VITAL STATISTICS.

Marriages in Victoria can only be celebrated by a **Law as to marriages in Victoria.** minister of religion whose name is registered in the office of the Government Statist, or by the Government Statist, or the Assistant Government Statist, or a duly appointed registrar of marriages. It is essential that every marriage be preceded by the parties making a declaration as to age and the absence of any legal impediment, and by three days' notice, except in cases of emergency, also that two witnesses of full age be present at the ceremony; but there is no residential qualification. To be married by a minister, one of the parties must give him at least three clear days' written notice, or—in cases of emergency—a written permission obtained from any Justice, dispensing with such notice; and the marriage may then be solemnized according to the rites of the religious denomination to which the minister belongs. To be married by a Registrar of Marriages, the parties to the marriage must give written notice, which has to be posted in, and a copy thereof at the outer door of, his office at least three clear days before the marriage. This can only take place in his office, with open doors, and between the hours of 8 a.m. and 4 p.m. No fee is payable for the celebration of a marriage before a registrar. In the event of a minor (not being a widower or widow) wishing to marry, there must be obtained the written consent of the father or a guardian appointed by him; or, in the case of his absence, death, desertion, judicial separation, or divorce, of the mother, if the minor is under her care; and, in other cases, of a police magistrate or a guardian of minors appointed by the Chief Justice. If the minor is a ward of the Neglected Children's or Reformatory Schools' Department, the Departmental Secretary's consent is the authority.

In order to guard against the celebration of marriages by undesirable persons, the present law provides that no person shall be registered as a minister of religion unless he ordinarily officiates as such in one of the recognised religious denominations, is nominated by the recognised head of the denomination in Victoria, or, if there be no such head, then by at least two registered ministers; and unless he satisfies the

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Government Statist that he is a fit and proper person to celebrate marriages. The Governor in Council may prohibit from celebrating marriages any minister who is proved guilty of any offence, misconduct, or impropriety unworthy of his calling, or who makes a business of celebrating marriages for the purpose of profit or gain, irrespective of carrying out the ordinary duties of a minister ; and the Government Statist may, at the request of the head of a denomination, cancel the registration of any minister of that denomination who ceases to officiate or otherwise loses his qualifications. Any clergyman or person officiating as such who celebrates a marriage without being duly registered, or any person who obtains registration by untruly representing himself as an officiating minister, or who personates a registrar, shall be guilty of a misdemeanour, punishable by a penalty not exceeding £500, or by imprisonment not exceeding five years, or by both ; but, if the offence were accidental, he is subject to a maximum penalty of £20 on summary conviction. No marriage shall be invalid by reason of its having been celebrated by an unqualified person if either of the parties shall have believed at the time that such person was qualified, or by reason of any formal defect or irregularity.

Marriage with a deceased wife's sister was legalized in Victoria in 1873 ; but there is no provision to validate the marriage of a woman with a deceased husband's brother.

Marriages of Jews and Quakers are exempted from the foregoing provisions, and are deemed legal and valid if celebrated according to their respective usages.

Registration. 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 (so far as regards their registration duties) over the officiating clergymen and registrars of 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. The indexes in use since the introduction of civil registration in 1853 contained up to the end of 1916 over 3,547,000 names, of which 1,814,000 related to births, 850,000 to deaths, and 883,000 to marriages. The indexes are at present growing at the rate of 76,000 names per annum. For the registration of births and deaths the State is divided into about 520 registration districts, for each of which a registrar is appointed, who (if not a public servant) is paid by fees at the rate of 2s. 6d. per

entry, but is not prevented from following his or her own private business; whilst the marriages are recorded by the clergyman or registrar of marriages who performs the ceremony. Registrations of marriages are made in triplicate, and of births and deaths in duplicate—each copy bearing the original signatures of the parties married and witnesses (in case of a marriage), or of the informant (in case of a birth or death), and of the minister or registrar. One copy is retained by the registrar or minister; one is forwarded to the Government Statist—to be kept as a permanent record; and the third (in case of marriage only) is given to one of the parties married.

Births must be registered within 60 days by the father or mother or the occupier of the house where the birth occurred, or by some person authorized by one of these. A person who fails in his duty to register within 60 days is liable to a penalty of £10, although he still may register within twelve months on payment of a fee of 5s. To insure registration of all births, parents and the occupiers of houses where births occur are required to, and doctors and nurses may, and are expected to, report cases to the registrars. After twelve months, registration can only be effected after proper legal authority has been obtained, and on payment of a fee of 10s.

Deaths must, under a penalty of £10, be notified within seven days to the local registrar by the occupier of the house where the death occurred, or the doctor or nurse, and must be registered within twenty-one days by some person present at death or in attendance during the last illness, or in default of such persons by the occupier of the house where the death occurred, or by some person authorized by one of these. An exception is made in regard to sudden deaths, and deaths of boarded-out children under the age of five years, which should be at once reported to the Coroner, and can only be registered by him or on his authority. This exception does not apply to wards of the State or infants retained by or received into any approved public charitable institution.

In addition to ordinary registration, every birth, or death under the age of five, of an illegitimate child must be notified in writing by the occupier of the house where the event occurred within three days to the local registrar, if in any city, town, or borough, or within seven days if elsewhere. If, however, the mother is the occupier, the period for notification is extended to three weeks. Offenders against this provision are liable to imprisonment for six months, or to a penalty of £25. Illegitimate children may be legitimized at any time after the marriage of the parents on the application of the father, or of the mother if the father be on war service or has died during the preceding period of two years, to the Government Statist or to any Registrar of Births and Deaths, and on the payment of fees varying from 10s. to 20s.—provided that there was at the time of the birth no impediment to the marriage.

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, or 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 that for a certificate 7s. 6d. (except where the case appears in the records of the current quarter, when 5s. only is charged).   For a search in the early church records, prior to 1st July, 1853, the fee is only 1s., or 2s. if a certificate is required.

MARRIAGES.

Marriages.   Marriages in Victoria in 1916 numbered 11,341, which was 1,491 less than in the preceding year, the total for that year having constituted a record.   The figures for each of the last twenty years are as follows :—

MARRIAGES IN EACH YEAR, 1897 TO 1916.

Year.	No. of Marriages.	Year.	No. of Marriages.
1897	7,568	1907	9,575
1898	7,620	1908	9,334
1899	8,140	1909	9,431
1900	8,308	1910	10,240
1901	8,406	1911	11,088
1902	8,477	1912	11,738
1903	7,605	1913	11,324
1904	8,210	1914	11,830
1905	8,774	1915	12,832
1906	8,930	1916	11,341

As the tendency to marry is necessarily influenced by the view taken of present and future prospects, the relatively large number of marriages in the five years—1910 to 1914—is an indication of the general prosperity of that period. The figures for 1915 include a large number of marriages of soldiers who were leaving to take part in the war.   Under normal circumstances, many of these would have taken place at a later date, and this accounts in a large measure for the smaller number of marriages for 1916.

Marriage rates.   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, as it affords

a ready and approximate comparison between years not widely separated, the figures relating to Victoria are shown in the following table for the last ten years :—

MARRIAGE RATES, 1907 TO 1916.

Year.	Marriage Rate.	Year.	Marriage Rate.
1907	7·64	1912	8·65
1908	7·37	1913	8·13
1909	7·36	1914	8·31
1910	7·83	1915	9·00
1911	8·40	1916	8·05

The marriage rate for 1915 was the highest recorded since 1860. The reason for the lower rate in 1916 is given on the preceding page. A similar cause accounts for the reduced marriage rates in that year in the other Australian States, New Zealand, and England and Wales.

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 1911, are given in the following table :—

MARRIAGES PER 1,000 OF POPULATION AND OF SINGLE MEN AND WOMEN, 1857 TO 1911.

Year of Census.	Exclusive of Chinese and Aborigines.						
		Number of Unmarried and Widowed.			Proportion of Marriages per 1,000 of the—		
	Enumerated Population.	Men (aged 21 to 55).	Women (aged 18 to 50).	Marriages.	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	1,309,950	132,642	158,556	10,984	8·39	82·81	69·28

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. The marriage rate for men in the last census year was the highest ever recorded, and the marriages in proportion to population were more numerous than in the preceding four census years. An examination of the figures for the seven 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 12·1 in 1911, whilst that of single men aged 21 to 55 fell from 23 to 10 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 the chances of a woman marrying are now very much smaller than at any earlier period, except 1901, the proportion entering wedlock each year having fallen from about 1 in 4 in 1857, and nearly 1 in 5 in 1861, to 1 in 16 in 1901, and 1 in 15 in 1911.

Marriage rate in age groups. The marriage rates amongst 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 :—

PROPORTION OF MARRIAGES PER 1,000 MARRIAGEABLE MEN AND WOMEN AT EACH AGE.

Age Group.	Men.				Women.			
	1881.	1891.	1901.	1911.	1881.	1891.	1901.	1911.
15—21	..	..	..	..	24·6	23·6	18·8	23·3
21—25*	57·8	44·3	44·6	55·2	118·8	106·0	87·2	105·6
25—30	114·2	85·9	90·5	118·6	105·7	100·5	84·7	112·1
30—35	82·9	75·2	82·1	101·1	73·1	66·4	57·9	66·0
35—40	56·4	51·1	62·6	72·9	53·8	46·4	37·2	43·0
40—45	30·5	33·4	39·9	44·7	32·5	27·7	22·3	20·7
45—50	21·8	25·9	29·8	34·9	22·1	17·8	14·3	15·5
50 and upwards	10·5	9·1	9·1	12·1	4·9	4·2	2·4	2·6

* In the case of men 20-25.

In 1911 the proportion of marriages to marriageable men at each age (except 20-25) was the highest experienced, and the marriages to marriageable women were more numerous in every age group except 40-45 than in the preceding census year. The men aged 25-30,

30–35, and 35–40 who entered into wedlock during the year under review represented 119, 101, and 73 per 1,000 respectively of the marriageable males at these ages, as against 90, 82, and 63 in 1901. The numbers of women aged 21–25, 25–30, and 30–35 who contracted marriage in 1911 were equal to 106, 112, and 66 per 1,000 respectively of the single and widowed women, as compared with 87, 85, and 58 for the corresponding ages in 1901. It thus appears that the chances of women aged 21–25 and 25–30 marrying within a year increased by 21 and 32 per cent. in Victoria during the last intercensal period. It will be noted that in 1911 the highest marriage rate among women obtained at the age period 25–30, whilst in each of the three earlier census years the maximum rate occurred between the ages 21 and 25.

Marriage rates of bachelors, widowers, spinsters, and widows. The probabilities of bachelors and spinsters marrying and of widowers and widows re-marrying were obtained by comparing their marriages at specified ages with the respective numbers in the community at these ages at the last census. The marriages per 1,000 of the above-mentioned persons are given in the following table for the year 1911 :—

MARRIAGES, PER 1,000, BACHELORS, WIDOWERS, SPINSTERS, AND WIDOWS, 1911.

Age Group.			Marriages to every 1,000—			
			Bachelors.	Widowers.	Spinsters.	Widows.
15—21 ..	..	..	..	..	22·3	40·0
21—25* ..	..	..	55·3	64·5	105·3	145·6
25—30 ..	..	..	118·8	120·1	111·1	147·6
30—35 ..	..	..	99·6	151·2	63·8	80·8
35—40 ..	..	..	69·0	113·2	38·9	60·5
40—45 ..	..	..	38·1	94·4	16·5	30·7
45—50 ..	..	..	27·0	66·8	12·6	17·2
50 and upwards ..	..		7·4	16·8	3·7	2·3

* 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 rate for widows with that for spinsters it is seen that at every age under 50 the chance of a widow marrying is considerably greater than that of a spinster of the same age. As 76 per cent. of the widowers and 78 per cent. of the

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 follows that the rate for each of the two former sections is much lower than that for each of the latter. In proportion to their respective numbers, the marriages of widowers were only slightly more than half as numerous as those of bachelors, and those of widows were only about one-fifth those of spinsters.

Ages of bridegrooms and brides. The ages of bridegrooms and brides who were married in 1916 are shown in combination for various groups in the table which follows :—

AGES OF BRIDEGROOMS AND BRIDES IN COMBINATION IN VICTORIA, 1916.

Ages of Bridegrooms.	Ages of Brides.																	Total Bridegrooms.
	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	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
17	...	1	1	1	1	2	2	...	...	...	...	...	...	...	...	...	...	8
18	1	2	3	15	4	1	5	...	...	...	...	...	...	...	...	...	...	31
19	1	1	7	19	17	13	26	2	...	...	...	...	...	...	...	...	...	86
20	2	2	13	26	29	32	63	5	2	...	...	...	...	...	...	...	...	174
21 to 25	7	13	49	145	236	287	1,593	457	64	6	3	...	...	...	...	...	...	2,860
25 to 30	1	6	24	66	133	188	1,738	1,559	273	65	9	3	...	...	...	...	...	4,065
30 to 35	2	4	3	23	27	44	476	750	396	116	25	8	1	...	1	...	...	1,876
35 to 40	...	1	...	5	11	12	157	303	260	176	47	14	4	1	...	...	...	991
40 to 45	...	...	...	3	3	2	53	99	125	117	77	21	9	1	...	...	...	510
45 to 50	...	1	...	1	...	3	18	47	77	80	66	44	10	2	...	...	...	349
50 to 55	...	...	...	1	...	1	9	12	26	39	38	23	14	4	4	...	...	171
55 to 60	...	...	...	1	...	1	1	8	6	17	20	32	16	8	5	...	...	115
60 to 65	...	...	...	...	...	...	2	...	8	8	14	4	6	3	1	1	...	56
65 to 70	...	...	...	...	...	...	...	...	2	1	...	3	4	5	2	2	1	20
70 to 75	...	...	...	...	...	...	...	...	...	2	2	1	2	5	6	4	...	22
75 and over	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	1	1	5
Total Brides	14	32	101	306	461	586	4,143	3,242	1,239	628	296	164	64	33	21	8	3	11,341

The ages of bridegrooms ranged from 16 to 83 years, and those of brides from 15 to 81. Although age inequalities among contracting parties were relatively few, they were striking in degree. Thus a man between 50 and 55 married a girl of 18, while eight women between 45 and 50 were married to men who were their juniors by 15 years. The great majority of the parties were, however, of suitable ages. Of every

1,000 men married during the year, 694 were older and 195 younger than their brides, and 111 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 averages of the periods 1881–90 and 1901–10, also for the year 1916 :—

PROPORTION OF MALES AND FEMALES MARRYING AT DIFFERENT AGES, 1881–90, 1901–10, AND 1916.

| Age Group. | Proportion per 1,000 of total. | | | | | |
| | Bridegrooms. | | | Brides | | |
	1881–90.	1901–10.	1916.	1881–90.	1901–10.	1916.
Under 15	...	...	...	·15	·14	...
15 to 16	...	...	...	1·17	1·12	1·23
16 to 17	·03	·09	·18	6·53	5·16	2·82
17 to 18	·29	·34	·71	20·32	15·58	8·90
18 to 19	1·46	2·09	2·73	42·94	33·31	26·98
19 to 20	5·62	7·02	7·58	65·03	48·67	40·65
20 to 21	15·19	13·67	15·34	73·84	59·41	51·67
21 to 25	321·02	258·64	252·18	432·34	380·91	365·32
25 to 30	365·48	357·07	358·44	223·83	267·78	285·87
30 to 35	134·57	177·13	165·42	62·07	98·54	109·26
35 to 40	58·29	84·06	87·38	29·53	44·37	55·37
40 to 45	32·54	40·87	44·97	17·10	21·19	26·10
45 to 50	24·77	24·05	30·77	12·23	11·00	14·46
50 to 55	18·40	13·33	15·08	6·74	6·29	5·64
55 to 60	11·49	8·05	10·14	3·40	3·13	2·91
60 and over	10·85	13·59	9·08	2·78	3·40	2·82
Total	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00

The age constitution of brides shows a very marked alteration in recent periods. Of every 1,000 women who were married during 1916 498 were under 25 years, and 286 were aged 25–30, as against 642 and 224 at corresponding ages in 1881–1890. As fertility is considerably less at older than at younger ages, it is evident that, owing to the altered age distribution of wives, the potential births to every 1,000 marriages in the year under review are fewer than to marriages contracted during 1881–1890.

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 1916 the mean age at marriage of bachelors, 28·85, with that of divorced men and of widowers—42·91 and 46·86 respectively. The average age of spinsters marrying was 26·02, as against 35·58 for divorced women and 42·26 for widows. Although the ratio of re-marriages has declined, the average age of men marrying women under 45 and of their brides is greater than in the period 1890–4. The average age at marriage for certain periods since 1870 is shown in the following table :—

MEAN AGES AT MARRIAGE.

Period.	Average Age of—	
	Brides under 45.	Bridegrooms of Brides under 45.
	Years.	Years.
1870–4	24·13	29·93
1880–4	23·83	28·61
1890–4	24·66	28·66
1900–4	25·44	29·70
1905	25·77	29·76
1906	25·97	29·90
1907	25·82	29·78
1908	25·85	29·77
1909	25·99	29·78
1910	25·88	29·58
1911	25·81	29·46
1912	25·75	29·17
1913	25·66	29·01
1914	25·71	29·01
1915	25·68	28·75
1916	26·07	29·48

The mean age of women under 45 who married in 1916 was above the average of the previous five years, and it was greater by nearly one and a half years than that of women who married in 1890–4. In Victoria for 1916 the mean marrying age of all brides was 26·82, as compared with 26·80 in England and Wales and 26·69 in New Zealand. The mean ages of all bridegrooms in the same countries were 30·09, 29·11, and 30·09 years respectively.

Marriage rates in Australian States and New Zealand.   The marriages in Australia for 1916 numbered 40,292, as against 45,264 in the previous year, 43,276 in 1914, 41,605 in 1913, 42,145 in 1912, and 39,473 in 1911. Of the total, 11,341 took place in Victoria, 16,320 in New South Wales, 5,208 in Queensland, 3,602 in South Australia, 2,365 in Western Australia, 1,433 in Tasmania, 19 in the Northern Territory, and 4 in the Federal Capital Territory. In the subjoined table are shown the marriage rates per 1,000 of the

population in the Australian States and New Zealand for the period 1902–6 and for each of the last ten years :—

MARRIAGE RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND.

Year.	Victoria.	New South Wales.	Queens-land.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1902–6	6·92	7·33	6·15	6·73	9·02	7·58	7·11	8·26
1907 ..	7·64	7·84	7·58	7·94	8·02	7·91	7·78	8·91
1908 ..	7·37	7·97	7·22	7·84	7·50	7·74	7·64	8·82
1909 ..	7·36	8·21	7·96	8·30	7·54	8·13	7·86	8·33
1910 ..	7·83	8·81	8·05	9·21	7·75	7·98	8·37	8·30
1911 ..	8·40	9·18	8·41	9·82	8·45	7·77	8·78	8·67
1912 ..	8·65	9·58	8·91	9·62	8·37	7·86	9·07	8·85
1913 ..	8·13	9·01	8·68	9·44	8·19	8·27	8·67	8·25
1914 ..	8·31	9·37	8·73	9·11	8·22	7·62	8·80	8·51
1915 ..	9·00	9·70	8·94	9·01	8·01	8·03	9·14	9·12
1916 ..	8·05	8·74	7·61	8·29	7·51	7·23	8·21	7·30
Average 1912–16	8·43	9·29	8·57	9·09	8·06	7·80	8·78	8·41

All the States and New Zealand had lower marriage rates in 1916 than in the preceding year.

Marriage rates in various countries. The average marriage rate in Australia—8·78—for the period 1912–16 was higher than in seventeen of the twenty-one countries shown in the following table for the latest five years for which this information is available :—

MARRIAGES PER 1,000 OF THE POPULATION IN VARIOUS COUNTRIES.

Country.	Marriage Rate.	Country.	Marriage Rate.
Ontario	9·7	Italy	7·5
Bulgaria	9·3	Austria	7·5
Roumania	9·2	The Netherlands	7·1
Hungary	8·9	Denmark	7·1
Servia	8·7	Scotland	7·1
Japan	8·4	Spain	7·0
Russia	8·4	Switzerland	6·9
England and Wales	8·2	Norway	6·3
Belgium	7·9	Sweden	5·9
France	7·8	Ireland	5·3
Germany	7·8		

Marriages to marriage-able males in Austral-asia. For reasons already given, a better and more reliable index of the frequency of marriage in the different States is a comparison of the marriages with the number of marriageable males, aged 21 and upwards. This is shown in

the following statement for the period 1900–2 and for the year 1911 :—

MARRIAGES PER 1,000 MARRIAGEABLE MALES IN AUSTRALASIA.

—	1900-2.	1911.	Increase per cent. in 1911.
Victoria	56·0	67·3	20·2
New South Wales... ...	58·3	68·0	16·6
Queensland ...	41·6	54·9	32·0
South Australia ...	56·8	81·3	43·1
Western Australia ..	41·9	45·8	9·3
Tasmania	65·7	69·3	5·5
Australia	55·7	64·7	16·0
New Zealand	55·1	58·8	6·7

In each State the proportion of marriageable men who married during the year 1911 was greater than that for the period 1900–2, the excess amounting to 43 per cent. in South Australia, 32 in Queensland, 20 in Victoria, nearly 17 in New South Wales, 9 in Western Australia, and 5½ 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 1911 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, 853 ; New South Wales, 1,116 ; Queensland, 1,449 ; South Australia, 946 ; Western Australia, 2,265 ; Tasmania, 950 ; and Australia, 1,096.

Marriage rates in districts. The following table gives the numbers and rates per 1,000 of the population of brides and of bridegrooms—whose usual place of residence (if in Victoria) was in Melbourne and suburbs, other urban districts, or rural districts respectively, or was outside the State—during the year 1916 :—

USUAL RESIDENCE OF BRIDES AND BRIDEGROOMS, 1916.

Usual Residence of Bridegrooms.	Usual Residence of Brides.				Total Bride-grooms.	Proportion of Bride-grooms per 1,000 of Popula-tion.
	Metro-politan.	Other Urban.	Rural.	Outside Victoria.		
In Victoria—						
Metropolitan Districts	5,312	189	330	66	5,897	8·5
Other Urban Districts	164	886	209	9	1,268	6·1
Rural Districts	690	278	2,645	32	3,645	7·1
Outside Victoria ..	230	36	127	138	531	..
Total Brides	6,396	1,389	3,311	245	11,341	..
Proportion of Brides per 1,000 of Popu-lation ..	9·3	6·7	6·5	..	..	..

Of the 393 men residing outside the State who married Victorian women, 212 were residents of New South Wales, 27 of Queensland, 52 of South Australia, 25 of Western Australia, 32 of Tasmania, 3 of New Zealand, 10 of the United Kingdom, 2 of India, 1 of the United States, and 9 of other countries, while 20 were seafaring men.

Marriages to marriageable persons in metropolis and country. The extent to which the high crude marriage rates in Greater Melbourne, as compared with the country, are due to variations in age, sex, and conjugal condition may be ascertained by an examination of the results of the last census. The first striking fact disclosed is 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, whilst in the remainder of the State the men are in excess. In Greater Melbourne there were 55,347 unmarried men aged 21 to 55, as compared with 84,238 unmarried women aged 18 to 50. In the rest of the State the eligible men and women at the corresponding ages numbered 79,925 and 74,318 respectively. It is thus seen that, while there was a surplus of 28,891 marriageable females in the metropolis, there was a deficiency of 5,607 in the country. To obtain definite information regarding the frequency of marriage, the residents of these areas who entered into wedlock were compared with the marriageable population of each sex, and the resulting proportions for the average of the period 1910-12 are shown in the following statement :—

YEARLY MARRIAGES PER 1,000 MARRIAGEABLE PERSONS IN GREATER MELBOURNE AND THE REST OF THE STATE, 1910-12.

District.	Men.	Women.
Melbourne and Suburbs	95·8	66·6
Rest of the State	66·4	68·9

The results show that the chance of marrying within a year is slightly less for a woman residing in Greater Melbourne than for one living outside that area. On the other hand, the chance of a man marrying is 44 per cent. greater for a metropolitan than for a country resident.

Marrying age according to occupation.   In the *Year-Book* for 1915–16 a table is given showing the average age at marriage of persons engaged in various occupations. This was based upon 42,764 marriages for the period 1907–11, in connection with which the records gave definite occupations.

Birthplaces of persons marrying.   Marriage records show that of the persons married in Victoria during 1916, 90·4 per cent. were born in Australia, 7·7 per cent. were born in the United Kingdom, and only small proportions, amounting to 1·5 per cent. of the bridegrooms and ·4 per cent. of the brides, were natives of foreign countries. The numbers born in Australia and other countries are shown in the following table for the years 1908 and 1916 :—

BIRTHPLACES OF PERSONS MARRIED, 1908 AND 1916.

Where Born.	Bridegrooms.		Brides.	
	1908.	1916.	1908.	1916.
Australia	8,013	9,929	8,709	10,582
New Zealand	173	111	106	64
England and Wales ...	635	835	301	466
Scotland	154	172	68	96
Ireland	141	98	81	69
Other British Possessions ...	31	31	20	16
Germany	56	20	15	4
Russia	7	24	2	6
Italy	15	12	6	8
United States	24	25	6	10
Other Foreign Countries ...	85	84	20	20
Total	9,334	11,341	9,334	11,341

Marriages in quarters.   Victorian experience shows that the Autumn quarter is the most frequently selected season for marrying. In 1916, however, the greatest proportion took place in the Summer, when 27·96 per cent. of the total marriages were solemnized, as against 27·08 per cent. in the Autumn, 23·36 per cent. in the Winter, and 21·60 in the Spring.

Conjugal condition of persons marrying.   The proportion of re-marriages has shown during the last forty-five years a continuous decline, owing to the decreasing ratio of persons who have become widowed at the younger and probable marrying ages, and also to the later marrying ages of bachelors and spinsters in recent as compared with earlier periods. The following statement shows the percentages

of persons in each conjugal condition who married in the periods mentioned :—

CONJUGAL CONDITION OF PERSONS MARRYING, 1871–1916.

Conjugal Condition.	Percentage of total Marriages.				
	1871–80.	1881–90.	1891–1900.	1901–10.	1916.
Bachelors and Spinsters	80·59	85·84	87·22	88·46	90·94
Bachelors and Widows	7·10	4·72	4·23	3·66	2·74
Widowers and Spinsters	7·75	6·17	6·07	5·70	4·78
Widowers and Widows	4·56	3·27	2·48	2·18	1·54

Of every 1,000 persons of each sex married in Victoria during last year, 63 were widowers and 43 were widows, as against 94 and 80 respectively during the decade 1881–90.

Divorced persons re-marrying. The number of divorced persons re-married during 1916 was 192, which was slightly below the number for the preceding year. Of the 118,130 persons married during the last five years, divorced persons numbered 1,002 or 1 in every 118 persons, as compared with 1 in every 646 in England and Wales in 1914. The following are the numbers of divorced persons who have re-married in Victoria since 1911 :—

DIVORCED PERSONS RE-MARRYING, 1912 TO 1916.

Year.	Males.	Females.	Total.
1912	91	120	211
1913	78	99	177
1914	91	124	215
1915	88	119	207
1916	81	111	192

The divorced persons in the State at the last census numbered 1,240, of whom 575 were men and 665 women. A comparison of the re-marriages of divorced males and females during 1911 with these numbers shows that, according to the experience of that year, 11·5 per cent. of the males and 15·8 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 the view of early re-marriage.

Marriages of minors. The proportion of bridegrooms and brides under 21 years of age were lower in 1916 than in the preceding year. The percentages in each Australian State for 1916, and in

England, Scotland and Ireland for the latest year for which the information is available are as follows :—

	Percentage under 21 years of age.	
	Bridegrooms.	Brides.
Victoria	2·65	13·23
New South Wales	3·32	19·50
Queensland	3·51	22·33
South Australia	2·64	16·07
Western Australia	1·69	19·32
Tasmania	3·49	22·96
Australia	3·01	17·89
England and Wales (1914)	4·16	14·25
Scotland (1913)	6·16	18·94
Ireland (1914)	1·63	6·24

Persons marrying before attaining their majority are proportionately fewer in Victoria than in any other Australian State.

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 1915 and 1916 are shown in the following table :—

MARRIAGES IN VARIOUS DENOMINATIONS.

Denomination.	1915.		1916.	
	Number.	Percentage of Total Marriages.	Number.	Percentage of Total Marriages.
Church of England	3,542	27·60	3,007	26·51
Roman Catholic Church	2,179	16·98	2,108	18·59
Presbyterian Church	2,316	18·05	2,055	18·12
Methodist Church	1,945	15·16	1,645	14·51
Congregational Church	1,169	9·11	1,104	9·74
Baptist Church	550	4·29	532	4·69
Lutheran Church	55	·43	65	·57
Independent Presbyterian Church	148	1·15	...	...
Church of Christ	312	2·43	268	2·36
Salvation Army	51	·40	54	·48
Jews	38	·30	42	·37
Other Sects	135	1·05	99	·87
Registrars of Marriages	392	3·05	362	3·19
Total	12,832	100·00	11,341	100·00

Marriages by Anglican clergymen represented 26·51 per cent. of the total in 1916 as compared with 25·44 in 1911 and 21·18 in the period 1904–8. Excepting the ratios for the 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 1916, 3·2 per cent., in 1915, 3·0 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 of 220 per cent. shown by the rate for 1916 over that for 1909 was probably due to the provisions of 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 were making a business of celebrating marriages. The percentages of civil marriages in the Australian States, New Zealand, and the United Kingdom in the latest year for which the information is available were as follows :—

CIVIL MARRIAGES.

Country.	Year.	Civil Marriages—per cent. of total.
England and Wales	1914	24·1
New Zealand...	1916	21·1
Western Australia	1916	16·2
Scotland	1913	9·0
South Australia	1916	3·5
Victoria	1916	3·2
Queensland	1916	3·0
New South Wales	1916	3·0
Ireland	1915	1·6
Tasmania	1916	1·0

The proportion of civil marriages in Victoria is only one-fifth of the proportion in Western Australia, one-seventh of that in New Zealand, and about one-eighth of that in England and Wales.

Registered clergymen. The ministers qualified by registration to celebrate marriages in Victoria numbered 1,504 on 31st December, 1916. The numbers of these in each denomination (excepting

Jews and Quakers) and of the 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	385	Australian Church	1
Roman Catholic	311	Ballarat Town Mission	1
Presbyterian	281	Christian (Unattached)	1
Methodist	253	Free Christian	1
Congregational	68	New Church	1
Baptist	77	Unitarian	1
Church of Christ	54	Greek Orthodox Church	1
Lutheran	21		
Salvation Army	32	Total clergymen	1,504
Seventh Day Adventist	7	Lay Registrars of Marriages	
Latter Day Saints	6	riages	21
Catholic Apostolic	2		
		Grand Total	1,525

BIRTHS.

Number of births. The number of births registered in Victoria during the year 1916 was **34,239,** of which 17,625 were of males and 16,614 of females. This was 771 below the number recorded for the preceding year and 1,986 below that for 1914. Still-births, which are excluded from both births and deaths, numbered 1,105, and corresponded to a ratio of 3·2 per 100 infants born alive in 1916. The ratio for the metropolitan area was 3·7, as against 2·7 for the remainder of the State. There were 1,061 male to every 1,000 female births in 1916, as compared with 1,045 to every 1,000 on the average of the preceding five years. The figures for each year since 1896 are as follows :—

BIRTHS IN VICTORIA, 1897 TO 1916.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1897	16,013	15,297	31,310	1907	15,989	15,380	31,369
1898	15,435	14,737	30,172	1908	16,073	15,028	31,101
1899	15,785	15,223	31,008	1909	16,092	15,457	31,549
1900	15,834	14,945	30,779	1910	16,411	15,026	31,437
1901	15,876	15,132	31,008	1911	16,944	16,100	33,044
1902	15,583	14,878	30,461	1912	18,244	17,573	35,817
1903	15,115	14,454	29,569	1913	18,436	17,542	35,978
1904	15,313	14,450	29,763	1914	18,549	17,676	36,225
1905	15,523	14,584	30,107	1915	17,821	17,189	35,010
1906	15,716	15,128	30,844	1916	17,625	16,614	34,239

About two-thirds of the increase for 1912 was due to the fact that, after the Maternity Allowance Act came into force on the 10th October of that year, births were registered much sooner after their occurrence than was customary before the passing of that measure. As a result of the commencement of this practice there were more births registered in 1912 than occurred in that year.

Birth rates. 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 birth rates in Victoria from 1870 to 1916 :—

BIRTH RATES IN VICTORIA PER 1,000 OF POPULATION, 1870 TO 1916.

Year.	Birth Rate.	Year.	Birth Rate.	Year.	Birth Rate.
1870 ..	38·07	1897 ..	26·49	1907 ..	25·03
1875 ..	33·94	1898 ..	25·51	1908 ..	24·56
1880 ..	30·75	1899 ..	26·14	1909 ..	24·62
1885 ..	31·33	1900 ..	25·79	1910 ..	24·20
1890 ..	33·60	1901 ..	25·72	1911 ..	25·03
1891 ..	33·57	1902 ..	25·05	1912 ..	26·41
1892 ..	32·51	1903 ..	24·28	1913 ..	25·82
1893 ..	31·18	1904 ..	24·42	1914 ..	25·45
1894 ..	29·05	1905 ..	24·57	1915 ..	24·55
1895 ..	28·46	1906 ..	24·91	1916 ..	24·30
1896 ..	27·19				

The birth rate for 1916 was the lowest since 1910. The cause of the sharp rise in the rate for 1912 is given above. The varying proportions and age distributions of married women at reproductive

ages in the population at different periods account in a measure for the reduction in the crude rate in the above table. The effect of these changes is shown on page 322.

Birth rates, Australian States and New Zealand. The births in Australia for 1916 numbered 131,429, as against 134,829 in the previous year, 137,964 in 1914, 135,701 in 1913, 133,270 in 1912, 122,369 in 1911, 116,894 in 1910, and 114,070 in 1909. Of the total births 34,239 occurred in Victoria, 52,075 in New South Wales, 18,916 in Queensland, 11,857 in South Australia, 8,563 in Western Australia, 5,642 in Tasmania, 74 in the Northern Territory, and 63 in the Federal Capital Territory. The following table gives the birth rates, calculated in the ordinary way, per thousand of the population in the Australian States and New Zealand for 1891, 1901, and each of the last seven years :—

BIRTH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND.

Year.	Victoria.	New South Wales.	Queens-land.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1891 ..	33·57	34·50	36·35	33·92	34·85	33·37	34·23	29·01
1901 ..	25·78	27·60	28·28	25·09	30·32	28·40	27·05	26·34
1910 ..	24·20	28·07	27·31	26·38	27·89	29·87	26·73	26·17
1911 ..	25·03	28·68	27·66	26·89	28·25	28·63	27·23	25·97
1912 ..	26·41	29·90	29·70	28·65	28·86	30·53	28·65	26·48
1913 ..	25·82	28·81	30·26	29·12	29·39	30·03	28·27	26·14
1914 ..	25·45	28·93	29·46	29·33	28·40	30·33	28·05	25·99
1915 ..	24·55	28·31	29·35	26·81	27·97	29·32	27·24	25·33
1916 ..	24·30	28·00	27·65	27·30	27·21	28·47	26·78	25·95
Mean of 1912–16	25·31	28·79	29·28	28·24	28·37	29·74	27·80	25·98

Factors in birth rates. The birth rate was lower in all the Australian States, except South Australia, in 1916 than in the preceding year. 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. An investigation of the results of the last census shows that in every 1,000 of the population of each State and of the Commonwealth the married women aged 15 to 45 numbered 106·0 in Victoria, 115·4 in New South Wales, 107·2 in Queensland, 109·9 in South Australia, 123·6 in Western Australia, 110·5 in Tasmania, and 111·2 in Australia. In the case of Victoria, the deficiency in the proportion of wives at the ages mentioned was accentuated by their comparatively unfavorable internal age distribution, the proportion at the younger and more fertile ages being smaller than that of any other State. A computation shows

that owing to these differences the legitimate births in Victoria to every 1,000 of the population in 1911 were fewer by 3·5 than in New South Wales, by 1·4 than in Queensland, by 1·8 than in South Australia, by 4·2 than in Western Australia, and by 2·5 than in Tasmania, also that they were 2·0 less than in the whole of Australia.

Birth rate in various countries. On the average of the past five years the birth rate in Victoria was lower than in any other State. It was, however, above the rates in Switzerland, Sweden, Ontario, Belgium, Norway, England and Wales, Ireland, and France, on the average of the latest five years for which this information is available :—

BIRTHS PER 1,000 OF POPULATION, IN VARIOUS COUNTRIES.

Country.	Births per 1,000 of population.	Country.	Births per 1,000 of population.
Russia (European) ...	44·2	South Australia ...	28·2
Roumania	41·9	Holland	27·7
Bulgaria	40·7	New Zealand ...	26·0
Servia	37·2	Denmark	25·8
Hungary	36·3	Scotland	25·4
Japan	33·7	Victoria	25·3
Austria	32·5	Norway	25·2
Italy	32·0	Belgium	23·6
Spain	31·4	Ontario	23·4
Tasmania	29·7	Sweden ...	23·1
Queensland	29·3	England and Wales ...	23·1
Germany	29·0	Switzerland	22·7
New South Wales ...	28·8	Ireland	22·7
Western Australia ...	28·4	France	18·9

Corrected 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 legitimate 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 five census years :—

PROPORTION OF MARRIED WOMEN IN AGE GROUPS TO TOTAL BETWEEN 15 AND 45 IN THE LAST FIVE 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

To estimate the effect which the alteration in age distribution had 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 four subsequent census years, and corrections 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, and 1911. 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 :—

CORRECTED LEGITIMATE BIRTH RATES.

(1) Census Year.	(2) Married Women between 15 and 45 years of age.	(3) Legitimate Births.	(4) Legitimate Births per 1,000 Married Women 15–45.	(5) Corrected Legitimate 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

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, and a decrease of 3 per cent. in 1911 as compared with 1901, 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 corrected legitimate birth rates appearing in this column shows that the births in 1911 to every 1,000 married women of reproductive ages were 71 fewer than in 1881, 50 fewer than in 1891, and 7 fewer than in 1901.

Corrected legitimate birth rate for Victoria.   Legitimate 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 corrections 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 legitimate birth rates in five census years, the corrections 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. Corrected birth rates per 1,000 of the population in the years 1881, 1891, 1901, and 1911 are as follows :—

CORRECTED LEGITIMATE BIRTH RATES PER 1,000 OF POPULATION.

Year.	Enumerated Population.	Legitimate Births.	Births per 1,000 of population (crude rates).	Wives aged 15-45, per 1,000 of population.	Correction factor for variations in—		Corrected Birth Rate.	Difference between crude and corrected rates.
					Proportion of aged 15-45.	Age distribution of wives aged 15-45.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1871	731,528	26,305	36·64	121·1	..	..	36·69	6·92
1881	862,346	25,675	29·77	98·4	1·2307	1·0016	34·39	2·95
1891	1,140,405	35,853	31·44	105·8	1·1446	0·9493	28·77	4·40
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

An inspection of the crude rates in the fourth column of the above table shows that legitimate births per 1,000 of population apparently declined by 6·87 in 1881, 5·20 in 1891, 12·27 in 1901, and 13·01 in 1911, as compared with the first 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, and that of 1911 from 13·01 to 8·75 per 1,000 as compared with 1871. Between 1891 and 1911 there was a reduction of nearly 19 per cent. in the rate due to other than normal causes.

The next table shows the legitimate 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 three census years 1891, 1901, and 1911:—

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

Country.	Legitimate Births per 1,000 Married Women aged 15 to 45.			Decrease per cent. in 20 years.
	1891.	1901.	1911.	
Victoria	297·0	229·0	223·0	24·9
New South Wales	298·9	235·6	235·4	21·2
Queensland	315·0	251·0	244·8	22·3
South Australia	311·1	235·0	235·9	24·2
Western Australia	352·8	244·0	221·8	37·1
Tasmania	315·9	254·6	244·8	22·5
New Zealand	279·1	246·1	211·7	24·2
England and Wales	268·8	234·2	196·2	27·0

It will be seen from these figures that between 1891 and 1911
there was a pronounced decline in the proportion of legitimate births
to married women under 45 years of age in the different States, New
Zealand, and England and Wales, varying from 37 per cent. in Wes-
tern Australia to 27 per cent. in England and Wales, 25 per
cent. in Victoria, 24 per cent. in South Australia and New Zealand,
and 21 per cent. in New South Wales. Slightly more than one-fourth
of the total decline in Victoria during the twenty years was due
to the altered age distribution of married women under 45 years of age,
and it is probable that this cause was also responsible for a portion of
the decrease in each of the other States and New Zealand.

The birth records for 1916 show that 84 out of every
100 children were born to Australian parents, and 95
out of every 100 to one or both parents born in Australia.
Of the total fathers, 79·72 per cent. were born in
Victoria; 87·29 in Australia; 1·12 in New Zealand; 7·07 in
England and Wales; 1·62 in Scotland; 1·00 in Ireland; ·27 in other
British Possessions; and 1·63 per cent. in foreign countries. The corre-
sponding percentages for mothers were: Victoria, 82·56; Australia, 91·13;
New Zealand, 1·01; England and Wales, 5·22; Scotland, 1·06;
Ireland, ·57; other British Possessions, ·22; and foreign countries, ·79.

During the past seven years the births to Chinese parents
numbered 51, or 1 in every 4,421 legitimate births, and
the Chinese half-caste births (fathers only Chinese)
totalled 209, or 1 in every 1,079 legitimate births registered in the
same period.

Ages of parents of legitimate children. The average ages of fathers and mothers of legitimate children whose births were recorded in 1916 were 33·73 and 29·84 years respectively, which were 4·25 and 3·77 years above the average ages of bridegrooms marrying brides under 45 years of age, and of such brides for the same period. 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, 1916.

Father.		Mother.	
Age Group.	Proportion per 100 Births.	Age Group.	Proportion per 100 Births.
Under 20	·22	Under 20	2·21
20 to 25	9·98	20 to 25	21·63
25 to 30	26·40	25 to 30	31·19
30 to 35	24·96	30 to 35	23·86
35 to 40	18·58	35 to 40	15·43
40 to 45	10·69	40 to 45	5·21
45 to 50	6·16	45 and over ...	·47
50 and over	3·01		
Total ...	100·00	Total ...	100·00

It will be seen that on the experience of 1916, 52·82 per cent. of the mothers were between ages 20 and 30, and 39·29 per cent. between ages 30 and 40. The proportions of fathers at these ages were 36·38 and 43.54 per cent. respectively. Of every 1,000 legitimate births, about 22 were due to mothers under 20 years, and nearly 5 to mothers aged 45 years and upwards.

Ages of mothers of first births. The proportion of legitimate births recorded as first births was 28·78 per cent. in 1916, as compared with 29·21 in the previous year, 28·36 in 1914, 29·26 in 1913, 28·55 in 1912, 27·42 in 1911, 26·22 in 1910, 26·20 in 1909, 25·43 in 1908, 24·98 in 1907, 24·78 in 1906, and 21·87 per cent. in 1901, the proportion for the latest year being ·greater by 31·6 per cent.

than that for 1901. The percentages of mothers of first births at various ages are shown in the following table for the last five years :—

PERCENTAGE OF MOTHERS OF FIRST-BORN CHILDREN IN AGE GROUPS.

Ages.	Percentage of Mothers in Age Groups.				
	1912.	1913.	1914.	1915.	1916.
Under 20	8·5	8·1	7·8	8·0	6·2
20 to 25	41·1	40·5	40·9	39·6	40·6
25 to 30	32·0	32·7	32·2	32·9	34·5
30 to 35	12·2	12·7	13·4	13·5	13·0
35 to 40	5·0	4·9	4·6	4·8	4·5
40 and over ...	1·2	1·1	1·1	1·2	1·2
Total	100·0	100·0	100·0	100·0	100·0

The experience of the period 1912–16 shows that of every 100 mothers of first-born children, 7·7 were under 20 years of age, 48·2 were under 25, 81·0 were under 30, and only 1·2 were aged 40 and over. These proportions are very similar to the ratios of brides in the same groups during the period dealt with, which show that 9·4 per cent. of the women marrying were under 20, 51·9 per cent. were under 25, 79·8 per cent. were under 30, and only 2·4 per cent. were aged 40 to 45.

Birth rates in town and country. The next table shows the number of births per 1,000 of the population in the metropolitan, the other urban, and the rural districts, for 1875 and each subsequent fifth year, also the averages of the years 1901–5 and 1906–10, and the rates for each of the last six years :—

BIRTH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS, 1875 TO 1916.

Year.	Births per 1,000 of the Population.			
	Metropolitan District.	Other Urban Districts.	Rural Districts.	Victoria.
1875	33·63	38·63	31·54	33·94
1880	31·19	34·21	28·72	30·75
1885	34·94	31·87	28·12	31·33
1890	37·71	34·43	28·93	33·60
1895	29·46	34·03	25·49	28·46
1900	24·54	32·29	24·26	25·79
1901–5	24·03	32·14	23·46	24·81
1906–10	23·59	32·47	22·88	24·66
1911	24·51	31·85	22·79	25·03
1912	27·48	33·24	22·46	26·41
1913	27·20	31·77	21·74	25·82
1914	26·82	31·36	21·34	25·45
1915	26·11	30·32	20·18	24·55
1916	25·51	30·56	20·10	24·30

Birth rates in country towns
The birth rates in the seven principal country towns are given below for each of the last five years :—

BIRTH RATES IN THE SEVEN PRINCIPAL COUNTRY TOWNS.

Year.	Births per 1,000 of the Population.						
	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Castlemaine and Suburbs.	Maryborough.	Warrnambool.	Stawell.
1912 ...	26·55	33·99	28·00	29·86	35·18	42·11	38·51
1913 ...	26·53	32·74	28·13	27·00	30·18	38·65	36·52
1914 ...	26·01	31·44	27·03	32·46	34·91	45·27	42·20
1915 ...	24·73	28·99	28·17	28·16	26·67	44·11	34·22
1916 ...	24·16	27·38	27·58	27·40	32·00	41·22	37·87
Average	25·60	30·91	27·78	28·98	31·79	42·27	37·86

On the average of the five years 1912 to 1916, the birth rate in all of the above towns exceeded that of the State, and except in Ballarat it was greater than that of Melbourne and suburbs. The highest rate prevailed in Warrnambool, and the lowest in Ballarat and suburbs.

Birth rates in metropolitan municipalities.
The birth rates in metropolitan municipalities are shown in the following table :—

METROPOLITAN BIRTH RATES 1901, 1911, 1914, 1915 AND 1916.

Districts.	Births per 1,000 of the Population.				
	1901.	1911.	1914.	1915.	1916.
Melbourne City	21·15	19·90	22·69	21·85	21·45
Fitzroy City	22·58	24·40	22·93	23·05	21·52
Collingwood City	26·44	23·36	23·22	21·46	19·44
Richmond City	25·51	25·28	31·31	29·36	29·26
Brunswick City	26·71	24·81	28·72	28·79	27·39
Northcote City	24·40	26·00	33·23	32·55	30·79
Prahran City	22·69	23·77	25·96	25·12	25·71
South Melbourne City... ...	22·10	21·71	22·19	20·08	20·12
Port Melbourne Town ...	25·26	24·59	26·76	22·21	22·15
St. Kilda City	18·59	21·10	20·28	19·60	18·81
Brighton Town	22·39	22·48	22·00	21·89	21·38
Essendon City	23·77	21·32	25·19	27·89	25·89
Hawthorn City	22·67	20·16	20·08	19·17	16·51
Kew Town	21·54	23·43	23·26	25·04	26·34
Footscray City	28·21	30·05	36·39	34·28	35·20
Williamstown Town	25·34	24·42	27·24	25·69	25·24
Oakleigh Borough	31·25	33·94	34·45	34·45	30·08
Caulfield City	18·72	20·15	27·20	27·35	28·28
Malvern City	21·98	20·25	22·68	21·46	21·20
Camberwell City	19·17	15·24	23·11	19·36	21·67
Preston Shire	26·76	24·06	24·14	23·87	23·95
Coburg Town...	20·58	22·75	23·12	22·72	25·67
Greater Melbourne :—					
Excluding Births in Institutions	23·03	22·32	24·83	23·94	23·46
Including Births in Institutions	24·85	24·51	26·82	26·11	25·51

All the municipalities, except Caulfield, Coburg, Essendon and Kew had lower birth rates in 1916 than in 1914.

Birth rates
in Aus-
tralasian
Capitals.
    The next table shows the mean population, number of births, and birth rate in each Australasian capital city and suburbs for the year 1916 :—

BIRTH RATES IN CAPITAL CITIES OF AUSTRALASIA.

Capital City and Suburbs.				Year 1916.		
				Mean Population.	Number of Births.	Births per 1,000 of the Population.
Melbourne	...	...	...	689,820	17,600	25·51
Sydney ...	·●	...	...	763,800	· 20,856	27·31
Brisbane ...	...	...	...	165,166	5,286	32·00
Adelaide ...	...	...	...	225,182	5,874	26·09
Perth ...	...	...	...	122,000	4,083	33·47
Hobart ...	...	...	...	39,264	1,347	34·31
Wellington	...	...	...	84,000	2,254	26·83

The average birth rate of the six Australian capitals was 27·45 per 1,000 of the population in 1916, as against 28·29 in the previous year.

Birth rates
In cities.
    The birth rates of the Australasian capitals for 1916 and of 20 other cities for the latest year for which the information is available are given below :—

BIRTH RATES IN CITIES.

City.		Births per 1,000 of Population.	City.		Births per 1,000 of Population.
Hobart ...	...	34·3	New York	...	25·2
Buenos Ayres	...	34·2	Copenhagen	...	23·7
Perth ...	..	33·5	Amsterdam	...	23·2
Moscow ...	...	33·0	London ...	..	23·0
Brisbane ...	...	32·0	Milan ...	...	21·7
Dublin ...	...	27·9	Hamburg ...	...	21·4
Belfast ...	...	27·8	Stockholm	...	20·1
Sydney ...	...	27·3	Edinburgh	...	20·1
Wellington	...	26·8	Dresden ...	...	20·1
Boston ...	...	26·3	Berlin ...	...	19·6
Adelaide ...	...	26·1	Prague ...	...	18·7
Petrograd...	...	25·9	Vienna ...	...	17·7
Melbourne	...	25·5	Paris ...	...	16·8

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

CASES OF TWINS AND TRIPLETS.

Year.			Cases of Twins.	Cases of Triplets.
1912 ...	...	...	367	7
1913 ...	...	...	394	2
1914 ...	...	...	402	4
1915 ...	...	...	397	1
1916 ...	...	...	365	6

On the average of the five years 1 mother in every 91 gave birth to twins, and 1 in every 8,766 was delivered of three children at a birth. The proportions for the decennium ended 1912 were 1 in every 98 and 1 in every 7,949 respectively.

Children legitimized.   Under a section of an Act passed in 1903, an illegitimate child, whose parents subsequently married, might, provided there was no lawful impediment to the marriage of the parents at the time of the birth, be legitimized if registered for that purpose within six months after marriage. In December, 1912, another 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. Up to the end of 1916 advantage was taken of these Acts to legitimate 1,169 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, and 140 in 1916.

Legitimation Acts are in force in all the States and New Zealand, the most recent being that of Western Australia, which was passed in 1909. Of every 100 children born out of wedlock, the numbers legitimized in the various States and New Zealand during 1916 were as follows :—New Zealand, 23·6 ; Queensland, 18·4 ; New South Wales, 16·8 ; Western Australia, 11·5 (in 1915) ; South Australia, 10·9 ; Victoria, 7·9 ; and Tasmania, only 4·5 (in 1915).

Illegitimate births in various countries. The number of illegitimate births in Victoria during the year 1916 was 1,764, which gives a proportion of 5·15 to every 100 births registered, as against 5·75 in the previous year, 5·57 in 1914, 6·03 in 1913, 5·72 in 1912, 5·94 in 1911, and 5·59 in 1910. The percentages of the children born out of wedlock in various countries are shown in the following table :—

PERCENTAGE OF CHILDREN BORN, OUT OF WEDLOCK.

Country.	Year.	Percentage Born out of Wedlock.	Country.	Year.	Percentage Born out of Wedlock.
Sweden	1912	15·3	New South Wales ..	1916	4·8
Austria ..	1912	11·8	Italy	1914	4·7
Denmark ..	1914	11·5	Tasmania ..	1916	4·5
German Empire ..	1913	9·7	England and Wales	1915	4·4
Japan	1911	9·2	New Zealand ..	1916	4·0
Norway	1913	7·1	South Australia ..	1916	3·9
Scotland	1915	6·9	Western Australia ..	1916	3·7
Belgium	1911	6·3	Ireland	1915	3·1
Victoria	1916	5·2	The Netherlands ..	1914	2·1
Queensland ..	1916	5·0			

Illegitimate births to unmarried women in Victoria. While the percentage of illegitimate to total births in Victoria increased from 5·36 in 1891 to 5·94 in 1911, the illegitimate births in proportion to single women were fewer in the later year. It is thus seen that the higher ratio of illegitimate to total births in 1911, as compared with 1891, was not due to greater laxity of morals, but to the smaller number of legitimate births. The proportion of infants born out of wedlock to the unmarried and widowed women between 15 and 45 years of age in Victoria are shown in the subjoined table for the census years 1891, 1901, and 1911, when the conjugal condition of the population was known :—

ILLEGITIMATE BIRTHS PER 1,000 SINGLE WOMEN.

Year.	Single Women aged 15 to 45.	Illegitimate Births.	Illegitimate Births per 1,000 Single Women.
1891	142,443	2,064	14·49
1901	167,760	1,729	10·31
1911	187,488	1,964	10·48

Although the proportion of illegitimate births to total births was nearly 11 per cent. higher in 1911 than in 1891, the ratio of infants born out of wedlock per 1,000 unmarried and widowed women fell from 14·49 in 1891 to 10·48 in 1911, which was equal to a decrease of nearly 28 per cent. in the intervening period.

Illegitimate births to unmarried women in various countries. The illegitimate births in proportion to unmarried and widowed women of reproductive ages in various countries are given in the next table :—

BIRTHS TO UNMARRIED AND WIDOWED WOMEN IN VARIOUS COUNTRIES.

Country.	Period.	Illegitimate Births per 1,000 Unmarried Women aged 15–45.	Country.	Period.	Illegitimate Births per 1,000 Unmarried Women aged 15–45.
German Empire	1900–2	27·4	Western Australia	1911	14·0
Sweden ..	,,	24·3	Scotland ..	1900–2	13·4
Denmark ..	,,	24·2	Tasmania ..	1911	11·9
Prussia ..	,,	23·7	Victoria ..	,,	10·5
Italy	,,	19·4	Switzerland ..	1900–2	9·8
France ..	,,	19·1	New Zealand ..	1911	9·2
Belgium ..	,,	17·8	South Australia	,,	8·5
Norway ..	,,	17·2	England and Wales ..	,,	8·0
Spain ..	,,	15·5	Holland ..	1900–2	6·8
Queensland ..	1911	15·5	Ireland ..	,,	3·8
New South Wales	,,	14·5			

Illegitimacy in town and country. A larger proportion of illegitimacy prevails in Melbourne and suburbs than in the other urban and rural districts of Victoria, the proportion in the country districts being the smallest of all. During the year 1916, in the metropolitan area, slightly more than 1 birth in every 13, in other urban districts 1 in 26, and in the rural districts only 1 in 53, was registered as illegitimate. The proportions in 1907-12 were 1 in 11, 1 in 21, and 1 in 42 respectively.

DEATHS.

Deaths.   The following return shows the number of deaths—
males and females—also the quarters in which they
were registered and the proportion per 1,000 of the population
since 1899 :—

DEATHS IN EACH QUARTER, 1900 TO 1916.

Period.	Annual Deaths.	Sex.		Quarter of Registration.				Death Rate per 1,000 of the Population.
		Males.	Females.	March.	June.	September.	December.	
1900–4 ..	15,457	8,686	6,771	3,921	3,750	3,992	3,794	12·84
1905–9 ..	14,932	8,296	6,636	3,805	3,539	3,917	3,671	11·93
1910 ..	14,736	8,132	6,604	3,820	3,693	3,661	3,562	11·34
1911 ..	15,217	8,356	6,861	3,519	3,774	4,132	3,792	11·52
1912 ..	16,595	9,077	7,518	4,000	4,199	4,498	3,898	12·23
1913 ..	15,475	8,496	6,979	4,075	3,678	4,137	3,585	11·11
1914 ..	16,503	9,017	7,486	3,953	4,030	4,257	4,263	11·59
1915 ..	15,823	8,860	6,963	3,524	3,788	4,380	4,131	11·10
1916 ..	16,489	8,901	7,588	4,111	4,140	4,509	3,729	11·70
Average 1912–16	16,177	8,870	7,307	3,933	3,967	4,356	3,921	11·55

The number of deaths in 1916 was 16,489, which was 666 above
the total for the preceding year. The seasonal mortality showed that
the quarter ending 30th September was most fatal, the next being
that ending 30th June, and the last quarter being least fatal. For
every 100 female there were 117 male deaths in 1916 as against
122 on the average of the previous five years.

Death rates in Australian States and New Zealand.   The deaths in Australia in 1916 numbered 54,205,
as against 52,808 in the preceding year, 51,778 in 1914,
51,825 in 1913, 52,209 in 1912, 47,901 in 1911, and
45,628 in 1910.   Of the total deaths in the year under
review 16,489 occurred in Victoria, 19,854 in New South Wales, 7,514
in Queensland, 5,077 in South Australia, 3,085 in Western Aus-
tralia, 2,056 in Tasmania, 122 in the Northern Territory, and 8 in the
Federal Capital Territory. The death rates per 1,000 of the population
for each of the Australian States and New Zealand are shown in the

following statement for the period 1902-6, and for each of the last ten years :—

DEATH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1902–6	12·55	10·84	10·92	10·67	12·17	11·04	11·44	9·81
1907 ..	11·61	10·56	10·35	9·87	11·09	11·22	10·86	10·95
1908 ..	12·45	10·13	10·23	9·84	10·74	11·51	10·91	9·57
1909 ..	11·27	9·97	9·68	9·72	10·21	10·01	10·31	9·22
1910 ..	11·34	9·98	9·70	10·21	10·09	11·31	10·43	9·71
1911 ..	11·52	10·34	10·65	9·82	10·20	10·12	10·67	9·39
1912 ..	12·23	10·86	10·96	10·28	11·07	10·73	11·23	8·87
1913 ..	11·11	10·91	10·39	10·82	9·35	10·87	10·78	9·47
1914 ..	11·59	10·13	9·97	10·71	9·39	9·67	10·53	9·31
1915 ..	11·10	10·50	11·00	10·67	9·28	10·11	10·67	9·06
1916 ..	11·70	10·68	10·98	11·69	9·80	10·38	11·04	9·64
Average 1912–16	11·55	10·62	10·66	10·83	9·78	10·35	10·85	9·27

The death rate was higher in all the States, except Queensland, in 1916 than in the previous year. The rate in Victoria, taking the average of the last five years was higher than in any other State, but this result was chiefly due to the larger proportion of elderly persons, amongst whom the mortality rate is very high. In any comparison of crude death rates of the different States and New Zealand, it is necessary to bear in mind the proportion of persons aged (say) 60 years and upwards in each community. This was accurately known at the 1911 census, when Victoria had 735 persons aged 60 years and over per 10,000 of the population, as compared with 629 in New South Wales, 581 in Queensland, 706 in South Australia, 402 in Western Australia, 626 in Tasmania, 647 in Australia, and 705 in New Zealand. Of the persons who died in 1916, 35·5 per cent. were aged 65 years and over in Victoria, 29·1 in New South Wales, 26:4 in Queensland, 33·1 in South Australia, 20·2 in Western Australia, 32·9 in Tasmania, 30·6 in Australia, and 35·0 in New Zealand. It will thus be seen that, while Victoria had a higher crude death rate, it had concurrently a larger proportion of elderly persons in the population and a greater percentage of total deaths at ages 65 years and upwards than any other State.

Death rates in various countries. The following are the death rates per 1,000 of the population in various countries for the latest five years for which these particulars are available, also the averages of the 10 years ended 1907. In all the countries except Bulgaria and Servia, there has been a decrease, and in Holland, England and Wales, Germany, Prussia, Spain, Denmark, Switzerland, Italy, and the United States, there has been a considerable decrease in the recent five-year period as compared with the average of the ten years referred to. The countries are arranged in

2620.—**19**

order according to the average rate of mortality in the decade 1898–1907 :—

DEATH RATES IN VARIOUS COUNTRIES.

Country.	Average of 10 Years— 1898–1907.	Average of latest available Five Years.	Decrease Per cent.
Russia, European	30·9	28·5*	7·8
Spain	26·7	21·8	18·4
Hungary	26·5	24·6	7·2
Roumania..	25·6	24·5	4·3
Austria	24·3	21·8	10·3
Servia	23·0	23·6	+2·6
Bulgaria	22·8	23·9†	+4·8
Italy	22·0	19·2	12·7
Japan	20·7	20·6	·5
France	20·2	18·4	8·9
Germany	20·0	16·3	18·5
Prussia	19·7	16·1	18·3
Ireland	17·8	16·8	5·6
Switzerland	17·6	14·3	18·7
Belgium	17·3	15·7	9·2
Scotland	17·3	15·7	9·2
United Kingdom	16·7	14·6	12·6
England and Wales	16·5	14·2	13·9
United States (registration area)	16·3	13·9	14·7
Holland	16·2	12·8	21·0
Sweden	15·6	14·0	10·3
Denmark	15·1	12·9	14·6
Norway	14·8	13·3	10·1
Province of Ontario	12·9	12·3	4·7

*1908–9.   †1908–11.   +Increase.

Comparing this statement with the previous one, it will be noticed that the death rate in Victoria—the highest in Australasia for the reason previously stated—is considerably lower than in Holland, Denmark, and Norway—the European countries having the lowest rates. Emigration from the older to the newer countries tends to raise the death rate in the former, and to lower it in the latter. In consequence of this, the crude death rates, calculated on the total population, will naturally be on a lower level in Australasia than in Europe, yet it may be safely affirmed that the true rate of mortality, allowing for differences in the age constitution of the people, is considerably lighter in Australasia than in any country in Europe, except, perhaps, Denmark, Norway, Sweden, and Holland.

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 Victoria, and lower in Western Australia, than in any of the other

States. The proportions living at various age groups at the last census in each division of the Commonwealth and New Zealand, and those in 1890 in Sweden—a country which fairly represents European conditions—are shown in the following table :—

PROPORTIONS LIVING AT FIVE AGE GROUPS IN AUSTRALIAN STATES, NEW ZEALAND, AND SWEDEN.

Country.	Proportion per 10,000 of Population living at the Age Group—					Total.
	Under 1 Year.	1 to 20.	20 to 40.	40 to 60.	60 and over.	
Victoria	235	3,837	3,173	2,020	735	10,000
New South Wales	274	3,926	3,358	1,813	629	10,000
Queensland	269	4,083	3,285	1,782	581	10,000
South Australia	256	3,901	3,304	1,833	706	10,000
Western Australia	266	3,646	3,682	2,004	402	10,000
Tasmania	279	4,243	3,069	1,783	626	10,000
Australia	260	3,914	3,297	1,882	647	10,000
New Zealand	241	3,763	3,600	1,691	705	10,000
Sweden	255	3,980	2,696	1,923	1,146	10,000

The figures show that the characteristic features of Australian populations, as compared with those of European countries, are a large preponderance of persons at the age group 20-40, and a relatively small number aged 60 and over. Among the Australian States, Victoria and Western Australia have, as mentioned previously, the highest and lowest proportions respectively of persons aged 60 years and upwards—a point 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 constitutions of the populations of the six States and New Zealand have been taken into account in computing their respective indexes of mortality. The results for each are based upon an age distribution corresponding to that of Sweden in 1890, which has been adopted by statisticians as a standard for this purpose. Mortality indexes for each State and New Zealand for the undermentioned years are as follows :—

INDEX OF MORTALITY FOR THE AUSTRALIAN STATES AND NEW ZEALAND.

Year.	Index of Mortality.							
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.	New Zealand.
1901	15·63	15·33	15·24	14·30	17·89	13·82	15·41	12·42
1911	14·31	13·13	13·52	12·15	13·49	12·90	13·52	11·80
1912	15·17	13·58	14·00	12·74	15·26	13·64	14·06	11·26
1913	13·62	13·68	13·64	13·19	12·60	13·42	13·56	11·90
1914	14·24	12·78	12·80	12·95	12·34	12·02	13·20	11·78
1915	13·35	13·04	14·08	12·83	12·49	12·80	13·24	11·44
1916	14·01	13·21	13·87	14·06	13·51	12·69	13·65	11·76

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 each age group at different periods. Such rates for Victoria are given in the subjoined table for the decennial periods 1881-1890, 1891-1900, and 1902-1911 :—

DEATH RATES AT CERTAIN AGE GROUPS IN VICTORIA.

Age Group.			Deaths per 1,000 at each Age.		
			1881–1890.	1891–1900.	1902–1911.
Males.					
Under 5	...	...	44·79	39·29	26·73
5 to 10	...	...	4·06	3·36	2·16
10 to 15	...	...	2·65	2·20	1·87
15 to 20	...	...	4·03	3·28	2·72
20 to 25	...	...	6·35	4·79	3·51
25 to 35	...	...	7·72	6·60	4·75
35 to 45	...	...	11·23	9·03	7·81
45 to 55	...	...	19·28	15·32	13·48
55 to 65	...	...	33·25	32·90	25·38
65 to 75	...	...	61·13	62·99	59·04
75 and upwards	...	...	137·18	145·05	157·26
All ages	...	...	16·55	15·47	13·30
Females.					
Under 5	...	...	39·46	34·09	22·35
5 to 10	...	...	3·92	3·12	2·03
10 to 15	...	...	2·56	2·06	1·78
15 to 20	...	...	4·17	3·43	2·80
20 to 25	...	...	5·81	4·81	3·59
25 to 35	...	...	7·90	6·89	5·01
35 to 45	...	...	10·93	8·68	7·16
45 to 55	...	...	14·84	12·12	9·96
55 to 65	...	...	23·49	23·64	18·80
65 to 75	...	...	50·32	45·87	46·71
75 and upwards	...	...	129·00	124·33	131·77
All ages	...	...	13·56	12·36	10·66

The figures show that at all ages, excepting 75 and over for males, and 65 and over for females, very much lower death rates were experienced during the last decennium than in the preceding one. Compared with 1891-1900, the mortality rate for the period 1902-11 for the two sexes combined was lower by 33 per cent. at the age group 0-10, by 14 per cent. at 10-15, by 18 per cent. at 15-20, by 26 per cent. at 20-25, by 27 per cent. at 25-35, by 15 per cent. at 35-45 and 45-55, and by 20 per cent. at 55-65. The rates, up to age 65 and probably to age 75, are comparable, and the marked decrease at successive periods points to a general improvement in hygienic conditions.

In the next table the annual deaths in Victoria per 1,000 persons of each sex at various ages are compared with those in the other Australian States, and in the Commonwealth, for the period 1909–11:—

ANNUAL DEATH RATES AT VARIOUS AGES IN EACH AUSTRALIAN STATE, 1909–11.

Age Group.	Annual Deaths per 1,000 of Population.						
	Victoria.	New South Wales.	Queensland	South Australia.	Western Australia.	Tasmania.	Common-wealth.
Males.							
0–5	24·04	23·76	21·53	20·31	26·78	24·05	23·40
5–10	2·01	2·03	2·15	1·90	3·09	2·36	2·13
10–15	1·68	1·75	1·92	1·34	1·84	1·49	1·71
15–20	2·53	2·47	3·14	2·46	2·54	2·63	2·58
20–25	3·14	3·22	4·38	3·05	4·42	3·63	3·43
25–30	3·94	3·74	4·94	3·90	5·07	4·11	4·09
30–35	4·72	4·35	5·42	4·79	5·91	4·44	4·76
35–40	6·30	5·63	7·32	6·90	7·20	6·73	6·34
40–45	7·97	8·13	9·30	7·86	10·64	6·86	8·40
45–50	10·89	10·64	13·55	10·77	14·48	9·00	11·35
50–55	14·63	13·28	17·15	14·91	16·12	13·28	14·49
55–60	20·49	20·41	22·55	18·98	23·98	15·70	20·52
60–65	32·04	27·94	29·16	29·95	30·21	23·33	29·28
65–70	50·53	44·50	50·32	40·11	45·43	36·89	46·25
70–75	76·20	70·60	65·82	59·63	78·10	53·49	70·20
75–80	120·16	108·32	98·99	102·64	116·27	99·52	111·19
80–85	171·92	158·63	152·59	155·53	155·88	158·83	163·58
85 and over	269·56	283·16	231·29	250·80	281·66	355·33	273·85
All ages— Males	12·82	11·15	11·46	10·79	11·42	10·84	11·60
Females.							
0–5	18·89	20·05	19·08	16·24	21·66	20·91	19·39
5–10	1·94	1·69	2·11	1·46	3·05	1·91	1·89
10–15	1·51	1·34	1·34	1·47	1·86	1·97	1·46
15–20	2·44	2·04	2·20	2·35	2·10	3·48	2·23
20–25	3·46	3·15	3·44	3·45	3·76	4·23	3·40
25–30	4·33	3·92	4·41	} 5·02	4·52	} 4·54	} 4·23
30–35	4·92	4·40	4·68		5·15		4·69
35–40	6·20	5·79	5·90	} 6·05	6·22	} 6·47	} 6·04
40–45	6·58	6·06	6·94		6·62		6·36
45–50	8·22	7·66	7·79	8·04	7·44	7·43	} 7·87
50–55	9·90	9·98	10·13	9·60	11·58		9·93
55–60	14·49	14·45	13·51	12·88	13·13	14·19	14·12
60–65	21·62	20·67	21·89	19·19	17·72	18·18	20·73
65–70	35·12	37·10	33·48	32·19	34·43	34·43	35·30
70–75	59·07	54·55	50·18	48·98	55·53	52·95	55·22
75–80	97·13	91·45	88·41	83·86	98·36	86·75	92·80
80–85	133·47	133·49	137·58	128·76	130·53	138·35	133·94
85 and over	239·69	211·64	223·23	228·03	190·19	258·01	229·05
All ages— Females	10·17	8·83	8·34	9·20	8·55	9·71	9·23

A comparison shows that for the period 1909-11, the Victorian death rate for males at every age group between 5 and 50 was below that of the Commonwealth. For men aged 50 to 60 the rates were very similar, but for the five age periods between 60 and 85 they were lower in Australia, as a whole, than in Victoria. Among females, the mortality rates in the State were lower for four, and higher for fourteen, age periods than those for the corresponding ages in the Commonwealth.

<div style="float:left">Victorian
and English
death rates
compared.</div>

The death rates of each sex at various ages in Victoria and Australia for the period 1909-11, and in England and Wales for 1906-10, are shown in the table which follows:—

DEATH RATES AT VARIOUS AGES IN VICTORIA, AUSTRALIA, AND ENGLAND.

| Age Group. | Annual Deaths per 1,000 of Each Sex. | | | | | |
| | Males. | | | Females. | | |
	Victoria. 1909–11.	Australia. 1909–11.	England and Wales. 1906–10.	Victoria. 1909–11.	Australia. 1909–11.	England and Wales. 1906–10.
0–5	24·0	23·4	45·4	18·9	19·4	38·0
5–10	2·0	2·1	3·3	1·9	1·9	3·4
10–15	1·7	1·7	2·0	1·5	1·5	2·1
15–20	2·5	2·6	3·0	2·4	2·3	2·8
20–25	3·1	3·4	4·0	3·5	3·4	3·3
25–35	4·3	4·3	5·3	4·6	4·5	4·5
35–45	7·1	7·3	8·6	6·4	6·2	7·1
45–55	12·5	12·8	15·5	8·9	8·8	12·0
55–65	25·3	25·2	31·2	17·6	17·0	24·3
65–75	62·1	56·2	64·4	45·7	43·6	53·1
75–85	138·2	127·8	137·7	109·1	105·8	119·6
85 and upwards	269·6	273·8	283·0	239·7	229·0	250·9
All ages ..	12·8	11·6	15·6	10·2	9·2	13·8

The low mortality rate at nearly every age in Victoria, by comparison with that in England and Wales, evidences the healthy climate and the favorable social and industrial conditions of the State. A striking feature of the Victorian and Commonwealth mortalities is the light rate among infants and young children. The superiority of the Victorian over the English rate is very pronounced for the age groups 0-5 and 5-10, but it is less marked for the next ten years of life. For the age groups 20-25 and 25-35, the rates for males are lower, while those for females are slightly higher, in Victoria than in England. For each age period after 35, except 75-85 for males, the death rates for both sexes in Victoria are lighter, and at some ages considerably lighter, than in England.

<div style="float:left">Death rates
among
metropolitan
residents.</div>

Prior to 1912 two sets of death rates were given for metropolitan municipalites, *i.e.*, the numbers dying (exclusive of those in hospitals) in specified areas in proportion to their respective populations, and the deaths in metropolitan institutions in proportion to the population of Greater Melbourne. On the assumption that the various districts contributed proportionately to population to the deaths in institutions, the sum of the two rates mentioned was generally accepted as the approximate death rate of a given area. An investigation of the usual place of residence of 9,500 persons who died in public hospitals

showed, however, that in many instances facts did not justify the assumption referred to. Thus, of the total deaths of residents of Fitzroy, Port Melbourne, and Melbourne City, 34 per cent. occurred in hospitals, as compared with only 11 per cent. in the case of deaths of residents of Kew, Caulfield, and Camberwell. In consequence of these discrepancies, the method of estimating the mortality rate for each district was discarded, and in its place was adopted the system of allotting all hospital deaths to the districts where the deceased had resided, and showing the deaths of residents of specified areas in proportion to their respective populations. In regard to persons dying in Hospitals for the Insane and Benevolent Asylums, their places of residence before entering these institutions were unknown, and the deaths were, therefore, allotted to the various municipal areas according to their populations.

The deaths of residents of twenty-two metropolitan municipalities and their proportions to population are shown in the following table for the period 1910-12 and for the years 1915 and 1916:—

DEATH RATE OF METROPOLITAN MUNICIPALITIES, 1910–12, 1915 AND 1916.

Municipality.	Annual Deaths.			Annual Deaths per 1,000 Residents.		
	1910-12.	1915.	1916.	1910-12.	1915.	1916.
Richmond City ...	594	527	564	14·71	12·68	13·71
Port Melbourne Town	196	185	166	14·56	13·60	12·46
Melbourne City ...	1,469	1,470	1,507	14·44	13·87	14·22
Fitzroy City ...	493	503	564	14·41	14·19	16·04
Collingwood City ...	462	458	440	13·44	12·72	12·29
Brighton Town ...	161	157	209	13·02	9·57	12·01
Oakleigh Borough ...	40	62	56	12·90	13·65	11·62
Prahran City ...	587	580	579	12·89	11·96	11·89
South Melbourne City	591	560	580	12·83	11·58	11·92
Williamstown Town ...	198	227	223	12·80	13·11	12·59
St. Kilda City ...	326	373	373	12·65	12·39	12·14
Preston Shire ...	65	66	70	12·63	9·32	9·52
Footscray City ...	290	359	377	12·15	12·39	12·74
Brunswick City ...	383	456	462	11·75	11·83	11·89
Coburg Town ...	111	156	132	11·49	11·85	9·52
Essendon City ...	269	320	349	11·12	10·53	11·14
Hawthorn City ...	265	273	317	10·64	9·66	11·23
Kew Town ...	105	114	148	10·47	9·68	12·22
Camberwell City ...	131	150	177	10·21	8·77	9·96
Caulfield City ...	157	199	263	9·68	8·86	10·95
Malvern City ...	151	241	255	9·29	10·32	10·16
Northcote City ...	165	280	273	9·22	11·95	11·18
Remainder of Metropolis	218	299	317	9·22	10·38	10·88
Whole Metropolis ...	7,427	8,015	8,401	12·61	11·80	12·18
Remainder of State ...	8,089	7,808	8,088	10·99	10·45	11·27

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, Fitzroy, Richmond, Collingwood and Port Melbourne are examples, and the low rates in comparatively recently settled areas, such as Northcote, Malvern, Caulfield, Camberwell, and Kew. For the former group the deaths for 1916 were 14·01 per 1,000 as against 10·79 for the latter. Slight differences in the age distribution of the populations of the 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 last census, 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 1910–12, the deaths of metropolitan residents were in the ratio of 12·61 per 1,000 of population as against a ratio of 10·99 for residents of the rest of the State. The apparent difference in favour of the country is 1·62, 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 2·55 among country than among metropolitan residents.

Decrease in Metropolitan death rate. In Greater Melbourne, in the decade 1907–16, there were 12·88 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 17,600 lives in the past 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 destruction of insanitary dwellings, 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 typhoid fever, diphtheria, and tubercular diseases for the period 1907–16 with those for the decennium 1892–1901. The following are the rates :—

Cause of Death.	Deaths per 1,000 of Population.		
	1892–1901.	1907–1916.	Total Decrease in 1907–16.
Pulmonary Tuberculosis ...	1·654	0·964	0·690
Other Tubercular Diseases ...	0·446	0·233	0·213
Typhoid Fever	0·293	0·067	0·226
Scarlet Fever	0·033	0·014	0·019
Measles	0·215	0·044	0·171
Diphtheria	0·196	0·167	0·029
Total	2·837	1·489	1·348

The figures show that the lower death rates from the six above-mentioned diseases in 1907-16 accounted for nearly 47 per cent. of the total decline. 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.

Death rates in country towns. Prior to 1912 the death rates given for the chief country towns were based upon the deaths therein in relation to their respective populations. For the reasons mentioned on page 338, that method was discarded and the deaths of residents in proportion to population are now shown instead. Such deaths, and their rates per 1,000 of population, are given in the following statement for the periods 1910-12 and 1913–15 and the year 1916 :—

DEATHS PER 1,000 RESIDENTS IN COUNTRY TOWNS.

Town.	Annual Deaths of Residents.			Annual Deaths of Residents per 1,000 of Population.		
	1910–12.	1913–15.	1916.	1910–12.	1913–15.	1916.
Ballarat and Suburbs	639	680	610	15·07	16·08	14·99
Bendigo and Suburbs	690	632	534	17·51	16·44	14·92
Geelong and Suburbs	411	402	415	13·68	11·53	12·02
Castlemaine ..	92	102	98	13·11	13·90	13·23
Warrnambool ..	95	91	95	13·55	12·34	12·84
Maryborough ..	76	75	61	13·39	14·05	12·20
Stawell	82	70	46	18·60	15·31	10·43

On the average of the past four years the death rate in Bendigo was 34 per cent. higher, and that in Ballarat 32 per cent. higher than the rate—11·98—in Greater Melbourne.

Residents of different areas dying in hospitals. An examination of the particulars of residence of persons who have died in public hospitals of Victoria during the past seven years reveals interesting and definite information regarding the assistance rendered by these institutions to people in different divisions of the State. For

twenty-two metropolitan municipalities, the seven principal country towns, and the remainder of the State, the percentage of the total deaths of residents thereof which occurred in public hospitals during the period 1910-15 and the year 1916 was as follows :—

PROPORTION OF DEATHS OF RESIDENTS OCCURRING IN HOSPITALS, 1910–15 AND 1916.

Area.	Percentage of Deaths of Residents occurring in Hospitals.		Area.	Percentage of Deaths of Residents occurring in Hospitals.	
	1910–15.	1916.		1910–15.	1916.
Port Melbourne Town	35·9	38·6	Oakleigh Borough ...	14·6	28·6
Fitzroy City ...	34·5	31·0	Brighton Town ...	14·2	15·8
Melbourne City ...	34·4	36·9	Castlemaine ...	13·9	17·3
Collingwood City ...	28·0	32·5	Ballarat	13·9	14·9
Richmond City ...	26·6	32·1	Hawthorn City ...	13·2	20·2
South Melbourne City	26·5	27·8	Malvern City ...	12·8	12·2
Preston Shire ...	25·0	27·1	Kew Town... ...	12·6	14·2
Northcote City ...	24·4	27·1	Williamstown Town	12·2	25·6
Brunswick City ...	23·9	27·9	Caulfield City ...	11·7	16·0
Warrnambool ...	23·0	28·4	Camberwell City ...	11·1	19·2
Maryborough ...	22·9	16·4			
Footscray City ...	22·6	24·9	Summary :—		
Prahran City ...	21·7	23·0	Greater Mel-		
Stawell	19·6	21·7	bourne ...	24·6	27·1
St. Kilda City ...	18·9	22·0	Seven Country		
Coburg Town ...	18·0	27·3	Towns ...	16·4	18·0
Bendigo	16·8	18·0	Remainder of		
Essendon City ...	16·5	21·2	State ...	17·8	22·6
Geelong	16·3	20·0	Whole State ...	20·9	24·3

The disparities in the proportions for different areas are very significant. Of the total cases of fatal illness occurring amongst residents of the districts mentioned in 1910–15, the percentage treated in public hospitals varied from 35·9 for Port Melbourne, 34·5 for Fitzroy, 34·4 for Melbourne City, 28·0 for Collingwood, and 26·6 for Richmond, to 11·7 for Caulfield and 11·1 for Camberwell. For the metropolitan area the percentage was 24·6 as compared with 17·6 for the rest of the State. Taking the proportion 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 40 per cent. that given to people residing elsewhere.

Deaths in public institutions in Greater Melbourne. In 1916 the deaths in public institutions were 37·3 per cent. of the total in Greater Melbourne, 21·9 per cent. of the total in extra metropolitan districts, and 30·3 per cent. of the total in the State as a whole. The number of deaths in

each public institution in the metropolis in 1916 is given in the subjoined table :—

DEATHS IN PUBLIC INSTITUTIONS IN GREATER MELBOURNE, 1916.

Institution.	No. of Deaths.	Institution.	No. of Deaths.
Hospitals—		Other Public Institutions—	
Melbourne	911	Victorian Homes for Aged and	
Alfred	317	Infirm	78
St. Vincent's	154	Benevolent Asylum ...	171
Homœopathic	94	Heatherton Sanatorium ...	93
Austin	195	Convent of the Little Sisters	
Children's	504	of the Poor	76
Women's	199	Old Colonists' Homes ...	8
Infectious Diseases ...	148	Foundling Hospital, Broad-	
Queen Victoria	9	meadows	3
Eye and Ear	5	Foundling Hospital, East Mel-	
Williamstown	28	bourne	10
Military Base	40	Carlton Refuge	3
Glenroy Military ...	3	Depôt for Neglected Children	65
Caulfield Military ...	5	Kew Lunatic Asylum ...	122
		Yarra Bend Lunatic Asylum...	64
		Mont Park Asylum ...	10
		Receiving House — Mental	
		Hospital...	19
		Total Hospitals and other	
Total Hospitals ...	2,612	Institutions	3,334

Of the 2,564 persons who died in public hospitals in Greater Melbourne during 1916, 406 were residents of places outside the metropolis.

Deaths and births in Australasian capitals. The next table shows the numbers of deaths and births, and the death rates in the Australasian capital cities ; also the numerical and centesimal excess of births over deaths in each during 1916 :—

DEATHS AND BIRTHS IN CAPITAL CITIES, 1916.

Capital City with Suburbs.	Number of Deaths.	Deaths per 1,000 of Population.	Number of Births.	Excess of Births over Deaths.	
				Numerical.	Centesimal.
Melbourne	8,927	12·94	17,600	8,673	97
Sydney	8,156	10·68	20,856	12,700	156
Brisbane	2,284	13·83	5,286	3,002	131
Adelaide	3,055	13·57	5,874	2,819	92
Perth	1,559	12·78	4,083	2,524	162
Hobart	587	14·95	1,347	760	129
Wellington ...	1,008	12·00	2,254	1,246	124

The deaths in the capital cities of the six States numbered 24,568, or 45·3 per cent. of the total deaths in Australia, during the year 1916. The centesimal excess of births over deaths for each city shows that

for every 100 deaths there were 262 births in Perth, 256 in Sydney, 231 in Brisbane, 229 in Hobart, 224 in Wellington, 197 in Melbourne, and 192 in Adelaide, giving an average of 224 for the metropolitan cities of Australasia.

Death rates in various cities.   The death rate in Melbourne for 1916 was 12·94 per 1,000 of population, which was lower than the latest available rates in 18 of the 21 undermentioned cities:—

DEATH RATES IN VARIOUS CITIES.

City.	Death Rate.	City.	Death Rate.
Moscow	24·8	Edinburgh	14·4
Petrograd	21·2	London	14·2
Dublin	20·1	Prague	13·6
Belfast	18·8	New York	13.6
Budapest	18·6	Berlin	13·5
Boston	16·8	Copenhagen	13·4
Milan	16·6	Dresden	13·1
Glasgow	16·4	Hamburg	12·7
Buenos Ayres	15·5	Amsterdam	11·1
Paris	15·4	Stockholm	11·0
Vienna	15·3		

In 1916 the death rate of the metropolitan cities of Australia was 12·25 per 1,000 of their combined populations, which was below the proportionate mortality of all of the above cities except Amsterdam and Stockholm.

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 illegitimate children, is still apparent. The deaths of infants in 1916 numbered 2,553, and, as there were 34,239 births, it follows that of every 100 infants born approximately 7·46 died within twelve months. The infantile death rates for Melbourne and suburbs, the extra metropolitan area, and the whole State, for different periods since 1880, are shown in the subjoined table:—

INFANTILE DEATH RATES 1881 TO 1916.

Period.	Deaths under One Year per 100 Births in—		
	Melbourne and Suburbs.	Remainder of the State.	Whole State.
1881–1890	17·14	9·50	12·68
1891–1900	13·36	9·60	11·11
1901–1905	11·26	8·45	9·58
1906–1910	9·47	6·95	8·00
1911	7·82	6·12	6·87
1912	9·02	6·05	7·45
1913	7·63	6·51	7·05
1914	8·45	7·24	7·83
1915	7·99	5·77	6·88
1916	8·56	6·29	7·46

On the average of the past five years the infantile death rate for the metropolis was 8·33 per 100 births, which was 38 per cent. below that for the decennium ended 1900, and 51 per cent. below the rate for the decennium 1881-1890.

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 for each of the past ten years were as follows :—

INFANTILE DEATH RATES IN DIFFERENT DIVISIONS OF THE STATE.

Year.	Deaths Under One Year per 100 Births.					
	Victoria.	Melbourne and Suburbs.	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Rest of the State.
1907..	7·26	8·57	8·69	9·03	8·49	5·80
1908..	8·61	9·83	9·52	11·37	10·33	7·12
1909..	7·13	8·39	11·31	9·54	8·94	5·40
1910..	7·69	9·23	10·19	9·44	6·57	6·01
1911..	6·87	7·82	7·70	8·41	6·11	5·82
1912..	7·45	9·02	10·04	8·36	6·73	5·53
1913..	7·05	7·63	8·95	9·10	7·10	6·09
1914..	7·83	8·45	12·31	9·45	8·91	6·58
1915..	6·88	7·99	8·51	7·71	7·04	5·30
1916..	7·46	8·56	7·93	8·16	7·25	5·97

The prejudicial effect of city surroundings on infant life is evidenced by the mortality being heavier in urban than in country districts. On the average of the past five years the deaths of children under 1 year of age to every 1,000 births were 83 in Melbourne, 95 in Ballarat, 86 in Bendigo, and 74 in Geelong as against 59 in the rest of the State.

Infantile death rates in metropolitan districts.   In issues of this work prior to 1913 the infantile death rate given for each metropolitan municipality was based upon the deaths therein exclusive of those occurring in public hospitals. This method necessarily understated the mortality for each district, the understatement being greatest in the case of the poorer and more congested areas which contribute an undue proportion of the hospital cases. In order to ascertain the actual death rate for each area the deaths in hospitals are now allotted to the districts where the deceased had resided. For the period 1910–14 and the years 1915 and 1916 the deaths under 1 year

per 100 births for each municipality of Greater Melbourne were as follows :—

INFANTILE DEATH RATES FOR METROPOLITAN MUNICIPALITIES.

Municipality.	Deaths under One Year per 100 Births.			Municipality.	Deaths under One Year per 100 Births.		
	1910–14.	1915.	1916.		1910–14.	1915.	1916.
Coburg Town ..	12·03	10·03	8·15	Brighton Town ..	7·84	5·85	7·72
Port Melb. Town ..	12·00	14·24	13·82	Oakleigh Borough	7·65	9·09	8·20
Fitzroy City ..	11·24	11·26	13·79	Prahran City ..	7·27	5·99	6·79
Richmond City ..	10·23	8·36	9·72	St. Kilda City ..	6·38	7·29	6·67
Preston Shire ..	10·01	11·83	10·72	Caulfield City ..	5·87	4·89	6·25
Collingwood City ..	9·89	11·51	12·28	Essendon City ..	5·79	5·90	6·33
Melbourne City ..	9·22	9·72	10·39	Hawthorn City ..	5·72	4·98	8·07
South Melb. City ..	9·05	7·93	11·05	Camberwell City	5·58	2·72	3·82
Brunswick City ..	8·50	9·37	8·57	Malvern City ..	5·51	5·99	6·50
Footscray City ..	8·11	8·16	8·75	Northcote City ..	5·47	6·95	8·16
Williamstown Town	8·03	8·09	8·20	Kew Town ..	4·76	3·05	4·94

It is noticeable that the seven centres having the lowest infantile death rates are residential areas which are not so thickly populated as nearly all of the other metropolitan districts. On the average of the years 1910 to 1914 Kew had only two-fifths and Northcote, Malvern, Camberwell, Hawthorn, Essendon, and Caulfield had less than one-half of the rate experienced in Port Melbourne and Coburg.

Infantile death rates in various cities. In 1916 the deaths of infants under one year per 100 births were 8·56 in Melbourne, as compared with 6·85 in Sydney, 8·32 in Brisbane, 8·26 in Adelaide, 7·10 in Perth, 8·02 in Hobart, and 5·81 in Wellington. The rates in Australasian capitals and London for 1916, and in 17 other cities for the latest year for which the information is available, are shown in the following table :—

INFANTILE DEATH RATES IN VARIOUS CITIES.

City.	Deaths under 1 Year per 100 Births.	City.	Deaths under 1 Year per 100 Births.
Petrograd	22·9	Paris	9·9
Breslau	17·2	Edinburgh	9·8
Dublin	15·7	Buenos Ayres ...	9·3
Vienna	15·6	London	8·9
Budapest	15·0	Melbourne	8·6
Belfast	14·4	Brisbane	8·3
Berlin	13·7	Adelaide	8·3
Milan	13·0	Hobart	8·0
Glasgow	12·8	Perth	7·1
Dresden	11·7	Sydney	6·9
Hamburg	11·4	Amsterdam	6·7
Prague	11·3	Wellington	5·8
Boston	10·7		

Deaths of Infants at different ages. Of the deaths of infants under 1 year, slightly more than 45 per cent. occur in the first month and nearly 62 per cent. in the first three months of life. The annual deaths at ages under 1 month, from 1 to 3 months, from 3 to 6 months, and from 6 to 12 months, during the ten years ended with 1900, and the period 1912 to 1916, are given in the following table, together with the percentage of deaths at each of those age-periods and the proportion of deaths to each 100 births. It will be noticed that in the last five years the mortality rate of infants at each age period, except under 1 month, was considerably below the average of the ten years ended with 1900:—

DEATHS OF INFANTS AT DIFFERENT AGES, 1891–1900 AND 1912–16.

| | Average Annual Deaths of Infants under 1 year of Age. | | | | | |
| Ages. | Ten Years—1891-1900. | | | Five Years—1912-16. | | |
	Number.	Percentage at each Age.	Number per 100 Births.	Number.	Percentage at each Age.	Number per 100 Births.
Boys.						
Under 1 month	650	31·7	3·79	684	46·4	3·77
1 to 3 months	355	17·3	2·07	249	16·9	1·37
3 to 6 ,,	445	21·7	2·59	233	15·8	1·29
6 to 12 ,,	600	29·3	3·50	308	20·9	1·70
Total ..	2,050	100·0	11·95	1,474	100·0	8·13
Girls.						
Under 1 month	488	28·7	2·98	501	44·5	2·89
1 to 3 months	301	17·7	1·84	178	15·8	1·03
3 to 6 ,,	385	22·6	2·35	185	16·4	1·07
6 to 12 ,,	528	31·0	3·23	263	23·3	1·52
Total ..	1,702	100·0	10·40	1,127	100·0	6·51

The death rate of infants under 1 month was very similar in the two periods, but for the age groups 1 to 3 months, 3 to 6 months, and 6 to 12 months reductions amounting to 39, 52, and 52 per cent. respectively occurred in the mortality rates in 1912-16, as compared with 1891-1900. This result may be attributed chiefly to the improved milk supply and the consequent lighter mortality from diarrhœal and wasting diseases.

Probable mortality of infants. The experience of the years 1912-16 shows that of every 20,000 newly-born boys and girls in equal numbers, 813 boys and 651 girls died within twelve months, and 9,187 of the former and 9,349 of the latter, or 18,536 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 1881-1890. It is thus seen that of every 20,000 births comprising equal numbers of each sex there were 771

more survivors in 1912-16 than in 1891-1900, and 1,068 more than in 1881-1890.

Infantile death rates from certain causes. An investigation of infantile mortalities would be incomplete unless the diseases which have proved fatal in different years were 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 1891-3, and 1901-10, and for the years 1915 and 1916 :—

INFANTILE DEATH RATES FROM CERTAIN CAUSES, 1891-3, 1901-10, 1915 and 1916.

Causes of Death.	Deaths under 1 year per 1,000 Births in—			
	1891-3.	1901-10.	1915.	1916.
Diarrhœal Diseases, all forms	29·66	24·62	14·73	18·78
Wasting Diseases (Marasmus, Atrophy, &c.)	22·24	12·74	14·80	15·65
Prematurity	13·13	14·99	16·74	13·75
Bronchitis, Broncho-pneumonia, Pneumonia	11·37	8·13	6·54	7·27
Convulsions	6·83	3·10	1·63	1·64
Congenital Defects and Malformations ...	3·45	4·86	4·20	4·88
Violence	3·16	2·47	1·03	0·88
Whooping Cough	2·60	2·52	1·91	2·16
Other causes	24·49	14·46	7·26	9·55
Total, all causes	116·93	87·89	68·84	74·56

Of every 1,000 infants born 34 died from diarrhœal and wasting diseases in 1916, as against 37 in 1901-10, and 52 in 1891-3—a decrease of nearly 35 per cent. in 24 years. In 1916 acute bronchitis, broncho-pneumonia and pneumonia were responsible for 7·3 deaths per 1,000 births, as compared with 11·4 in 1891-3—a decline of 36 per cent. between the two periods. Certain causes, which may be regarded as of a non-preventable nature, such as prematurity, congenital defects, and malformations, were responsible for nearly 28 per cent. of the total infantile mortality during the past two years. Of the deaths from preventable causes about 1 in every 3 is due to diarrhœal diseases, which are specially prevalent and fatal in hot weather, when milk food, the chief diet of children, undergoes rapid changes and consequently becomes dangerous to infant life. The influence of the seasons on the mortality amongst children under 1 year is vividly shown by the deaths in certain months. The Victorian experience shows a high death rate from diarrhœal diseases in December, January, February, March, and April. On the average of the last two years, of every 1,000 children born 17 died from diarrhœal diseases

within a year, a proportion which shows the necessity for preventive measures in this direction.

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 deaths in Melbourne and suburbs from the two former classes of complaint in each month during the past six years are shown in the next table :—

INFANTILE DEATHS IN EACH MONTH FROM CERTAIN CAUSES.

| Month. | Infantile Deaths in Greater Melbourne in 1911–16 from— | | | | | |
| | Diarrhœal Diseases. | | | Respiratory Diseases. | | |
	Males.	Females.	Total.	Males.	Females.	Total.
January	240	175	415	26	20	46
February	185	142	327	18	14	32
March	155	138	293	15	15	30
April	124	127	251	24	35	59
May	73	62	135	41	31	72
June	35	36	71	52	53	105
July	20	19	39	99	67	166
August	20	17	37	90	67	157
September	29	16	45	56	40	96
October	31	27	58	36	25	61
November	90	57	147	37	16	53
December	212	142	354	30	16	46
Total, 1911–16	1,214	958	2,172	524	399	923

The experience of the last six years shows that of the total infantile deaths in the metropolis from diarrhœal diseases 76 per cent. occur during the five months December to April, and of the deaths from respiratory diseases 57 per cent. occur in the four months June to September.

Legitimate and illegitimate infantile death rates. On the average of the past eight years, 185 in every 1,000 illegitimate infants died within a year, as against 66 in every 1,000 legitimate children. It is thus seen that the chance of an illegitimate child dying before the age of 1 year is nearly three times that of the legitimate infant. In the year 1916 the mortality rate for legitimate infants was 6·84 per 100 births. The children born out of wedlock during the same year numbered 1,764, and the deaths of illegitimate infants were 333, the death rate being thus 18·88 per 100 births. In England and Wales, in 1915, the corresponding mortality rates for legitimate and illegitimate infants were 10·51 and 20·30 respectively. 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 in Victoria from certain causes per 1,000 legitimate and illegitimate births for the periods 1904-8 and 1909-13 and for the year 1916 :—

DEATH RATES OF LEGITIMATE AND ILLEGITIMATE INFANTS FROM CERTAIN CAUSES.

Cause of Death.	Deaths under 1 year per 1,000 Births.					
	Legitimate.			Illegitimate.		
	1904-8.	1909-13.	1916.	1904-8.	1909-13.	1916.
Diarrhœal Diseases	19·8	16·8	16·6	72·6	62·8	61·2
Prematurity, Congenital Defects, Marasmus, &c.	30·3	28·8	31·9	52·1	62·8	76·5
Bronchitis, Broncho-pneumonia, Pneumonia	6·9	6·7	7·2	18·6	14·2	9·1
Other causes	18·3	13·1	12·7	58·7	46·8	42·0
Total all causes	75·3	65·4	68·4	202·0	186·6	188·8

The rates for 1916 show that of every 1,000 children born out of wedlock 61·2 died from diarrhœal diseases within a year as compared with 16·6 deaths per 1,000 legitimate 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 legitimate infants, but the striking differences in the death rates from this cause and from the chief respiratory diseases would indicate considerable neglect in the rearing of illegitimate infants.

Infantile mortality in Australasia. The next table gives the proportion of deaths of infants under one year to the total births in each Australian State and New Zealand for each of the last ten years, and the periods 1902-6 and 1891-1900 :—

INFANTILE MORTALITY IN AUSTRALASIA.

Period.	Deaths under 1 year per 100 Births.						
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1891–1900 ..	11·11	11·22	10·34	10·54	14·48	9·58	8·38
1902–6 ..	9·38	9·27	8·93	8·21	12·21	9·02	7·29
1907 ..	7·26	8·86	7·76	6·59	9·77	8·28	8·88
1908 ..	8·61	7·58	7·07	6·97	8·46	7·52	6·79
1909 ..	7·13	7·43	7·19	6·13	7·80	6·49	6·16
1910 ..	7·69	7·46	6·31	7·06	7·80	10·22	6·77
1911 ..	6·87	6·95	6·55	6·05	7·62	7·35	5·63
1912 ..	7·45	7·13	7·16	6·16	8·21	6·66	5·12
1913 ..	7·05	7·83	6·33	7·01	7·00	7·01	5·92
1914 ..	7·83	6·97	6·39	7·60	6·82	7·16	5·14
1915 ..	6·88	6·81	6·40	6·73	6·66	7·22	5·01
1916 ..	7·46	6·78	7·04	7·36	6·63	7·50	5·07
Average 1912–16..	7·33	7·10	6·66	6·97	7·06	7·11	5·25

Decrease in infantile mortality in Australasia. On the average of the last five years the lowest infantile death rate prevailed in New Zealand, followed by that in Queensland, South Australia, Western Australia, New South Wales, and Tasmania, in that order, and the highest in Victoria. Although the rates show considerable variations in the States during any one year, and in different years in the same State, it is noticeable that the pronounced improvement which commenced in all the divisions of the Commonwealth in 1904 has continued with slight variations up to the latest year. Compared with the infantile death rate in 1902-6, the rate for 1916 showed a percentage decline of 20 in Victoria, 27 in New South Wales, 21 in Queensland, 10 in South Australia, nearly 46 in Western Australia, and 17 in Tasmania. This reduction in the infantile mortality rate in 1916 was equivalent to a saving of 2,975 infant lives in Australia, of which 660 were in Victoria.

Infantile mortality in various countries. The following table shows the infantile death rates of various countries on the average of the latest five years for which this information is available, and of the Australian States and New Zealand on the average of the years 1912–16 :—

INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Deaths under 1 year per 100 Births.	Country.	Deaths under 1 year per 100 Births.
Russia (European) ...	24·6	England and Wales ...	10·2
Hungary	20·0	Switzerland	10·2
Austria...	19·7	Holland	9·9
Prussia	16·6	Denmark	9·7
Spain	16·5	Ireland	9·1
German Empire	16·4	Victoria	7·3
Bulgaria	16·2	Sweden	7·2
Japan	15·7	Western Australia ...	7·1
Servia	15·4	New South Wales ...	7·1
Italy	14·3	Tasmania	7·1
Belgium	14·1	South Australia ...	7·0
Scotland	11·3	Norway	6·7
Ontario...	11·0	Queensland	6·7
France	11·0	New Zealand	5·3

Of all the countries for which information is available Russia has the highest, and New Zealand the lowest, infantile mortality. In the former 1 in every 4, and in the latter, approximately, 1 in every 19 infants dies within its first year.

Deaths of children under 5. In 1916 the deaths of male children under 5 years of age numbered 1,883, and the deaths of female children under that age, 1,553—the former being in the proportion of 21·15 per cent., and the latter of 20·47 per cent., to the total number

of deaths of the respective sexes at all ages.   The next table shows 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 1910, and in the years
1911 to 1916.

MORTALITY OF CHILDREN UNDER FIVE YEARS.

Period.		Years of Age at Death.					Total under 5 Years	
		0.	1.	2.	3.	4.	Number.	Proportion Per 100 Deaths at all Ages.
Males.								
1871–1880 ..	..	1,783	508	206	148	119	2,764	39·41
1881–1890 ..	..	2,158	464	161	114	92	2,989	34·28
1891–1900 ..	..	2,050	432	143	93	76	2,794	30·05
1901–1910 ..	..	1,504	249	83	59	41	1,936	22·93
1911	..	1,309	201	71	58	42	1,681	20·12
1912	..	1,515	266	96	66	51	1,994	21·97
1913	..	1,419	241	83	55	41	1,839	21·65
1914	..	1,634	291	110	70	43	2,148	23·82
1915	..	1,401	200	82	60	46	1,789	20·19
1916	..	1,403	246	100	77	57	1,883	21·15
Females.								
1871–1880 ..	..	1,482	482	198	139	106	2,407	46·06
1881–1890 ..	..	1,805	423	151	105	84	2,568	39·61
1891–1900 ..	..	1,702	385	129	82	68	2,366	33·61
1901–1910 ..	..	1,192	217	81	51	40	1,581	23·58
1911	..	961	149	73	50	41	1,274	18·57
1912	..	1,154	217	76	57	52	1,556	20·70
1913	..	1,119	191	67	47	35	1,459	20·91
1914	..	1,202	235	74	67	46	1,624	21·69
1915	..	1,009	188	60	64	42	1,363	19·57
1916	..	1,150	215	81	53	54	1,553	20·47

The figures show a marked reduction, from period to period, in the
mortality of children under 5 years of age relatively to that of persons
of all ages, the proportion being 34 per cent. lower in 1911–16 than
in 1891–1900.

Infants surviving their fifth year in Australasia and England.   During the decade 1901–10, of every 20,000 children born—boys and girls in equal proportions—the numbers that survived their fifth year were 17,705 in Victoria, 17,686 in Australia, and 16,158 in England and Wales. In New Zealand the proportion was 18,186 in 1906–10. The undermentioned figures, based upon census data show, per 10,000 males and 10,000 females born, the numbers surviving at each age up to 5 years in the countries referred to :—

SURVIVORS AT EACH YEAR OF AGE, 1 TO 5 INCLUSIVE, IN VICTORIA, AUSTRALIA, NEW ZEALAND AND ENGLAND AND WALES.

Age Survived.	Survivors per 10,000 male and 10,000 female infants—							
	Victoria 1901–10.		Australia 1901–10.		New Zealand 1906–10.		England & Wales 1901–10.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1 Year ..	9,045	9,202	9,049	9,205	9,220	9,380	8,557	8,826
2 Years ..	8,886	9,057	8,888	9,052	9,117	9,281	8,211	8,493
3 ,, ..	8,831	9,004	8,828	8,995	9,069	9,232	8,080	8,364
4 ,, ..	8,795	8,969	8,789	8,958	9,034	9,201	7,999	8,280
5 ,, ..	8,765	8,940	8,758	8,928	9,008	9,178	7,940	8,218

Ages at death.

The ages of males and females who died in 1916 and in the two preceding years are shown in the·following table :—

AGES AT DEATH IN VICTORIA, 1914 TO 1916.

Ages.	1914.			1915.			1916.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 ..	1,634	1,202	2,836	1,401	1,009	2,410	1,403	1,150	2,553
1 to 2	291	235	526	200	188	388	246	215	461
2 „ 3	110	74	184	82	60	142	100	81	181
3 „ 4	70	67	137	60	64	124	77	53	130
4 „ 5	43	46	89	46	42	88	57	54	111
5 „ 10	160	157	317	164	137	301	187	169	356
10 „ 15	115	93	208	114	110	224	134	108	242
15 „ 20	171	139	310	197	150	347	153	156	309
20 „ 25	235	232	467	281	200	481	215	246	461
25 „ 30	253	243	496	248	257	505	234	275	509
30 „ 35	232	243	475	266	221	487	205	214	419
35 „ 40	296	254	550	286	268	554	272	248	520
40 „ 45	335	263	598	312	261	573	327	279	606
45 „ 50	463	344	807	441	301	742	419	349	768
50 „ 55	557	365	922	536	384	920	585	416	1,001
55 „ 60	546	384	930	577	390	967	628	421	1,049
60 „ 65	469	377	846	531	332	863	572	381	953
65 „ 70	534	444	978	583	388	971	548	493	1,041
70 „ 75	·632	590	1,222	630	594	1,224	605	582	1,187
75 „ 80	670	680	1,350	688	618	1,306	718	634	1,352
80 „ 85	759	618	1,377	705	545	1,250	666	570	1,236
85 „ 90	337	317	654	390	308	698	426	356	782
90 „ 95	93	91	184	94	110	204	103	106	209
95 ..	3	12	15	10	9	19	5	5	10
96 ..	3	4	7	12	6	18	6	9	15
97 ..	2	4	6	3	4	7	3	4	7
98 ..	2	3	5	2	4	6	6	5	11
99 ..	..	3	3	1	..	1	..	2	2
100 ..	1	1	2	..	2	2	..	6	6
101 ..	..	..	..	..	1	1	..	..	..
102 ..	..	..	..	..	..	..	..	1	1
104 ..	1	..	1	..	..	..	..	..	..
106 ..	..	1	1	..	..	..	1	..	·1
Total ..	9,017	7,486	16,503	8,860	6,963	15,823	8,901	7,588	16,489

Of the 48,815 persons who died in Victoria during the last three years, 6,741 were aged 80 years and upwards, and 15—three males and twelve females—had attained or passed the age of 100 years. The highest age at death recorded in 1914–16 was 106 years, which was attained by a man and a woman. To every 100 female deaths there

were 117 male deaths in 1916, as against 127 in the previous year and 120 in 1914.

Death rate from certain diseases. Since 1906 the causes of death in Victoria have been arranged according to the International Classification List. With regard to the selection of the primary cause of death when two or more associated diseases are stated, there is no material difference between this method and the one previously followed in the State, except in the case of a few minor nervous and respiratory complaints of persons dying in Hospitals for the Insane. The health of the community, as reflected in the death rates from the chief diseases arranged on a comparative basis, is shown in the appended table for the period 1890-2 and for the last five years :—

DEATHS PER MILLION FROM CERTAIN CAUSES.

Cause of Death.	Deaths per Million of the Population.					
	1890-1892.	1912.	1913.	1914.	1915.	1916.
Typhoid Fever	369	72	68	74	60	51
Scarlet Fever	34	4	4	1	8	21
Measles	2	64	32	74	22	13
Whooping Cough	129	115	71	69	68	84
Diphtheria and Croup ..	552	190	176	148	142	189
Influenza	381	122	67	106	67	70
Hydatids	51	20	19	20	18	21
Cancer	584	905	838	830	812	921
Phthisis	1,365	803	755	724	661	743
Other Tubercular Diseases ..	379	154	156	140	135	136
Syphilis	39	57	55	51	34	36
Diabetes	38	113	91	119	114	128
Anæmia, Chlorosis, Leucæmia ..	28	85	76	100	83	94
Simple Meningitis	..	102	108	107	84	67
Cerebro-Spinal Meningitis	..	5	9	12	237	231
Infantile Paralysis	..	4	2	6	1	3
Locomotor Ataxia and other diseases of Spinal Cord	43	70	62	75	58	70
Congestion and Hæmorrhage of the Brain	344	464	429	429	443	497
Epilepsy	74	34	31	39	30	54
Convulsions	353	83	57	75	60	55
Heart Disease (including Endocarditis, Pericarditis, and Angina Pectoris)	962	1,427	1,294	1,278	1,134	1,287
Acute and Chronic Bronchitis ..	691	399	270	295	263	313
Pneumonia and Broncho-pneumonia	853	1,006	767	863	865	767
Pleurisy	96	46	39	37	33	42
Congestion of Lungs and Pulmonary Apoplexy	140	63	55	58	59	82
Asthma and Pulmonary Emphysema	70	52	58	49	64	58
Enteritis, Gastro-enteritis, and Diarrhœal Diseases	1,342	752	709	941	590	731

DEATHS PER MILLION FROM CERTAIN CAUSES—*continued*.

Cause of Death.	Deaths per Million of the Population.					
	1890–1892.	1912.	1913.	1914.	1915.	1916.
Hernia, Intestinal Obstruction	124	114	92	107	109	107
Diseases of the Stomach (Cancer excepted)	175	103	98	90	78	84
Cirrhosis and other diseases of the Liver (Cancer excepted)	329	171	136	160	145	96
Biliary Calculi	11	24	20	32	26	27
Appendicitis	..	83	83	72	72	55
Simple Peritonitis (non-puerperal)	106	27	30	39	34	33
Acute and Chronic Nephritis, Uræmia, Bright's Disease	294	658	594	520	566	570
Diseases of the Bladder and Prostate	86	105	80	97	99	91
Calculi of the Urinary System	8	6	9	10	6	4
Old Age	631	1,030	973	1,029	1,183	1,208
Suicide	109	112	103	90	105	83
Accidental Violence	811	515	491	468	492	459
Homicide	34	21	18	16	17	14

The most striking features of the mortality of 1916 were the high death rates from cerebro-spinal meningitis, diphtheria, phthisis, cancer and diabetes, and the low rate from suicide. These and other comparable causes of death are fully dealt with in subsequent paragraphs.

Vaccinations. The efficacy of vaccination in minimizing the risk of infection from small-pox is recognized in Victorian legislation, which requires parents to have their children vaccinated. The proportion of successful vaccinations to every 100 births for the average of the period 1876–1899, and for each year since, is shown in the following table :—

SUCCESSFUL VACCINATIONS PER 100 BIRTHS.

Period.	Vaccinations per 100 births.	Period.	Vaccinations per 100 births.
1876–1899	72	1908	67
1900	67	1909	68
1901	62	1910	69
1902	53	1911	62
1903	71	1912	60
1904	69	1913	69
1905	67	1914	65
1906	67	1915	69
1907	67	1916	61

In 1916 the vaccinations of children were equal to 61 per cent. of the births, as compared with 69 per cent. in the preceding year, 66 per cent. in 1909–1913, and 72 per cent. in 1876–1899. As a result of an outbreak of small-pox in Sydney in 1913, it is estimated by the Public Health Department that about 160,000 adults were re-vaccinated in Victoria during that year.

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. There have been no deaths from the disease during the past six years, but in 1910 three oversea arrivals—1 male and 2 females—died from small-pox in the Victorian Quarantine Station. Since 1853 only 28 deaths have occurred from this cause, and of that number only 5 took place in the thirty-two years ended 1916. Statistics of European countries reveal a very marked decline in the mortality from small-pox in recent years. The deaths per million of the population in various countries are shown in the appended table for the average of the latest three years for which these particulars are available :—

DEATHS FROM SMALL-POX PER MILLION OF POPULATION IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per Million of the Population.	Country.	Period.	Deaths per Million of the Population.
Italy	1912–14	33·2	Queensland ...	1914–16	·5
Ceylon	1913–15	20·1	Holland ...	1913–15	·3
Belgium ...	1910–12	7·6	Switzerland ...	1912–14	·3
Hungary ...	1910–12	4·5	Scotland ...	1913–15	·2
Western Australia	1914–16	3·1	England and Wales	1913–15	·2
United States ...	1913–15	2·6	New South Wales	1914–16	·2
France	1909–11	2·0	Ireland ...	1913–15	
Japan	1911–13	1·2	Sweden ...	1910–12	
Roumania ...	1912–14	1·2	New Zealand ...	1913–15	No Deaths.
Austria ...	1910–12	·7	Victoria ...	1914–16	
Ontario ...	1913–15	·6	South Australia ...	1914–16	
Prussia	1910–12	·6	Tasmania ...	1914–16	
German Empire ...	1910–12	·5			

Typhoid fever. The reported cases of typhoid fever for the whole State declined from 288 per 100,000 of population in 1895–9 to 87 per 100,000 in 1911–14, 67 in 1915, and 52 in 1916, or by 82 per cent. in the intervening years. The death rate from the disease decreased by 83 per cent. during the same period. The deaths per 100 cases were 9·0 on the average of the past five years as against 8·6 in 1905–9, 9·9 in 1900–4, and 10·4 in 1895–9. In Sydney the case mortality rate was equivalent to 10·2 per cent. for the decade 1903–12, in Boston it was 11·8 per cent. for the three-year period 1911–13, and in England and Wales it reached 18·5 per cent. in the years 1911–12. The comparatively low case mortality rate in

Victoria evidences the generally mild type of the disease in the State
The reported cases of, and deaths from, typhoid fever and their pro
portions to the population, also the percentage of cases that ended
fatally, are given in the next table for periods back to 1889 :—

TYPHOID FEVER IN VICTORIA, 1890 TO 1916.

Period.		Annual Cases Reported.		Annual Deaths.		Deaths per 100 reported Cases.
		Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.	
1890–4	.. ..	2,932	253·9	381	33·0	13·0
1895–9	.. ..	3,397	288·4	355	30·1	10·4
1900–4	.. ..	2,152	178·1	213	17·6	9·9
1905–9	.. ..	1,569	125·4	135	10·8	8·6
1910	.. ..	2,124	163·5	139	10·7	6·5
1911	.. ..	1,303	98·6	95	7·2	7·3
1912	.. ..	1,122	82·8	98	7·2	8·7
1913	.. ..	1,127	80·9	95	6·8	8·4
1914	.. ..	1,195	84·0	106	7·4	8·9
1915	.. ..	958	67·2	86	6·0	9·0
1916	.. ..	727	51·6	72	5·1	9·9

Typhoid Fever in the Metropolis.   The cases of, and deaths from, typhoid fever in propor-
tion to population in Greater Melbourne are given in the
subjoined table for different periods during the past 27
years :—

TYPHOID FEVER IN THE METROPOLIS, 1890 TO 1916.

Period.		Annual Cases Reported.		Annual Deaths.	
		Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.
1890–4	.. ..	1,645	349·3	205	43·5
1895–9	.. ..	1,510	327·6	156	33·8
1900–4	.. ..	701	140·0	74	14·8
1905–9	.. ..	466	86·7	49	9·1
1910	.. ..	689	118·5	52	8·9
1911	.. ..	368	61·9	34	5·7
1912	.. ..	272	44·3	29	4·7
1913	.. ..	282	44·1	29	4·5
1914	.. ..	312	47·1	38	5·7
1915	.. ..	197	29·0	27	4·0
1916	.. ..	162	23·5	23	3·3

The cases of, and deaths from, typhoid fever in proportion to popu-
lation in Greater Melbourne declined by 94 and 92 per cent. respec-
tively between 1890–9 and 1916. The introduction and the 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 numbers of cases of typhoid fever during each of the last six years in five divisions of the State, and their proportions to the respective populations for the period 1910–15 and the year 1916 are given in the following table :—

PREVALENCE OF TYPHOID FEVER.

Area.	Reported Cases of Typhoid Fever.						Annual Cases per 10,000 of Population—	
	1911.	1912.	1913.	1914.	1915.	1916.	1910–15.	1916.
Greater Melbourne ..	368	272	282	312	197	162	5·7	2·3
Ballarat and Suburbs	81	80	47	75	79	59	18·6	14·5
Bendigo and Suburbs	120	88	96	87	65	32	26·1	8·9
Geelong and Suburbs	49	28	59	49	10	22	13·1	6·4
Rest of the State ..	685	654	643	672	607	452	11·6	7·4

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 at the last three census periods :—

DEATH RATES FROM TYPHOID FEVER, 1890-2, 1900-2, AND 1910-12.

Age Group.	Deaths per 10,000 of each Sex.					
	Males.			Females.		
	1890–2.	1900–2.	1910–12.	1890–2.	1900–2.	1910–12.
0–15	2·26	0·97	0·38	2·85	1·46	0·44
15–20	5·21	2·65	1·76	5·85	2·23	1·22
20–25	9·21	4·39	1·82	4·77	1·84	1·32
25–35	6·48	3·28	1·71	3·87	2·04	0·82
35–45	3·60	2·25	1·26	2·03	1·21	0·68
45–55	2·24	1·95	0·82	1·29	0·93	0·39
55–65	1·74	0·66	0·20	1·04	0·34	0·50
65 and over ..	0·99	..	0·10	2·13	0·23	0·19
All ages	4·08	1·95	1·00	3·25	1·49	0·69

The experience of the last three census periods shows that the rate for males exceeds that for females by 29 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.

Typhoid death rates in various countries.

The deaths from typhoid fever per 100,000 of the population in various countries for the latest three-year period for which this information is available are shown in the following table :—

DEATH RATES FROM TYPHOID FEVER IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Servia	1909–11	109·9	Roumania ...	1912–14	10·9
Spain	1912–14	25·8	France ...	1909–11	10·4
Hungary ...	1910–12	22·1	Belgium ...	1910–12	9·8
Italy	1912–14	21·3	Tasmania ...	1913–15	7·1
Queensland ...	1913–15	20·1	Victoria ...	1914–16	6·2
Western Australia	1913–15	17·1	Ireland ...	1913–15	6·2
United States ...	1913–15	15·2	New Zealand ...	1913–15	4·9
Japan	1911–13	13·6	England and Wales	1913–15	4·2
Ontario ...	1913–15	13·4	Scotland ...	1913–15	4·0
Austria... ...	1910–12	12·8	German Empire...	1911–13	3·7
New South Wales	1913–15	12·5	Holland ...	1913–15	3·7
South Australia ...	1913–15	11·9	Switzerland ...	1912–14	2·8

Scarlet fever.

In 1916 the deaths from scarlet fever numbered 29, which corresponded to a rate of 21 per million of the population, as compared with rates of 8 in the previous year, slightly over 1 in 1914, 4 in 1913 and 1912, 3 in 1911, 22 in 1910, 33 in 1909, 17 in 1908, and 34 in 1890-2. During 1916 there were 1,566 cases reported as against 754 in 1915. For the two years mentioned the deaths were equal to 1·8 per cent. of the cases. Death rates from scarlet fever are considerably lower in the Australian States than in European countries. The deaths from this disease per 100,000 of the population in various countries, on the average of the latest three years for which this information is available, are given in the subjoined table :—

DEATH RATES FROM SCARLET FEVER IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Hungary ...	1910–12	54·8	Ontario ...	1913–15	3·5
Roumania ...	1912–14	40·5	France ...	1909–11	2·9
Austria... ...	1910–12	33·3	New Zealand ...	1913–15	2·4
Scotland ...	1913–15	16·5	Switzerland ...	1912–14	2·3
Belgium ...	1910–12	14·9	New South Wales	1913–15	2·3
Italy	1912–14	11·4	Holland ...	1913–15	2·1
Ireland	1913–15	9·9	Tasmania ...	1913–15	1·7
German Empire ...	1911–13	9·6	Victoria ...	1914–16	1·0
England and Wales	1913–15	6·7	South Australia	1913–15	·8
United States ...	1913–15	6·2	Japan	1911–13	·3
Sweden ...	1910–12	5·1	Queensland ...	1913–15	·2
Spain	1912–14	3·9	Western Australia	1913–15	·2

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 1916 there were 19 deaths attributed to this cause, representing a rate of 13 per million of the population, as compared with rates of 22 in the previous year, 74 in 1914, 32 in 1913, 64 in 1912, 56 in 1911, 25 in 1910, 3 in 1909, and 16 in 1908.

On the average of the five years 1910 to 1914, 47 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 1910-14 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..	4·02	7·41	4·39	2·04	0·97	0·73	0·06	0·03	0·06	0·55
Females	4·34	4·92	2·44	1·96	1·00	0·72	0·06	0·06	0·10	0·46

The deaths from measles per 100,000 of the population in different countries, for the latest three years for which this information is available, are shown in the next table :—

DEATH RATES FROM MEASLES IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Hungary	1910–12	38·6	France	1909–11	8·9
Scotland	1913–15	35·1	United States	1913–15	8·2
England and Wales	1913–15	33·3	Japan	1911–13	8·0
Belgium	1910–12	29·3	Switzerland	1912–14	7·7
Spain	1912–14	28·7	Queensland	1913–15	6·6
Austria	1910–12	27·6	New South Wales	1913–15	6·0
Italy	1912–14	22·6	South Australia	1913–15	5·0
Ireland	1913–15	19·3	Ontario	1913–15	3·9
Holland	1913–15	18·1	New Zealand	1913–15	3·8
Germany	1911–13	14·8	Victoria	1914–16	3·6
Sweden	1910–12	9·6	Western Australia	1913–15	3·5
Roumania	1912–14	9·1	Tasmania	1913–15	2·7

Whooping cough. There were 118 deaths referred to whooping cough in 1916, which equalled a rate of 84 per million of the population at all ages, as compared with rates of 68 in the previous year, 69 in 1914, 71 in 1913, 115 in 1912, 32 in 1911, 50 in 1910, 132 in 1909, 54 in 1908, and 103 in 1907. 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 74 of the deaths, or 63 per cent., were of infants under 1 year and, with eight exceptions, all the deaths were of children less than 5 years of age. On the average of the past ten years the mortality rate from the disease was 20 per cent. higher among girls than boys. The deaths from whooping cough per 100,000 of the population for various countries, during the latest three-year period for which this information is available, are given in the following table :—

DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION IN DIFFERENT COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Scotland	1913–15	41·9	Switzerland	1912–14	12·4
Austria	1910–12	34·3	United States	1913–15	9·4
Hungary	1910–12	29·5	Japan	1911–13	9·2
Belgium	1910–12	28·7	Tasmania	1913–15	8·9
Roumania	1912–14	24·8	New Zealand	1913–15	8·7
England and Wales	1913–15	19·9	New South Wales	1913–15	8·3
German Empire	1911–13	19·1	Ontario	1913–15	8·1
Ireland	1913–15	16·7	South Australia	1913–15	7·8
Holland	1913–15	15·9	France	1909–11	7·6
Sweden	1910–12	15·1	Victoria	1914–16	7·4
Italy	1911–13	14·5	Queensland	1913–15	6·1
Spain	1912–14	12·5	Western Australia	1913–15	4·4

On the average of the past three years the mortality rate from whooping cough in Victoria was only slightly more than one-third of that in England and Wales.

Diphtheria.   The prevalence of diphtheria throughout the State during the past six years was the most unsatisfactory feature of the statistics of sickness relating to that period. For the year 1916 the number of cases was 5,377 as against a yearly average of 5,021 in 1911–15, 1,410 in 1905–9, 1,680 in 1900–4, and 1,584 in 1895–9. On the other hand, a very great reduction has taken place from period to period in the proportion of cases which ended fatally. On the average of the past five years the case mortality rate was only 4·6 per cent. as compared with 6·3 per cent. in 1905–9, 9·5 per cent. in 1900–4, and 13·9 per cent. in 1895–9.

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 1916.

Period.			Annual Cases Reported.		Annual Deaths.		Deaths per 100 Cases Reported.
			Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.	
VICTORIA.							
1895–9	..	..	1,584	134·6	221	18·8	13·9
1900–4	..	..	1,680	139·0	159	13·2	9·5
1905–9	..	..	1,410	112·6	89	7·1	6·3
1910	..	..	2,415	185·9	112	8·6	4·6
1911	..	..	5,120	387·5	237	17·9	4·6
1912	..	..	5,289	390·5	257	19·0	4·9
1913	..	..	5,367	385·2	245	17·6	4·6
1914	..	..	4,868	342·3	211	14·8	4·3
1915	..	..	4,463	313·0	203	14·2	4·5
1916	..	..	5,377	381·5	266	18·9	4·9
GREATER MELBOURNE.							
1895–9	..	..	748	162·1	113	24·6	15·1
1900–4	..	..	686	136·9	58	11·6	8·5
1905–9	..	..	758	140·8	46	8·5	6·1
1910	..	..	1,655	284·6	74	12·7	4·5
1911	..	..	3,035	510·7	130	21·9	4·3
1912	..	..	2,451	399·0	130	21·2	5·3
1913	..	..	2,412	377·1	122	19·1	5·1
1914	..	..	2,164	326·6	116	17·5	5·4
1915	..	..	2,527	372·2	134	19·7	5·3
1916	..	..	3,214	465·9	173	25·1	5·4

Prevalence of Diphtheria in different areas. The cases of diphtheria which occurred in five divisions of the State in each of the past six years and their proportions to the respective populations for the period 1910–15 and the year 1916 are given in the subjoined table :—

CASES OF DIPHTHERIA IN DIFFERENT AREAS.

Area.	Reported Cases of Diphtheria.						Annual Cases per 10,000 of Population.	
	1911.	1912.	1913.	1914.	1915.	1916.	1910–15.	1916.
Greater Melbourne ..	3,035	2,451	2,412	2,164	2,527	3,214	37·8	46·6
Ballarat and Suburbs	133	147	179	167	77	76	30·4	18·7
Bendigo and Suburbs	337	474	653	563	376	165	106·5	46·1
Geelong and Suburbs	121	122	184	91	130	122	35·8	35·3
Rest of the State ..	1,494	2,095	1,939	1,883	1,353	1,800	24·7	29·6

According to the experience of the past seven years the annual cases of diphtheria per 10,000 of population ranged from 97·9 in Bendigo to 39·1 in Melbourne, 35·7 in Geelong, 28·7 in Ballarat, and 25·4 in the rest of the State.

Death rates from diphtheria at various ages. Of the 533 males and 529 females who died from diphtheria during the five years 1910-14, 883, or 83 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, 1910–14.

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	2·92	6·30	5·56	9·90	7·50	5·91	1·76	0·36	0·09	1·57
Females	2·68	5·16	6·27	6·43	8·14	6·84	1·68	0·39	0·11	1·54

Diphtheria in various countries. The deaths from diphtheria and croup per 100,000 of the population for various countries, during the latest three-year period for which this information is available, are given in the following table :—

DEATH RATES FROM DIPHTHERIA AND CROUP IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Servia	1909–11	42·3	South Australia	1913–15	14·8
Hungary ...	1910–12	38·0	Sweden ...	1910–12	14·7
Spain	1912–14	25·3	Ontario ...	1913–15	13·7
Austria	1910–12	24·1	Queensland ...	1913–15	13·5
Germany ...	1911–13	21·6	Belgium ...	1910–12	13·1
Prussia ...	1911–13	21·3	Western Australia	1913–15	12·7
Roumania ...	1912–14	18·4	Italy	1912–14	10·5
Scotland ...	1913–15	17·7	Switzerland ...	1912–14	9·8
United States ...	1913–15	17·4	Japan	1911–13	9·7
Tasmania ...	1913–15	16·7	Ireland ...	1913–15	9·0
Victoria ...	1914–16	16·0	France	1909–11	7·7
New South Wales	1913–15	15·9	New Zealand ...	1913–15	7·3
England and Wales	1913–15	15·0	Holland ...	1913–15	6·6

Hydatids. The deaths attributed to hydatids in 1916 numbered 30, being equivalent to a rate of 21 per million of the population, as compared with rates of 18 in the preceding year, 20 in 1914, 19 in 1913, 20 in 1912, 24 in 1911, and 51 in 1890–2. According to the experience of the past five years the death rate from this disease is 25 per cent. higher among males than females. Hospital returns for the period 1912–16 show that 428 cases of hydatids were treated therein and that 57, or 1 in every 8, ended fatally.

Anæmia, chlorosis, leucæmia. Anæmia, chlorosis, and leucæmia were responsible for 132 deaths in 1916, which corresponded to a rate of 94 per million of the population, as against rates of 83 in the previous year, 100 in 1914, 76 in 1913 and 85 in 1912. Of the 34 persons who died from leucæmia in 1916, 23 were males.

Diabetes. During 1916 diabetes was responsible for 85 male and 96 female deaths, representing a rate of 128 per million of the population as compared with rates of 114 in the preceding year, 119 in 1914, 91 in 1913, 113 in 1912, 117 in 1911, and 106 in 1910. The deaths from diabetes per 10,000 of each sex in nine age groups for the periods 1890–2, 1900–2, and 1910–12, 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.		
	1890–2.	1900–2.	1910–12.	1890–2.	1900–2.	1910–12.
0–10	·02	·09	·10	·02	·05	·15
10–20	·17	·24	·20	·14	·26	·36
20–30	·29	·17	·64	·14	·36	·30
30–40	·21	·32	·58	·30	·51	·53
40–50	·58	·49	1·11	·49	·42	·78
50–60	1·18	1·38	1·80	1·31	1·42	3·18
60–70	1·49	2·67	5·63	2·49	3·19	8·47
70–80	2·87	4·36	7·34	1·88	5·01	11·54
80 and over	1·65	4·11	7·43	4·44	3·54	6·83
All Ages ...	·40	·56	1·00	·36	·60	1·26

At each age group over 30 the mortality rate from diabetes was considerably higher in 1910–12 than in the previous census period. During 1910–12 the female exceeded the male rate for each age group

between 50 and 80, the excess for the twenty years of life 60 to 80 amounting to 54 per cent. For all ages the rate for females was 26 per cent. higher than that for males.

Influenza.   The deaths from influenza in 1916 numbered 98, corresponding to a rate of 70 per million of the population, as compared with rates of 67 in the previous year, 106 in 1914, 67 in 1913, 122 in 1912, 114 in 1911, and 381 in 1890-2. Although this disease has varied in form in different periods it has always proved much more fatal to elderly people than to those of middle or young ages. Fifty-two per cent. of the deaths in 1916 were of persons aged 60 years and upwards. The age incidence of the disease at various periods is shown in the next table, which gives the death rate from influenza per 10,000 of each sex in age groups during the years adjoining five census dates :—

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

Age Group.				1870-2.	1880-2.	1890-2.	1900-2.	1910-12.
Males.								
0 —15	...	...	...	·69	·34	2·50	1·10	·40
15—20	...	...	...	...	·07	·64	·34	·24
20—25	...	...	...	...	...	1·20	·59	·21
25—35	...	...	...	·05	·07	1·50	·79	·17
35—45	...	...	...	·05	...	3·04	1·31	·59
45—55	...	...	...	·09	·24	5·12	3·20	·73
55—65	...	...	...	·67	·24	12·65	5·25	2·38
65 and upwards	...	...	...	1·09	2·36	27·13	17·02	12·27
All ages	...	...	...	·33	·25	3·94	2·30	1·10
Females.								
0—15	...	...	...	·52	·34	1·86	1·15	·42
15—20	...	...	...	...	...	·92	·83	·34
20—25	...	...	...	...	...	1·28	·69	·35
25—35	...	...	...	·07	·07	2·35	·89	·22
35—45	...	...	...	...	·08	4·11	1·86	·30
45—55	...	...	...	·17	...	5·39	2·02	·68
55—65	...	...	...	·39	·62	11·46	5·53	1·61
65 and upwards	...	...	...	·84	3·18	35·22	16·02	12·80
All ages	...	...	...	·28	·24	3·72	2·13	1·10

The death rate for the last census period shows a substantial decrease as compared with that for each of the two preceding periods, the rate for 1910–12 being 50 per cent. below that for 1900-2, and nearly 71 per cent. lower than the rate for 1890-2. It is notable that the decline in the mortality rate from this disease has been associated with very heavy reductions in the death rates from pulmonary tuberculosis and other respiratory diseases.

Respiratory diseases. In 1916 the deaths from respiratory diseases numbered 1,925, which represented a rate of 1,366 per million of the population, as compared with rates of 1,368 in the previous year, 1,397 in 1914, 1,279 in 1913, 1,659 in 1912, and 1,470 in 1911. Of the deaths from complaints of this nature in the year under review, 119 were referred to acute bronchitis, 322 to chronic bronchitis, 440 to broncho-pneumonia, 641 to pneumonia, 60 to pleurisy and 69 to asthma. These six diseases accounted for nearly 86 per cent. of the total respiratory mortality. The seasonal incidence of the maladies is evidenced by the deaths in June, July, August, and September, which represented nearly 48 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 the death rates in age groups for each sex at five census periods :—

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

Age Group.				1870–2	1880–2	1890–2	1900–2	1910–12
Males.								
0—15	...	...	...	22·65	29·02	28·52	16·53	12·94
15—20	...	...	...	3·05	3·30	2·92	2·70	1·66
20—25	...	...	...	5·70	5·34	4·88	4·85	2·35
25—35	...	...	...	5·69	8·31	6·85	5·94	3·86
35—45	...	...	...	10·28	15·80	13·55	9·49	10·50
45—55	...	...	...	20·43	26·59	25·18	18·04	18·25
55—65	...	...	...	41·79	51·65	56·51	38·37	32·68
65 and upwards	...	...	...	108·11	136·54	141·07	112·38	138·87
All ages ...	...	...	...	17·29	24·48	24·30	18·66	17·17
Females.								
0—15	...	...	...	18·50	24·18	24·13	13·85	10·50
15—20	...	...	...	1·88	2·02	3·52	2·34	1·56
20—25	...	...	...	3·54	4·23	3·05	3·34	2·48
25—35	...	...	...	4·51	5·72	5·65	3·75	3·55
35—45	...	...	...	7·94	12·53	11·55	7·68	5·85
45—55	...	...	...	7·87	13·63	17·01	11·80	8·28
55—65	...	...	...	22·97	29·15	32·10	27·42	16·64
65 and upwards	...	...	...	73·10	116·12	112·38	86·78	99·81
All ages ...	...	...	...	12·63	17·08	17·62	13·28	11·81

Compared with the census years 1900–2, the mortality from respiratory diseases for the period 1910–12 shows a decline at each age group up to 35 for males and to 65 for females, the reduction for all ages amounting to 8 per cent. in the rate for the former and 11 per cent. in that for the latter. At each census date the male exceeded the female rate, the average excess for the five census periods being nearly 41 per cent.

Influenza and respiratory diseases (combined).

The annual mortality rates from influenza and respiratory diseases (combined), per 10,000 males and females respectively living at different ages at five census periods, are shown in the following table :—

DEATH RATES FROM INFLUENZA AND RESPIRATORY DISEASES (COMBINED).

Age Group.	1870-2.	1880-2.	1890-2.	1900-2.	1910-12.
Males.					
0—15	23·34	29·36	31·02	17·63	13·34
15—20	3·05	3·37	3·56	3·04	1·90
20—25	5·70	5·34	6·08	5·44	2·56
25—35	5·74	8·38	8·35	6·73	4·03
35—45	10·33	15·89	16·59	10·80	11·09
45—55	20·52	26·83	30·30	21·24	18·98
55—65	42·46	51·89	69·16	43·62	35·06
65 and upwards ...	109·20	138·90	168·20	129·40	151·14
All ages ...	17·62	24·73	28·24	20·96	18·27
Females.					
0—15	19·02	24·52	25·99	15·00	10·92
15—20	1·88	2·02	4·44	3·17	1·90
20—25	3·54	4·23	4·33	4·03	2·83
25—35	4·58	5·79	8·00	4·64	3·77
35—45	7·94	12·61	15·66	9·54	6·15
45—55	8·04	13·63	22·40	13·82	8·96
55—65	23·36	29·77	43·56	32·95	18·25
65 and upwards ...	73·94	119·30	147·60	102·80	112·61
All ages ...	12·91	17·32	21·34	15·41	12·91

The mortality rates from influenza and respiratory diseases combined showed a decrease for both sexes at the last census period as compared with the preceding one, such decrease amounting to 13 per cent. in the male and 16 per cent. in the female rate. Excepting the age groups 15–20 at the last three census periods, and the group 20–25 in 1910–12, the proportion of deaths of females from these diseases at the different age periods was lower in every instance than that of males. The difference in favour of the former was somewhat small up to the age of 35, but for subsequent ages it was very considerable.

Cerebro-spinal, Tubercular, and Simple Meningitis.

An outbreak of cerebro-spinal meningitis in Victoria was responsible for the deaths of 239 males and 99 females in 1915. The cases reported to the Board of Health during the same year numbered 644, of which 458 were of males and 186 of females. During 1916 the cases numbered 754 and the deaths 326, the latter representing 43 per cent. of the cases as compared with a fatality rate of 52 per cent. in the previous year. In England, 53 per cent. of the cases ended fatally in 1915. The

numbers of deaths from cerebro-spinal, tubercular, and simple men-
ingitis during the last six years were as follows :—

DEATHS FROM DIFFERENT FORMS OF MENINGITIS, 1911–16.

Year.	Cerebro-spinal Meningitis.		Tubercular Meningitis.		Simple Meningitis.		Total—All Forms of Meningitis.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1911 ..	9	2	41	49	75	51	125	102
1912 ..	4	3	26	44	63	76	93	123
1913 ..	8	4	25	41	85	65	118	110
1914 ..	12	5	42	30	89	63	143	98
1915 ..	239	99	35	35	74	46	348	180
1916 ..	191	135	29	40	56	39	276	214
Total ..	463	248	198	239	442	340	1,103	827

Age incidence of different forms of Meningitis. The next table shows the incidence of mortality at various ages from different forms of meningitis for the period 1911–16 :—

DEATHS AT DIFFERENT AGES FROM MENINGITIS, 1911–16.

Age Group.	Cerebro-spinal Meningitis.		Tubercular Meningitis.		Simple Meningitis.		Total—All Forms of Meningitis.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Under 5 ..	100	80	106	120	256	198	462	398
5 to 15 ..	53	46	50	51	49	39	152	136
15 „ 25 ..	146	41	13	39	26	32	185	112
25 „ 35 ..	64	19	10	17	21	14	95	50
35 „ 45 ..	42	21	13	4	31	21	86	46
45 „ 55 ..	39	26	4	5	31	17	74	48
55 „ 65 ..	13	9	1	2	10	7	24	18
65 and over	6	6	1	1	18	12	25	19
Total 1911–16	463	248	198	239	442	340	1,103	827

On the average of the last six years the deaths of children under
5 years of age from cerebro-spinal, tubercular, and simple meningitis
represented 25, 52, and 58 per cent. respectively of the total deaths
from these diseases. Of the 326 persons who succumbed to cerebro-
spinal meningitis in 1916, 85 were under 5 and 138 were under 15
years. Up to the age of 15 years the incidence of the mortality
from this disease in the period 1911–16 was only slightly higher for
males than females, but for the age group 15 to 45 the rate for the
former was about three times that for the latter.

Diseases of the spine. In 1916 locomotor ataxia and other diseases of the spine, excluding infantile paralysis, accounted for 70 male and 28 female deaths, representing a death rate of 70 per million of the population, as compared with rates of £8 in the previous year, 75 in 1914, 62 in 1913, 70 in 1912, 62 in 1911, 64 in 1910, 75 in 1909, and 80 in 1908. Of the 26 persons who died from locomotor ataxia 25 were males.

Infantile paralysis. Mortality returns show that infantile paralysis was responsible for the deaths of 1 girl and 3 boys in 1916, as against 2 girls in 1915, 5 boys and 4 girls in 1914, 2 boys and 1 girl in 1913, and 4 boys and 2 girls in 1912. Of those who died during the five years 11 were metropolitan and 13 extra metropolitan residents. Five of the victims were under 1 year of age, and 13 were under 5 years.

Heart disease. During 1916 there were 1,668 deaths ascribed to organic heart disease, 14 to pericarditis, 96 to acute endocarditis, and 35 to angina pectoris. The total—1,813—from these causes represented a rate of 1,286 per million of the population, as compared with 1,134 in the previous year, 1,278 in 1914, 1,294 in 1913, 1,427 in 1912, 1,434 in 1911, and 1,423 in 1910. Of the 1,813 persons who died from these diseases in 1916, only 48, or 2·6 per cent., were under 15 years of age. On the average of the three years 1910 to 1912 the deaths from all forms of heart disease per 10,000 of each sex in age periods were as follows :—

DEATH RATES FROM HEART DISEASE AT VARIOUS AGES.

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	1·25	1·81	2·35	3·01	6·71	15·53	49·57	127·50	243·44	15·19
Females	1·25	1·66	2·08	2·88	7·10	15·63	36·22	107·21	238·86	13·58

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 6 is due to some form of this disease.

Diseases of the digestive system. In 1916 there were 892 male and 808 female deaths from digestive ailments, representing a proportion of 1,206 per million of the population, as against rates of 1,098 in the previous year, 1,504 in 1914, 1,220 in 1913, 1,345 in 1912, 1,233 in 1911, and 2,382 in 1890-2. Victorian experience shows that more than half of the mortality from digestive maladies has been ascribed to diseases of a diarrhœal nature. In 1916 diarrhœal

complaints were responsible for 1,030 deaths which were equivalent to a rate of 731 per million of population, the corresponding rates in previous years being 590 in 1915, 941 in 1914, 709 in 1913, 752 in 1912, 679 in 1911, 918 in 1910 and 756 in 1909. The age incidence of this disease shows that it is heaviest at the extremes of life. Of the 1,030 deaths in the year under review, 810, or nearly 79 per cent., were of children under 2 years of age and 99, or about 10 per cent., were of persons over 65 years of age. There were 45 male and 32 female deaths from cirrhosis of the liver, 53 male and 65 female deaths from other affections of that organ, and 79 male and 72 female deaths from hernia and intestinal obstruction.

Appendicitis. The deaths from appendicitis numbered 78 in 1916, 102 in the previous year, 103 in 1914, and 116 in 1913, and corresponded to rates of 55, 72, 72, and 83, per million of the population respectively. Hospital records show that during 1916 there were 1,325 cases treated, and that 54, or 4·1 per cent., ended fatally, as compared with fatality rates of 5·3 per cent. in 1915, 2·8 per cent. in 1914, 4·5 per cent. in 1913, and 6 per cent. in the period 1908-12. According to the experience of the five years, 1910 to 1914, the death rate from appendicitis is approximately 31 per cent. higher among males than females. The mortality rates at various ages for that period were as follows :—

DEATH RATES FROM APPENDICITIS, 1910–14.

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 ..	0·43	1·00	1·24	1·03	1·01	0·97	0·90	1·38	1·05	0·92
Females	0·42	1·43	0·88	0·71	0·59	0·52	0·85	0·58	0·55	0·70

Diseases of urinary system. In 1916 there were 993 deaths attributed to diseases of the urinary system, which corresponded to a rate of 705 per million of the population, as against rates of 712 in the previous year, 670 in 1914, 724 in 1913, 803 in 1912, 727 in 1911, 628 in 1910, and 644 in 1909. Bright's disease, uræmia, and acute nephritis were responsible for 803 deaths, or 81 per cent., and complaints of the bladder and prostate for 128 deaths, or 13 per cent. of the total referred to maladies of the urinary system. The deaths

per 10,000 of each sex in age groups for the periods 1890–2, 1900–2, and 1910–12 are shown in the following table :—

DEATH RATES FROM DISEASES OF URINARY SYSTEM.

Age Group.			Deaths per 10,000 of each Sex.					
			Males.			Females.		
			1890–2.	1900–2.	1910–12.	1890–2.	1900–2.	1910–12.
0–10	...	...	1·16	·93	·67	·97	·59	·79
10–20	...	...	·43	·45	·73	·58	·82	·71
20–30	...	...	1·45	1·83	1·72	1·82	1·59	1·61
30–40	...	..	3·05	3·55	3·03	4·72	4·21	3·76
40–50	...	...	7·36	8·12	9·03	6·63	7·26	7·07
50–60	...	...	11·90	17·43	18·95	5·91	11·36	13·81
60–70	...	...	27·42	39·62	46·63	9·62	21·49	24·44
70–80	...	...	58·98	80·68	96·18	14·62	27·70	38·53
80 and over ...		...	74·07	128·48	153·04	22·21	27·15	43·70
All Ages		..	5·25	8·05	9·18	2·84	4·28	5·34

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 72 per cent.

Deaths from phthisis at various ages. The ages and sexes of those who died from pulmonary tuberculosis in the decennium ended 1910, and in each of the last three years, are given in the next table :—

DEATHS FROM PULMONARY TUBERCULOSIS AT VARIOUS AGES.

Ages.		Males.				Females.			
		Ten years—1901 to 1910.	Year.			Ten years—1901 to 1910.	Year.		
			1914.	1915.	1916.		1914.	1915.	1916.
0–10	...	66	9	2	9	86	2	5	2
10–15	...	50	7	2	6	142	4	10	10
15–20	...	323	17	19	16	551	46	32	46
20–25	...	579	54	48	60	777	70	66	79
25–30	...	742	60	51	72	863	83	77	72
30–35	...	761	72	53	55	767	61	44	44
35–40	...	854	67	66	69	731	57	44	49
40–45	...	775	58	51	72	478	40	40	42
45–50	...	674	56	72	68	353	35	23	39
50–55	...	531	64	58	67	195	20	32	18
55–60	...	423	36	41	48	170	24	20	17
60–65	...	397	26	27	30	128·	9	5	7
65–70	...	431	19	21	20	124	8	6	5
70 and over		436	16	16	14	121	11	11	11
Total ...		7,042	561	527	606	5,486	470	415	441

Notwithstanding the increase in population the deaths from phthisis in 1916 were considerably below the annual average of the decennium 1901–1910. The decreases from period to period are dealt with in subsequent paragraphs.

Death rates from phthisis. The deaths from phthisis in 1916 numbered 1,047—606 being of males and 441 of females—and equalled a rate of 743 per million of the population, as compared with rates of 661 in the previous year, 724 in 1914, 755 in 1913, 803 in 1912, 839 in 1911, 830 in 1910, 848 in 1909, 955 in 1908, 958 in 1907, and 1,365 in 1890-2. The rate for 1916 was 12 per cent. higher than that for the preceding year, the increase being evenly distributed over town and country. The rates 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 PHTHISIS IN AGE GROUPS AT THE LAST SIX CENSUS PERIODS.

Age Group.	Annual Mortality from Phthisis per 10,000 of each Sex.					
	1860-2.	1870-2.	1880-2.	1890-2.	1900-2.	1910–12.
Males.						
0 to 15	2·55	1·22	1·74	·90	·38	·46
15 ″ 20	7·72	5·71	6·88	5·41	5·06	3·71
20 ″ 25	12·23	18·75	21·19	18·29	14·35	8·45
25 ″ 35	16·53	22·21	30·33	23·70	20·31	13·11
35 ″ 45	21·63	21·83	25·11	28·28	22·07	15·63
45 ″ 55	23·14	22·24	28·65	31·17	25·05	18·07
55 ″ 65	25·63	27·86	31·41	36·48	35·75	18·88
65 and upwards ...	23·20	19·56	18·08	25·40	31·07	13·55
All Ages ...	13·33	12·89	15·33	15·73	13·51	8·98
Females.						
0 to 15	3·70	·98	1·76	1·43	·93	·97
15 ″ 20	14·07	12·37	12·50	9·51	8·18	7·62
20 ″ 25	18·95	19·28	21·00	18·49	12·79	12·68
25 ″ 35	24·76	22·02	26·56	21·77	18·15	14·03
35 ″ 45	25·62	21·65	24·06	22·53	17·74	11·51
45 ″ 55	25·01	19·60	20·72	16·13	14·41	8·18
55 ″ 65	22·59	10·51	14·26	12·35	12·52	7·47
65 and upwards ...	18·03	12·61	13·12	8·25	8·18	5·29
All Ages ...	14·46	10·62	12·75	11·51	9·72	7·61

A comparison of the mortalities from pulmonary tuberculosis at the last two census periods shows that, except among boys and girls under 15, lower death rates obtained at each age group during 1910–12 than in 1900-2, and that the improvement was greater among males

than females. An analysis of the figures discloses the fact that at certain ages the decrease was very slight in the female rate, while in the male rate it was very considerable at all ages over 15. Taking three important periods of life, 15-20, 20-25, and 25-35, it is found that between the last two censuses the rates for males declined by 26, 41, and 35 per cent. respectively, as compared with reductions of only 7, 1, and 22 per cent. in the rates for females. The heavy decline in the death rate from phthisis among men between 20 and 35 years of age is very striking, especially as it is co-incident with a reduction of 43 per cent. in the mortality rate from other diseases of the respiratory system. By combining the death rates from pulmonary tuberculosis, as shown above, with those from other forms of tubercular disease, given in a subsequent page, it appears that the section of the community represented by females aged 15 to 25 was the only one which experienced no relief from tubercular diseases in 1910-12, as compared with the preceding census period. It is probable that this result is partly due to the increased proportion of females engaged in manufacturing industries. Comparing the number of females aged 15 to 25 employed in factories with the total females of similar age in the community, it is found that between the 1901 census and that of 1911 there was an increase of 78 per cent. in the proportion exposed to the risk of tubercular infection involved in factory employment.

Phthisis in various countries. Death rates from pulmonary tuberculosis, per 10,000 of the population, in various countries, for the latest year for which this information is available, are given below :—

DEATH RATES FROM PULMONARY TUBERCULOSIS IN VARIOUS COUNTRIES.

Country.	Year.	Deaths per 10,000 of Population.	Country.	Year.	Deaths per 10,000 of Population.
Servia	1911	32·4	Scotland ...	1915	11·1
France	1911	18·0	Holland ...	1915	11·0
Ireland	1915	17·4	Belgium ...	1912	9·3
Sweden ...	1912	15·8	South Australia...	1915	7·7
Japan	1913	15·0	Victoria ...	1916	7·4
Switzerland ...	1914	13·8	Western Australia	1915	7·2
United States ...	1915	12·8	New South Wales	1915	5·7
German Empire ...	1913	12·6	New Zealand ...	1915	5·1
Spain	1914	12·3	Queensland ...	1915	4·9
England and Wales	1915	11·8	Tasmania ...	1915	4·8

The death rate from phthisis is considerably lower in Victoria than in European countries and the United States.

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 amongst miners is very considerably in excess of that among farmers and graziers and, as mining occupations predominate in Bendigo and suburbs and farming and grazing occupations in the rural districts, 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 past five years the tubercular death rate of Bendigo exceeded the rates of Ballarat and Melbourne by 32 and 62 per cent. respectively. The rates in these localities from phthisis and other tubercular diseases are given in the appended table for the periods 1891–1900 and 1901–5, and for each of the last eleven years :—

DEATH RATES FROM TUBERCULAR DISEASES IN MELBOURNE, BALLARAT, AND BENDIGO, 1891 TO 1916.

Period.	Deaths per 10,000 of the Population.								
	Phthisis.			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
1901–1905 ..	13·9	15·3	22·7	4·2	4·0	4·7	18·1	19·3	27·4
1906 ..	11·5	13·2	21·7	3·9	2·3	2·5	15·4	15·5	24·2
1907 ..	11·6	10·5	20·2	3·4	1·8	2·0	15·0	12·3	22·2
1908 ..	11·5	13·3	18·4	2·6	2·1	1·3	14·1	15·4	19·7
1909 ..	9·7	9·4	22·9	2·6	1·9	3·2	12·3	11·3	26·1
1910 ..	9·7	11·0	22·8	2·4	2·5	1·1	12·1	13·5	23·9
1911 ..	9·9	9·4	19·5	2·6	3·3	2·5	12·5	12·7	22·0
1912 ..	10·0	10·0	17·7	2·0	1·7	2·1	12·0	11·7	19·8
1913 ..	8·8	10·9	20·0	2·2	2·8	2·3	11·0	13·7	22·3
1914 ..	8·9	11·2	11·8	2·0	·9	1·0	10·9	12·1	12·8
1915 ..	7·7	10·2	13·6	1·7	2·1	2·4	9·4	12·3	16·0
1916 ..	8·6	14.3	14·2	1·8	1·5	1·4	10·4	15·8	15·6
Average of 1912–16 ..	8·8	11·3	15·5	1·9	1·8	1·8	10·7	13·1	17·3

In each of the areas the proportionate mortality from phthisis was greater in 1916 than in the preceding year.

Prevalence of phthisis in different areas.
Relatively to population cases of pulmonary tuberculosis are fewer in country districts than in urban areas. The cases reported during each of the past six years in five divisions of the State, and their proportions to the populations of these divisions for the period 1910–15 and the year 1916 are given in the subjoined table :—

PHTHISIS IN DIFFERENT AREAS.

Area.	Reported Cases of Pulmonary Tuberculosis.						Annual Cases per 10,000 of Population.	
	1911.	1912.	1913.	1914.	1915.	1916.	1910–15.	1916.
Greater Melbourne ..	879	803	780	856	972	1,094	13·8	15·9
Ballarat and Suburbs	55	58	56	60	63	77	13·7	18·9
Bendigo and Suburbs	106	82	64	53	59	70	20·8	19·6
Geelong and Suburbs	26	33	31	18	20	37	8·5	10·7
Rest of the State ..	341	351	445	423	395	375	6·0	6·2
Whole State ..	1,407	1,327	1,376	1,410	1,509	1,653	10·4	11·7

The proportion of residents of any large area reported as suffering from phthisis represents fairly closely the degree of infection of that centre. While this may be taken as true when applied to the metropolis as a whole, it cannot be accepted as definitely correct for each of its parts, as the place of residence of a large proportion of the people differs from their place of work or business. The prevalence of the disease in the principal metropolitan municipalities is shown in the next table for the two and a half years ended June, 1911, which is the latest period for which this information has been tabulated :—

PHTHISIS IN METROPOLITAN MUNICIPALTIES.

Municipality.	Annual Cases per 10,000 of the Population.	Municipality.	Annual Cases per 10,000 of the Population.
Preston Shire ...	20·2	Richmond City ...	12·1
Port Melbourne Town	18·7	Brighton Town ...	10·4
Melbourne City ...	18·1	Hawthorn City ...	10·3
Fitzroy City ...	17·3	Northcote City ...	10·0
Brunswick City ...	17·1	Essendon City ...	9·8
Coburg Town ...	15·4	Kew Town ...	9·8
South Melbourne City	15·2	Footscray City ...	9·2
Camberwell City ...	14·0	St. Kilda City ...	6·7
Prahran City ...	13·4	Malvern City ...	6·6
Collingwood City ...	12·5	Caulfield City ...	5·2
Williamstown Town...	12·2		

Other phases of phthisis. The results of an investigation of 3,198 cases of pulmonary tuberculosis which occurred in the State during the two and a half years ended June, 1911, are given in the 1913-14 edition of this work. The matters dealt with were the sex and age of the patients, their usual place of residence, the chances of metropolitan and extra metropolitan residents contracting the disease at different ages, the time elapsing from the commencement of the complaint to the date on which medical advice is obtained, and the probability of recovering from the disease. In the issue referred to the medical and economic results of sanatorium treatment of tuberculosis of the lungs in Germany are shown for a series of years.

Tubercular diseases (phthisis excepted). In 1916 there were in Victoria 192 deaths from tubercular diseases (excluding phthisis), which corresponded to a rate of 136 per million, as compared with rates of 135 in the previous year, 140 in 1914, 156 in 1913, 154 in 1912, 186 in 1911, 176 in 1910, 192 in 1909, 200 in 1908, 209 in 1907, and 379 in 1890-2. The death rates in various age groups are shown in the following table for five census periods :—

DEATH RATES FROM TUBERCULAR DISEASES (PHTHISIS EXCEPTED) IN AGE GROUPS.

Age Group.	Deaths per 10,000 of each Sex.				
	1870-2.	1880-2.	1890-2.	1900-2.	1910-12.
Males.					
0—15 ...	7·53	7·98	10·36	5·64	2·75
15—20 ...	·64	·81	1·17	1·12	1·12
20—25 ...	1·80	1·23	·89	1·77	1·23
25—35 ...	·70	·66	·84	1·91	1·71
35—45 ...	·77	·88	·77	1·39	1·38
45—55 ..	·95	·85	·67	1·64	·82
55—65 ...	·88	1·07	·78	2·40	1·29
65 and over	1·09	2·36	·56	1·17	·59
All ages	3·46	3·55	4·02	2·99	1·70
Females.					
0—15 ..	5·89	7·28	8·43	5·33	2·12
15—20 ...	·82	1·30	1·27	1·95	2·34
20—25 ..	·52	·69	1·23	2·09	2·59
25—35 ..	·54	·41	·88	1·98	1·81
35—45 ..	1·04	·70	·42	1·77	1·33
45—55 ...	·17	·67	·34	1·01	·93
55—65 ..	·39	·62	·69	·71	1·11
65 and over	1·69	1·19	·64	·71	·29
All ages	3·10	3·39	3·58	2·91	1·76

As compared with the period 1900-2 the proportion of persons under 15 years of age who died from tubercular diseases (excluding phthisis) during 1910-12 represents a decline of 51 per cent. for males and of 60 per cent. for females. The most important increase occurred in the rate for females aged 15-25.

Tubercular diseases— deaths of recent arrivals from.   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.   In 1916, ·3 per cent. of the persons who died were born outside and resident less than one year in Australia, and 3·4 per cent. 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 three years, and the yearly average at the same ages for the period 1901–10 are given below :—

DEATHS FROM CANCER AT VARIOUS AGES.

Age Group.	Males.				Females.			
	Yearly Average, 1901–10.	1914.	1915.	1916.	Yearly Average, 1901–10.	1914.	1915.	1916.
0–15	5	1	6	5	3	6	3	6
15–25	6	4	3	5	4	6	6	4
25–35	9	10	16	15	13	15	17	18
35–45	34	30	28	25	59	64	67	57
45–55	79	105	86	121	90	135	126	164
55–65	107	160	144	184	102	163	151	162
65–75	159	140	166	163	121	139	136	154
75–85	81	103	86	94	60	72	81	93
85 and over ..	12	18	21	15	9	11	15	13
Total ..	492	571	556	627	461	611	602	671

The widely different social and economic effects produced by the prevalence of and deaths from the two important diseases—cancer and phthisis—are evidenced by the ages of their victims. For the year 1916 the average age of those who died from cancer was 62·1 years for males, and 59·8 years for females, whilst the corresponding averages for phthisis were 41·2 years for males and 34·3 years for females.

Cancer— death rates at different ages.   Deaths from cancer in 1916 numbered 1,298, and represented a death rate of 921 per million of the whole population, as compared with rates of 812 in the previous year, 830 in 1914, 838 in 1913, 905 in 1912, 833 in 1911, 832 in 1910, 802 in 1909, and 794 in 1908.   Cancer 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 persons of the same sex living 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.			
	1880–2.	1890–2.	1900–2.	1910–12.
Males.				
Under 5 ...	·29	·18	·30	·73
5 to 10 ..	·24	·10	·42	·25
10 ″ 15 ...	·18	·11	·20	·16
15 ″ 20 ...	·07	·17	·22	·15
20 ″ 25 ...	·25	·32	·33	·71
25 ″ 35 ...	·80	·81	1·26	·96
35 ″ 45 ...	4·12	4·29	3·69	3·16
45 ″ 55 ..	10·16	14·83	14·14	16·03
55 ″ 65 ...	22·01	31·92	36·00	36·36
65 ″ 75 ...	34·55	52·75	59·04	74·15
75 and over	45·12	53·55	74·04	88·40
All ages	4·29	6·16	7·52	8·50
Females.				
Under 5 ...	·12	·09	·26	·19
5 to 10 ...	·12	·10	·04	·10
10 ″ 15 ...	·06	·06	—	·27
15 ″ 20 ...	·26	·12	·28	·44
20 ″ 25 ...	·39	·22	·23	·41
25 ″ 35 ..	2·65	1·68	1·61	1·39
35 ″ 45 ...	7·32	7·43	6·05	7·26
45 ″ 55 ...	15·07	18·00	18·13	17·87
55 ″ 65 ...	29·35	31·79	33·05	38·03
65 ″ 75 ...	32·68	53·96	51·18	61·66
75 and over	27·56	49·55	62·70	86·19
All ages	4·27	5·57	6·64	8·76

Deaths from cancer occurred 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. A comparison of the figures for the last two census periods, which would not be appreciably affected by differences in the diagnosis of the disease, shows that at ages under 45 an increase occurred in the rate for females, and a slight reduction in that for males. At the next age period, 45–55, the male rate increased by nearly 13 per cent., while the female rate declined very slightly. At the period, 55–65, the mortality rate for men remained almost stationary, but that for women exhibited a very marked increase. Among both males and females aged 65 and upwards the death rate was considerably heavier in 1910–12 than in 1900–2. From the figures for the two periods mentioned it would appear that there was a slight but definite increase in the death rate from cancer among persons under 65, and a large increase among persons over that age and, further, that on the whole the increase was much greater among females than males.

Seat of cancer. The following table shows the seat of cancer in persons who died from this disease in 1916 :—

SEAT OF CANCER.

Seat of Disease.	Males.	Females.	Total.
Cancer of the buccal cavity (mouth, &c.) ..	91	7	98
,, the stomach and liver	253	203	456
,, the peritoneum, the intestines, and the rectum	78	108	186
,, the female genital organs ...	...	109	109
,, the breast	...	107	107
,, the skin	44	14	58
,, other and unspecified organs ...	161	123	284
Total Deaths ...	627	671	1,298

Thirty-five per cent. of the persons who died from cancer were affected in the stomach or liver. Of the total females who died from the disease nearly one-third were affected in the genital organs or the breast.

Death Rates from cancer in various countries. Deaths from cancer per 10,000 of the population in various countries, for the latest year for which this information is available, are given in the next table :—

DEATH RATES FROM CANCER IN VARIOUS COUNTRIES.

Country.	Year.	Deaths per 10,000 of Population.	Country.	Year.	Deaths per 10,000 of Population.
Switzerland ...	1914	12·8	United States ...	1915	8·1
England and Wales	1915	11·3	France	1911	8·0
Scotland	1915	11·1	Ontario	1915	7·2
Sweden	1912	11·0	New South Wales	1915	7·1
Holland	1915	10·9	Belgium	1912	7·1
German Empire ...	1913	9·2	Tasmania ...	1915	7·0
Victoria	1916	9·2	Western Australia	1915	6·8
South Australia ...	1915	9·0	Italy	1914	6·7
Ireland	1915	8·8	Japan	1913	6·6
New Zealand ...	1915	8·2	Queensland ...	1915	6·4
Austria	1912	8·1	Spain	1914	5·6

Victoria showed a lower death rate from cancer than six of the above countries, but a higher one than any other Australian State.

Senile decay. During the year 1916, the deaths of 884 men and 818 women aged 65 years and over were ascribed to senile decay. The deaths at these ages from all causes during the year numbered 5,860—3,087 of men and 2,773 of women. It is thus seen that 29·0 per cent. of the deaths of persons aged 65 years and upwards were due to senile decay. The mortality rates of elderly persons in several age groups have been computed, taking the average of the three years 1910–12, when the numbers of persons within those groups were accurately known. These show that of every 100 persons in the respective age groups, there died within a year, from all causes,

4·21 aged 65 to 70, 6·63 aged 70 to 75, 10·71 aged 75 to 80, 16·36 aged 80 to 85, and 27·30 aged 85 and upwards.

Accidental violence. Death rates from accidental violence have been lower in later 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 1916 there were 480 male and 167 female deaths attributed to accidents and negligence, which represented a rate of 459 per million of the population. This proportion was slightly below the average rate—487—for the previous five years, and 43 per cent. lower than the ratio—811—for 1890–2. The deaths from different accidents in 1916 are given in the appended table :—

DEATHS FROM ACCIDENTAL VIOLENCE, 1916.

Nature or Place of Accident.	Males.	Females.	Total.
Poisoning by Food	9	4	13
Other Acute Poisonings	6	4	10
Burns (including Conflagrations)	28	40	68
Absorption of Poisonous Gases	2	3	5
Suffocation	4	..	4
Suffocation in bed (infants)	4	7	11
Drowning	114	40	154
Firearms	21	4	25
Falls	49	9	58
In Mines and Quarries	6	..	6
Machines	11	2	13
Vehicular Accidents—			
On Railways	42	1	43
Motor Car	20	6	26
Motor Cycle	6	2	8
Motor Bus	1	..	1
Motor Lorry	3	..	3
Bicycle	2	..	2
Tram Car	7	4	11
Vehicle drawn by Horses	22	6	28
Vehicle, Undefined	6	1	7
Injuries by Animals	3	..	3
Starvation	..	1	1
Effects of Heat	7	4	11
Excessive Cold	3	2	5
Lightning	1	..	1
Electricity	5	..	5
Fractures, Unspecified	37	19	56
Other Violence	61	8	69
Total	480	167	647

On the average of the past five years the female mortality rate from accidents was slightly less than one-third of the rate for males.

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 that age. The deaths per 10,000 males at certain ages from

drowning, sunstroke, and other accidents for the period 1909–13 were as follows :—

DEATH RATES FROM ACCIDENT—MALES, 1909–13.

	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 ..	1·74	1·19	1·15	1·40	1·89	2·57	3·64	1·72
Sunstroke ..	..	..	·08	·10	·27	·18	·96	·16
Other Accidents	3·68	5·19	4·68	5·90	7·51	10·06	16·54	6·56
Total Accidents..	5·42	6·38	5·91	7·40	9·67	12·81	21·14	8·44

For men aged 20 to 35 the death rate from accidental violence is less than one-third of that for men over age 65 and slightly less than one half of the rate for those aged 55 to 65. The death rates in the above table agree fairly closely with English experience, which shows that the annual deaths from accidents per 10,000 males were 5·33 at ages 15–20, 5·71 at 20–25, 6·64 at 25–35, 8·62 at 35–45, 11·12 at 45–55, 13·99 at 55–65, and 18·85 at 65 and upwards.

Occupations of men dying from accidents.　　During the year 1916, 378 males aged seventeen years and upwards died from the results of accidents. The numbers for the different occupations were as follows :—

Occupation.	Deaths from Accidents, 1916.	Occupation.	Deaths from Accidents, 1916.
Labourer (undefined) ..	97	Postal employee	3
Farmer, grazier	63	Publican	3
Miner	16	Agent	2
Soldier	16	Blacksmith	2
Driver, carter, carrier ..	14	Boxmaker	2
Railway employee ..	12	Butcher..	2
Clerk	10	Builder, contractor ..	2
Horse trainer, jockey, groom	9	Cabinetmaker ..	2
Grocer	7	Clergyman	2
Seaman	6	Constable	2
Carpenter	5	Doctor	2
Engineer	5	Electrician	2
Plumber	5	Hawker..	2
Bootmaker	4	Merchant	2
Bricklayer	4	Printer	2
Fireman	4	Salesman	2
Painter	4	Solicitor	2
Storeman	4	Warder	2
Traveller..	4	Others (specified) ..	20
Cook	3	Unspecified	19
Engine-driver	3		
Ironworker	3	Total	378
Manager	3		

Of the 378 deaths of males over 17 years of age which resulted from accidents in 1916, 69 were due to drowning.

Suicide. In the year 1916, 82 males and 33 females took their own lives. The deaths represented a rate of 83 per million of the population as compared with rates of 105 in the preceding year, 90 in 1914, 103 in 1913, 112 in 1912, 114 in 1911, 101 in 1910, 92 in 1909 and 1908, and 109 in 1890–2. A much lower rate from suicide obtains among females than males, the rate for the former being about one-third of that for the latter on the average of the past five years. Among males the death rate from suicide in 1916 was about 27 per cent. below the average of the three years preceding the war. This is fairly similar to English experience, which shows that the mortality rate from this cause among males was 25 per cent. lower in 1915 than in the period 1911–13.

Homicide. The deaths ascribed to homicide in 1916 numbered 20 of which 8 were of males and 12 of females. These represented a rate of 14 per million of the population as against rates of 17 in the previous year, 16 in 1914, 18 in 1913, 21 in 1912, 18 in 1911, 31 in 1910, 12 in 1909, 15 in 1908, and 34 in 1890–2.

Deaths of married women in childbed. The death rate of women in childbed varies considerably at different ages, and is less at younger than at older age periods. The number of deaths of married mothers, in childbed, and the death rates for various age groups are shown for the decade 1906–15 and the year 1916 in the following table :—

DEATH RATES OF MARRIED MOTHERS IN CHILDBED IN AGE GROUPS, 1906–1915 AND 1916.

Age Group.	Married Mothers.			
	Deaths.		Deaths per 1,000 Confinements.	
	1906–15.	1916.	1906–15.	1916.
Under 20 years	23	2	2·71	2·82
20 to 25 ,, ...	184	18	2·85	2·59
25 ,, 30 ,, ...	326	31	3·60	3·10
30 ,, 35 ,, ...	334	29	4·59	3·79
35 ,, 40 ,, ...	346	23	6·86	4·64
40 years and over	156	16	6·90	8·78

The experience of the ten years 1906–15 shows that for the age period 35 years and upwards the deaths of mothers in childbed were

69 per 10,000 as against 37 per 10,000 for those under 35 years of age. For the same term of years the number of deaths per 1,000 married women in first confinements was 5·57, as against an average of 4·04 for other confinements.

Deaths in childbed. The death rate of women in childbed is usually ascertained by comparing the number of deaths of parturient women with the total number of births. The proportions which prevailed in each of the last six 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.	
1871–1880 ..	127	46	173	64·38
1881–1890 ..	121	64	185	59·19
1891–1900 ..	117	66	183	56·01
1901–1905 ..	126	58	184	60·92
1906–1910 ..	101	46	147	47·17
1911 ..	86	62	148	44·79
1912 ..	92	61	153	42·72
1913 ..	112	65	177	49·20
1914 ..	97	61	158	43·62
1915 ..	91	40	131	37·42
1916 ..	75	55	150	37·97

In recent years a marked reduction has taken place in the death rate of women in childbed. The deaths of mothers per 10,000 children born alive were 42·2 in 1912–16, as compared with 47·2 in 1906–10, and 60·9 in 1901–5.

Puerperal Septicæmia. In 1916 there were 55 deaths of married and unmarried mothers from puerperal septicæmia, which corresponded to a death rate of 16·1 per 10,000 births, as against 11·4 in the previous year, 16·8 in 1914, 18·1 in 1913, 17·0 in 1912, 18·8 in 1911, 17·2 in 1910, 11·4 in 1909, 15·4 in 1908, and 18·1 in 1901-7.

NATURAL INCREASE.

Natural Increase per 1,000 of population in Australasia. The natural increase, *i.e.*, the excess of births over deaths, per 1,000 of the population, in the various Australian States and New Zealand, for the period 1902-6 and for each of the last ten years, is shown in the following table :—

NATURAL INCREASE PER 1,000 OF THE POPULATION, AUSTRALIAN STATES AND NEW ZEALAND.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1902-6	12·30	15·76	15·41	13·28	18·04	18·12	14·68	16·94
1907	13·43	16·58	16·52	13·95	18·15	18·46	15·58	16·35
1908	12·11	16·64	16·48	14·75	18·16	18·85	15·29	17·88
1909	13·35	17·58	17·55	15·76	18·47	19·89	16·30	18·07
1910	12·86	18·09	17·61	16·17	17·80	18·56	16·30	16·46
1911	13·49	18·34	17·01	17·07	18·05	18·51	16·60	16·58
1912	14·20	19·04	18·74	18·37	17·79	19·80	17·42	17·61
1913	14·71	17·90	19·87	18·30	20·04	19·16	17·48	16·67
1914	13·85	18·80	19·49	18·62	19·01	20·66	17·52	16·68
1915	13·45	17·81	18·35	16·14	18·69	19·21	16·57	16·27
1916	12·60	17·26	16·67	15·61	17·41	18·09	15·74	16·29
Mean '12-16	13·76	18·16	18·62	17·41	18·59	19·38	16·95	16·70

The mean natural increase in the Australian States for the period 1912-16 was 16·95 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. It has been shown in a previous paragraph that the Victorian death rates at nearly all periods of life are below those of England and Wales. The Australian annual rate of increase due to excess of births over deaths—16·95—would enable a population to double itself in 41 years, whilst at the Victorian rate of 13·76 per 1,000 of population a period of nearly 51 years would be required.

Natural increase per 1,000 of population in various countries. The rate of natural increase in Australia for 1912–16 is higher than that in Japan and all European countries, except Roumania, on the average of the latest five years for which this information is available. The rates for various countries are given below :—

NATURAL INCREASE PER 1,000 OF THE POPULATION IN VARIOUS COUNTRIES.

Country.	Natural Increase per 1,000 of Population.	Country.	Natural Increase per 1,000 of Population.
Tasmania	19·4	Italy	12·8
Queensland	18·6	Germany	12·7
Western Australia ...	18·6	Norway	11·9
New South Wales ...	18·2	Hungary	11·7
South Australia ...	17·4	Ontario	11·1
Roumania	17·4	Austria	10·7
Australia	16·9	Scotland	9·7
Bulgaria	16·8	Spain	9·6
New Zealand ...	16·7	Sweden	9·1
Russia	15·7	England and Wales ...	8·9
Holland	14·9	Switzerland	8·4
Victoria	13·8	Belgium	7·9
Servia	13·6	Ireland	5·9
Japan	13·1	France	·5
Denmark	12·9		

The rate of natural increase in Victoria is lower than in the other States and New Zealand, but higher than in seventeen of the countries enumerated in the above table.

Excess of births over deaths in Australasia. The next table shows the excess per cent. of births over deaths in each of the Australian States and New Zealand for the period 1902–6, and for each of the last ten years:—

EXCESS PER CENT. OF BIRTHS OVER DEATHS, AUSTRALIAN STATES AND NEW ZEALAND.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1902–6	98	147	144	125	150	165	129	174
1907	116	157	160	141	164	164	144	149
1908	97	164	161	150	169	164	140	187
1909	119	176	181	166	181	199	158	196
1910	113	181	182	158	176	164	156	170
1911	117	178	160	174	177	182	155	177
1912	116	175	171	179	161	185	155	199
1913	132	164	191	169	214	176	162	176
1914	120	186	195	174	202	214	166	179
1915	121	170	167	151	201	190	155	179
1916	108	162	152	134	178	174	142	169
Mean 1912–16	119	171	175	161	191	188	156	180

Taking the average of the period 1912–16, it is seen that the least excess in Australasia was in Victoria, and the greatest in Western Australia. To every hundred deaths that occurred there were 219 births in Victoria, 271 in New South Wales, 275 in Queensland, 261 in South Australia, 291 in Western Australia, 288 in Tasmania, 256 in Australia, and 280 in New Zealand.

Excess of births over deaths in districts. The excess per cent. of births over deaths varies very considerably in different portions of the State, being greater in areas which have been settled at a comparatively recent date than in old-established districts. This is specially noticeable in the excess rates for the Mallee, Gippsland, and Wimmera districts, where for every 100 deaths there were 447, 299, and 277 births respectively, as against 151 in the North Central and 197 in the Metropolitan districts. The subjoined table shows the excess per cent. of births over deaths in nine divisions of the State for the periods 1905–7 and 1908–12 and for each of the last four years :—

EXCESS PER CENT. OF BIRTHS OVER DEATHS IN DISTRICTS.

District.	Excess per cent. of Births over Deaths.					
	1905-7.	1908-12.	1913.	1914.	1915.	1916.
Metropolitan...	81	88	119	106	107	97
Central ...	121	113	133	117	141	104
North Central	87	96	90	82	90	51
Western ...	110	115	131	116	122	101
Wimmera ...	179	195	222	170	188	177
Mallee ...	305	323	410	345	386	347
Northern ...	122	131	146	118	135	124
North Eastern	133	144	100	136	97	115
Gippsland ...	235	225	215	222	158	199
State ...	108	112	132	120	121	108

The figures in the above table are based upon the deaths occurring in the different areas and not upon the usual residence of the deceased. This accounts to some extent for the small excess rate in

the Metropolitan, Central, and North Central districts.　The very favorable position of the Mallee, Wimmera, and Gippsland districts in respect of their excess of births over deaths is almost wholly due to their low death rates.

Excess of births over deaths in various countries.　Although the excess per cent. of births over deaths is lower in Victoria than in the other States and New Zealand, it is higher than in any of the other countries in the following table, on the average of the latest five years for which this information is available :—

EXCESS PER CENT. OF BIRTHS OVER DEATHS IN AUSTRALASIA AND OTHER COUNTRIES.

Country.	Excess per cent. Births over Deaths.	Country.	Excess per cent. Births over Deaths.
Western Australia ...	191	Italy	67
Tasmania	188	Sweden	65
New Zealand	180	Japan	64
Queensland	175	England and Wales ...	63
New South Wales ...	171	Scotland	62
South Australia ...	161	Switzerland... ...	59
Australia	156	Servia	58
Victoria	119	Russia (European) ...	55
Holland	116	Belgium	50
Denmark	100	Austria	49
Ontario	90	Hungary	48
Norway	89	Spain	44
Germany	78	Ireland	35
Roumania	71	France	3
Bulgaria	70		

The very favorable position of Australasia as regards the excess of births over deaths is wholly due to its low death rate.　Very much higher birth rates prevailed in some of the above countries, especially Russia, Bulgaria, Roumania, Servia, and Austria, than in Australia, but this advantage was more than counterbalanced by their higher death rates.　On the average of five years, the loss caused by every 100 deaths was compensated by 256 births in Australia, as compared with 216 in Holland, 200 in Denmark, 189 in Norway, 178 in Germany, 164 in Japan, 163 in England and Wales, 162 in Scotland, 155 in Russia, 149 in Austria, and only 103 in France, which had the lowest excess rate of all the countries shown.