 20·05 | 21·29 | 20·80 | 19·59 | 20·00 |
| Essendon .. | 833 | 876 | 833 | 805 | 881 | 22·23 | 22·62 | 20·96 | 19·78 | 21·10 |
| Fitzroy .. .. | 805 | 719 | 661 | 620 | 608 | 23·12 | 20·79 | 19·25 | 18·25 | 18·07 |
| Footscray .. | 1,022 | 960 | 992 | 974 | 950 | 26·73 | 23·41 | 23·20 | 21·99 | 20·72 |
| Hawthorn .. | 562 | 559 | 534 | 505 | 463 | 18·55 | 17·92 | 16·83 | 15·76 | 14·29 |
| Kew .. .. | 378 | 387 | 363 | 373 | 394 | 20·26 | 19·44 | 17·24 | 16·70 | 16·72 |
| Malvern .. .. | 625 | 691 | 664 | 594 | 608 | 15·89 | 16·68 | 15·62 | 13·66 | 13·69 |
| Northcote .. | 823 | 930 | 908 | 925 | 902 | 24·98 | 26·72 | 24·59 | 23·98 | 22·62 |
| Oakleigh .. | 235 | 226 | * | * | * | 34·36 | 31·22 | * | * | * |
| Port Melbourne .. | 305 | 291 | 276 | 283 | 237 | 23·21 | 22·13 | 20·99 | 21·49 | 17·89 |
| Prahran .. .. | 954 | 878 | 888 | 844 | 822 | 18·73 | 17·17 | 17·23 | 16·26 | 15·75 |
| Preston .. .. | 380 | 501 | 567 | 625 | 719 | 32·59 | 35·11 | 32·87 | 30·12 | 28·53 |
| Richmond .. | 898 | 946 | 890 | 861 | 835 | 20·64 | 21·68 | 20·39 | 19·76 | 19·23 |
| Sandringham .. | 221 | 268 | 275 | 307 | 303 | 15·79 | 17·29 | 15·94 | 16·16 | 14·79 |
| South Melbourne .. | 951 | 951 | 777 | 849 | 795 | 20·24 | 20·20 | 16·49 | 17·99 | 16·80 |
| St. Kilda .. | 648 | 677 | 641 | 665 | 665 | 16·12 | 16·59 | 15·58 | 16·06 | 15·89 |
| Williamstown .. | 499 | 490 | 525 | 474 | 439 | 24·62 | 22·78 | 23·10 | 20·40 | 18·49 |
| Remainder of Metropolis | 927 | 1,067 | 1,384 | 1,145 | 1,305 | 23·74 | 25·80 | 26·76 | 25·28 | 26·49 |
| Greater Melbourne | 17,611 | 18,170 | 17,911 | 17,926 | 17,900 | 21.10 | 20·90 | 19·93 | 19·31 | 18·65 |

* Included in "Remainder of Metropolis." † Not available.

**Birth rates in country towns.** Similar information relating to the twelve principal country towns is given in the table which follows :—

## BIRTH RATES IN THE TWELVE PRINCIPAL COUNTRY TOWNS, 1923 TO 1927.

| Town. | Number of Births. | | | | | Births per 1,000 of Population. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1923. | 1924. | 1925. | 1926. | 1927. |
| Ballarat .. | 785 | 790 | 708 | 708 | 648 | 19·64 | 19·46 | 17·27 | 17·04 | 15·46 |
| Bendigo .. | 653 | 634 | 614 | 569 | 576 | 19·50 | 18·85 | 18·22 | 16·96 | 16·99 |
| Geelong .. | 829 | 790 | 842 | 913 | 937 | 22·35 | 20·93 | 21·53 | 22·33 | 22·15 |
| Carrum .. | 133 | 125 | 127 | 133 | 111 | 22·17 | 20·16 | 19·54 | 19·70 | 15·48 |
| Castlemaine .. | 147 | 138 | 128 | 122 | 124 | 20·50 | 19·38 | 17·85 | 17·02 | 17·71 |
| Hamilton .. | 139 | 144 | 145 | 148 | 143 | 27·20 | 28·13 | 27·88 | 28·14 | 27·08 |
| Maryborough .. | * | 127 | 112 | 107 | 112 | * | 26·29 | 23·14 | 22·02 | 22·86 |
| Mildura .. | 200 | 211 | 186 | 195 | 200 | 36·04 | 37·02 | 31·79 | 32·50 | 33·33 |
| Mordialloc .. | 120 | 152 | 160 | 148 | 172 | 17·39 | 21·17 | 22·16 | 19·07 | 18·88 |
| Stawell .. | 130 | 107 | 112 | 107 | 100 | 28·26 | 23·01 | 24·03 | 22·91 | 21·28 |
| Warrnambool .. | 196 | 180 | 180 | 176 | 180 | 24·65 | 22·50 | 22·44 | 21·86 | 22·30 |
| Wonthaggi .. | 188 | 146 | 151 | 159 | 153 | 33·57 | 24·33 | 23·23 | 23·38 | 22·17 |

* Not available.

**Twin and triplet births.** The numbers of cases of twin and triplet births in Victoria in the last five years were as follows :—

CASES OF TWINS AND TRIPLETS.

| Year. | Cases of Twins. | Cases of Triplets |
|---|---|---|
| 1923 ... ... ... | 412 | 4 |
| 1924 ... ... ... | 378 | 3 |
| 1925 ... ... ... | 393 | 3 |
| 1926 ... ... ... | 377 | 4 |
| 1927 ... ... ... | 397 | 3 |

On the average of the five years 1 mother in every 90 gave birth to twins, and 1 in every 10,375 was delivered of triplets. The proportions for the decennium ended 1917 were 1 in every 94 and 1 in every 9,538 respectively.

**Children legitimized.** In December, 1912, an Act was passed which provides that children born out of wedlock may be legitimized at any time after the marriage of the parents, on the application of the father, provided there was no lawful impediment to the marriage of the parents at the time of the birth. An amending Act passed in 1916 allowed legitimation to be effected on the application of the mother if the father were absent on war service or had died not more than two years previously. Up to the end of 1927 advantage was taken of these Acts, and of an Act (now repealed) passed in 1903, to legitimate 2,771 children, of whom 14 were registered in 1903, 19 in 1904, 34 in 1905, 43 in 1906, 58 in 1907, 60 in 1908, 51 in 1909, 71 in 1910, 126 in 1911, 106 in 1912, 157 in 1913, 149 in 1914, 141 in 1915, 140 in 1916, 136 in 1917, 162 in 1918, 159 in 1919, 165 in 1920, 168 in 1921, 133 in 1922, 133 in 1923, 121 in 1924, 133 in 1925, 133 in 1926, and 159 in 1927.

Legitimation Acts are in force in all the States and New Zealand, but there are marked differences in the numbers of legitimations resulting therefrom. In proportion to every 100 children born out of wedlock in 1927, the numbers of legitimations in the various States and New Zealand during that year were as follows :—Victoria, 10·2 ; New South Wales, 24·0 ; Queensland, 15·1 ; South Australia, 16·7 ; Western Australia, 16·9 ; Tasmania, 8·9 ; and New Zealand, 22·5.

**Ex-nuptial Births in Victoria.**

The following table shows the number of ex-nuptial births and their percentage to total births, in Victoria, since 1909 :—

EX-NUPTIAL BIRTHS IN VICTORIA, 1910 TO 1927.

| Period. | Average Annual Number of Births. | Average Annual Number of Ex-nuptial Births. | | | Percentage of Total Births. |
|---|---|---|---|---|---|
| | | Male. | Female. | Total. | |
| 1910–14 .. .. | 34,500 | 1,013 | 979 | 1,992 | 5·77 |
| 1915–19 .. .. | 33,101 | 941 | 912 | 1,853 | 5·60 |
| 1920–24 .. .. | 36,022 | 869 | 821 | 1,690 | 4·69 |
| 1925 .. .. | 35,922 | 809 | 734 | 1,543 | 4·30 |
| 1926 .. .. | 35,362 | 818 | 785 | 1,603 | 4·53 |
| 1927 .. .. | 35,074 | 811 | 745 | 1,556 | 4·44 |

The percentages in the various States and New Zealand in 1927 were as follows :—Victoria, 4·44 per cent. ; New South Wales, 5·00 per cent. ; Queensland, 5·25 per cent. ; South Australia, 3·13 per cent. ; Western Australia, 3·90 per cent. ; Tasmania, 5·09 per cent. ; Australia, 4·70 per cent. ; and New Zealand, 4·97 per cent.

**Ex-nuptial births to unmarried women in Victoria.**

The percentage of ex-nuptial to total births in Victoria varied from 5·36 in 1891 to 5·94 in 1911, and 4·82 in 1921. The proportion of infants born out of wedlock to the unmarried and widowed women between 15 and 45 years of age in Victoria is shown in the subjoined table for the census years 1891, 1901, 1911, and 1921, when the conjugal condition of the population was known :—

EX-NUPTIAL BIRTHS PER 1,000 SINGLE WOMEN.

| Year. | Single Women aged 15 to 45. | Ex-nuptial Births. | Ex-nuptial Births per 1,000 Single Women. |
|---|---|---|---|
| 1891 .. .. | 142,443 | 2,064 | 14·5 |
| 1901 .. .. | 167,760 | 1,729 | 10·3 |
| 1911 .. .. | 187,488 | 1,964 | 10·5 |
| 1921 .. .. | 189,737 | 1,714 | 9·0 |

The number of infants born out of wedlock per 1,000 unmarried and widowed women in Victoria was 9·0 in 1921. This was considerably lower than the latest available figures for most European

countries. The proportions ranged from 23 in Germany, 26 in Sweden, 24 in Denmark, 14 in Italy, and 16 in France, to 12 in Belgium, 13 in Scotland, 7 in England and Wales, 5 in Holland, and 4 in Ireland.

**Ex-nuptiality in town and country.**

A larger proportion of ex-nuptiality prevails in Melbourne and suburbs than in the other urban and the rural districts of Victoria, the proportion in the country districts being the smallest of all. During the year 1927, in the metropolitan area 1 birth in every 20, in other urban districts 1 in 20, and in the rural districts only 1 in 36 were ex-nuptial. The corresponding rates for 1926 were 1 in 19, 1 in 21, and 1 in 29 respectively.

## DEATHS.

**Deaths.**

The following table shows the number of deaths—male and female—the quarters in which they were registered, and the proportion per 1,000 of the population since 1854 :—

DEATHS IN EACH QUARTER, VICTORIA, 1855 TO 1927.

| Period. | Average Annual Number of Deaths. | Sex. | | Quarter of Registration. | | | | Rate per 1,000 of Mean Population. |
|---|---|---|---|---|---|---|---|---|
| | | Males. | Females. | March. | June. | September. | December. | |
| 1855–59.. | 7,653 | 4,768 | 2,885 | * | * | * | * | 17·78 |
| 1860–64.. | 10,210 | 6,001 | 4,209 | 3,257 | 2,658 | 2,093 | 2,202 | 18·44 |
| 1865–69.. | 11,035 | 6,374 | 4,661 | 3,385 | 2,938 | 2,243 | 2,469 | 16·93 |
| 1870–74.. | 10,978 | 6,365 | 4,613 | 3,232 | 2,744 | 2,461 | 2,541 | 14·56 |
| 1875–79.. | 13,289 | 7,567 | 5,722 | 4,016 | 3,567 | 2,831 | 2,875 | 16·45 |
| 1880–84.. | 12,820 | 7,324 | 5,496 | 3,512 | 3,167 | 3,013 | 3,128 | 14·40 |
| 1885–89.. | 16,200 | 9,307 | 6,893 | 4,591 | 3,912 | 3,689 | 4,008 | 15·87 |
| 1890–94.. | 16,886 | 9,716 | 7,170 | 4,643 | 4,108 | 3,977 | 4,158 | 14·62 |
| 1895–99.. | 16,350 | 9,227 | 7,123 | 4,324 | 3,957 | 3,808 | 4,261 | 13·81 |
| 1900–04.. | 15,457 | 8,686 | 6,771 | 3,921 | 3,750 | 3,992 | 3,794 | 12·84 |
| 1905–09.. | 14,932 | 8,296 | 6,636 | 3,805 | 3,539 | 3,917 | 3,671 | 11·93 |
| 1910–14.. | 15,705 | 8,616 | 7,089 | 3,873 | 3,875 | 4,137 | 3,820 | 11·57 |
| 1915–19.. | 16,283 | 8,860 | 7,423 | 3,781 | 4,172 | 4,467 | 3,863 | 11·38 |
| 1920–24.. | 16,375 | 8,781 | 7,594 | 3,846 | 4,166 | 4,503 | 3,860 | 10·40 |
| 1925 .. | 15,836 | 8,582 | 7,254 | 3,744 | 4,039 | 4,334 | 3,719 | 9·47 |
| 1926 .. | 16,335 | 8,765 | 7,570 | 3,622 | 4,439 | 4,239 | 4,035 | 9·63 |
| 1927 .. | 16,773 | 8,982 | 7,791 | 3,809 | 4,271 | 4,714 | 3,979 | 9·71 |

* Not available.

The number of deaths in 1927 was 16,773, which was 563 above the average of the preceding five years.

**Death rates in Australasia.**

The deaths in Australia in 1927 numbered 58,282 as against 56,952 in 1926, 54,567 in 1925, 54,980 in 1924, 56,236 in 1923, 51,312 in 1922, 54,076 in 1921, 56,289 in 1920, 65,930 in 1919, 50,249 in 1918, 48,029 in 1917, 54,197 in 1916, 52,782 in 1915, and 51,720 in 1914. Of the total deaths in the year under review 16,773 occurred in Victoria, 22,749 in New South Wales, 8,078 in Queensland, 5,128 in South Australia, 3,393 in Western Australia, 2,033 in Tasmania, 76 in the Northern Territory, and 52 in the Federal Capital Territory. The death rates per 1,000 of the population, for each of the Australian States, the Commonwealth of Australia, and New Zealand, are shown in the following statement for quinquennial periods 1910-24, and for 1925, 1926, and 1927 :—

DEATHS PER 1,000 OF MEAN POPULATION IN AUSTRALASIA, 1910 TO 1927.

| Period. | Victoria. | New South Wales. | Queensland. | South Australia. | Western Australia. | Tasmania. | Australia. | New Zealand. |
|---|---|---|---|---|---|---|---|---|
| 1910–14 | 11·57 | 10·41 | 10·30 | 10·30 | 10·02 | 10·55 | 10·70 | 9·35 |
| 1915–19 | 11·38 | 10·66 | 10·80 | 10·67 | 9·74 | 9·95 | 10·90 | 10·52 |
| 1920–24 | 10·40 | 9·50 | 9·56 | 9·66 | 9·48 | 9·82 | 9·79 | 8·98 |
| 1925 .. | 9·47 | 9·16 | 8·86 | 9·15 | 9·00 | 9·35 | 9·20 | 8·29 |
| 1926 .. | 9·63 | 9·55 | 9·39 | 8·73 | 8·93 | 9·05 | 9·42 | 8·74 |
| 1927 .. | 9·71 | 9·59 | 9·06 | 8·98 | 8·81 | 9·68 | 9·45 | 8·45 |

The death rate in England and Wales in 1927 was 12·3.

The crude rate in Victoria is higher than in any other State, but this result is chiefly due to its containing a larger proportion of elderly persons, among whom the mortality rate is very high.

**Age distribution and crude death rates.**

Comparisons of the crude death rates of a country for different periods, or of different countries for the same period, are frequently misleading, as they do not allow for variations in the age distributions of the population. In European countries, the proportion of elderly people, among whom the death rate is heavy, is higher than in the Commonwealth or any of the Australian States, and it is greater in South Australia, and lower in Western Australia, than in any of the other States. The proportions of each sex living in various age groups at the census of 1921 in each division of the Commonwealth, and those in a standard population,

which has been adopted by statisticians as a standard for this purpose, are shown in the following table :—

## PROPORTIONS LIVING IN FIVE AGE GROUPS IN A STANDARD POPULATION AND AUSTRALIA.

| Age Group. | Proportion per 10,000 of Population living in— | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Standard Population. | Victoria. | New South Wales. | Queensland. | South Australia. | Western Australia. | Tasmania. | Australia. |
| | | | MALES. | | | | | |
| Under 5 years | 601 | 517 | 578 | 611 | 557 | 535 | 602 | 562 |
| 5 to 25 .. | 1,942 | 1,826 | 1,879 | 1,962 | 1,866 | 1,948 | 2,017 | 1,884 |
| 25 to 45 .. | 1,318 | 1,431 | 1,559 | 1,585 | 1,509 | 1,527 | 1,336 | 1,512 |
| 45 to 65 .. | 791 | 929 | 859 | 889 | 829 | 1,134 | 849 | 897 |
| 65 and over | 258 | 226 | 227 | 231 | 253 | 184 | 236 | 228 |
| Total .. | 4,910 | 4,929 | 5,102 | 5,278 | 5,014 | 5,328 | 5,040 | 5,083 |
| | | | FEMALES. | | | | | |
| Under 5 years | 597 | 497 | 561 | 582 | 529 | 516 | 593 | 541 |
| 5 to 25 .. | 1,959 | 1,833 | 1,869 | 1,921 | 1,857 | 1,912 | 1,990 | 1,872 |
| 25 to 45 .. | 1,368 | 1,539 | 1,517 | 1,388 | 1,536 | 1,347 | 1,381 | 1,491 |
| 45 to 65 .. | 856 | 948 | 747 | 661 | 806 | 756 | 760 | 798 |
| 65 and over | 310 | 254 | 204 | 170 | 258 | 141 | 236 | 215 |
| Total .. | 5,090 | 5,071 | 4,898 | 4,722 | 4,986 | 4,672 | 4,960 | 4,917 |

The figures show that the characteristic features of Australian populations, as compared with those of European countries, are a large preponderance of persons in the age group 25–45, and a relatively small number aged 65 and over. Among the Australian States, South Australia and Western Australia have the highest and lowest proportions respectively of persons aged 65 years and upwards, Queensland and Western Australia a large excess of males over females, particularly at ages over 25, and Victoria an excess of females in each group, except those under 5 years—points which should be kept in view when comparing their crude death rates.

**Index of mortality.**

The differences shown in the preceding table in the age and sex constitutions of the populations of the six States have been taken into account in computing their respective indexes of mortality. The results for each are based upon a standard

population, distributed according to sex, into eleven age groups. In the preceding table, for the purpose of obtaining a readier comparison, the eleven groups have been reduced to five. Mortality indexes for each State, and detailed particulars for Victoria, for the undermentioned years, as compiled by the Commonwealth Statistician, are as follows :—

INDEX OF MORTALITY FOR AUSTRALIA, 1923 TO 1927.

| Year. | Index of Mortality for— | | | | | | |
|---|---|---|---|---|---|---|---|
| | Victoria. | New South Wales. | Queensland. | South Australia. | Western Australia. | Tasmania. | Australia. |
| 1923 | 10·97 | 10·61 | 10·97 | 9·90 | 9·79 | 10·49 | 10·64 |
| 1924 | 10·31 | 10·31 | 9·90 | 9·50 | 10·82 | 10·43 | 10·20 |
| 1925 | 9·74 | 10·13 | 9·94 | 9·43 | 10·67 | 9·94 | 9·93 |
| 1926 | 9·91 | 10·62 | 10·47 | 9·02 | 10·63 | 9·70 | 10·20 |
| 1927 | 10·02 | 10·64 | 10·20 | 9·30 | 10·71 | 10·43 | 10·43 |

VICTORIA, 1923 TO 1927.

| Year. | Crude Rates. | | | Standardized Rates. | | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Persons. | Males. | Females. | Persons. |
| 1923 .. | 11·46 | 9·98 | 10·71 | 11·56 | 10·38 | 10·97 |
| 1924 .. | 10·87 | 9·24 | 10·05 | 11·00 | 9·64 | 10·31 |
| 1925 .. | 10·32 | 8·64 | 9·47 | 10·45 | 9·04 | 9·74 |
| 1926 .. | 10·38 | 8·88 | 9·63 | 10·55 | 9·29 | 9·91 |
| 1927 .. | 10·44 | 8·98 | 9·71 | 10·63 | 9·41 | 10·02 |

In each of the last five years the crude death rate was higher in Victoria than in any other Australian State, but the figures in the above table show that, by taking an average over those years, four States—New South Wales, Queensland, Western Australia, and Tasmania—had a higher index of mortality than Victoria.

**Death rates at various ages.**

A reliable estimate of the improvement in the health of the community is obtained by comparing the death rates for groups of ages at different periods. Such rates for Victoria are given in the subjoined table for the decennial periods 1891-1900, 1902-11, and 1912-21 :—

## DEATH RATES IN CERTAIN AGE GROUPS IN VICTORIA.

| Age Group. | Deaths per 1,000 at each Age. | | |
|---|---|---|---|
| | 1891–1900. | 1902–11. | 1912–21. |
| *Males.* | | | |
| Under 5 ... ... ... | 39·29 | 26·73 | 23·85 |
| 5 to 10 ... ... ... | 3·36 | 2·16 | 2·42 |
| 10 to 15 ... ... ... | 2·20 | 1·87 | 1·75 |
| 15 to 20 ... ... ... | 3·28 | 2·72 | 2·37 |
| 20 to 25 ... ... ... | 4·79 | 3·51 | 3·57 |
| 25 to 35 ... ... ... | 6·60 | 4·75 | 4·71 |
| 35 to 45 ... ... ... | 9·03 | 7·81 | 7·14 |
| 45 to 55 ... ... ... | 15·32 | 13·48 | 13·10 |
| 55 to 65 ... ... ... | 32·90 | 25·38 | 25·05 |
| 65 to 75 ... ... ... | 62·99 | 59·04 | 53·18 |
| 75 and upwards ... ... | 145·05 | 157·26 | 157·97 |
| All ages ... ... ... | 15·47 | 13·30 | 12·57 |
| *Females.* | | | |
| Under 5 ... ... ... | 34·09 | 22·35 | 19·26 |
| 5 to 10 ... ... ... | 3·12 | 2·03 | 2·24 |
| 10 to 15 ... ... ... | 2·06 | 1·78 | 1·56 |
| 15 to 20 ... ... ... | 3·43 | 2·80 | 2·27 |
| 20 to 25 ... ... ... | 4·81 | 3·59 | 3·56 |
| 25 to 35 ... ... ... | 6·89 | 5·01 | 4·58 |
| 35 to 45 ... ... ... | 8·68 | 7·16 | 6·01 |
| 45 to 55 ... ... ... | 12·12 | 9·96 | 9·44 |
| 55 to 65 ... ... ... | 23·64 | 18·80 | 17·46 |
| 65 to 75 ... ... ... | 45·87 | 46·71 | 42·01 |
| 75 and upwards ... ... | 124·33 | 131·77 | 136·61 |
| All ages ... ... ... | 12·36 | 10·66 | 10·35 |

The figures show that at all ages, excepting between 5 and 10, and 20 and 25, and 75 and over for males, and between 5 and 10, and 75 and over for females, much lower death rates were experienced during the decennium 1912–21 than in the preceding one. Compared with 1902-11, the mortality rate for the period 1912-21 for the two

sexes combined was lower by 10 per cent. for the age group 0-10, by 9 per cent. at ages 10-15, by 16 per cent. at 15-20, by 5 per cent. at 25-35, by 12 per cent. at 35-45, and by 4 per cent. at 45-55 and 55-65. The rates, up to age 65 and probably to age 75, are comparable, and the marked decrease at successive periods shows that there had been a general improvement in hygienic conditions.

**Death rates in town and country.**

In years prior to 1923 it was the custom, when computing local death rates, to treat the deaths in two main divisions—those occurring in public institutions and those occurring elsewhere. The latter were credited to the district in which they were registered. Of the institutional deaths those occurring in hospitals were allotted to the usual residence; the remainder, together with any deaths of persons unknown or whose residence was not stated, were allotted to the various divisions of the State according to the population of each.

For purposes of greater accuracy, and following the lead of England and other countries, the allotment to usual residence has, for 1923, *et seq.*, been extended to cover all deaths, only those institutional deaths where the usual residence is unknown being allotted to the various divisions of the State as before mentioned.

The following table, computed on the above-mentioned basis, shows the number of deaths per 1,000 of the population in the metropolitan, other urban, and rural districts for the years 1923 to 1927 :—

DEATH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS, 1923 TO 1927.

| Division. | Deaths per 1,000 of Population. | | | | |
|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. |
| Metropolitan District .. | 11·28 | 10·49 | 9·71 | 9·86 | 10·15 |
| Country Towns (other urban) .. | 12·46 | 11·27 | 10·69 | 10·72 | 10·62 |
| Rest of State .. .. | 9·48 | 9·09 | 8·79 | 8·94 | 8·71 |
| Total State .. .. .. | 10·71 | 10·05 | 9·47 | 9·63 | 9·71 |

**Death rates of metropolitan residents.**

The deaths in Victoria of residents of metropolitan municipalities, and their proportions to the populations of these municipalities are shown in the following table for the years 1923 to 1927 :—

## DEATH RATES IN METROPOLITAN MUNICIPALITIES, 1923 TO 1927.

| Municipality. | Number of Deaths. | | | | | Deaths per 1,000 of Population. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1923. | 1924. | 1925. | 1926. | 1927. |
| Melbourne .. | 1,418 | 1,310 | 1,166 | 1,192 | 1,236 | 13·91 | 12·85 | 11·46 | 11·73 | 12·15 |
| Box Hill .. .. | † | † | † | 101 | 132 | † | † | † | 9·27 | 11·14 |
| Brighton .. .. | 249 | 250 | 218 | 243 | 252 | 10·60 | 10·02 | 8·42 | 9·09 | 9·17 |
| Brunswick .. | 534 | 502 | 495 | 509 | 561 | 11·46 | 10·50 | 10·05 | 10·05 | 10·48 |
| Camberwell .. | 264 | 332 | 304 | 336 | 342 | 9·59 | 10·66 | 8·76 | 8·84 | 8·31 |
| Caulfield .. .. | 402 | 477 | 457 | 462 | 517 | 8·17 | 8·82 | 7·93 | 7·51 | 7·89 |
| Coburg .. .. | 227 | 229 | 218 | 256 | 228 | 10·06 | 8·61 | 7·32 | 7·85 | 6·49 |
| Collingwood .. | 457 | 395 | 390 | 436 | 434 | 13·34 | 11·58 | 11·49 | 12·90 | 12·94 |
| Essendon .. | 401 | 417 | 395 | 410 | 399 | 10·70 | 10·77 | 9·94 | 10·07 | 9·56 |
| Fitzroy .. .. | 539 | 414 | 458 | 394 | 478 | 15·48 | 11·97 | 13·34 | 11·60 | 14·21 |
| Footscray .. | 385 | 411 | 376 | 388 | 426 | 10·07 | 10·02 | 8·80 | 8·76 | 9·29 |
| Hawthorn .. | 359 | 308 | 300 | 324 | 366 | 11·85 | 9·87 | 9·45 | 10·11 | 11·30 |
| Kew .. .. | 159 | 203 | 198 | 187 | 209 | 8·52 | 10·20 | 9·41 | 8·37 | 8·87 |
| Malvern .. .. | 358 | 350 | 353 | 372 | 407 | 9·10 | 8·45 | 8·31 | 8·55 | 9·17 |
| Northcote .. | 309 | 333 | 366 | 353 | 384 | 9·38 | 9·57 | 9·91 | 9·15 | 9·63 |
| Oakleigh .. | 87 | 72 | * | * | * | 12·72 | 9·94 | * | * | * |
| Port Melbourne .. | 158 | 142 | 135 | 157 | 165 | 12·02 | 10·80 | 10·27 | 11·92 | 12·45 |
| Prahran .. .. | 620 | 617 | 550 | 617 | 638 | 12·17 | 12·06 | 10·67 | 11·89 | 12·22 |
| Preston .. .. | 137 | 139 | 172 | 175 | 218 | 11·75 | 9·74 | 9·97 | 8·43 | 8·65 |
| Richmond .. | 561 | 471 | 464 | 478 | 474 | 12·90 | 10·80 | 10·63 | 10·97 | 10·92 |
| Sandringham .. | 111 | 122 | 131 | 117 | 122 | 7·93 | 7·87 | 7·59 | 6·16 | 5·96 |
| South Melbourne .. | 585 | 542 | 483 | 502 | 583 | 12·45 | 11·51 | 10·25 | 10·64 | 12·32 |
| St. Kilda .. | 446 | 414 | 407 | 470 | 467 | 11·09 | 10·15 | 9·89 | 11·35 | 11·16 |
| Williamstown .. | 240 | 236 | 208 | 240 | 258 | 11·84 | 10·97 | 9·15 | 10·33 | 10·87 |
| Remainder of Metropolis .. | 408 | 432 | 480 | 436 | 450 | 10·45 | 10·44 | 9·28 | 9·62 | 9·13 |
| Greater Melbourne | 9,414 | 9,118 | 8,724 | 9,155 | 9,746 | 11·28 | 10·49 | 9·71 | 9·86 | 10·15 |

* Included in "Remainder of Metropolis." † Not available.

The outstanding features of the above figures are the high death rates prevailing in some of the old centres of population, of which Melbourne City, Collingwood, Fitzroy, Port Melbourne, Prahran, Richmond, and South Melbourne, are examples, and the low rates in comparatively recently settled areas, such as Camberwell, Caulfield, Coburg, Kew, Malvern, Northcote, and Sandringham. The deaths for 1927 were 12·33 per 1,000 in the former as against 8·18 in the latter group. Slight differences in the age distribution of the populations of these two divisions may exist, but they can account for only a small portion of the great disparity in their mortality rates. It would appear that the standard of health, as indicated by death rates, is much better in the outlying and less densely populated suburbs than in the central and more congested areas of the metropolis.

**Metropolitan and country death rates compared.**

The ages of the people, as disclosed at the census of 1921, enable a comparison to be made between the death rates prevailing in Greater Melbourne and in the remainder of the State. On the average of the years 1923–25, the deaths of metropolitan residents were in the ratio of 10·47 per 1,000 of population, as against a ratio of 9·62 for residents of the rest of the State. The apparent difference in favour of the country is ·85, but a computation shows that, when allowances are made for the unequal age and sex distribution of the people in these areas, the actual difference is greater—the deaths per 1,000 of population being fewer by 1·34 among country than among metropolitan residents.

**Decrease in Metropolitan death rate.**

In Greater Melbourne, in the decade 1918–27, there were 11·19 deaths per 1,000 of the population, as compared with 15·76 in the decennium 1892-1901. The reduction in the rate represents a saving of approximately 38,000 lives in the last ten years. Many factors have contributed to this result, but it is probable that the introduction of the sewerage system, the notification of contagious diseases, the improvement in the conditions of labour, the increasing supervision of the manufacture and sale of articles of consumption, the greater proportion of females in the community, and the advance of medical science, have been the main causes of the decline. That the sanitary conditions of the metropolis have greatly improved is evidenced by a comparison of the death rates from tubercular and certain other diseases for the period 1918–27 with those for the decennium 1892-1901. The following are the rates :—

| Cause of Death. | Deaths per 1,000 of Population. | | |
|---|---|---|---|
| | 1892–1901. | 1918–27. | Decrease in 1918–27. |
| Pulmonary Tuberculosis ... | 1·654 | 0·705 | 0·949 |
| Other Tubercular Diseases ... | 0·446 | 0·145 | 0·301 |
| Typhoid Fever ... ... | 0·293 | 0·017 | 0·276 |
| Scarlet Fever ... ... | 0·033 | 0·018 | 0·015 |
| Measles ... ... ... | 0·215 | 0·036 | 0·179 |
| Diphtheria ... ... ... | 0·196 | 0·090 | 0·106 |
| Total ... ... | 2·837 | 1·011 | 1·826 |

The figures show that the mortality from the six diseases mentioned declined by 64 per cent. in 1918–27—the decline representing a rate of 1·83 per 1,000 of the population. It is impossible to state which municipalities have contributed most to this result, as their mortality rates from the diseases referred to are not available for the earlier period. A comparison, however, of the general death rates in each, for the periods under review, shows that all divisions of the metropolis have, in varying degrees, shared in the improvement. The mortality from all causes showed a net decline of 4·57 per 1,000 of the population during the period mentioned.

**Death rates in country towns.**

The appended statement shows, for the years 1923 to 1927, the number of deaths, and the deaths per 1,000 of the population in the twelve principal country towns :—

DEATH RATES IN THE TWELVE PRINCIPAL COUNTRY TOWNS, 1923 TO 1927.

| Town. | Number of Deaths. | | | | | Deaths per 1,000 of Population. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1923. | 1924. | 1925. | 1926. | 1927. |
| Ballarat .. | 552 | 451 | 470 | 489 | 449 | 13·81 | 11·11 | 11·47 | 11·77 | 10·71 |
| Bendigo .. | 474 | 470 | 410 | 434 | 433 | 14·15 | 13·97 | 12·17 | 12·94 | 12·77 |
| Geelong .. | 394 | 394 | 410 | 361 | 443 | 10·62 | 10·44 | 10·48 | 8·83 | 10·47 |
| Carrum .. | 71 | 52 | 41 | 61 | 56 | 11·83 | 8·39 | 6·31 | 9·04 | 7·81 |
| Castlemaine .. | 69 | 78 | 68 | 79 | 69 | 9·62 | 10·96 | 9·48 | 11·02 | 9·86 |
| Hamilton .. .. | 73 | 66 | 58 | 64 | 56 | 14·29 | 12·89 | 11·15 | 12·17 | 10·61 |
| Maryborough .. | * | 61 | 58 | 60 | 59 | * | 12·63 | 11·98 | 12·35 | 12·04 |
| Mildura .. | 70 | 69 | 67 | 63 | 54 | 12·61 | 12·11 | 11·45 | 10·50 | 9·00 |
| Mordialloc .. | 68 | 56 | 69 | 87 | 71 | 9·86 | 7·80 | 9·56 | 11·21 | 7·79 |
| Stawell .. | 61 | 52 | 46 | 43 | 63 | 13·26 | 11·18 | 9·87 | 9·21 | 13·40 |
| Warrnambool .. | 96 | 70 | 76 | 75 | 84 | 12·08 | 8·75 | 9·48 | 9·32 | 10·41 |
| Wonthaggi .. | 58 | 61 | 41 | 41 | 45 | 10·36 | 10·17 | 6·31 | 6·03 | 6·52 |

* Not available.

**Residents of different areas dying in hospitals.**

An examination of the particulars of residence of persons who have died in the public hospitals of Victoria during recent years reveals definite and interesting information regarding the assistance rendered by these institutions to people in different divisions of the State. For the metropolitan municipalities, the twelve principal country towns, and the

remainder of the State, the percentages of the total deaths of residents thereof which occurred in public hospitals during the year 1927 were as follows :—

## PROPORTION OF DEATHS OF RESIDENTS OF CERTAIN AREAS OCCURRING IN HOSPITALS, 1927.

| Area. | Percentage of Deaths of Residents occurring in Hospitals, 1927. | Area. | Percentage of Deaths of Residents occurring in Hospitals, 1927. |
|---|---|---|---|
| Melbourne .. .. | 40·9 | St. Kilda .. .. | 21·0 |
| Box Hill .. .. | 16·7 | Williamstown .. .. | 21·7 |
| Brighton .. .. | 19·8 | Remainder of Metropolis | 25·1 |
| Brunswick .. .. | 39·2 | Ballarat .. .. | 22·3 |
| Camberwell .. .. | 16·4 | Bendigo .. .. | 23·1 |
| Caulfield .. .. | 21·1 | Geelong .. .. | 26·4 |
| Coburg .. .. | 35·1 | Carrum .. .. | 35·7 |
| Collingwood .. .. | 37·8 | Castlemaine .. .. | 34·8 |
| Essendon .. .. | 28·3 | Hamilton .. .. | 26·8 |
| Fitzroy .. .. | 43·1 | Maryborough .. .. | 28·8 |
| Footscray .. .. | 30·3 | Mildura .. .. | 51·9 |
| Hawthorn .. .. | 18·9 | Mordialloc .. .. | 29·6 |
| Kew .. .. .. | 10·5 | Stawell .. .. | 33·3 |
| Malvern .. .. | 12·3 | Warrnambool .. .. | 31·0 |
| Northcote .. .. | 27·9 | Wonthaggi .. .. | 46·7 |
| Port Melbourne .. .. | 36·4 | | |
| Prahran .. .. | 30·1 | Summary— | |
| Preston .. .. | 28·0 | Greater Melbourne .. | 29·5 |
| Richmond .. .. | 34·0 | Twelve Country Towns | 27·1 |
| Sandringham .. .. | 22·1 | Remainder of State .. | 22·8 |
| South Melbourne .. | 34·3 | Whole State .. | 27·1 |

Of the total deaths in the State 27·1 per cent. occurred in public hospitals in 1927, as against 27·0 per cent. in 1926, 25·9 per cent. in 1925, 24·4 per cent. in 1924, and 20·9 per cent. in 1910–15. The disparities in the proportions for different areas are very significant. Of the total cases of fatal illness which occurred amongst residents of the metropolitan districts mentioned in 1927, the percentage treated in public hospitals varied from 43·1 for Fitzroy, 40·9 for Melbourne City, 39·2 for Brunswick, and 37·8 for Collingwood, to 16·7 for Box Hill, 16·4 for Camberwell, 12·3 for Malvern, and 10·5 for Kew. For the whole metropolitan area the percentage was 29·5 as compared with 23·9 for the rest of the State. Taking the proportions for fatal cases as an index of all cases dealt with, it would appear that, relatively to population, the assistance rendered by public hospitals to the residents of Greater Melbourne exceeds by about 23 per cent. that given to people residing elsewhere.

Residents of Greater Melbourne who died in public hospitals in Victoria during 1927 numbered 2,871.

**Deaths in Metropolitan public institutions.**

In 1927 the deaths in public institutions were 33·5 per cent. of the total in the State. The number of deaths in each metropolitan public institution in 1927 is given in the subjoined table :—

DEATHS IN METROPOLITAN PUBLIC INSTITUTIONS, 1927.

| Institution. | No. of Deaths. | Institution. | No. of Deaths. |
|---|---|---|---|
| Hospitals— | | Asylums— | |
| Melbourne .. .. | 1,018 | Mental— | |
| Alfred .. .. | 584 | Kew .. .. .. | 98 |
| Children's .. .. | 643 | Mont Park .. .. | 82 |
| St. Vincent's .. .. | 178 | Receiving House, Royal Park | 49 |
| Austin .. .. | 232 | Macleod Military .. .. | 1 |
| Women's .. .. | 175 | | |
| Homœopathic .. .. | 89 | Total Mental .. .. | 230 |
| Infectious Diseases .. | 86 | | |
| Caulfield Repatriation .. | 64 | Benevolent— | |
| Queen Victoria .. | 80 | Melbourne (Cheltenham) .. | 181 |
| Williamstown .. .. | 19 | Victorian Homes for Aged and Infirm .. .. .. | 108 |
| Caulfield Convalescent .. | 18 | Convent of Little Sisters of the Poor .. .. .. | 62 |
| Eye and Ear .. .. | 7 | Old Colonists' Homes .. | 5 |
| Police .. .. | .. | | |
| Total Hospitals .. | 3,193 | Total Benevolent .. | 356 |
| | | Foundling Homes, Refuges— | |
| | | Broadmeadows .. .. | 38 |
| | | East Melbourne .. .. | 1 |
| | | The Haven, Fitzroy .. | 3 |
| | | Carlton .. .. .. | 3 |
| Sanatoria — | | Children's Welfare Depot .. | 1 |
| Heatherton .. .. | 68 | Berwick .. .. .. | 1 |
| Janefield .. .. | 19 | | |
| Macleod Military .. | 2 | Total Others .. .. | 47 |
| Greenvale .. .. | 8 | | |
| Total Sanatoria .. | 97 | Total Hospitals and other Institutions .. .. | 3,923 |

**Infantile mortality.**

The mortality of children under one year in proportion to births has been considerably less in recent than in earlier periods, but the necessity for reducing the risks to infant health and life, particularly amongst ex-nuptial children, is still apparent. The deaths of infants in 1927 numbered 1,966, and, as there were 35,074 births, it follows that of every 10,000 infants born 561 died within twelve months. The rates for Melbourne and

suburbs, the extra metropolitan area, and the whole State, for different periods since 1879, are shown in the following table :—

INFANTILE MORTALITY IN VICTORIA, 1880 TO 1927.

| Period. | Melbourne and Suburbs. | | Rest of State. | | Victoria. | |
|---|---|---|---|---|---|---|
| | Average Annual Number of Deaths under One Year. | Rate per 100 Births. | Average Annual Number of Deaths under One Year. | Rate per 100 Births. | Average Annual Number of Deaths under One Year. | Rate per 100 Births. |
| 1880–84.. | 1,649 | 17·01 | 1,626 | 9·23 | 3,275 | 12·00 |
| 1885–89.. | 2,576 | 17·85 | 1,812 | 9·79 | 4,388 | 13·33 |
| 1890–94.. | 2,311 | 14·04 | 1,926 | 9·49 | 4,237 | 11·47 |
| 1895–99.. | 1,650 | 13·15 | 1,913 | 10·00 | 3,563 | 11·25 |
| 1900–04.. | 1,417 | 11·65 | 1,565 | 8·62 | 2,982 | 9·82 |
| 1905–09.. | 1,209 | 9·65 | 1,307 | 7·15 | 2,516 | 8·12 |
| 1910–14.. | 1,345 | 8·42 | 1,201 | 6·49 | 2,546 | 7·38 |
| 1915–19.. | 1,302 | 7·62 | 886 | 5·54 | 2,188 | 6·61 |
| 1920–24.. | 1,328 | 7·16 | 1,024 | 5·86 | 2,352 | 6·53 |
| 1925 .. | 1,079 | 6·02 | 967 | 5·37 | 2,046 | 5·70 |
| 1926 .. | 1,104 | 6·16 | 863 | 4·95 | 1,967 | 5·56 |
| 1927 .. | 1,118 | 6·25 | 848 | 4·94 | 1,966 | 5·61 |

In computing birth and death rates the system was introduced in 1923 of allotting all births and deaths to the place of usual residence of the parties. In the cases of births and infantile deaths the mother's residence is considered to be that of the child. This accounts for the slight increase in the rate for the remainder of the State in the period 1920–24, and a corresponding decrease in the rate for the Metropolis.

**Infantile deaths in different areas.**

The deaths of infants under 1 year of age per 100 births in Greater Melbourne, Ballarat, Bendigo, Geelong, and the rest of the State in the years 1923 to 1927 were as follows:—

INFANTILE DEATH RATES IN DIFFERENT DIVISIONS OF THE STATE, 1923 TO 1927.

| Division. | Deaths under One Year per 100 Births. | | | | |
|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. |
| Melbourne .. .. | 7·34 | 6·77 | 6·02 | 6·16 | 6·25 |
| Ballarat .. .. | 8·54 | 6·58 | 7·49 | 5·51 | 5·56 |
| Bendigo .. .. | 10·57 | 10·25 | 6·19 | 5·10 | 6·25 |
| Geelong .. .. | 10·01 | 7·34 | 7·13 | 4·82 | 6·40 |
| Rest of the State .. | 5·29 | 5·15 | 5·15 | 4·93 | 4·77 |
| Victoria .. | 6·57 | 6·13 | 5·70 | 5·56 | 5·61 |

The prejudicial effect of city surroundings on infant life is evidenced by the mortality being heavier in urban than in country districts. During the years 1923 to 1927 the deaths of children under 1 year of age to every 1,000 births were 65 in Melbourne, 67 in Ballarat, 77 in Bendigo, and 71 in Geelong, as against 51 in the rest of the State.

**Infantile death rates in metropolitan districts.**

The following table shows for each metropolitan municipality the deaths of infants under 1 year, and the number of such deaths per 100 births in the years 1923 to 1927 :—

INFANTILE DEATH RATES IN METROPOLITAN MUNICIPALITIES, 1923 TO 1927.

| Municipality. | Number of Deaths under One year. | | | | | Deaths under One year per 100 Births. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1923. | 1924. | 1925. | 1926. | 1927. |
| Melbourne .. | 237 | 168 | 136 | 139 | 135 | 11·79 | 9·12 | 7·70 | 7·76 | 8·19 |
| Box Hill .. .. | † | † | † | 14 | 14 | † | † | † | 5·22 | 5·32 |
| Brighton .. | 22 | 21 | 20 | 17 | 20 | 4·56 | 4·38 | 3·82 | 3·93 | 4·06 |
| Brunswick .. | 85 | 79 | 72 | 74 | 73 | 7·52 | 6·55 | 6·47 | 6·21 | 6·27 |
| Camberwell .. | 25 | 37 | 32 | 41 | 33 | 3·96 | 4·96 | 3·84 | 4·75 | 3·62 |
| Caulfield .. .. | 56 | 63 | 35 | 56 | 49 | 5·33 | 5·87 | 3·31 | 5·07 | 4·72 |
| Coburg .. .. | 42 | 38 | 49 | 51 | 39 | 7·59 | 5·59 | 6·67 | 6·68 | 4·97 |
| Collingwood .. | 64 | 68 | 54 | 62 | 62 | 9·32 | 9·37 | 7·65 | 9·37 | 9·24 |
| Essendon .. .. | 59 | 52 | 53 | 46 | 49 | 7·08 | 5·94 | 6·36 | 5·71 | 5·56 |
| Fitzroy .. .. | 84 | 59 | 55 | 36 | 51 | 10·43 | 8·20 | 8·32 | 5·81 | 8·39 |
| Footscray .. | 68 | 74 | 75 | 51 | 71 | 6·65 | 7·71 | 7·56 | 5·24 | 7·47 |
| Hawthorn .. | 32 | 30 | 19 | 23 | 21 | 5·69 | 5·37 | 3·56 | 4·56 | 4·54 |
| Kew .. .. | 13 | 18 | 19 | 21 | 15 | 3·44 | 4·65 | 5·23 | 5·63 | 3·81 |
| Malvern .. .. | 31 | 27 | 28 | 23 | 33 | 4·96 | 3·91 | 4·22 | 3·87 | 5·43 |
| Northcote .. | 49 | 54 | 54 | 61 | 52 | 5·95 | 5·81 | 5·95 | 6·59 | 5·76 |
| Oakleigh .. .. | 10 | 8 | * | * | * | 4·26 | 3·54 | * | * | * |
| Port Melbourne .. | 25 | 26 | 24 | 26 | 23 | 8·20 | 8·93 | 8·70 | 9·19 | 9·70 |
| Prahran .. .. | 68 | 66 | 49 | 51 | 56 | 7·13 | 7·52 | 5·52 | 6·04 | 6·81 |
| Preston .. .. | 24 | 31 | 37 | 25 | 36 | 6·32 | 6·19 | 6·53 | 4·00 | 5·01 |
| Richmond.. .. | 73 | 66 | 65 | 56 | 67 | 8·13 | 6·98 | 7·30 | 6·50 | 8·02 |
| Sandringham .. | 16 | 16 | 14 | 16 | 12 | 7·24 | 5·97 | 5·09 | 5·21 | 3·96 |
| South Melbourne .. | 95 | 88 | 59 | 76 | 69 | 9·99 | 9·25 | 7·59 | 8·95 | 8·68 |
| St. Kilda .. .. | 31 | 34 | 28 | 39 | 36 | 4·78 | 5·02 | 4·37 | 5·86 | 5·41 |
| Williamstown .. | 32 | 38 | 32 | 34 | 29 | 6·41 | 7·76 | 6·10 | 7·17 | 6·61 |
| Remainder of Metropolis .. .. | 51 | 69 | 70 | 66 | 73 | 5·50 | 6·47 | 5·06 | 5·76 | 5·59 |
| Greater Melbourne | 1,292 | 1,230 | 1,079 | 1,104 | 1,118 | 7·34 | 6·77 | 6·02 | 6·16 | 6·25 |

* Included in "Remainder of Metropolis." † Not available.

It is noticeable that the centres having the lowest infantile death rates are residential areas which are not so thickly populated as nearly all of the other metropolitan districts.

**Infantile Mortality at different ages.**

An investigation into the experience in regard to infantile mortality over a period of years discloses a constant decrease in the infantile death rate, shared proportionately by each sex, since the earlier periods. Further analysis shows that the decrease was shared by all age periods except the period "under one week." Comparing the quinquennial periods 1910–14 and 1920–24 the mortality rate of infants whose age was over one week shows a decrease of 20·5 per cent., while that of infants under one week increased by 10·2 per cent.

In 1925, 1926, and 1927 the total rate for males was higher than that for females by 24·6 per cent., 23·6 per cent., and 28·4 per cent. respectively.

The tables which follow show the percentage of deaths of infants at various ages under one year for certain periods since 1899, and male and female death rates at each age period for the year 1927 :—

## INFANTILE MORTALITY AT DIFFERENT AGES, 1900 TO 1927.

| Period. | Deaths Under One Year per 1,000 Births. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Under 1 Week. | 1 Week to 1 Month. | 1 to 3 Months. | 3 to 6 Months. | 6 to 12 Months. | Total under 1 Year. | Males. | Females. |
| 1900–04 .. | 34·4 | | 16·9 | 21·0 | 25·9 | 98·2 | 105·7 | 90·4 |
| 1905–09 .. | 33·0 | | 13·8 | 15·1 | 19·3 | 81·2 | 89·3 | 72·6 |
| 1910–14 .. | 21·5 | 11·1 | 12·1 | 12·4 | 16·7 | 73·8 | 81·8 | 65·3 |
| 1915–19 .. | 23·3 | 10·1 | 10·5 | 9·4 | 12·8 | 66·1 | 73·0 | 58·7 |
| 1920–24 .. | 23·7 | 9·3 | 9·8 | 10·0 | 12·5 | 65·3 | 71·8 | 58·5 |
| 1925 .. | 23·1 | 7·8 | 7·9 | 7·1 | 11·1 | 57·0 | 62·9 | 50·5 |
| 1926 .. | 22·6 | 7·1 | 7·1 | 7·5 | 11·3 | 55·6 | 61·3 | 49·6 |
| 1927 .. | 22·6 | 8·7 | 7·5 | 7·1 | 10·2 | 56·1 | 62·8 | 48·9 |

## INFANTILE MORTALITY AT DIFFERENT AGES, MALES AND FEMALES, 1927.

| Age. | Males. | | | Females. | | |
|---|---|---|---|---|---|---|
| | Number. | Rate per 1,000 Births. | Percentage at each Age. | Number. | Rate per 1,000 Births. | Percentage at each Age. |
| Under 1 week .. | 472 | 26·1 | 41·6 | 321 | 18·9 | 38·6 |
| 1 week to 1 month | 170 | 9·4 | 15·0 | 136 | 8·0 | 16·3 |
| 1 to 3 months .. | 156 | 8·7 | 13·8 | 107 | 6·3 | 12·9 |
| 3 to 6 months .. | 137 | 7·6 | 12·1 | 109 | 6·4 | 13·1 |
| 6 to 12 months .. | 199 | 11·0 | 17·5 | 159 | 9·3 | 19·1 |
| Total .. | 1,134 | 62·8 | 100·0 | 832 | 48·9 | 100·0 |

**Probable mortality of infants.**

The experience of the years 1921–27 shows that, of every 20,000 newly-born boys and girls in equal numbers, 662 boys and 539 girls died within twelve months, and 9,338 of the former and 9,461 of the latter, or 18,799 of mixed sexes, were living at the end of the year. The corresponding numbers surviving the first year in earlier periods were 17,765 in the ten years 1891–1900 and 17,468 in 1881–90. It is thus seen that, of every 20,000 births comprising equal numbers of each sex, there were 1,034 more survivors in 1921–27 than in 1891–1900, and 1,331 more than in 1881–90.

**Infantile death rates from certain causes.**

An investigation of infantile mortalities would be incomplete if the diseases which have proved fatal in different periods of years were not ascertained, and their incidence in each period compared. Information of this nature reveals the causes of high death rates, and, when a fairly early period is selected for comparison with recent years, it shows in what direction improvements have taken place. The chief preventable and non-preventable causes of death, grouped under certain headings, are shown in the subjoined table for the periods 1891–93, 1901–10, 1911–20, and for the years 1926 and 1927:—

INFANTILE DEATH RATES FROM CERTAIN CAUSES, 1891–93, 1901–10, 1911–20, 1926 AND 1927.

| Cause of Death. | Deaths under One Year per 1,000 Births in— | | | | |
|---|---|---|---|---|---|
| | 1891–93. | 1901–10. | 1911–20. | 1926. | 1927. |
| Whooping Cough .. .. | 2·60 | 2·52 | 1·82 | 2·35 | ·80 |
| Convulsions .. .. .. | 6·83 | 3·10 | 1·63 | ·79 | ·80 |
| Bronchitis, Broncho-pneumonia, Pneumonia .. .. | 11·37 | 8·13 | 6·86 | 5·40 | 7·64 |
| Diarrhœal Diseases, all forms .. | 29·66 | 24·62 | 16·13 | 9·25 | 7·98 |
| Congenital Malformations, &c. | 3·45 | 4·86 | 4·38 | 4·55 | 4·88 |
| Wasting Diseases (Marasmus, Atrophy, &c.) .. .. | 22·24 | 12·74 | 13·09 | 6·14 | 6·16 |
| Prematurity.. .. .. | 13·13 | 14·99 | 15·17 | 14·93 | 14·68 |
| Violence .. .. .. | 3·16 | 2·47 | 1·07 | ·71 | ·97 |
| Injury at birth .. .. | 24·49 | 14·46 | 9·40 | 2·83 | 3·51 |
| Other diseases peculiar to early Infancy .. .. .. | | | | 2·51 | 2·79 |
| All other causes .. .. | | | | 6·16 | 5·85 |
| Total, all causes .. .. | 116.93 | 87·89 | 69·55 | 55·62 | 56·06 |

## INFANTILE DEATH RATES, AT DIFFERENT AGES, FROM CERTAIN CAUSES, 1927.

| Cause of Death. | Deaths under One Year per 1,000 Births. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Age Period. | | | | | Total. | Males. | Females. | Average Annual Rate, 1925-27. |
| | Under 1 Week. | 1 Week and under 1 Month. | 1 Month and under 3 Months. | 3 Months and under 6 Months. | 6 Months and under 12 Months. | | | | |
| Bronchitis, Broncho-pneumonia, Pneumonia .. | ·40 | 1·22 | 1·97 | 1·54 | 2·51 | 7·64 | 8·69 | 6·53 | 5·98 |
| Diarrhœal Diseases, all forms .. .. | ·09 | ·31 | 1·31 | 2·45 | 3·82 | 7·98 | 9·08 | 6·82 | 9·43 |
| Congenital Malformations, &c... .. .. | 2·00 | ·97 | ·80 | ·74 | ·37 | 4·88 | 5·76 | 3·94 | 4·68 |
| Wasting Diseases (Marasmus, Atrophy, &c.) .. | 2·88 | 1·37 | 1·02 | ·63 | ·26 | 6·16 | 7·41 | 4·82 | 6·32 |
| Prematurity .. .. | 10·97 | 2·74 | ·88 | ·06 | ·03 | 14·68 | 15·99 | 13·29 | 14·89 |
| Injury at Birth .. | 2·94 | ·48 | ·09 | .. | .. | 3·51 | 4·15 | 2·82 | 6·22 |
| Early Infancy .. .. | 2·19 | ·46 | ·11 | ·03 | .. | 2·79 | 3·10 | 2·47 | |
| All other causes .. | 1·14 | 1·17 | 1·32 | 1·57 | 3·22 | *8·42 | 8·58 | 8·23 | 8·69 |
| Total, all causes .. | 22·61 | 8·72 | 7·50 | 7·02 | 10·21 | 56·06 | 62·76 | 48·92 | 56·21 |
| Average Annual Rate, 1925-27 .. .. | 22·78 | 7·88 | 7·51 | 7·20 | 10·84 | 56·21 | 62·33 | 49·69 | .. |

* 2·85 were deaths from Epidemic and Infectious diseases.

Of every 1,000 infants born during 1921–27, 11 died from diarrhœal and 8 from wasting diseases, as compared with 29 from these causes in 1911–20, 37 in 1901–10, and 52 in 1891–93—a decrease of 63 per cent. since the last mentioned period. In 1921–27, acute bronchitis, broncho-pneumonia and pneumonia were responsible for 6·0 deaths per 1,000 births, as compared with 11·4 in 1891–93—a decline of 47 per cent. between the two periods. Of every 100 children who died in the last seven years, 33 deaths were due to prematurity and congenital malformations, which may be regarded as of a non-preventable nature, while 19 died from diarrhœal diseases. The mortality from the latter diseases was highest during the months December to April.

An examination of the male and female mortalities from infantile diseases discloses the fact that the male rate was consistently higher than the female rate, except in the cases of whooping cough and convulsions.

The table which follows shows the number of deaths and the death rate of infants under one month for Melbourne and suburbs and the whole State for the years 1923 to 1927, also the principal causes of death.

## DEATHS OF INFANTS UNDER ONE MONTH, 1923 TO 1927.

| Cause of Death. | Melbourne and Suburbs. | | | | | Victoria. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1923. | 1924. | 1925. | 1926. | 1927. |
| Convulsions .. .. | 6 | 10 | 7 | 9 | 4 | 27 | 27 | 20 | 16 | 15 |
| Bronchitis, Broncho-pneumonia, Pneumonia .. | 33 | 29 | 14 | 15 | 45 | 55 | 47 | 20 | 26 | 57 |
| Diarrhœal Diseases, all forms | 11 | 3 | 9 | 7 | 5 | 26 | 14 | 19 | 13 | 14 |
| Congenital Malformations, &c. .. .. .. | 50 | 58 | 60 | 56 | 57 | 98 | 110 | 110 | 106 | 104 |
| Wasting Diseases (Marasmus, Atrophy, &c.) .. .. | 87 | 80 | 65 | 50 | 67 | 166 | 137 | 146 | 134 | 149 |
| Prematurity .. .. | 326 | 322 | 263 | 270 | 284 | 594 | 568 | 502 | 502 | 481 |
| Violence .. .. | 9 | 2 | 3 | 6 | 12 | 16 | 4 | 4 | 8 | 16 |
| Injury at Birth .. } | 90 | 106 { | 80 | 57 | 62 } | 187 | 207 { | 124 | 100 | 120 |
| Early Infancy (162) } | | | 56 | 55 | 48 | | | 123 | 86 | 93 |
| All other causes .. .. | 24 | 22 | 19 | 39 | 30 | 42 | 45 | 42 | 61 | 50 |
| Total all Causes .. | 636 | 632 | 576 | 564 | 614 | 1,211 | 1,159 | 1,110 | 1,052 | 1,099 |
| Deaths per 100 Births | 3·61 | 3·48 | 3·22 | 3·15 | 3·43 | 3·38 | 3·21 | 3·09 | 2·97 | 3·13 |

**Nuptial and ex-nuptial Infantile death rates.**

On the average of the last ten years, 145 in every 1,000 ex-nuptial infants died within a year, as against 58 in every 1,000 nuptial children. It is thus seen that the proportion of ex-nuptial children dying before the age of 1 year is 2·5 times that of nuptial children. In the year 1927 the mortality rate of nuptial infants was 5·32 per 100 births. The children born out of wedlock during the same year numbered 1,556, and the deaths of ex-nuptial infants were 182, the death rate being thus 11·70 per 100 births. With the view of ascertaining the chief reasons for the marked disproportion in the mortality rates of the two classes the following table has been constructed, showing the deaths from certain causes, per 1,000 nuptial and ex-nuptial births, for the periods 1904–08 and 1914–18 and the year 1927 :—

## DEATH RATES OF NUPTIAL AND EX-NUPTIAL INFANTS FROM CERTAIN CAUSES.

| Cause of Death. | Deaths under One Year per 1,000 Births. | | | | | |
|---|---|---|---|---|---|---|
| | Nuptial. | | | Ex-nuptial. | | |
| | 1904-08. | 1914-18. | 1927. | 1904-08. | 1914-18. | 1927. |
| Diarrhœal Diseases ... ... | 19·8 | 14·2 | 7·2 | 72·6 | 48·6 | 25·7 |
| Prematurity, Congenital Malformations, Marasmus, &c. ... | 30·3 | 27·2 | 31·2 | 52·1 | 64·9 | 50·8 |
| Bronchitis, Broncho-pneumonia, Pneumonia ... ... | 6·9 | 6·1 | 7·3 | 18·6 | 12·5 | 14·1 |
| Other causes ... ... | 18·3 | 15·3 | 7·5 | 58·7 | 36·6 | 26·4 |
| Total, all causes ... ... | 75·3 | 62·8 | 53·2 | 202·0 | 162·6 | 117·0 |

The rates for 1927 show that of every 1,000 children born out of wedlock 25·7 died from diarrhœal diseases within a year, as compared with 7·2 deaths per 1,000 nuptial infants from the same cause. Owing to a larger proportion of the former children being deprived of breast food a higher mortality from these diseases might be expected among them than among nuptial infants, but the striking differences in the death rates from this cause and from the chief respiratory diseases indicate considerable neglect in the rearing of ex-nuptial infants. The rates from bronchitis, broncho-pneumonia, and pneumonia were 14·1 and 7·3 per 1,000 births respectively.

**Infantile deaths in each month from certain causes.**

The influence of temperature on infantile mortality from the chief digestive and respiratory diseases is specially noticeable, whilst on deaths from other causes, particularly those of a developmental character, very little influence is apparent. The infantile deaths in Melbourne and suburbs from the two former classes of complaint in each month during the last five years are shown in the appended table :—

INFANTILE DEATHS IN EACH MONTH FROM CERTAIN CAUSES, 1923-27.

| Month. | Infantile Deaths in Greater Melbourne in 1923-27 from— | | | | | |
|---|---|---|---|---|---|---|
| | Diarrhœal Diseases. | | | Respiratory Diseases. | | |
| | Males. | Females. | Total. | Males. | Females. | Total. |
| January .. .. | 117 | 95 | 212 | 23 | 24 | 47 |
| February .. .. | 121 | 98 | 219 | 30 | 10 | 40 |
| March .. .. | 103 | 90 | 193 | 20 | 21 | 41 |
| April .. .. | 81 | 58 | 139 | 26 | 19 | 45 |
| May .. .. | 47 | 34 | 81 | 26 | 25 | 51 |
| June .. .. | 20 | 18 | 38 | 28 | 23 | 51 |
| July .. .. | 11 | 3 | 14 | 57 | 51 | 108 |
| August .. .. | 8 | 4 | 12 | 55 | 49 | 104 |
| September .. .. | 5 | 10 | 15 | 42 | 42 | 84 |
| October .. .. | 12 | 12 | 24 | 21 | 16 | 37 |
| November .. .. | 16 | 7 | 23 | 21 | 12 | 33 |
| December .. .. | 37 | 32 | 69 | 20 | 17 | 37 |
| Total, 1923-27 .. | 578 | 461 | 1,039 | 369 | 309 | 678 |

The experience of the last five years shows that of the total infantile deaths in the metropolis from diarrhœal diseases 73 per cent. occur during the four months January to April, and of the deaths from respiratory diseases 51 per cent. occur in the four months June to September.

**Infantile mortality in Australasia.**

The deaths of infants under 1 year of age in the Commonwealth numbered 7,283 in 1927, as compared with 7,188 in 1926, 7,250 in 1925, 7,701 in 1924, and 8,186 in 1923. The next table gives the proportion of such deaths to the total births in each State, the Commonwealth of Australia, and New Zealand for periods back to 1910 :—

INFANTILE MORTALITY IN AUSTRALASIA, 1910 TO 1927.

| Period. | Deaths under One Year per 100 Births. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Victoria. | New South Wales. | Queensland. | South Australia. | Western Australia. | Tasmania. | Australia. | New Zealand. |
| 1910–14 | 7·38 | 7·27 | 6·55 | 6·78 | 7·49 | 7·68 | 7·17 | 5·72 |
| 1915–19 | 6·61 | 6·44 | 6·33 | 6·18 | 6·19 | 6·53 | 6·43 | 4·86 |
| 1920–24 | 6·53 | 6·10 | 5·46 | 5·84 | 6·11 | 6·24 | 6·10 | 4·49 |
| 1925 .. | 5·70 | 5·50 | 4·52 | 4·61 | 5·66 | 5·52 | 5·34 | 4·00 |
| 1926 .. | 5·56 | 5·76 | 5·06 | 4·43 | 4·93 | 4·67 | 5·40 | 3·98 |
| 1927 .. | 5·61 | 5·49 | 5·45 | 5·34 | 4·59 | 5·30 | 5·45 | 3·87 |

The infantile death rate in England and Wales, in 1927, was 6·9.

The infantile deaths per 100 births in the Australasian capitals in 1927 were as follows :—Melbourne 6·25, Sydney 5·64, Brisbane 5·80, Adelaide 6·12, Perth 5·77, Hobart 7·10, and Wellington 4·47.

**Deaths of children under 5.**

In 1927 the deaths of male children under 5 years of age numbered 1,496, and the deaths of female children under that age, 1,117—the former being in the proportion of 16·66 per cent., and the latter of 14·34 per cent., to the total number of deaths of the respective sexes at all ages. The subjoined table

gives the annual number of such deaths in the State at each year of age, and the proportion of the deaths under five years of age to the deaths at all ages in decennial periods from 1871 to 1920, and in the years 1921 to 1927 :—

MORTALITY OF CHILDREN UNDER FIVE YEARS.

| Period. | Year of Age at Death. | | | | | Total under 5 Years. | |
|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | Number. | Proportion Per 100 Deaths at all Ages. |
| *Males* | | | | | | | |
| 1871–80 .. | 1,783 | 508 | 206 | 148 | 119 | 2,764 | 39·41 |
| 1881–90 .. | 2,158 | 464 | 161 | 114 | 92 | 2,989 | 34·28 |
| 1891–1900.. | 2,050 | 432 | 143 | 93 | 76 | 2,794 | 30·05 |
| 1901–10 .. | 1,504 | 249 | 83 | 59 | 41 | 1,936 | 22·93 |
| 1911–20 .. | 1,363 | 233 | 92 | 64 | 48 | 1,800 | 20·38 |
| 1921 .. | 1,479 | 213 | 86 | 50 | 45 | 1,873 | 21·62 |
| 1922 .. | 1,130 | 170 | 65 | 47 | 34 | 1,446 | 17·66 |
| 1923 .. | 1,311 | 213 | 86 | 43 | 43 | 1,696 | 18·57 |
| 1924 .. | 1,199 | 201 | 94 | 49 | 58 | 1,601 | 18·06 |
| 1925 .. | 1,170 | 186 | 64 | 44 | 39 | 1,503 | 17·51 |
| 1926 .. | 1,116 | 166 | 72 | 50 | 36 | 1,440 | 16·43 |
| 1927 .. | 1,134 | 193 | 77 | 56 | 36 | 1,496 | 16·66 |
| *Females* | | | | | | | |
| 1871–80 .. | 1,482 | 482 | 198 | 139 | 106 | 2,407 | 46·06 |
| 1881–90 .. | 1,805 | 423 | 151 | 105 | 84 | 2,568 | 39·61 |
| 1891–1900.. | 1,702 | 385 | 129 | 82 | 68 | 2,366 | 33·61 |
| 1901–10 .. | 1,192 | 217 | 81 | 51 | 40 | 1,581 | 23·58 |
| 1911–20 .. | 1,029 | 190 | 74 | 59 | 49 | 1,401 | 19·00 |
| 1921 .. | 1,107 | 183 | 73 | 36 | 57 | 1,456 | 19·41 |
| 1922 .. | 805 | 123 | 61 | 34 | 27 | 1,050 | 15·07 |
| 1923 .. | 1,047 | 159 | 71 | 33 | 32 | 1,342 | 16·60 |
| 1924 .. | 1,017 | 175 | 66 | 44 | 19 | 1,321 | 17·29 |
| 1925 .. | 876 | 150 | 47 | 35 | 26 | 1,134 | 15·63 |
| 1926 .. | 851 | 105 | 64 | 40 | 27 | 1,087 | 14·36 |
| 1927 .. | 832 | 157 | 53 | 41 | 34 | 1,117 | 14·34 |

The number of persons of advanced ages was greater in the later than in the earlier years mentioned in the above table, and, as the mortality is very heavy at the older ages, this accounts to some extent for the gradual decrease in the proportion of deaths under the age of 5 years. After making allowance for this there is still a marked reduction in the mortality under 5 years of age in recent years as compared with that in periods prior to 1901.

**Ages at death.**

The ages of males and females who died in 1927 and in the two preceding years are shown in the following table :—

AGES AT DEATH IN VICTORIA, 1925 TO 1927.

| Ages. | 1925. | | | 1926. | | | 1927. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | Males. | Females. | Total. | Males. | Females. | Total. |
| Under 1 .. | 1,170 | 876 | 2,046 | 1,116 | 851 | 1,967 | 1,134 | 832 | 1,966 |
| 1 to 2 | 186 | 150 | 336 | 166 | 105 | 271 | 193 | 157 | 350 |
| 2 ,, 3 | 64 | 47 | 111 | 72 | 64 | 136 | 77 | 53 | 130 |
| 3 ,, 4 | 44 | 35 | 79 | 50 | 40 | 90 | 56 | 41 | 97 |
| 4 ,, 5 | 39 | 26 | 65 | 36 | 27 | 63 | 36 | 34 | 70 |
| 5 ,, 10 | 127 | 97 | 224 | 124 | 91 | 215 | 122 | 117 | 239 |
| 10 ,, 15 | 106 | 96 | 202 | 114 | 88 | 202 | 114 | 80 | 194 |
| 15 ,, 20 | 162 | 124 | 286 | 168 | 132 | 300 | 155 | 124 | 279 |
| 20 ,, 25 | 198 | 161 | 359 | 196 | 200 | 396 | 201 | 208 | 409 |
| 25 ,, 30 | 194 | 215 | 409 | 191 | 212 | 403 | 241 | 223 | 464 |
| 30 ,, 35 | 229 | 227 | 456 | 225 | 260 | 485 | 253 | 222 | 475 |
| 35 ,, 40 | 299 | 248 | 547 | 271 | 284 | 555 | 275 | 273 | 548 |
| 40 ,, 45 | 285 | 277 | 562 | 315 | 284 | 599 | 312 | 264 | 576 |
| 45 ,, 50 | 363 | 301 | 664 | 426 | 342 | 768 | 427 | 338 | 765 |
| 50 ,, 55 | 520 | 395 | 915 | 485 | 385 | 870 | 495 | 402 | 897 |
| 55 ,, 60 | 656 | 449 | 1,105 | 673 | 511 | 1,184 | 644 | 514 | 1,158 |
| 60 ,, 65 | 889 | 601 | 1,490 | 830 | 626 | 1,456 | 892 | 665 | 1,557 |
| 65 ,, 70 | 857 | 657 | 1,514 | 940 | 722 | 1,662 | 1,006 | 776 | 1,782 |
| 70 ,, 75 | 710 | 589 | 1,299 | 776 | 663 | 1,439 | 836 | 698 | 1,534 |
| 75 ,, 80 | 580 | 596 | 1,176 | 643 | 595 | 1,238 | 613 | 638 | 1,251 |
| 80 ,, 85 | 469 | 568 | 1,037 | 483 | 558 | 1,041 | 475 | 533 | 1,008 |
| 85 ,, 90 | 296 | 343 | 639 | 300 | 337 | 637 | 272 | 388 | 660 |
| 90 ,, 95 | 106 | 137 | 243 | 127 | 137 | 264 | 126 | 156 | 282 |
| 95 .. | 14 | 14 | 28 | 10 | 22 | 32 | 5 | 9 | 14 |
| 96 .. | 11 | 7 | 18 | 9 | 10 | 19 | 5 | 21 | 26 |
| 97 .. | 3 | 9 | 12 | 7 | 5 | 12 | 5 | 5 | 10 |
| 98 .. | 2 | 5 | 7 | 2 | 10 | 12 | 7 | 8 | 15 |
| 99 .. | 1 | 2 | 3 | 3 | 3 | 6 | 1 | 6 | 7 |
| 100 .. | 1 | 1 | 2 | 4 | 1 | 5 | 2 | 1 | 3 |
| 101 .. | 1 | 1 | 2 | .. | 1 | 1 | .. | 3 | 3 |
| 102 .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| 103 .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. |
| 104 .. | .. | .. | .. | 1 | 1 | 2 | 1 | .. | 1 |
| 105 .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. |
| 107 .. | .. | .. | .. | .. | 1 | 1 | .. | 1 | 1 |
| 110 .. | .. | .. | .. | *2 | .. | 2 | .. | .. | .. |
| Total .. | 8,582 | 7,254 | 15,836 | 8,765 | 7,570 | 16,335 | 8,982 | 7,791 | 16,773 |

* Age not verified.

Of the 48,944 persons who died in Victoria during the last three years 6,059 were aged 80 years and upwards, and 27—thirteen males and fourteen females—had attained or passed the age of 100 years.

The highest age at death recorded in the period 1925–27 was 110 years, which was attained by two men. It was found impossible, however, to verify these ages. To every 100 female deaths there were 115 male deaths in 1927, as against 116 in 1926, 118 in 1925, 116 in 1924, and 113 in 1923.

**Death rates from certain diseases.**

The death rates from the chief diseases are shown in the appended table for the period 1908–12 and for the last five years :—

## DEATHS PER MILLION FROM CERTAIN CAUSES.

| Cause of Death. | Deaths per Million of the Population. | | | | | |
|---|---|---|---|---|---|---|
| | 1908-1912. | 1923. | 1924. | 1925. | 1926. | 1927. |
| Typhoid Fever .. .. .. | 98 | 34 | 20 | 11 | 17 | 17 |
| Measles .. .. .. | 33 | 48 | 4 | 26 | 8 | 30 |
| Scarlet Fever .. .. .. | 16 | 11 | 13 | 10 | 9 | 17 |
| Whooping Cough .. .. | 77 | 12 | 160 | 27 | 71 | 30 |
| Diphtheria and Croup .. .. | 122 | 58 | 69 | 42 | 41 | 54 |
| Influenza .. .. .. | 109 | 248 | 104 | 41 | 118 | 40 |
| Acute Anterior Poliomyelitis (previously Infantile Paralysis) .. | .. | 2 | 2 | 15 | 5 | 5 |
| Cerebro-Spinal Meningitis .. | .. | 8 | 20 | 17 | 11 | 8 |
| Tuberculosis of the Respiratory System .. .. .. | 855 | 620 | 585 | 561 | 545 | 546 |
| Other Tubercular Diseases .. | 182 | 123 | 127 | 97 | 84 | 100 |
| Syphilis .. .. .. | 51 | 26 | 24 | 24 | 24 | 26 |
| Cancer .. .. .. | 833 | 1,013 | 999 | 978 | 1,014 | 1,001 |
| Diabetes .. .. .. | 107 | 98 | 133 | 107 | 109 | 130 |
| Anæmia, Chlorosis, Leucæmia .. | 81 | 118 | 97 | 104 | 98 | 81 |
| Simple Meningitis .. .. | 133 | 67 | 46 | 38 | 39 | 36 |
| Locomotor Ataxia and other diseases of Spinal Cord .. .. | 71 | 49 | 55 | 29 | 39 | 43 |
| Apoplexy and Hæmorrhage of the Brain .. .. .. | 449 | 471 | 467 | 451 | 434 | 461 |
| Epilepsy .. .. .. | 35 | 39 | 25 | 34 | 31 | 32 |
| Convulsions .. .. .. | 76 | 45 | 31 | 18 | 22 | 23 |
| Heart Disease (including Endocarditis, Pericarditis, and Angina Pectoris) .. .. .. | 1,441 | 1,423 | 1,364 | 1,384 | 1,255 | 1,323 |
| Acute and Chronic Bronchitis .. | 348 | 233 | 199 | 161 | 170 | 192 |
| Pneumonia and Broncho-pneumonia | 834 | 978 | 741 | 543 | 673 | 731 |

DEATHS PER MILLION FROM CERTAIN CAUSES—*continued.*

| Cause of Death. | Deaths per Million of the Population. | | | | | |
|---|---|---|---|---|---|---|
| | 1908-1912. | 1923. | 1924. | 1925. | 1926. | 1927. |
| Pleurisy .. .. .. | 45 | 32 | 30 | 29 | 30 | 43 |
| Congestion of Lungs and Pulmonary Apoplexy .. .. .. | 63 | 45 | 59 | 52 | 52 | 65 |
| Asthma and Pulmonary Emphysema | 60 | 42 | 26 | 30 | 24 | 28 |
| Diseases of the Stomach (Cancer excepted) .. .. .. | 99 | 81 | 71 | 91 | 88 | 87 |
| Enteritis, Gastro-enteritis, and Diarrhœal Diseases .. .. | 833 | 480 | 354 | 376 | 332 | 272 |
| Appendicitis .. .. .. | 81 | 70 | 75 | 67 | 74 | 75 |
| Hernia, Intestinal Obstruction .. | 113 | 95 | 90 | 105 | 104 | 87 |
| Hydatids .. .. .. | 22 | 10 | 10 | 11 | 11 | 10 |
| Cirrhosis and other diseases of the Liver (Cancer excepted) .. | 158 | 90 | 87 | 86 | 89 | 109 |
| Biliary Calculi .. .. .. | 27 | 14 | 25 | 23 | 19 | 25 |
| Simple Peritonitis (non-puerperal).. | 35 | 34 | 25 | 27 | 21 | 21 |
| Acute and Chronic Nephritis, Uræmia, Bright's Disease .. .. | 576 | 501 | 482 | 493 | 535 | 552 |
| Calculi of the Urinary System .. | 7 | 6 | 9 | 5 | 7 | 14 |
| Diseases of the Bladder and Prostate | 94 | 68 | 69 | 86 | 75 | 92 |
| Old Age .. .. .. | 1,030 | 867 | 770 | 762 | 743 | 658 |
| Suicide .. .. .. | 102 | 78 | 72 | 107 | 93 | 108 |
| Accidental Violence .. .. | 531 | 414 | 485 | 504 | 522 | 487 |
| Homicide .. .. .. | 19 | 13 | 11 | 13 | 20 | 18 |

The above and other causes of death are fully dealt with in subsequent paragraphs.

**The Seasonal Prevalence of Diseases.**

The following table shows for each month of the year the proportion of deaths per 1,000 due to nine well-known diseases and to all causes. The figures are based on the experience of the period 1920–26, and, in order to make the results comparable, adjustments have been made to correct the inequality of the number of days in each month. The average annual mortality from each disease is shown at the foot of the table :—

## SEASONAL PREVALENCE OF DISEASES IN VICTORIA, 1920–26.

| Month. | Typhoid Fever. | Whooping Cough. | Diphtheria and Croup. | Influenza. | Tuberculosis of the Respiratory System. | Bronchitis. | Pneumonia and Broncho-pneumonia. | Diarrhœa and Enteritis. | Bright's Disease. | Total from all Causes. |
|---|---|---|---|---|---|---|---|---|---|---|
| January .. .. | 133 | 77 | 56 | 19 | 77 | 41 | 58 | 194 | 66 | 81 |
| February .. .. | 188 | 77 | 59 | 19 | 69 | 39 | 47 | 179 | 73 | 78 |
| March .. .. | 137 | 60 | 109 | 34 | 75 | 46 | 55 | 154 | 70 | 77 |
| April .. .. | 113 | 30 | 122 | 52 | 77 | 69 | 74 | 126 | 76 | 83 |
| May .. .. | 130 | 42 | 138 | 125 | 91 | 94 | 94 | 76 | 84 | 85 |
| June .. .. | 51 | 46 | 133 | 199 | 84 | 126 | 119 | 38 | 85 | 90 |
| July .. .. | 40 | 85 | 98 | 167 | 88 | 138 | 125 | 25 | 101 | 95 |
| August .. .. | 37 | 122 | 85 | 136 | 93 | 140 | 115 | 23 | 102 | 92 |
| September .. .. | 21 | 118 | 65 | 102 | 93 | 98 | 96 | 23 | 87 | 84 |
| October .. .. | 33 | 145 | 56 | 60 | 92 | 81 | 84 | 28 | 85 | 82 |
| November .. .. | 31 | 113 | 32 | 54 | 82 | 76 | 73 | 41 | 84 | 77 |
| December .. .. | 86 | 85 | 47 | 33 | 79 | 52 | 60 | 93 | 87 | 76 |
| | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Average Annual Number of Deaths 1920–26 .. | .42 | 110 | 148 | 160 | 960 | 334 | 1,179 | 726 | 819 | 16,292 |

An inspection of the above table shows that the mortality from all causes was greatest in the winter months, the highest point being reached in July. It was lowest in the warmer months of the year, except January.

Typhoid fever, diarrhœa, and enteritis are essentially hot weather diseases, while pneumonia and broncho-pneumonia, bronchitis, and influenza are much more prevalent in the colder months than in the warmer ones. The greatest number of deaths from diphtheria occur in the autumn, while whooping cough reaches its zenith in the months of early spring. Tuberculosis of the Respiratory System and Bright's disease do not exhibit variations in mortality according to season to as great an extent as the other diseases mentioned, but reach their maximum mortality during the cold weather.

**Vaccinations.** The proportion of successful vaccinations to every 100 births for periods since 1875 is given in the following table. A great reduction in the percentage of vaccinations to births is shown since the year 1919. This is due to a large number of persons having taken advantage of the "Conscience Clause" of the Health Act of 1919, which came into operation on 24th March, 1920.

SUCCESSFUL VACCINATIONS PER 100 BIRTHS.

| Period. | Vaccinations per 100 Births. |
|---|---|
| 1876–99 .. | 72 |
| 1900–04 .. | 64 |
| 1905–09 .. | 67 |
| 1910–14 .. | 65 |
| 1915–19 .. | 56 |
| 1920–24 .. | 8 |
| 1925 .. .. | 5 |
| 1926 .. .. | 4 |
| 1927 .. .. | 2·7 |

In 1927 the vaccinations of children were equal to 2·7 per cent. of the births, as compared with 8 per cent. in the period 1920–24, 56 per cent. in the period 1915–19, and 72 per cent. in the period 1876–99.

**Typhoid fever.** The reported cases of typhoid fever for the whole State declined from 288 per 100,000 of population in 1895–99 to 53 per 100,000 in 1914–18, and 12 per 100,000 in 1927, or by 96 per cent. in the intervening years. The death rate from the disease decreased by 94 per cent. during the same period. The deaths per 100 cases in 1927 were 15·0 as compared with 12·1 in 1920–24. The reported cases of, and deaths from typhoid fever and their

proportions to the population, also the percentage of cases that ended fatally, are given in the next table for periods back to 1890 :—

TYPHOID FEVER IN VICTORIA, 1890 TO 1927.

| Period. | Annual Cases Reported. | | Annual Deaths. | | Deaths per 100 reported Cases. |
|---|---|---|---|---|---|
| | Number. | Per 100,000 of Population. | Number. | Per 100,000 of Population. | |
| 1890–94 .. .. | 2,932 | 253·9 | 381 | 33·0 | 13·0 |
| 1895–99 .. .. | 3,397 | 288·4 | 355 | 30·1 | 10·4 |
| 1900–04 .. .. | 2,152 | 178·1 | 213 | 17·6 | 9·9 |
| 1905–09 .. .. | 1,569 | 125·4 | 135 | 10·8 | 8·6 |
| 1910–14 .. .. | 1,374 | 101·0 | 107 | 7·8 | 7·8 |
| 1915–19 .. .. | 563 | 39·3 | 60 | 4·2 | 10·6 |
| 1920–24 .. .. | 408 | 25·9 | 49 | 3·1 | 12·1 |
| 1925 .. .. | 181 | 10·8 | 19 | 1·1 | 10·5 |
| 1926 .. .. | 286 | 16·9 | 29 | 1·7 | 10·1 |
| 1927 .. .. | 200 | 11·6 | 30 | 1·7 | 15·0 |

The death rate from typhoid fever for Victoria is considerably lower than that for the Commonwealth.

**Typhoid fever in the Metropolis.**

The cases of, and deaths from typhoid fever in proportion to population, in Greater Melbourne, are given in the subjoined table for different periods during the last thirty-eight years :—

TYPHOID FEVER IN THE METROPOLIS, 1890 TO 1927.

| Period. | Annual Cases Reported. | | Annual Deaths. | |
|---|---|---|---|---|
| | Number. | Per 100,000 of Population. | Number. | Per 100,000 of Population. |
| 1890–94 .. .. | 1,645 | 349·3 | 205 | 43·5 |
| 1895–99 .. .. | 1,510 | 327·6 | 156 | 33·8 |
| 1900–04 .. .. | 701 | 140·0 | 74 | 14·8 |
| 1905–09 .. .. | 466 | 86·7 | 49 | 9·1 |
| 1910–14 .. .. | 385 | 61·4 | 36 | 5·8 |
| 1915–19 .. .. | 128 | 18·0 | 19 | 2·7 |
| 1920–24 .. .. | 105 | 13·0 | 16 | 2·0 |
| 1925 .. .. | 38 | 4·2 | 5 | 0·6 |
| 1926 .. .. | 74 | 8·0 | 9 | 1·0 |
| 1927 .. .. | 81 | 8·4 | 16 | 1·7 |

The cases of, and deaths from typhoid fever in proportion to population declined by 97 and 95 per cent. respectively in Greater Melbourne between 1895–99 and 1927. The introduction and extension of the sewerage system coincide closely with, and in a large measure account for this great improvement.

**Prevalence of typhoid fever in different areas.**

The number of cases of typhoid fever during each of the last five years in five divisions of the State, and their proportions to the respective populations for the period 1910–19 and the years 1926 and 1927, are given in the following table :—

PREVALENCE OF TYPHOID FEVER.

| Area. | Reported Cases of Typhoid Fever. | | | | | Annual Cases per 10,000 of Population. | | |
|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1910–19. | 1926. | 1927. |
| Greater Melbourne .. | 103 | 96 | 38 | 74 | 81 | 4·1 | 0·8 | 0·8 |
| Ballarat .. .. | 20 | 8 | 9 | 16 | 1 | 13·4 | 3·8 | 0·2 |
| Bendigo .. .. | 16 | 9 | 3 | 2 | 4 | 18·2 | 0·6 | 1·2 |
| Geelong .. .. | 3 | 1 | .. | 1 | 3 | 9·0 | 0·2 | 0·7 |
| Rest of the State .. | 326 | 190 | 131 | 193 | 111 | 8·9 | 3·0 | 1·7 |

The cases in proportion to population were fewer by 80 per cent. in Greater Melbourne, 99 per cent. in Ballarat, 93 per cent. in Bendigo, 92 per cent. in Geelong, and 81 per cent. in the rest of the State in 1927 than in the period 1910–19.

**Death rates from typhoid fever at different ages.**

The mortality from typhoid fever is higher at early adult and middle ages than at other periods of life, and higher among males than females. This is shown in the next table, which gives the death rates in age groups for each sex in the years 1900–02, 1910–12, and 1920–22, being the years adjoining the censuses of 1901, 1911, and 1921 :—

DEATH RATES FROM TYPHOID FEVER, 1900–02, 1910–12, AND 1920–22.

| Age Group. | Deaths per 10,000 of each Sex. | | | | | |
|---|---|---|---|---|---|---|
| | Males. | | | Females. | | |
| | 1900–02. | 1910–12. | 1920–22. | 1900–02. | 1910–12. | 1920–22 |
| 0–15 .. .. | 0·97 | 0·38 | 0·12 | 1·46 | 0·44 | 0·28 |
| 15–20 .. .. | 2·65 | 1·76 | 0·40 | 2·23 | 1·22 | 0·46 |
| 20–25 .. .. | 4·39 | 1·82 | 0·97 | 1·84 | 1·32 | 0·54 |
| 25–35 .. .. | 3·28 | 1·71 | 0·41 | 2·04 | 0·82 | 0·38 |
| 35–45 .. .. | 2·25 | 1·26 | 0·45 | 1·21 | 0·68 | 0·36 |
| 45–55 .. .. | 1·95 | 0·82 | 0·54 | 0·93 | 0·39 | 0·20 |
| 55–65 .. .. | 0·66 | 0·20 | 0·42 | 0·34 | 0·50 | 0·16 |
| 65 and over .. | .. | 0·10 | 0·10 | 0·23 | 0·19 | 0·09 |
| All ages .. .. | 1·95 | 1·00 | 0·37 | 1·49 | 0·69 | 0·32 |

The experience of the three census periods mentioned shows that the rate for males exceeds that for females by 33 per cent., and that the heaviest mortality occurs between the ages 15 and 35. It is notable that at each census period there were proportionately fewer deaths of boys than of girls under the age of 15.

**Small-pox—Deaths from.** Persons suffering from small-pox have arrived at Victorian ports on many occasions, but, as they were at once quarantined, the disease never spread among the people of the State. During the years 1853 to 1927 only 31 deaths occurred from this cause, and of that number only 8 took place in the last forty-three years of the period.

**Measles.** Although the mortality from measles has varied very considerably from period to period, there has been no very severe epidemic outbreak since 1898, when 671 deaths resulted from the disease. In 1927 there were 51 deaths attributed to this cause, representing a rate of 30 per million of the population, as, compared with rates of 8 in 1926, 26 in 1925, 4 in 1924, 48 in 1923, ·6 in 1922, 4 in 1921, 146 in 1920, 17 in 1919, and 5 in 1918,

On the average of the five years 1919 to 1923, 53 per cent. of those who died from the disease were under 2 years of age and 75 per cent. were under 5 years. The incidence of mortality at various ages for each sex for the period 1919–23 was as follows :—

| Sex. | Annual Deaths from Measles per 10,000 of each Sex aged— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 to 1. | 1 to 2. | 2 to 3. | 3 to 4. | 4 to 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 and over. | All Ages. |
| Males | 4·17 | 7·64 | 2·83 | 1·69 | 0·87 | 0·75 | 0·06 | 0·06 | 0·02 | 0·46 |
| Females | 2·34 | 7·87 | 2·35 | 1·50 | 0·52 | 0·57 | 0·23 | 0·03 | 0·06 | 0·40 |

**Scarlet fever.** In 1927 the deaths from scarlet fever numbered 29, which corresponded to a rate of 17 per million of the population, as compared with rates of 9 in 1926, 10 in 1925, 13 in 1924, 11 in 1923, 8 in 1922, 12 in 1921, 24 in 1920, and 34 in 1890–92. During 1927 there were 2,290 cases reported, as against 1,151 in 1926, 1,345 in 1925, 2,356 in 1924, and 1,730 in 1923. For the five years mentioned the deaths were equal to one per cent. of the cases. According to the experience of the last ten years the chance of dying from the disease is 73 per cent. greater for females than for males.

**Whooping cough.** Whooping cough was responsible for 52 deaths in 1927, which equalled a rate of 30 per million of the population at all ages, as compared with rates of 71 in 1926, 27 in 1925, 160 in 1924, 12 in 1923, 26 in 1922, 63 in 1921, 125 in 1920, 24 in 1919, and 47 in 1918. The infantile death rate

is more affected than the general rate by this ailment, as it is practically confined to children. In the year under review 28 of the deaths were of infants under 1 year, and all except one of the deaths were of children less than 4 years of age. On the average of the last ten years the mortality rate from the disease was 26 per cent. higher among females than males.

**Diphtheria.** The prevalence of diphtheria throughout the State during the last seventeen years was an unsatisfactory feature of the statistics of sickness relating to that period. For the year 1927 the number of cases was 3,254, as against 2,471 in 1926, 2,631 in 1925, a yearly average of 5,739 in 1920–24, 4,901 in 1915–19, 4,612 in 1910–14, 1,410 in 1905–09, 1,680 in 1900–04, and 1,584 in 1895–99. On the other hand, a very great reduction took place from period to period in the proportion of cases which ended fatally. The case mortality rate was 2·9 per cent. in 1927, as compared with 4·3 per cent. in 1915–19, 6·3 per cent. in 1905–09, 9·5 per cent. in 1900–04, and 13·9 per cent. in 1895–99.

The appended table shows for the whole State and the metropolis the reported cases of and deaths from diphtheria, and their proportions to the population, also the ratios of deaths to cases for different periods since 1894 :—

DIPHTHERIA IN VICTORIA AND GREATER MELBOURNE, 1895 TO 1927.

| Period. | Annual Cases Reported. | | Annual Deaths. | | Deaths per 100 Cases Reported. |
|---|---|---|---|---|---|
| | Number. | Per 100,000 of Population. | Number. | Per 100,000 of Population. | |
| **VICTORIA.** | | | | | |
| 1895–99 .. .. | 1,584 | 134·6 | 221 | 18·8 | 13·9 |
| 1900–04 .. .. | 1,680 | 139·0 | 159 | 13·2 | 9·5 |
| 1905–09 .. .. | 1,410 | 112·6 | 89 | 7·1 | 6·3 |
| 1910–14 .. .. | 4,612 | 339·1 | 212 | 15·6 | 4·6 |
| 1915–19 .. .. | 4,901 | 342·5 | 209 | 14·6 | 4·3 |
| 1920–24 .. .. | 5,739 | 364·6 | 179 | 11·4 | 3·1 |
| 1925 .. .. | 2,631 | 157·4 | 71 | 4·2 | 2·7 |
| 1926 .. .. | 2,471 | 145·6 | 70 | 4·1 | 2·8 |
| 1927 .. .. | 3,254 | 188·4 | 93 | 5·4 | 2·9 |
| **GREATER MELBOURNE.** | | | | | |
| 1895–99 .. .. | 748 | 162·1 | 113 | 24·6 | 15·1 |
| 1900–04 .. .. | 686 | 136·9 | 58 | 11·6 | 8·5 |
| 1905–09 .. .. | 758 | 140·8 | 46 | 8·5 | 6·1 |
| 1910–14 .. .. | 2,343 | 374·3 | 114 | 18·3 | 4·9 |
| 1915–19 .. .. | 2,864 | 402·6 | 127 | 17·9 | 4·4 |
| 1920–24 .. .. | 2,555 | 314·6 | 78 | 9·7 | 3·1 |
| 1925 .. .. | 1,567 | 174·3 | 41 | 4·6 | 2·6 |
| 1926 .. .. | 1,461 | 157·4 | 37 | 4·0 | 2·5 |
| 1927 .. .. | 1,795 | 187·0 | 49 | 5·1 | 2·7 |

**Prevalence of diphtheria in different areas.** The cases of diphtheria which occurred in five divisions of the State in each of the last five years and their proportions to the respective populations, for the period 1910-19 and the years 1926 and 1927, are given in the subjoined table :—

CASES OF DIPHTHERIA IN DIFFERENT AREAS.

| Area. | Reported Cases of Diphtheria. | | | | | Annual Cases per 10,000 of Population. | | |
|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1910-19. | 1926. | 1927. |
| Greater Melbourne .. | 1,900 | 2,239 | 1,567 | 1,461 | 1,795 | 39·3 | 15·7 | 18·7 |
| Ballarat .. .. | 90 | 54 | 36 | 43 | 37 | 24·3 | 10·3 | 8·8 |
| Bendigo .. .. | 91 | 108 | 85 | 35 | 67 | 84·6 | 10·4 | 19·8 |
| Geelong .. .. | 98 | 127 | 133 | 167 | 231 | 43·4 | 40·9 | 54·6 |
| Rest of the State .. | 1,288 | 1,459 | 810 | 765 | 1,124 | 25·7 | 11·7 | 17·3 |

In 1927, the cases in each division of the State, except Ballarat, were more than in the preceding year.

**Death rates from diphtheria at various ages.** Of the 488 males and 506 females who died from diphtheria during the five years 1919-23, 521, or 53 per cent., were under 5 years, and 850, or 86 per cent., were under 10 years of age. The incidence of mortality for each sex at different ages, for the period mentioned, was as follows :—

DEATH RATES FROM DIPHTHERIA AT DIFFERENT AGES, 1919-23.

| Sex. | Annual Deaths from Diphtheria per 10,000 of each Sex aged— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 to 1. | 1 to 2. | 2 to 3. | 3 to 4. | 4 to 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 and over. | All Ages. |
| Males.. | 5·08 | 9·09 | 9·28 | 7·67 | 6·23 | 3·67 | 0·83 | 0·33 | 0·07 | 1·29 |
| Females | 3·86 | 6·65 | 6·09 | 6·56 | 7·10 | 4·91 | 0·96 | 0·62 | 0·13 | 1·30 |

**Influenza.** The deaths from influenza in 1927 numbered 69, which corresponded to a rate of 40 per million of the population, as compared with rates of 118 in 1926, 41 in 1925, 104 in 1924, 248 in 1923, 46 in 1922, 88 in 1921, 52 in 1920, 2,407 in 1919, 148 in 1918, 71 in 1913-17, 109 in 1908-12, and 381 in 1890-92.

In 1927, 55·1 per cent. of the deaths recorded were associated with specified pneumonic complications.

With the exception of the 1919 epidemic, when 72 per cent. of the deaths were of persons between 20 and 50 years of age, influenza has always proved more fatal to elderly people than to those at middle or young ages.

The next table gives the death rate per 10,000 of each sex in age groups for the last five census periods:—

DEATHS FROM INFLUENZA IN VICTORIA PER 10,000 OF EACH SEX.

| Age Group. | 1880–82. | 1890–92. | 1900–02. | 1910–12. | 1920–22. |
|---|---|---|---|---|---|
| *Males.* | | | | | |
| 0—15 ... ... ... ... | ·34 | 2·50 | 1·10 | ·40 | ·23 |
| 15—20 ... ... ... ... | ·07 | ·64 | ·34 | ·24 | ·30 |
| 20—25 ... ... ... ... | ... | 1·20 | ·59 | ·21 | ·38 |
| 25—35 ... ... ... ... | ·07 | 1·50 | ·79 | ·17 | ·27 |
| 35—45 ... ... ... ... | ... | 3·04 | 1·31 | ·59 | ·56 |
| 45—55 ... ... ... ... | ·24 | 5·12 | 3·20 | ·73 | ·92 |
| 55—65 ... ... ... ... | ·24 | 12·65 | 5·25 | 2·38 | 1·44 |
| 65 and upwards ... ... ... | 2·36 | 27·13 | 17·02 | 12·27 | 4·18 |
| All ages ... ... ... | ·25 | 3·94 | 2·30 | 1·10 | ·65 |
| *Females.* | | | | | |
| 0–15 ... ... ... ... | ·34 | 1·86 | 1·15 | ·42 | ·25 |
| 15—20 ... ... ... ... | .. | ·92 | ·83 | ·34 | ·26 |
| 20—25 ... ... ... ... | ... | 1·28 | ·69 | ·35 | ·35 |
| 25—35 ... ... ... .. | ·07 | 2·35 | ·89 | ·22 | ·45 |
| 35—45 ... ... ... ... | ·08 | 4·11 | 1·86 | ·30 | ·46 |
| 45—55 ... ... ... | ... | 5·39 | 2·02 | ·68 | ·68 |
| 55—65 ... ... ... ... | ·62 | 11·46 | 5·53 | 1·61 | ·91 |
| 65 and upwards ... ... ... | 3·18 | 35·22 | 16·02 | 12·80 | 3·86 |
| All ages ... ... ... | ·24 | 3·72 | 2·13 | 1·10 | ·60 |

**Influenza epidemic, 1919.**

Information in regard to the epidemic of 1919 is given in the *Year-Book* for 1918–19, pages 214–216; and in the 1919–20 issue, pages 180–182.

**Acute Anterior Poliomyelitis (Infantile Paralysis).**

Opinions have been expressed by members of the medical profession that the name "infantile paralysis" as applied to "acute anterior poliomyelitis" is misleading, for adults are attacked and paralysis is not a constant symptom, consequently, deaths occurring from this disease are now indicated by the medical nomenclature.

Mortality returns show that acute anterior poliomyelitis was responsible for 8 deaths in 1927, 8 in 1926, 25 in 1925, 4 in 1924, 4 in 1923, and 8 in 1922. Of the above 57 deaths, 30 were of males and 27 were of females; 2 were under 1 year of age, 22 were between 1 and 5 years, 12 were between 5 and 10 years, and 21 were over 10 years.

**Cerebro-spinal, tubercular, and simple meningitis.**

Cerebro-spinal meningitis was responsible for 13 deaths in 1927, 19 in 1926, 28 in 1925, 33 in 1924, 13 in 1923, 12 in 1922, 17 in 1921, 15 in 1920, 14 in 1919, 37 in 1918, 75 in 1917, 326 in 1916, and 338 in 1915. The cases reported to the Public Health Department in those years numbered 1,792, and the proportion of these that ended fatally was 52 per cent. The numbers of deaths from

cerebro-spinal, tubercular, and simple meningitis during the last fourteen years were as follows :—

## DEATHS FROM DIFFERENT FORMS OF MENINGITIS, 1914-27.

| Year. | Cerebro-spinal Meningitis. | | Tubercular Meningitis. | | Simple Meningitis. | | Total—All Forms of Meningitis. | |
|---|---|---|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | Males. | Females. | Males. | Females. |
| 1914 .. | 12 | 5 | 42 | 30 | 90 | 63 | 144 | 98 |
| 1915 .. | 239 | 99 | 35 | 35 | 74 | 46 | 348 | 180 |
| 1916 .. | 191 | 135 | 29 | 40 | 56 | 39 | 276 | 214 |
| 1917 .. | 48 | 27 | 56 | 41 | 37 | 35 | 141 | 103 |
| 1918 .. | 28 | 9 | 55 | 40 | 39 | 35 | 122 | 84 |
| 1919 .. | 7 | 7 | 38 | 24 | 33 | 29 | 78 | 60 |
| 1920 .. | 12 | 3 | 49 | 34 | 46 | 35 | 107 | 72 |
| 1921 .. | 8 | 9 | 42 | 44 | 62 | 37 | 112 | 90 |
| 1922 .. | 9 | 3 | 30 | 28 | 67 | 40 | 106 | 71 |
| 1923 .. | 7 | 6 | 32 | 34 | 64 | 43 | 103 | 83 |
| 1924 .. | 19 | 14 | 47 | 32 | 47 | 29 | 113 | 75 |
| 1925 .. | 16 | 12 | 38 | 39 | 39 | 25 | 93 | 76 |
| 1926 .. | 14 | 5 | 36 | 29 | 42 | 25 | 92 | 59 |
| 1927 .. | 9 | 4 | 42 | 42 | 35 | 27 | 86 | 73 |

**Deaths from tuberculosis of the respiratory system at various ages.**

The ages and sexes of those who died from tuberculosis of the respiratory system in each of the last five years are given in the next table :—

## DEATHS FROM TUBERCULOSIS OF THE RESPIRATORY SYSTEM AT VARIOUS AGES.

| Age Group. | Males. | | | | | Females. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Year. | | | | | Year. | | | | |
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1923. | 1924. | 1925. | 1926. | 1927. |
| 0-10 ... | 4 | 2 | 4 | 3 | 6 | 3 | 3 | 5 | 1 | 4 |
| 10-15 ... | ... | ... | 1 | 2 | 3 | 11 | 6 | 9 | 1 | 3 |
| 15-20 ... | 20 | 20 | 11 | 18 | 19 | 42 | 43 | 48 | 35 | 39 |
| 20-25 ... | 54 | 53 | 46 | 33 | 40 | 64 | 69 | 66 | 74 | 72 |
| 25-30 ... | 67 | 62 | 60 | 45 | 70 | 77 | 67 | 71 | 53 | 72 |
| 30-35 ... | 61 | 60 | 56 | 53 | 69 | 51 | 59 | 50 | 66 | 55 |
| 35-40 ... | 63 | 66 | 75 | 61 | 54 | 53 | 39 | 41 | 41 | 48 |
| 40-45 ... | 84 | 60 | 55 | 63 | 48 | 35 | 28 | 26 | 42 | 35 |
| 45-50 ... | 51 | 47 | 43 | 57 | 48 | 31 | 21 | 22 | 39 | 24 |
| 50-55 ... | 42 | 57 | 62 | 38 | 47 | 13 | 29 | 25 | 23 | 29 |
| 55-60 ... | 38 | 49 | 49 | 46 | 34 | 25 | 24 | 10 | 23 | 16 |
| 60-65 ... | 44 | 35 | 37 | 41 | 36 | 16 | 15 | 13 | 11 | 16 |
| 65-70 . | 19 | 18 | 21 | 26 | 20 | 8 | 4 | 9 | 8 | 18 |
| 70 and over | 11 | 17 | 13 | 16 | 10 | 10 | 7 | 9 | 5 | 9 |
| Total ... | 558 | 546 | 533 | 502 | 504 | 439 | 414 | 404 | 422 | 440 |

For the year 1927, the average age of those who died from tuberculosis of the respiratory system was 40·9 years for males and 36·2 years for females.

**Death rates from tuberculosis of the respiratory system.**

The deaths from tuberculosis of the respiratory system in 1927 numbered 944—504 being of males and 440 of females—and equalled a rate of 546 per million of the population, as compared with rates of 545 in 1926, 561 in 1925, 585 in 1924, 620 in 1923, 565 in 1922, 667 in 1921, 658 in 1920, 739 in 1919, 701 in 1918, 677 in 1917, 743 in 1916, 661 in 1915, 724 in 1914, 755 in 1913, 855 in 1908–12, and 1,365 in 1890–92. In England, Scotland, Northern Ireland, and the Irish Free State in 1926, the deaths from this cause were 771, 691, 1,109, and 1,134 per million of their respective populations. The rates for Victoria are more fully shown in the following table, which gives the mortality per 10,000 of each sex, in age groups, at six census periods:—

## DEATH RATES IN VICTORIA FROM TUBERCULOSIS OF THE RESPIRATORY SYSTEM IN AGE GROUPS AT SIX CENSUS PERIODS.

| Age Group. | Annual Mortality from Tuberculosis of the Respiratory System per 10,000 of each Sex. | | | | | |
|---|---|---|---|---|---|---|
| | 1870–72. | 1880–82. | 1890–92. | 1900–02. | 1910–12. | 1920–22. |
| *Males.* | | | | | | |
| 0 to 15 ... ... | 1·22 | 1·74 | ·90 | ·38 | ·46 | ·42 |
| 15 " 20 ... ... | 5·71 | 6·88 | 5·41 | 5·06 | 3·71 | 2·67 |
| 20 " 25 ... ... | 18·75 | 21·19 | 18·29 | 14·35 | 8·45 | 7·88 |
| 25 " 35 ... ... | 22·21 | 30·33 | 23·70 | 20·31 | 13·11 | 9·70 |
| 35 " 45 ... ... | 21·83 | 25·11 | 28·28 | 22·07 | 15·63 | 12·43 |
| 45 " 55 ... ... | 22·24 | 28·65 | 31·17 | 25·05 | 18·07 | 13·94 |
| 55 " 65 ... ... | 27·86 | 31·41 | 36·48 | 35·75 | 18·88 | 13·03 |
| 65 and upwards ... | 19·56 | 18·08 | 25·40 | 31·07 | 13·55 | 8·65 |
| All Ages ... | 12·89 | 15·33 | 15·73 | 13·51 | 8·98 | 7·11 |
| *Females.* | | | | | | |
| 0 to 15 ... ... | ·98 | 1·76 | 1·43 | ·93 | ·97 | ·38 |
| 15 " 20 ... ... | 12·37 | 12·50 | 9·51 | 8·18 | 7·62 | 4·84 |
| 20 " 25 ... ... | 19·28 | 21·00 | 18·49 | 12·79 | 12·68 | 10·20 |
| 25 " 35 ... ... | 22·02 | 26·56 | 21·77 | 18·15 | 14·03 | 10·00 |
| 35 " 45 ... ... | 21·65 | 24·06 | 22·53 | 17·74 | 11·51 | 9·15 |
| 45 " 55 ... ... | 19·60 | 20·72 | 16·13 | 14·41 | 8·18 | 5·91 |
| 55 " 65 ... ... | 10·51 | 14·26 | 12·35 | 12·52 | 7·47 | 4·95 |
| 65 and upwards ... | 12·61 | 13·12 | 8·25 | 8·18 | 5·29 | 3·94 |
| All Ages ... | 10·62 | 12·75 | 11·51 | 9·72 | 7·61 | 5·55 |

A comparison of the mortalities from tuberculosis of the respiratory system at the census periods 1910–12 and 1920–22 shows that lower death rates obtained in each age group in 1920–22 than in 1910–12, and that the improvement was greater among females than males.

By combining the death rates from tuberculosis of the respiratory system, as shown above, with those from other forms of tubercular disease, given in a subsequent page, it appears that every section of the community experienced relief from tubercular diseases in 1920–22 as compared with the previous census period.

**Tubercular death rates in Melbourne, Ballarat, and Bendigo.**

The distribution of tuberculous mortality shows that certain urban centres—particularly Bendigo and suburbs—furnish considerably higher death rates than the rural portions of the State. The tubercular death rate among miners is considerably in excess of that among farmers and graziers, and, as the residents of Bendigo and suburbs are largely engaged in mining occupations, while most persons living in rural districts are associated with the farming and grazing industries, the distribution of callings accounts in a large measure for the disparity in the mortality rates from this cause in the divisions of the State referred to. On the average of the last five years the tubercular death rate of Bendigo exceeded the rates of Ballarat and Melbourne by 80 and 64 per cent. respectively. The rates in these localities from tubercular diseases are given in the appended table for different periods since 1890:—

DEATH RATES FROM TUBERCULAR DISEASES IN MELBOURNE, BALLARAT, AND BENDIGO, 1891 TO 1927.

| Period. | Deaths per 10,000 of the Population. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Tuberculosis of the Respiratory System. | | | Other Tubercular Diseases. | | | All Tubercular Diseases. | | |
| | Melbourne and Suburbs. | Ballarat and Suburbs. | Bendigo and Suburbs. | Melbourne and Suburbs. | Ballarat and Suburbs. | Bendigo and Suburbs. | Melbourne and Suburbs. | Ballarat and Suburbs. | Bendigo and Suburbs. |
| 1891–1900 .. | 16·7 | 17·1 | 24·1 | 4·7 | 3·5 | 4·0 | 21·4 | 20·6 | 28·1 |
| 1901–05 .. | 13·9 | 15·3 | 22·7 | 4·2 | 4·0 | 4·7 | 18·1 | 19·3 | 27·4 |
| 1906–10 .. | 10·8 | 11·5 | 21·2 | 3·0 | 2·1 | 2·0 | 13·8 | 13·6 | 23·2 |
| 1911–15 .. | 9·1 | 10·3 | 16·5 | 2·1 | 2·2 | 2·1 | 11·2 | 12·5 | 18·6 |
| 1916–20 .. | 8·3 | 11·2 | 16·0 | 1·9 | 1·5 | 2·0 | 10·2 | 12·7 | 18·0 |
| 1921–25 .. | 6·9 | 6·7 | 11·9 | 1·5 | 1·0 | 2·2 | 8·4 | 7·7 | 14·1 |
| 1926 .. | 5·9 | 6·7 | 10·1 | ·9 | ·5 | ·3 | 6·8 | 7·2 | 10·4 |
| 1927 .. | 6·3 | 5·3 | 10·6 | 1·2 | ·2 | ·9 | 7·5 | 5·5 | 11·5 |

**Prevalence of tuberculosis of the respiratory system in different areas.**

Relatively to population cases of tuberculosis of the respiratory system are fewer in country districts than in urban areas. The cases reported during each of the last five years in five divisions of the State, and their proportions to the populations of these divisions for the period 1910–19 and the years 1926 and 1927 are given in the subjoined table :—

TUBERCULOSIS OF THE RESPIRATORY SYSTEM IN DIFFERENT AREAS.

| Area. | Reported Cases of Tuberculosis of the Respiratory System. | | | | | Annual Cases per 10,000 of Population. | | |
|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1910–19. | 1926. | 1927. |
| Greater Melbourne .. | 750 | 716 | 688 | 625 | 734 | 13·9 | 6·7 | 7·6 |
| Ballarat .. .. | 27 | 20 | 34 | 35 | 19 | 12·8 | 8·4 | 4·5 |
| Bendigo .. .. | 47 | 48 | 52 | 53 | 21 | 18·0 | 15·8 | 6·2 |
| Geelong .. .. | 19 | 24 | 24 | 21 | 21 | 7·9 | 5·1 | 5·0 |
| Rest of the State .. | 245 | 252 | 266 | 269 | 249 | 5·8 | 4·1 | 3·8 |
| Whole State .. | 1,088 | 1,060 | 1,064 | 1,003 | 1,044 | 10·4 | 5·9 | 6·0 |

**Tubercular diseases (tuberculosis of the respiratory system excepted).**

In 1927 there were in Victoria 173 deaths from tubercular diseases (excluding tuberculosis of the respiratory system), which corresponded to a rate of 100 per million, as compared with rates of 84 in 1926, 97 in 1925, 127 in 1924, 123 in 1923, 120 in 1922, 137 in 1921, 145 in 1920, 126 in 1919, 144 in 1918, 163 in 1917, 136 in 1916, 135 in 1915, 140 in 1914, 156 in 1913, 182 in 1908–12, and 379 in 1890–92. In England, Scotland, Northern Ireland, and the Irish Free State, in 1926, the deaths from similar causes numbered 190, 302, 359, and 334 per million of their respective populations. The death rates in Victoria for various age groups are shown in the following table for five census periods :—

## DEATH RATES FROM TUBERCULAR DISEASES (TUBERCULOSIS OF THE RESPIRATORY SYSTEM EXCEPTED) IN AGE GROUPS.

| Age Group. | Deaths per 10,000 of each Sex. | | | | |
|---|---|---|---|---|---|
| | 1880-82. | 1890-92. | 1900-02. | 1910-12. | 1920-22. |
| *Males* | | | | | |
| 0—15 ... | 7·98 | 10·36 | 5·64 | 2·75 | 2·00 |
| 15—20 ... | ·81 | 1·17 | 1·12 | 1·12 | ·83 |
| 20—25 ... | 1·23 | ·89 | 1·77 | 1·23 | 1·55 |
| 25—35 ... | ·66 | ·84 | 1·91 | 1·71 | 1·61 |
| 35—45 ... | ·88 | ·77 | 1·39 | 1·38 | 1·15 |
| 45—55 ... | ·85 | ·67 | 1·64 | ·82 | 1·17 |
| 55—65 ... | 1·07 | ·78 | 2·40 | 1·29 | 1·06 |
| 65 and over | 2·36 | ·56 | 1·17 | ·59 | 1·07 |
| All ages | 3·55 | 4·02 | 2·99 | 1·70 | 1·48 |
| *Females.* | | | | | |
| 0—15 ... | 7·28 | 8·43 | 5·33 | 2·12 | 1·57 |
| 15—20 ... | 1·30 | 1·27 | 1·95 | 2·34 | 1·13 |
| 20—25 ... | ·69 | 1·23 | 2·09 | 2·59 | 1·73 |
| 25—35 .. | ·41 | ·88 | 1·98 | 1·81 | 1·18 |
| 35—45 ... | ·70 | ·42 | 1·77 | 1·33 | ·78 |
| 45—55 ... | ·67 | ·34 | 1·01 | ·93 | 1·01 |
| 55—65 ... | ·62 | ·69 | ·71 | 1·11 | ·70 |
| 65 and over | 1·19 | ·64 | ·71 | ·29 | ·86 |
| All ages | 3·39 | 3·58 | 2·91 | 1·76 | 1·21 |

As compared with the period 1910–12 the proportion of persons under 15 years of age who died from tubercular diseases (excluding tuberculosis of the respiratory system) during 1920–22 represented a decline of 27 per cent. for males and of 26 per cent. for females.

**Tubercular diseases—Deaths of recent arrivals.**

The experience of recent years shows that the tubercular death rate in Victoria is but slightly affected by the arrival from beyond Australia of persons suffering from tubercular diseases. Only two of those who died in 1927 had been born outside and resident less than one year in Australia, and 19 had resided in the continent for a shorter period than five years.

**Cancer—Deaths at various ages.**

The numbers dying from cancer in different age groups in each of the last five years are given below :—

DEATHS FROM CANCER AT VARIOUS AGES.

| Age Group. | Males. | | | | | Females. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1923. | 1924. | 1925. | 1926. | 1927. |
| 0–15 .. .. | 3 | 5 | 6 | 7 | 3 | 3 | 1 | 6 | 6 | 5 |
| 15–25 .. .. | 3 | 9 | 9 | 3 | 5 | 7 | 5 | 2 | 4 | 3 |
| 25–35 .. .. | 12 | 9 | 14 | 12 | 14 | 12 | 15 | 16 | 21 | 22 |
| 35–45 .. .. | 38 | 44 | 42 | 25 | 40 | 73 | 67 | 87 | 93 | 78 |
| 45–55 .. .. | 110 | 127 | 108 | 117 | 107 | 193 | 159 | 151 | 162 | 163 |
| 55–65 .. .. | 252 | 263 | 258 | 266 | 255 | 236 | 228 | 238 | 235 | 238 |
| 65–75 .. .. | 238 | 245 | 249 | 276 | 261 | 210 | 204 | 203 | 226 | 265 |
| 75–85 .. .. | 83 | 106 | 95 | 124 | 112 | 109 | 103 | 119 | 104 | 117 |
| 85 and over .. | 25 | 17 | 18 | 24 | 14 | 21 | 33 | 14 | 15 | 27 |
| Total .. | 764 | 825 | 799 | 854 | 811 | 864 | 815 | 836 | 866 | 918 |

The widely different social and economic effects produced by the prevalence of and deaths from the two important diseases, cancer and tuberculosis of the respiratory system, are evidenced by the ages of their victims. For the year 1927 the average age of those who died from the former was 63·3 years for males and 61·7 years for females, while the corresponding averages for the latter were 40·9 years for males and 36·2 years for females.

**Cancer—Death rates.**

Deaths from cancer in 1927 numbered 1,729, and represented a death rate of 1,001 per million of the whole population, as compared with rates of 1,014 in 1926, 978 in 1925, 999 in 1924, 1,013 in 1923, 997 in 1922, 954 in 1921, 908 in 1920, 870 in 1919, 942 in 1918, 833 in 1908–12, and 584 in 1890–92. In England, Scotland, Northern Ireland, and the Irish Free State, in 1926, the deaths per million of population from this cause were 1,362, 1356, 1,124, and 1,017 respectively.

**Cancer—Death Rates at different ages.**

Cancer death rates, computed in relation to the general population in earlier and later periods, are not fairly comparable owing to the changed age distribution of the people. A more accurate mortality rate is obtained by comparing the deaths with the number of persons in the community of the same sex, in age groups. This has been done for four census periods, when the numbers of the people in age groups were accurately known, and the results are given in the appended table :—

## DEATH RATES FROM CANCER IN AGE GROUPS.

| Age Group. | Deaths from Cancer per 10,000 of each Sex. | | | |
|---|---|---|---|---|
| | 1890–92. | 1900–02. | 1910-12. | 1920–22. |
| *Males.* | | | | |
| Under 5 ... | ·18 | ·30 | ·73 | ·46 |
| 5 to 10 .. | ·10 | ·42 | ·25 | ·13 |
| 10 " 15 ... | ·11 | ·20 | ·16 | ·14 |
| 15 " 20 ... | ·17 | ·22 | ·15 | ·30 |
| 20 " 25 ... | ·32 | ·33 | ·71 | ·64 |
| 25 " 35 ... | ·81 | 1·26 | ·96 | ·76 |
| 35 " 45 ... | 4·29 | 3·69 | 3·16 | 3·31 |
| 45 " 55 ... | 14·83 | 14·14 | 16·03 | 13·94 |
| 55 " 65 ... | 31·92 | 36·00 | 36·36 | 40·46 |
| 65 " 75 ... | 52·75 | 59·04 | 74·15 | 78·21 |
| 75 and over | 58·55 | 74·04 | 88·40 | 110·12 |
| All ages | 6·16 | 7·52 | 8·50 | 9·52 |
| *Females.* | | | | |
| Under 5 ... | ·09 | ·26 | ·19 | ·39 |
| 5 to 10 ... | ·10 | ·04 | ·10 | ·17 |
| 10 " 15 ... | ·06 | .. | ·27 | ·05 |
| 15 " 20 ... | ·12 | ·28 | ·44 | ·15 |
| 20 " 25 ... | ·22 | ·23 | ·41 | ·30 |
| 25 " 35 ... | 1·68 | 1·61 | 1·39 | 1·28 |
| 35 " 45 ... | 7·43 | 6·05 | 7·26 | 6·61 |
| 45 " 55 ... | 18·00 | 18·13 | 17·87 | 19·14 |
| 55 " 65 ... | 31·79 | 33·05 | 38·03 | 34·48 |
| 65 " 75 ... | 53·96 | 51·18 | 61·66 | 63·05 |
| 75 and over | 49·55 | 62·70 | 86·19 | 92·86 |
| All ages | 5·57 | 6·64 | 8·76 | 9·63 |

Deaths from cancer occur at all age periods, but the rates in the foregoing table show that it is essentially a disease of later life, increasing rapidly in the groups past middle age, and reaching a maximum mortality rate in the oldest age group. From the figures for the periods 1910–12 and 1920–22 it will be seen that there was in the later period a considerable increase in the death rate from cancer.

**Seat of cancer.**

The following table shows the seat of cancer in persons who died from this disease in 1927 :—

SEAT OF CANCER.

| Seat of Disease. | Males. | Females. | Total. |
|---|---|---|---|
| Cancer of the buccal cavity (mouth, &c.) .. | 87 | 12 | 99 |
| ,, the stomach and liver ... ... | 326 | 261 | 587 |
| ,, the peritoneum, the intestines, and the rectum ... ... | 131 | 141 | 272 |
| ,, the female genital organs ... | ... | 176 | 176 |
| ,, the breast ... ... ... | ... | 164 | 164 |
| ,, the skin ... ... ... | 31 | 23 | 54 |
| ,, other and unspecified organs ... | 236 | 141 | 377 |
| Total Deaths ... | 811 | 918 | 1,729 |

Thirty-four per cent. of the persons who died from cancer were affected in the stomach or liver. Of the females who died from the disease 37 per cent. were affected in the genital organs or the breast.

**Diabetes.**

During 1927 diabetes was responsible for 81 male and 144 female deaths, representing a rate of 130 per million of the population, as compared with rates of 109 in 1926, 107 in 1925, 133 in 1924, 98 in 1923, 110 in 1922, 136 in 1921, 126 in 1920, 134 in 1919, 146 in 1918, and 107 in 1908–12. The deaths from diabetes per 10,000 of each sex in nine age groups, for the periods 1900–02, 1910–12, and 1920–22, are shown in the subjoined table :—

DEATHS FROM DIABETES PER 10,000 OF EACH SEX.

| Age Group. | Deaths per 10,000 of each Sex. | | | | | |
|---|---|---|---|---|---|---|
| | Males. | | | Females. | | |
| | 1900–02. | 1910–12. | 1920–22. | 1900–02. | 1910–12. | 1920–22. |
| 0–10 ... ... | ·09 | ·10 | ·13 | ·05 | ·15 | ·22 |
| 10–20 ... ... | ·24 | ·20 | ·31 | ·26 | ·36 | ·39 |
| 20–30 ... ... | ·17 | ·64 | ·48 | ·36 | ·30 | ·53 |
| 30–40 ... ... | ·32 | ·58 | ·45 | ·51 | ·53 | ·54 |
| 40–50 ... ... | ·49 | 1·11 | ·95 | ·42 | ·78 | 1·11 |
| 50–60 ... ... | 1·38 | 1·80 | 2·14 | 1·42 | 3·18 | 2·79 |
| 60–70 ... ... | 2·67 | 5·63 | 5·19 | 3·19 | 8·47 | 8·02 |
| 70–80 ... ... | 4·36 | 7·34 | 7·37 | 5·01 | 11·54 | 12·51 |
| 80 and over ... .. | 4·11 | 7·43 | 8·42 | 3·54 | 6·83 | 6·02 |
| All Ages ... | ·56 | 1·00 | 1·03 | ·60 | 1·26 | 1·45 |

In 1920–22 the female exceeded the male rate for each age group between 40 and 80, the excess for the twenty years of life 60 to 80 amounting to 61 per cent. For all ages combined the rate for females was 41 per cent. higher than that for males.

**Anæmia, chlorosis, leucæmia.**

Anæmia, chlorosis, and leucæmia were responsible for 140 deaths in 1927, which corresponded to a rate of 81 per million of the population, as against rates of 98 in 1926, 104 in 1925, 97 in 1924, 118 in 1923, 85 in 1922, 104 in 1921, 90 in 1920, 93 in 1919, 90 in 1918, and 81 in 1908–12. Of the 49 persons who died from leucæmia in 1927, 30 were males.

**Diseases of the spine.**

In 1927 locomotor ataxia and other diseases of the spine, excluding acute anterior poliomyelitis, accounted for 50 male and 24 female deaths, representing a death rate of 43 per million of the population, as compared with rates of 39 in 1926, 29 in 1925, 55 in 1924, 49 in 1923, 38 in 1922, 52 in 1921, 45 in 1920, 78 in 1919, 88 in 1918, and 71 in 1908–12. Of the 13 persons who died from locomotor ataxia in 1927, 11 were males.

**Heart disease.**

During 1927 there were 2,104 deaths ascribed to organic heart disease, 12 to pericarditis, 92 to endocarditis and myocarditis, and 168 to angina pectoris. The deaths of persons, over 45 years of age, from endocarditis and myocarditis, are now ascribed to organic heart disease. The total—2,286—from these causes represented a rate of 1,323 per million of the population, as compared with 1,255 in 1926, 1,384 in 1925, 1,364 in 1924, 1,423 in 1923, 1,245 in 1922, 1,267 in 1921, 1,287 in 1920, 1,402 in 1919, 1,400 in 1918, and 1,441 in 1908–12. Of the 2,286 persons who died from these diseases in 1927, only 23, or 1 per cent., were under 15 years of age. On the average of the three years 1920 to 1922 the deaths from all forms of heart disease per 10,000 of each sex, in age groups, were as follows :—

DEATH RATES FROM HEART DISEASE AT VARIOUS AGES, 1920–22.

| Sex. | Deaths per 10,000 Persons aged— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0–15. | 15–20. | 20–25. | 25–35. | 35–45. | 45–55. | 55–65. | 65–75. | 75 and upwards. | All Ages. |
| Males .. | 1·52 | 1·92 | 2·04 | 2·64 | 5·40 | 14·52 | 40·62 | 112·20 | 247·10 | 13·74 |
| Females .. | 1·15 | 1·85 | 1·53 | 3·25 | 5·26 | 10·73 | 29·53 | 85·65 | 208·17 | 11·70 |

The figures indicate that the mortality rate from heart disease is a function of age, and that it attains its maximum at the oldest age. Of the deaths of persons aged 75 and upwards, approximately 1 in 5 is due to some form of this disease.

**Respiratory diseases.**

In 1927 the deaths from respiratory diseases numbered 1,989, which represented a rate of 1,151 per million of the population, as compared with rates of 1,033 in 1926, 887 in 1925, 1,143 in 1924, 1,441 in 1923, 1,195 in 1922, 1,141 in 1921, 1,329 in 1920, 1,430 in 1919, and 1,160 in 1918. Of the deaths from complaints of this nature in the year under review, 66 were referred to acute bronchitis, 130 to chronic bronchitis, 136 to bronchitis unspecified, 540 to broncho-pneumonia, 723 to pneumonia, 75 to pleurisy, and 46 to asthma. These six diseases accounted for 86 per cent. of the total respiratory mortality. The seasonal incidence of these maladies is evidenced by the deaths in May, June, July, August, and September, which represented 53 per cent. of the total for the whole year. Respiratory diseases are much more fatal at the extremes of life than at middle ages, and among males than females. This is shown in the appended table, which gives for each sex the death rates relating to groups of ages at five census periods :—

DEATHS FROM RESPIRATORY DISEASES PER 10,000 OF EACH SEX.

| Age Group. | 1880–82. | 1890–92. | 1900–02. | 1910–12. | 1920–22. |
|---|---|---|---|---|---|
| *Males.* | | | | | |
| 0—15 | 29·02 | 28·52 | 16·53 | 12·94 | 10·25 |
| 15—20 | 3·30 | 2·92 | 2·70 | 1·66 | 1·76 |
| 20—25 | 5·34 | 4·88 | 4·85 | 2·35 | 2·73 |
| 25—35 | 8·31 | 6·85 | 5·94 | 3·86 | 3·71 |
| 35—45 | 15·80 | 13·55 | 9·49 | 10·50 | 8·01 |
| 45—55 | 26·59 | 25·18 | 18·04 | 18·25 | 15·69 |
| 55—65 | 51·65 | 56·51 | 38·37 | 32·68 | 30·42 |
| 65 and upwards | 136·54 | 141·07 | 112·38 | 138·87 | 112·17 |
| All ages | 24·48 | 24·30 | 18·66 | 17·17 | 14·42 |
| *Females.* | | | | | |
| 0–15 | 24·18 | 24·13 | 13·85 | 10·50 | 8·54 |
| 15—20 | 2·02 | 3·52 | 2·34 | 1·56 | 2·32 |
| 20—25 | 4·23 | 3·05 | 3·34 | 2·48 | 1·72 |
| 25—35 | 5·72 | 5·65 | 3·75 | 3·55 | 3·25 |
| 35—45 | 12·53 | 11·55 | 7·68 | 5·85 | 4·90 |
| 45—55 | 13·63 | 17·01 | 11·80 | 8·28 | 6·71 |
| 55—65 | 29·15 | 32·10 | 27·42 | 16·64 | 13·50 |
| 65 and upwards | 116·12 | 112·38 | 86·78 | 99·81 | 86·51 |
| All ages | 17·08 | 17·62 | 13·28 | 11·81 | 10·15 |

The mortality from respiratory diseases at all ages combined was less in the period 1920–22 than in any of the four previous census periods. At each census date the male exceeded the female rate, the average excess for the five census periods being 42 per cent.

**Diseases of the digestive system.**

In 1927 there were 705 male and 559 female deaths from digestive ailments, representing a proportion of 732 per million of the population, as against rates of 778 in 1926, 823 in 1925, 778 in 1924, 914 in 1923, 796 in 1922, 1,095 in 1921, 1,147 in 1920, 978 in 1919, 1,030 in 1918, and 2,382 in 1890–92. Diarrhœal diseases were responsible for 470 deaths, which were equivalent to a rate of 272 per million of population, the corresponding rates in previous periods being 332 in 1926, 376 in 1925, 354 in 1924, 480 in 1923, 358 in 1922, 657 in 1921, 639 in 1920, 501 in 1919, 504 in 1918, 833 in 1908–12, and 1,342 in 1890–92. The age incidence of these diseases shows that they are heaviest at the extremes of life. Of the 470 deaths from diarrhœal diseases in the year under review, 351, or 75 per cent., were of children under 2 years of age, and 55, or about 12 per cent., were of persons over 65 years of age. There were 76 male and 29 female deaths from cirrhosis of the liver, 63 male and 76 female deaths from other affections of that organ (including hydatids), and 75 male and 76 female deaths from hernia and intestinal obstruction.

**Appendicitis.**

The deaths from appendicitis numbered 129 in 1927, which represented a death rate of 75 per million of the population, as compared with rates of 74 in 1926, 67 in 1925, 75 in 1924, 70 in 1923, 67 in 1922, 57 in 1921, 63 in 1920, 61 in 1919 and 66 in 1918. Hospital records show that during the year ended 30th June, 1927, there were 3,286 cases treated, and that 75, or 2·3 per cent., ended fatally, as compared with fatality rates of 1·8 per cent. in 1926, 1·9 per cent. in 1925, 3·3 per cent. in 1924, 2·1 per cent. in 1923, 2·6 per cent. in 1922, 2·2 per cent. in 1921, 2·7 per cent. in 1920, 3·3 per cent. in 1919, 3·0 per cent. in 1918, and 6 per cent. in the period 1908–12. According to the experience of the three years 1920 to 1922 the death rate from appendicitis is approximately 63 per cent. higher among males than females. The mortality rates at various ages for that period were as follows :—

DEATH RATES FROM APPENDICITIS, 1920–22.

| Sex. | Deaths from Appendicitis per 10,000 of each Sex aged— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Under 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 35. | 35 to 45. | 45 to 55. | 55 to 65. | 65 and over. | All Ages. |
| Males.. | 0·31 | 0·87 | 1·31 | 0·86 | 0·74 | 1·08 | 0·79 | 0·85 | 0·68 | 0·78 |
| Females | 0·30 | 0·66 | 0·51 | 0·59 | 0·53 | 0·56 | 0·40 | 0·32 | 0·69 | 0·48 |

**Hydatids.** The deaths attributed to hydatids in 1927 numbered 17, being equivalent to a rate of 10 per million of the population, as compared with rates of 11 in 1926, 11 in 1925, 10 in 1924 and 1923, 13 in 1922, 14 in 1921, 13 in 1920, 18 in 1919, 21 in 1918, 14 in 1917, 22 in 1908–12, and 51 in 1890–92. According to the experience of the last ten years the death rate from this disease is 22 per cent. higher among males than females. Hospital returns for the period 1918–27 show that 633 cases of hydatids were treated therein and that 86, or, approximately, 1 in every 7, ended fatally.

**Diseases of urinary system.** In 1927 there were 1,278 deaths attributed to diseases of the urinary system, which corresponded to a rate of 740 per million of the population, as against rates of 677 in 1926, 627 in 1925, 626 in 1924, 628 in 1923, 624 in 1922, 643 in 1921, 697 in 1920, 645 in 1919, 741 in 1918, and 700 in 1909–12. Acute and chronic nephritis were responsible for 953 deaths, or 75 per cent., and complaints of the bladder and prostate for 159 deaths, or 12 per cent. of the total maladies of the urinary system. The deaths per 10,000 of each sex, in age groups, for the periods 1900–02, 1910–12, and 1920–22 are shown in the following table :—

## DEATH RATES FROM DISEASES OF URINARY SYSTEM.

| Age Group. | Deaths per 10,000 of each Sex. | | | | | |
|---|---|---|---|---|---|---|
| | Males. | | | Females. | | |
| | 1900–02. | 1910–12. | 1920–22. | 1900–02. | 1910–12. | 1920–22. |
| 0–10 ... ... | ·93 | ·67 | ·67 | ·59 | ·79 | ·67 |
| 10–20 ... ... | ·45 | ·73 | ·53 | ·82 | ·71 | ·52 |
| 20–30 ... ... | 1·83 | 1·72 | 1·23 | 1·59 | 1·61 | 1·72 |
| 30–40 ... ... | 3·55 | 3·03 | 2·66 | 4·21 | 3·76 | 2·89 |
| 40–50 ... ... | 8·12 | 9·03 | 6·23 | 7·26 | 7·07 | 5·27 |
| 50–60 ... ... | 17·43 | 18·95 | 14·59 | 11·36 | 13·81 | 10·57 |
| 60–70 ... ... | 39·62 | 46·63 | 38·30 | 21·49 | 24·44 | 22·04 |
| 70–80 ... ... | 80·68 | 96·18 | 97·19 | 27·70 | 38·53 | 40·26 |
| 80 and over ... ... | 128·48 | 153·04 | 167·09 | 27·15 | 43·70 | 54·38 |
| All Ages ... | 8·05 | 9·18 | 8·04 | 4·28 | 5·34 | 5·13 |

The figures for the latest period show that there is scarcely any difference between the rates for males and females under 50 years of age. For older ages, however, the excess of the male over the female rate is very pronounced, especially at ages 70 and upwards. For all ages the rate for males exceeds that for females by 57 per cent.

**Deaths from Puerperal Causes.**

The following tables show, for 1927, in various age groups, the deaths of women from causes relating to childbirth, and the total number of children born to married mothers :—

DEATHS FROM PUERPERAL CAUSES, VICTORIA, 1927.

| Causes of Death. | Ages at Death. | | | | | | | Married Mothers. | Unmarried Mothers. |
|---|---|---|---|---|---|---|---|---|---|
| | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 and over. | Total. | | |
| Accidents of Pregnancy— | | | | | | | | | |
| (*a*) Abortion .. .. | .. | 1 | 3 | 2 | 3 | .. | 9 | 6 | 3 |
| (*b*) Ectopic Gestation .. | .. | .. | 2 | 2 | 2 | .. | 6 | 6 | .. |
| (*c*) Other .. .. .. | .. | 2 | 3 | .. | 1 | 1 | 7 | 6 | 1 |
| Puerperal Hæmorrhage .. .. | .. | 5 | 5 | 5 | 4 | 2 | 21 | 18 | 3 |
| Other Accidents of Labour— | | | | | | | | | |
| (*a*) Cæsarean section .. | .. | .. | .. | 1 | 2 | 1 | 4 | 4 | .. |
| (*b*) Other surgical operations and instrumental delivery | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 |
| (*c*) Others .. .. .. | .. | 1 | 5 | 4 | 6 | 2 | 18 | 17 | 1 |
| Puerperal Septicæmia .. .. | 5 | 16 | 18 | 17 | 17 | 5 | 78 | 72 | 6 |
| Puerperal Phlegmasia Alba Dolens | .. | .. | 2 | .. | .. | .. | 2 | 2 | .. |
| Puerperal Embolism and Sudden Death .. .. .. | .. | .. | 5 | 4 | 3 | 1 | 13 | 13 | .. |
| Puerperal Albuminuria and Convulsions .. .. .. | 3 | 4 | 9 | 9 | 9 | 1 | 35 | 35 | .. |
| Following Childbirth (not otherwise defined) .. .. .. | .. | .. | 1 | .. | .. | .. | 1 | 1 | .. |
| Puerperal Diseases of the Breast.. | .. | .. | 1 | .. | .. | .. | 1 | 1 | .. |
| Total .. .. | 8 | 30 | 54 | 44 | 47 | 13 | 196 | 181 | 15 |
| Married Mothers .. .. | 6 | 24 | 50 | 44 | 44 | 13 | 181 | .. | .. |
| Unmarried Mothers .. .. | 2 | 6 | 4 | .. | 3 | .. | 15 | .. | .. |

## TOTAL ISSUE OF MARRIED MOTHERS DYING IN CHILDBIRTH, 1927.

| Issue. | Ages at Death. | | | | | | |
|---|---|---|---|---|---|---|---|
| | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 and over. | Total. |
| 0 .. .. .. .. | 5 | 7 | 9 | 5 | 5 | 1 | 32 |
| 1 .. .. .. .. | .. | 11 | 21 | 13 | 5 | .. | 50 |
| 2 .. .. .. .. | 1 | 6 | 9 | 9 | 7 | 1 | 33 |
| 3 .. .. .. .. | .. | .. | 7 | 8 | 5 | 4 | 24 |
| 4 .. .. .. .. | .. | .. | 4 | 5 | 7 | .. | 16 |
| 5 .. .. .. .. | .. | .. | .. | 1 | 4 | .. | 5 |
| 6 .. .. .. .. | .. | .. | .. | 3 | 2 | 2 | 7 |
| 7 .. .. .. .. | .. | .. | .. | .. | 6 | 1 | 7 |
| 8 .. .. .. .. | .. | .. | .. | .. | .. | 1 | 1 |
| 9 .. .. .. .. | .. | .. | .. | .. | 2 | 1 | 3 |
| 10 .. .. .. .. | .. | .. | .. | .. | 1 | 1 | 2 |
| 14 .. .. .. .. | .. | .. | .. | .. | .. | 1 | 1 |
| Total Married Mothers .. | 6 | 24 | 50 | 44 | 44 | 13 | 181 |
| Total Issue .. .. | 2 | 23 | 76 | 98 | 164 | 74 | 437 |

Of the total deaths from puerperal causes, 181 were of married women, and 15 were of single women. Puerperal septicæmia and abortion were responsible for 60 per cent. of the deaths of single women, as compared with 43 per cent. for married women.

Of the 437 children born to the 181 married women who died in 1927, 404 were living at the time of their mothers' death.

First confinements were responsible for 68, or 37·6 per cent., of the total deaths of married mothers.

**Ages at Death of Women in Childbirth.**

The death rate of women in childbirth varies considerably at different ages, and is less at younger than at older ages. The number of deaths of women in childbirth and the death rates in various age groups in Victoria, for the period 1920–26 and the year 1927, are shown in the following table:—

DEATH RATES OF WOMEN IN CHILDBIRTH, IN AGE GROUPS, 1920–26 AND 1927.

| Age Group. | Mothers. | | | |
|---|---|---|---|---|
| | Deaths. | | Deaths per 1,000 children born alive. | |
| | 1920–26. | 1927. | 1920–26. | 1927. |
| Under 20 years .. | 45 | 8 | 4·49 | 4·62 |
| 20 to 25 ,, .. | 182 | 30 | 3·36 | 3·87 |
| 25 ,, 30 ,, .. | 274 | 54 | 3·62 | 5·34 |
| 30 ,, 35 ,, .. | 279 | 44 | 4·58 | 5·32 |
| 35 ,, 40 ,, .. | 231 | 47 | 6·27 | 8·91 |
| 40 years and over .. | 102 | 13 | 7·37 | 6·71 |
| Total .. .. | 1,113 | 196 | 4·42 | 5·59 |

The experience of the years 1920–26 showed that, for the age period 35 years and upwards, the deaths of mothers in childbirth were 66 per 10,000 live births, as compared with 39 per 10,000 for those under 35 years of age. The high rate for those under 20, as compared with the rates for the next two groups, is probably due to the larger proportion of ex-nuptial births and to the number of *primiparæ*.

**Deaths in childbirth**

The death rate of women in childbirth is usually ascertained by comparing the number of deaths of parturient women with the total number of live births. The proportions for each of the last seven years, and the averages of previous periods back to 1871 are given below :—

DEATHS OF MOTHERS (MARRIED AND SINGLE) TO EVERY 10,000 CHILDREN BORN ALIVE.

| Period. | Number of Mothers who Died Annually of— | | | Deaths of Mothers to every 10,000 Children Born Alive. |
|---|---|---|---|---|
| | Puerperal Diseases or Accidents. (Excluding Septicæmia.) | Puerperal Septicæmia. | Total. | |
| 1871–80 .. | 127 | 46 | 173 | 64·38 |
| 1881–90 .. | 121 | 64 | 185 | 59·19 |
| 1891–1900 .. | 117 | 66 | 183 | 56·01 |
| 1901–05 .. | 126 | 58 | 184 | 60·92 |
| 1906–10 .. | 101 | 46 | 147 | 47·17 |
| 1911–15 .. | 96 | 58 | 154 | 43·55 |
| 1916–20 .. | 91 | 49 | 140 | 41·99 |
| 1921 .. | 105 | 58 | 163 | 45·80 |
| 1922 .. | 91 | 31 | 122 | 33·62 |
| 1923 .. | 79 | 29 | 108 | 30·11 |
| 1924 .. | 120 | 56 | 176 | 48·70 |
| 1925 .. | 117 | 39 | 156 | 43·43 |
| 1926 .. | 130 | 64 | 194 | 54·86 |
| 1927 .. | 118 | 78 | 196 | 55·88 |

It will be seen that the death rate of women in childbirth fluctuates considerably, and, in 1927, reached a higher rate than had occurred in the last twenty-two years. Portion of this fluctuation may be ascribed to faulty certifications. These, however, have not been so numerous during the last two years as formerly, and this result is probably due to the campaign commenced in 1925, now being carried out by Dr. R. Marshall Allan, Director of the Obstetrical Research Committee. The deaths of mothers per 10,000 children born alive were 55·9 in 1927, as compared with 54·9 in 1926, 40·3 in 1921–25, 42·0 in 1916–20, 43·5 in 1911–15, 47·2 in 1906–10, and 60·9 in 1901–05.

**Puerperal septicæmia.**

In 1927 there were 78 deaths of married and unmarried mothers from puerperal septicæmia, which corresponded to a death rate of 22·2 per 10,000 births, as against 18·1 in 1926, 10·9 in 1925, 15·5 in 1924, 8·1 in 1923, 8·5 in 1922, 16·3 in 1921, 17·1 in 1920, 12·3 in 1919, 13·6 in 1918, 16·0 in 1908–12, and 18·1 in 1901–07.

**Medical Attendance at Confinement.**

With a view to ascertaining the effect of the passing of the Commonwealth Maternity Allowance Act 1912 on the number of mothers who availed themselves of medical attention in confinement, the birth registration records for the years 1911, 1918, 1924, and 1926 have been examined, and the proportions so attended have been ascertained for the metropolitan area, the rest of the State, and the whole State.

MEDICAL ATTENDANCE AT CONFINEMENTS, PROPORTION OF TOTAL CONFINEMENTS, 1911, 1918, 1924, AND 1926.

| Year. | Metropolitan Area. | Rest of the State. | Total State. |
|---|---|---|---|
| | per cent. | per cent. | per cent. |
| 1911 .. .. .. | 73 | 65 | 68 |
| 1918 .. .. .. | 81 | 77 | 79 |
| 1924 .. .. .. | 87 | 90 | 89 |
| 1926 .. .. .. | 89 | 91 | 90 |

NOTE.—Stillbirths and abortions have not been taken into consideration.

The above figures give evidence of the beneficial effects of the Act, especially in the country areas, where the proportion of births medically attended has risen from 65 per cent. in 1911 to 91 per cent. in 1926. It will be observed that, in 1924 and 1926, the proportion for the Rest of the State exceeded that for the Metropolitan area.

In the four years mentioned there were 11, 12, 9, and 6 births respectively registered where no one was shown as being in attendance at birth, but, in the majority of these cases, the children were foundlings.

**Senile decay.**

During the year 1927, the deaths of 488 men and 649 women were ascribed to senile decay. Prior to 1927, deaths from ill-defined causes, i.e., heart failure, debility, etc., of those persons over 65 years of age, were shown as being due to senile decay. In 1927, however, in accordance with the rule laid down in the International List of Causes of Death, only deaths of persons over 70 years of age from such causes were included therein. The deaths at ages 70 and over from all causes during the year numbered 4,817—2,349 of men and 2,468 of women.

**Accidental violence.**

Death rates from accidental violence have been lower in late years than in earlier periods, a result that is chiefly due to the lighter mortality rate from accidental drowning, the smaller proportion of the population engaged in country occupations, which are generally of a more hazardous nature than those in towns, and the increasing proportion of females in the community. In 1927, 662 male and 180 female deaths were attributed to accidents and negligence, which represented a rate of 487 per million of the population. This proportion was 5 per cent. above the average rate—464—for the previous five years, and 40 per cent. below the rate —811—for 1890–92. The numbers of deaths from various accidents in 1926 and 1927 are given in the appended table :—

DEATHS FROM ACCIDENTAL VIOLENCE, 1926 AND 1927.

| Nature or Place of Accident. | 1926. | | | 1927. | | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | Males. | Females. | Total. |
| Poisoning by Food .. .. | 3 | 2 | 5 | 2 | 2 | 4 |
| Snake Bite .. .. .. | 3 | .. | 3 | 1 | .. | 1 |
| Other Acute Poisonings .. | 7 | 4 | 11 | 10 | 6 | 16 |
| Conflagration (Bush fires, &c.) .. | 23 | 5 | 28 | 5 | 3 | 8 |
| Burns, Scalds, &c. .. .. | 38 | 33 | 71 | 26 | 32 | 58 |
| Absorption of Poisonous Gases .. | 10 | 10 | 20 | 5 | 7 | 12 |
| Accidental Mechanical Suffocation | 8 | 4 | 12 | 8 | 2 | 10 |
| Suffocation in bed (infants) .. | .. | 1 | 1 | .. | .. | .. |
| Drowning .. .. .. | 111 | 20 | 131 | 116 | 21 | 137 |
| Firearms .. .. .. | 23 | 4 | 27 | 17 | 2 | 19 |
| Falls .. .. .. | 64 | 8 | 72 | 60 | 11 | 71 |
| In Mines and Quarries .. .. | 5 | .. | 5 | 15 | .. | 15 |
| Machines .. .. .. | 10 | 1 | 11 | 9 | .. | 9 |
| Vehicular Accidents .. .. | 249 | 60 | 309 | 255 | 46 | 301 |
| Other Crushings .. .. | 23 | 1 | 24 | 28 | 2 | 30 |
| Injuries by Animals .. .. | 10 | 1 | 11 | 2 | 2 | 4 |
| Effects of Heat .. .. | 6 | 1 | 7 | 11 | 4 | 15 |
| Excessive Cold .. .. | 2 | .. | 2 | .. | .. | .. |
| Electricity .. .. .. | 8 | .. | 8 | 7 | .. | 7 |
| Lightning .. .. .. | .. | .. | .. | 3 | .. | 3 |
| Fractures, Unspecified .. .. | 37 | 25 | 62 | 35 | 30 | 65 |
| Other Violence .. .. | 50 | 14 | 64 | 47 | 10 | 57 |
| Total .. .. .. | 690 | 194 | 884 | 662 | 180 | 842 |

On the average of the last three years the female mortality rate from accidents was about 29 per cent. of the rate for males.

**Vehicular Accidents.**

In 1927, deaths from vehicular accidents numbered 301, as against 309 in 1926, 299 in 1925, 245 in 1924, 201 in 1923, 163 in 1922, 178 in 1921, and 153 in 1920. Motor vehicles were involved in 214 deaths in 1927, as against 193 in 1926, 174 in 1925, 135 in 1924, 103 in 1923, 65 in 1922, 38 in 1921, and 43 in 1920.

In the following table details are given of deaths due to collisions between various types of conveyances, pedestrians killed, and other fatal accidents in which vehicles were concerned, for the year 1927 :—

DEATHS FROM VEHICULAR ACCIDENTS, IN VICTORIA, 1927.

| — | Collisions between— | | | | | | | Pedestrians killed. | Fall from vehicles and other accidents. | Total. | Males. | Females. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Railway train. | Motor omnibus, car, lorry. | Motor cycle. | Horse drawn vehicle. | Bicycle. | Aeroplane. | Total. | | | | | |
| Railway train .. | .. | 7 | .. | .. | .. | .. | 7 | 27* | 4 | 38 | 33 | 5 |
| Tramcar .. | .. | 1 | .. | .. | 2 | .. | 3 | 8 | 9 | 20 | 15 | 5 |
| Motor omnibus .. | .. | .. | 1 | .. | .. | .. | 1 | 6 | .. | 7 | 6 | 1 |
| ,, car .. .. | .. | 4 | 18 | 6 | 4 | .. | 32 | 60 | 29 | 121 | 98 | 23 |
| ,, lorry, &c. | .. | .. | 2 | 1 | 2 | .. | 5 | 26 | 11 | 42 | 36 | 6 |
| ,, cycle .. | .. | .. | 2 | 6 | 2 | .. | 10 | 8 | 18 | 36 | 34 | 2 |
| Vehicle drawn by horse .. .. | .. | .. | .. | 1 | .. | .. | 1 | 7 | 19 | 27 | 24 | 3 |
| Bicycle .. .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 | 2 | 1 |
| Aeroplane .. | .. | .. | .. | .. | .. | 4 | 4 | .. | 2 | 6 | 6 | .. |
| Other or undefined | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 1 | .. |
| Total .. | .. | 12 | 23 | 14 | 10 | 4 | 63 | 144 | 94 | 301 | 255 | 46 |

* Including 3 railway employees.

**Fatal accidents among males at different ages.**

The mortality rate from accidents is only one-half as great among males aged 15 to 45 as among men over age 45. The deaths per 10,000 males at certain ages from drowning and other accidents, for the period 1920–22, were as follows:—

DEATH RATES FROM ACCIDENTS—MALES, 1920–22.

| — | Accidental Deaths per 10,000 Males Aged— | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 15–20. | 20–25. | 25–35. | 35–45. | 45–55. | 55–65. | 65 and over. | 15 and upwards. |
| Drowning .. | 1·92 | 1·13 | 1·06 | 1·11 | 1·46 | 1·91 | 2·43 | 1·44 |
| Other Accidents .. | 3·43 | 4·34 | 4·91 | 5·26 | 6·05 | 8·24 | 14·38 | 5·91 |
| Total Accidents .. | 5·35 | 5·47 | 5·97 | 6·37 | 7·51 | 10·15 | 16·81 | 7·35 |

For men aged 20 to 35 the death rate from accidental violence is about one-third of that for men over age 65 and slightly greater than one-half of the rate for those aged 55 to 65.

**Suicide.** In the year 1927, 150 males and 37 females took their own lives. The deaths represented a rate of 108 per million of the population, as compared with rates of 93 in 1926, 107 in 1925, 72 in 1924, 78 in 1923, 81 in 1922, 99 in 1921, 95 in 1920, 89 in 1919, 72 in 1918, 102 in 1908–12, and 109 in 1890–92. A much lower rate from suicide obtains among females than males, the rate for the former being 26·8 per cent. of that for the latter on the average of the last five years.

**Homicide.** The deaths ascribed to homicide in 1927 numbered 31, of which 16 were of males and 15 of females. These represented a rate of 18 per million of the population, as against rates of 20 in 1926, 13 in 1925, 11 in 1924, 13 in 1923, 15 in 1922, 14 in 1921, 12 in 1920, 18 in 1919, 13 in 1918, and 19 in 1908–12.

## NATURAL INCREASE.

**Natural increase per 1,000 of population in Australasia.** The average annual natural increase, *i.e.*, the excess of births over deaths, per 1,000 of the population, in the various Australian States, the Commonwealth of Australia, and New Zealand, for different periods since 1909, as well as detailed particulars for Victoria since 1879, are shown in the following tables :—

### NATURAL INCREASE PER 1,000 OF THE POPULATION.

AUSTRALASIA.

| Period. | Victoria. | New South Wales. | Queensland. | South Australia. | Western Australia. | Tasmania. | Australia. | New Zealand. |
|---|---|---|---|---|---|---|---|---|
| 1910–14 | 13·85 | 18·38 | 18·51 | 17·68 | 18·61 | 19·35 | 17·03 | 16·80 |
| 1915–19 | 11·75 | 15·98 | 17·06 | 14·84 | 15·47 | 17·83 | 14·99 | 16·80 |
| 1920–24 | 12·49 | 15·80 | 16·03 | 13·72 | 14·04 | 16·71 | 14·62 | 14·19 |
| 1925 .. | 12·02 | 14·85 | 14·96 | 11·91 | 13·23 | 14·89 | 13·69 | 12·88 |
| 1926 .. | 11·21 | 13·34 | 13·19 | 11·82 | 13·21 | 14·57 | 12·60 | 12·31 |
| 1927 .. | 10·59 | 13·10 | 13·18 | 11·14 | 13·22 | 13·33 | 12·22 | 11·84 |

VICTORIA.

| Period. | Excess of Births over Deaths. | Annual Rates per 1,000 of Population. | | | Period. | Excess of Births over Deaths. | Annual Rates per 1,000 of Population. | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Births. | Deaths. | Natural Increase. | | | Births. | Deaths. | Natural Increase. |
| 1880–84 | 14,466 | 30·64 | 14·40 | 16·24 | 1910–14 | 18,795 | 25·42 | 11·57 | 13·85 |
| 1885–89 | 16,741 | 32·27 | 15·87 | 16·40 | 1915–19 | 16,818 | 23·13 | 11·38 | 11·75 |
| 1890–94 | 20,059 | 31·99 | 14·62 | 17·37 | 1920–24 | 19,647 | 22·89 | 10·40 | 12·49 |
| 1895–99 | 15,625 | 26·76 | 13·81 | 12·95 | 1925 .. | 20,086 | 21·49 | 9·47 | 12·02 |
| 1900–04 | 14,859 | 25·08 | 12·78 | 12·30 | 1926 .. | 19,027 | 20·84 | 9·63 | 11·21 |
| 1905–09 | 16,062 | 24·76 | 11·93 | 12·83 | 1927 .. | 18,301 | 20·30 | 9·71 | 10·59 |

The mean increase in the Australian States for the period 1923–27 was 13·23 per 1,000 of population, which is probably greater than will prevail when the age constitution of the people becomes similar to that of old settled countries. At present the proportion of elderly people is smaller than in those countries, and, partly as a consequence of this, the death rate is lower. The Victorian death rates are below those of England and Wales at nearly all periods of life. The Australian annual rate of increase due to excess of births over deaths for 1923-27—13·23—would enable a population to double itself in 53 years, while, at the Victorian rate of 11·48 per 1,000 of population, a period of 61 years would be required. In England and Wales in 1927 the excess of births over deaths was 4·3 per 1,000 of population.