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## CHAPTER 9

### VITAL STATISTICS

The tables in this chapter are confined to the principal characteristics of vital statistics for Australia, and relate, in the main, to the year 1964, except for the totals of marriages, births, deaths and infant deaths, for which it has been possible to include figures for 1965. Comparisons have been restricted, in general, to the individual years 1961 to 1965 and the five-year periods 1941-45 to 1961-65, while age data have been shown in five-year groups. Comparisons over longer periods, together with more detailed figures such as single age particulars and cross-classifications of various characteristics, will be found in the annual bulletin, *Demography*. Commencing with the year 1963 a separate annual bulletin *Causes of Death* has been published. This contains the detailed tables based on the International Statistical Classification of Diseases, Injuries and Causes of Death which were formerly published in *Demography*. Current information is published in the *Monthly Review of Business Statistics*, the *Quarterly Summary of Australian Statistics* and the *Australian Demographic Review* (a mimeographed series issued at intervals throughout the year on population and vital statistics).

Figures of births and deaths for Australia are exclusive throughout of full-blood Aborigines.

Vital statistics for the principal countries of the world are set out in International Vital Statistics at the end of this chapter.

#### Provisions for registration and compilation of statistics

In Australia vital statistics are compiled from information supplied for the registration of births, deaths and marriages. Each State and Territory has an independent system of registration. Provisions for the civil registration of births, deaths, and marriages have been in force in Tasmania from 1839, in Western Australia from 1841, in South Australia from 1842, in Victoria from 1853, and in New South Wales and Queensland (then part of New South Wales) from 1856. Registration in the Territories is administered by the Commonwealth Government, registration having been taken over in respect of the Northern Territory from South Australia in 1911 and in respect of the Australian Capital Territory from New South Wales in 1930. The authority responsible for the registration of births, deaths and marriages occurring within his particular State or Territory is the Registrar-General (the Government Statist in Victoria) or the Principal Registrar.

Information concerning a birth is required to be supplied within 28 days in the Australian Capital Territory and the Northern Territory, 42 days in South Australia, and 60 days in other States. For the registration of a death the period allowed is 8 days in Tasmania, 10 days in South Australia, 14 days in Western Australia, Australian Capital Territory and Northern Territory, 21 days in Victoria, and 30 days in New South Wales and Queensland.

The *Marriage Act* 1961 came into operation on 1 September 1963, placing the marriage laws of all States, the mainland Territories and Norfolk Island on a uniform basis. Provision is made for the celebration of marriage by ministers of religion registered with the Registrar of Ministers of Religion appointed in each State and Territory by the Attorney-General, and by certain civil officers. In all cases the authorized celebrant is required to register particulars of the parties married with the appropriate registering authority in each State or Territory. The celebrant is requested to register a marriage as soon as practicable and in any case not later than fourteen days after the marriage.

The registration of stillbirths is compulsory in all the States and Territories except Tasmania. Western Australia in 1908 was the first State to introduce compulsory registration, followed by the Australian Capital Territory in 1930, New South Wales in 1935, South Australia in 1937, the Northern Territory in 1949, Victoria in 1953, and Queensland in 1959. Stillbirths are entered in both the birth and death registers in New South Wales and Western Australia, in the birth register in the Australian Capital Territory and the Northern Territory, and in separate stillbirth registers in Victoria, South Australia and Tasmania. Stillbirths are not entered in a register in Queensland but the papers are kept for a period of at least ten years. In this chapter stillbirths have been excluded from all tables of births and deaths and are shown only in those specially relating to stillbirths.

The data for the compilation of vital statistics are obtained from registry records and dispatched, through the Statistical Office in each State and Territory, to the Commonwealth Statistician. The compilation and publication of vital statistics for Australia is one of the functions of the Commonwealth Statistician. The Deputy Commonwealth Statisticians compile and publish statistics relating to their respective States.

### Marriages

#### Numbers of marriages and crude marriage rates

The numbers of marriages registered in each State and Territory in five-year periods from 1941-45 to 1961-65, and for each of the years 1961 to 1965, and crude marriage rates for the same periods are shown in the following tables. Annual averages for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 575. A graph showing the number of marriages in each year from 1870 to 1965 appears on plate 22 of this issue.

#### MARRIAGES: STATES AND TERRITORIES, 1941 TO 1965

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Annual average—</b>									
1941-45 . . .	28,506	19,450	10,563	6,517	4,668	2,097	71	109	71,981
1946-50 . . .	30,162	20,453	10,666	6,581	5,205	2,529	114	181	75,891
1951-55 . . .	28,483	20,007	10,171	6,290	5,232	2,539	146	234	73,102
1956-60 . . .	28,432	20,422	10,254	6,517	5,145	2,573	190	321	73,854
1961-65 . . .	31,788	23,262	11,437	7,514	5,768	2,700	248	533	83,250
<b>Annual total—</b>									
1961 . . .	29,773	21,264	10,392	6,804	5,150	2,677	207	419	76,686
1962 . . .	30,360	22,393	10,642	7,021	5,466	2,485	243	480	79,090
1963 . . .	30,999	22,061	11,431	7,302	5,755	2,579	260	529	80,916
1964 . . .	32,633	24,169	11,752	7,765	6,023	2,869	233	569	86,013
1965 . . .	35,176	26,421	12,967	8,680	6,448	2,888	296	670	93,546

#### CRUDE MARRIAGE RATES<sup>(a)</sup>: STATES AND TERRITORIES, 1941 TO 1965

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Average annual rate—</b>									
1941-45 . . .	9.97	9.86	10.04	10.61	9.74	8.61	7.2*	7.6*	9.94
1946-50 . . .	9.90	9.72	9.41	9.87	10.01	9.56	9.4*	9.4*	9.77
1951-55 . . .	8.41	8.34	7.91	8.11	8.44	8.35	9.1*	8.20	8.29
1956-60 . . .	7.70	7.50	7.14	7.26	7.36	7.69	8.63	7.51	7.50
1961-65 . . .	7.84	7.60	7.32	7.44	7.47	7.44	8.42	7.26	7.62
<b>Annual rate—</b>									
1961 . . .	7.61	7.26	6.86	7.02	6.98	7.57	7.9*	7.1*	7.30
1962 . . .	7.63	7.49	6.91	7.10	7.24	6.91	9.0*	7.3*	7.39
1963 . . .	7.65	7.22	7.32	7.24	7.44	7.08	9.1*	7.2*	7.41
1964 . . .	7.92	7.72	7.41	7.52	7.62	7.81	7.4*	7.0*	7.72
1965 . . .	8.38	8.24	8.07	8.24	8.00	7.82	8.7*	7.5*	8.23

(a) Number of marriages per 1,000 of mean population.

\* Based on too few events to warrant calculation of rates to two decimal places.

The crude marriage rates for Australia and the more populous countries of the world are shown for the latest available year in International Vital Statistics at the end of this chapter.

#### Marriage rates based on marriageable population

As the marriage rates in some international tabulations are based on the unmarried population aged 15 years and over, the corresponding rates have been calculated for Australia for the nine census periods to 1960-62. The period in each case comprises the census year with the year immediately preceding and the year immediately following, and the figures are as follows.

#### PERSONS MARRYING PER 1,000 OF UNMARRIED POPULATION: AUSTRALIA 1880-82 TO 1960-62

Period	Rate(a)	Period	Rate(a)
1880-82	48.63	1932-34	42.88
1890-92	44.04	1946-48	71.24
1900-02	42.14	1953-55	65.32
1910-12	50.12	1960-62	62.27
1920-22	55.97		

(a) Average annual number of persons who married per 1,000 unmarried persons, including widowed and divorced, aged 15 years and over.

#### Age and marital status at marriage

Particulars of age at marriage in age groups, and previous marital status, of bridegrooms and brides in 1964 are given hereunder. There were 10,775 males under 21 years of age married during 1964, while the corresponding number of females was 35,496. At the other extreme there were 1,054 bridegrooms and 505 brides in the age group 65 years and over.

#### AGE AND MARITAL STATUS OF BRIDEGROOMS AND BRIDES AUSTRALIA, 1964

Age at marriage (years)	Bridegrooms				Brides			
	Bachelors	Widowers	Divorced	Total	Spinsters	Widows	Divorced	Total
Under 20	5,468	..	..	5,468	24,365	5	7	24,377
20-24	40,670	20	65	40,755	40,863	76	317	41,256
25-29	20,729	65	447	21,241	7,874	180	852	8,906
30-34	6,302	122	815	7,239	2,190	219	970	3,379
35-39	2,623	176	957	3,756	1,016	296	984	2,296
40-44	1,109	278	819	2,206	561	415	835	1,811
45-49	528	296	638	1,462	289	473	516	1,278
50-54	286	410	509	1,205	233	465	358	1,056
55-59	183	427	343	953	133	368	164	665
60-64	98	429	147	674	79	319	86	484
65 and over	89	815	150	1,054	67	398	40	505
Total	78,085	3,038	4,890	86,013	77,670	3,214	5,129	86,013

In the following table the proportional distribution of bridegrooms and brides according to previous marital status is shown in five year-periods from 1936-40 to 1956-60 and for each of the years 1960 to 1964.

**MARITAL STATUS OF BRIDEGROOMS AND BRIDES: PROPORTIONAL  
DISTRIBUTION, AUSTRALIA, 1936 TO 1964**

(Per cent)

Period	Bridegrooms				Brides			
	Bachelors	Widowers	Divorced	Total	Spinsters	Widows	Divorced	Total
1936-40 . . .	92.59	4.82	2.59	100.00	93.94	3.38	2.68	100.00
1941-45 . . .	91.44	4.77	3.79	100.00	92.11	3.93	3.96	100.00
1946-50 . . .	88.82	4.74	6.44	100.00	88.71	4.74	6.55	100.00
1951-55 . . .	88.77	4.63	6.60	100.00	88.04	4.81	7.15	100.00
1956-60 . . .	89.86	4.18	5.96	100.00	88.80	4.47	6.73	100.00
1960 . . .	90.04	4.00	5.96	100.00	88.93	4.43	6.64	100.00
1961 . . .	90.13	3.95	5.92	100.00	89.47	4.30	6.23	100.00
1962 . . .	90.18	3.87	5.95	100.00	89.58	4.04	6.38	100.00
1963 . . .	90.53	3.77	5.70	100.00	90.01	3.85	6.14	100.00
1964 . . .	90.78	3.53	5.69	100.00	90.30	3.74	5.96	100.00

The relative ages of bridegrooms and brides in 1964 are shown below in age groups of five years.

**RELATIVE AGES OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1964**

Age of bridegroom (years)	Total bridegrooms	Age of bride (years)							
		Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 and over
Under 20 . . .	5,468	2	4,644	786	29	3	3	..	1
20-24 . . .	40,755	2	15,495	23,559	1,526	124	30	10	9
25-29 . . .	21,241	..	3,516	13,067	3,829	623	143	43	20
30-34 . . .	7,239	..	567	2,837	2,176	1,049	417	128	65
35-39 . . .	3,756	..	108	747	910	846	667	326	152
40-44 . . .	2,206	..	26	168	311	426	484	464	327
45-49 . . .	1,462	..	10	57	76	189	282	366	482
50-54 . . .	1,205	..	6	16	24	65	161	261	672
55-59 . . .	953	..	..	14	14	35	74	139	677
60-64 . . .	674	..	1	3	9	14	20	47	580
65 and over .	1,054	..	..	2	2	5	15	27	1,003
<b>Total brides</b>	<b>86,013</b>	<b>4</b>	<b>24,373</b>	<b>41,256</b>	<b>8,906</b>	<b>3,379</b>	<b>2,296</b>	<b>1,811</b>	<b>3,988</b>

The average age at marriage of brides and bridegrooms has declined during recent years. The average ages, in years, of brides for each of the five years to 1964 were: 1960, 24.84; 1961, 24.73; 1962, 24.68; 1963, 24.42; and 1964, 24.31. The average ages, in years, of bridegrooms were: 1960, 28.15; 1961, 28.07; 1962, 28.03; 1963, 27.76; and 1964, 27.58. The difference in the average age at marriage between brides and bridegrooms is generally just over three years, the difference in 1964 being 3.27 years.

## Previous marital status

The following table shows the relative marital status of bridegrooms and brides in 1964.

**MARITAL STATUS OF BRIDEGROOMS AND BRIDES  
AUSTRALIA, 1964**

Marital status of bridegrooms	Total bridegrooms	Marital status of brides		
		Spinsters	Widows	Divorced
Bachelors .. ..	78,085	74,231	1,142	2,712
Widowers .. ..	3,038	941	1,399	698
Divorced .. ..	4,890	2,498	673	1,719
<b>Total brides ..</b>	<b>86,013</b>	<b>77,670</b>	<b>3,214</b>	<b>5,129</b>

## Countries of birth of persons marrying

The following table shows the relative countries of birth of bridegrooms and brides married in 1964.

**RELATIVE COUNTRIES OF BIRTH OF BRIDEGROOMS AND BRIDES  
AUSTRALIA, 1964**

Country of birth of bridegroom	Country of birth of bride										Total bridegrooms	
	Australia	New Zealand	United Kingdom and Ireland	Germany	Greece	Italy	Netherlands	Poland	Yugoslavia	Other European		Other and unspecified
Australia ..	58,484	241	3,164	466	49	125	481	42	48	398	463	63,961
New Zealand ..	473	48	44	..	..	3	3	..	..	5	11	587
United Kingdom and Ireland ..	4,115	50	1,286	75	6	8	62	18	5	79	125	5,829
Germany ..	652	11	114	351	4	18	33	22	12	92	27	1,336
Greece ..	168	1	6	8	3,422	4	4	2	..	19	56	3,690
Italy ..	751	5	78	53	18	2,318	25	6	22	51	54	3,381
Netherlands ..	749	6	89	35	2	2	340	2	1	27	26	1,279
Poland ..	118	1	20	51	8	8	5	172	5	32	15	435
Yugoslavia ..	300	5	50	79	56	75	25	19	431	59	14	1,113
Other European ..	971	17	169	144	29	33	53	50	37	930	87	2,520
Other and unspecified ..	979	12	125	39	89	29	31	5	3	60	510	1,882
<b>Total brides</b>	<b>67,760</b>	<b>397</b>	<b>5,145</b>	<b>1,301</b>	<b>3,683</b>	<b>2,623</b>	<b>1,062</b>	<b>338</b>	<b>564</b>	<b>1,752</b>	<b>1,388</b>	<b>86,013</b>

## Occupation of bridegrooms

The distribution of the 86,013 bridegrooms for 1964 amongst classes of occupations was as follows: craftsmen, 28,919; administrative and clerical workers, 11,111; labourers, 10,480; rural and mining workers, 8,250; professional and technical workers, 8,542; workers in transport and communication, 6,268; service, sport, and other workers, 5,667; sales workers, 5,360; persons not in the work force, 1,416.

## Celebration of marriages

Under the provisions of the *Marriage Act* 1961 marriages may be celebrated either by ministers of religion who are registered for that purpose with the Registrar of Ministers of Religion in each State or Territory, or by certain civil officers, in most cases district registrars. Most of the marriages are celebrated by ministers of religion. The registered ministers in 1964 belonged to more than fifty different denominations, some of which, however, have only very few adherents. The categories 'Ministers of Other Recognized Denominations' and 'Other Ministers' combine ministers of some of these denominations. The figures for 1964 are shown in the following table.

## MARRIAGES IN EACH DENOMINATION: STATES AND TERRITORIES, 1964

Category of celebrant	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia	
									No.	Proportion of total
<b>Ministers of religion—</b>										
<b>Recognized denominations—</b>										
Church of England . . . . .	10,202	5,301	3,233	1,606	1,900	1,108	41	147	23,538	27.37
Roman Catholic . . . . .	9,102	6,943	3,142	1,612	1,536	605	59	183	23,182	26.95
Methodist . . . . .	2,768	2,713	1,632	1,844	688	377	27	24	10,073	11.71
Presbyterian . . . . .	3,031	3,560	1,819	326	354	138	39	60	9,327	10.84
Orthodox . . . . .	1,504	1,405	111	208	79	26	19	17	3,369	3.92
Baptist . . . . .	542	363	196	191	90	75	4	11	1,472	1.71
Lutheran . . . . .	213	261	356	437	24	4	1	12	1,568	1.52
Congregational . . . . .	226	305	86	278	122	31	3	..	1,051	1.22
Churches of Christ . . . . .	127	422	68	231	126	25	..	10	1,009	1.17
Salvation Army . . . . .	138	116	78	56	28	21	2	..	439	0.51
Jewry . . . . .	127	151	3	6	10	..	..	..	297	0.35
Seventh-day Adventist . . . . .	107	57	47	19	28	6	..	..	264	0.31
Jehovah's Witnesses . . . . .	56	33	31	7	17	3	..	1	148	0.17
Christian Brethren . . . . .	40	21	23	14	7	20	..	..	125	0.15
Assemblies of God . . . . .	21	18	48	13	5	1	..	..	106	0.12
Other recognized denominations . . . . .	128	135	78	41	126	17	2	..	527	0.61
Other ministers . . . . .	14	331	19	8	11	..	..	..	383	0.45
<b>Total, ministers . . . . .</b>	<b>28,346</b>	<b>22,135</b>	<b>10,970</b>	<b>6,897</b>	<b>5,151</b>	<b>2,457</b>	<b>197</b>	<b>465</b>	<b>76,618</b>	<b>89.08</b>
<b>Civil officers . . . . .</b>	<b>4,287</b>	<b>2,034</b>	<b>782</b>	<b>868</b>	<b>872</b>	<b>412</b>	<b>36</b>	<b>104</b>	<b>9,395</b>	<b>10.92</b>
<b>Grand total . . . . .</b>	<b>32,633</b>	<b>24,169</b>	<b>11,752</b>	<b>7,765</b>	<b>6,023</b>	<b>2,869</b>	<b>233</b>	<b>569</b>	<b>86,013</b>	<b>100.00</b>
<b>Proportion of total (per cent)—</b>										
Ministers of religion . . . . .	86.86	91.58	93.35	88.82	85.52	85.64	84.55	81.72	89.08	..
Civil officers . . . . .	13.14	8.42	6.65	11.18	14.48	14.36	15.45	18.28	10.92	..

## Divorce

The number of dissolutions of marriage, nullities of marriage and judicial separations was 7,967 in 1964 and 8,534 in 1965. Further information may be found in the chapter Public Justice.

## Fertility and reproduction

Natural increase has been a significant element of increase in the population of Australia for many years. The level of natural increase depends on the excess of births over deaths, and the relation between fertility and mortality determines the rate of reproduction or replacement of the population.

## Number of live births and confinements

There are various methods of measuring the fertility of the population by relating the number of births to the numbers of the population. In each the basic data are, of course, the numbers of live births. The number of live births registered in Australia during 1964 is shown in the following table. The table shows also the number of confinements resulting in one or more live births. The figures exclude cases where the births were of still-born children only.

## LIVE BIRTHS AND CONFINEMENTS: STATES AND TERRITORIES, 1964

Particulars	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>LIVE BIRTHS</b>									
Single births	78,882	63,556	34,206	20,483	16,372	8,074	895	1,910	224,378
Twins	1,606	1,422	754	377	313	177	16	42	4,707
Triplets	30	12	12	6	..	1	..	3	64
Quadruplets	..	..	..	..	..	..	..	..	..
Males	41,414	33,511	17,990	10,849	8,570	4,218	476	1,034	118,062
Females	39,104	31,479	16,982	10,017	8,115	4,034	435	921	111,087
<b>Total</b>	<b>80,518</b>	<b>64,990</b>	<b>34,972</b>	<b>20,866</b>	<b>16,685</b>	<b>8,252</b>	<b>911</b>	<b>1,955</b>	<b>229,149</b>

## STILLBIRTHS ASSOCIATED WITH MULTIPLE BIRTHS INCLUDED ABOVE

Twins	42	16	12	1	5	3	..	..	79
Triplets	..	..	..	..	..	2	..	..	2

## CONFINEMENTS RESULTING IN BIRTHS SHOWN ABOVE

Nuptial	74,349	60,908	31,732	19,446	15,232	7,665	802	1,889	212,023
Ex-nuptial	5,367	3,371	2,861	1,228	1,299	500	101	43	14,770
<b>Total</b>	<b>79,716</b>	<b>64,279</b>	<b>34,593</b>	<b>20,674</b>	<b>16,531</b>	<b>8,165</b>	<b>903</b>	<b>1,932</b>	<b>226,793</b>

NOTE. Owing to the registration procedure adopted in some States, it is possible that in some cases where one child only of a multiple pregnancy was live-born, the confinement has been treated as a single birth. However, the numbers of multiple births are not significantly affected. See also page 241.

The average annual number of live births in each State and Territory for each five-year period from 1941 to 1965 and the total number of live births for each year from 1961 to 1965 are given in the following table. Corresponding figures for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 583.

## LIVE BIRTHS: STATES AND TERRITORIES, 1941 TO 1965

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
1941-45	56,583	38,002	23,431	12,546	10,409	5,418	113	384	146,886
1946-50	68,856	47,372	28,003	16,270	13,130	7,064	289	734	181,718
1951-55	73,737	53,770	30,983	18,045	15,724	7,774	468	922	201,423
1956-60	79,613	61,279	34,171	19,977	16,922	8,517	694	1,286	222,459
1961-65	82,896	65,193	35,357	21,377	16,861	8,439	897	1,932	232,952
Annual total—									
1961	86,392	65,886	36,637	22,399	17,078	8,982	878	1,734	239,986
1962	85,439	65,890	35,690	21,361	17,064	8,894	924	1,819	237,081
1963	84,065	65,649	35,934	21,367	17,290	8,530	859	1,995	235,689
1964	80,518	64,990	34,972	20,866	16,685	8,252	911	1,955	229,149
1965	78,069	63,550	33,551	20,891	16,186	7,535	914	2,158	222,854

A graph showing the number of births in each year from 1870 to 1965 will be found on plate 22.



## Crude birth rates

The oldest and most popular method of measuring fertility is to relate the number of births to the total population, thus obtaining the crude birth rate. The crude birth rate measures the rate per thousand persons (irrespective of age or sex) at which the population has added to its numbers by way of births during a given period. Other methods of measuring fertility are shown on pages 237-9. Crude birth rates for each five-year period from 1941 to 1965 and for each year from 1961 to 1965 for each State and Territory are set out below.

## CRUDE BIRTH RATES(a): STATES AND TERRITORIES, 1941 TO 1965

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Average annual rates—</b>									
1941-45 .	19.79	19.27	22.28	20.43	21.72	22.23	11.4*	26.8*	20.28
1946-50 .	22.60	22.51	24.69	24.41	25.24	26.71	23.8*	37.9*	23.39
1951-55 .	21.78	22.42	24.11	23.25	25.37	25.58	29.4*	32.22	22.86
1956-60 .	21.55	22.52	23.80	22.27	24.20	25.45	31.49	30.10	22.59
1961-65 .	20.45	21.29	22.64	21.15	21.83	23.26	30.48	26.30	21.32
<b>Annual rates—</b>									
1961 .	22.07	22.51	24.17	23.10	23.16	25.40	33.5*	29.5*	22.85
1962 .	21.46	22.04	23.19	21.59	22.59	24.75	34.3*	27.7*	22.14
1963 .	20.75	21.49	23.00	21.18	22.36	23.42	30.0*	27.2*	21.59
1964 .	19.54	20.77	22.06	20.22	21.11	22.46	29.0*	24.2*	20.58
1965 .	18.61	19.81	20.88	19.83	20.08	20.40	26.9*	24.3*	19.61

(a) Number of births per 1,000 of mean population.

\* Based on too few events to warrant calculation of rates to two decimal places.

The birth rates in the table above are based on *live births registered in the respective States and Territories*. Some confinements, however, take place in States other than the State in which the mother usually resides, particularly in areas near State borders. The variations thus caused in the birth rates for the States and Territories by referring the birth registrations to the mother's usual residence are shown by the following corrected rates for 1964—New South Wales 19.59; Victoria, 20.76; Queensland, 21.96; South Australia, 20.12; Western Australia, 21.14; Tasmania, 22.51; Northern Territory, 30.20 and Australian Capital Territory, 24.18. See Year Book No. 47 (p. 339) for the effect of the variations in the availability of hospital facilities on the birth rate in the Australian Capital Territory and in the neighbouring town of Queanbeyan in New South Wales.

A graph showing the birth rate for each year from 1870 to 1965 will be found on plate 23. The crude birth rates of Australia and the more populous countries of the world for the latest available year are shown in International Vital Statistics at the end of this chapter.

## Fertility rates

The principal demographic factors affecting the level of crude birth rates are the proportion of women of child-bearing age in the population and the proportion of such women who are married. These factors may vary considerably at different periods and for different countries, and a population with a higher proportion of married women of child-bearing age will have a much higher crude birth rate than one with a low proportion, although the fertilities of the two populations may be identical. In order to compare fertilities births are sometimes related to the number of women of child-bearing age or, alternatively, nuptial births are related to the number of married women of child-bearing age. Thus births are related to potential mothers, giving the fertility rate.

The following table sets out for certain periods, commencing with 1880-82, the number of births per thousand of mean population, the number of births per thousand women of child-bearing age and the number of nuptial births per thousand married women of child-bearing age. For purposes of this table the child-bearing age has been taken to be fifteen to forty-four years inclusive, but births to mothers who were stated to be under fifteen or over forty-four years have been included in the compilations.

## CRUDE BIRTH RATES AND FERTILITY RATES: AUSTRALIA, 1880-82 TO 1960-62

Period	Average annual rates			Index nos. (Base: 1880-82 = 100)		
	Crude birth rate <sup>(a)</sup>	Fertility rates		Crude birth rate <sup>(a)</sup>	Fertility rates	
		Births per 1,000 women aged 15-44 years	Nuptial births per 1,000 married women aged 15-44 years		Births per 1,000 women aged 15-44 years	Nuptial births per 1,000 married women aged 15-44 years
1880-82 . . . . .	35.3	170	321	100	100	100
1890-92 . . . . .	34.5	159	332	98	94	103
1900-02 . . . . .	27.2	117	235	77	69	73
1910-12 . . . . .	27.2	117	236	77	69	74
1920-22 . . . . .	25.0	107	197	71	63	61
1932-34 . . . . .	16.7	71	131	47	42	41
1946-48 . . . . .	23.6	104	160	67	61	50
1953-55 . . . . .	22.7	109	149	64	64	46
1960-62 . . . . .	22.5	112	154	64	66	48

(a) Number of births per 1,000 of mean population.

The table above shows how increasing proportions both of women of child-bearing age and of married women of child-bearing age inflate the crude birth rate. Thus, while the nuptial birth rate for married women increased by only 22 per cent over the period 1932-34 to 1946-48, the crude birth rate rose by 41 per cent owing principally to the greatly increased number of marriages during that period.

## Age-specific birth rates

So long as customary ages at marriage do not change drastically the main demographic factor affecting the number of births is the age composition of the potential mothers in the population. Within the child-bearing group the fertility of women of different ages varies considerably and a clearer view of the fertility of the population can be obtained from an examination of what are known as its age-specific birth rates, that is the number of births to women of specified ages per thousand women of those particular ages.

Age-specific birth rates are more commonly expressed in age groups than in single ages. In the following table such rates are shown in five-year age groups for Australia for the period 1941 to 1964. A graph showing the age-specific birth rates for each year during the period 1941 to 1964 appears on plate 24 of this issue.

## AGE-SPECIFIC BIRTH RATES:(a) AUSTRALIA, 1941 TO 1964

Age group (years)	1941	1946	1951	1956	1961	1962	1963	1964
15-19 . . . . .	24.30	26.30	38.33	43.09	47.37	44.77	46.04	46.74
20-24 . . . . .	121.26	151.86	177.86	210.10	225.21	215.33	207.03	189.92
25-29 . . . . .	145.07	184.59	185.23	203.15	220.16	215.83	210.86	197.88
30-34 . . . . .	103.24	133.62	122.31	123.58	131.31	127.58	123.21	118.44
35-39 . . . . .	58.11	76.66	65.92	64.22	63.22	61.27	59.81	58.39
40-44 . . . . .	19.30	24.47	20.51	19.72	19.16	18.32	18.41	16.50
45-49 . . . . .	1.67	2.06	1.61	1.57	1.42	1.18	1.11	1.16

(a) Number of births per 1,000 women in each age group.

## Gross and net reproduction rates for females

A single measure of reproduction, known as the gross reproduction rate, is obtained by adding together the specific fertility rates for each age in the child-bearing group. This measure indicates the number of female children who would be born on an average to women living right through

the child-bearing period, if the conditions on which the rate is based continue. The rate is unaffected by the age composition of the potential mothers, and consequently it shows more clearly than the crude birth rate the reproductive propensity of the population. It is, however, an imperfect measure of reproduction because it does not take into account the females who fail to live from birth to the end of the reproductive period. A more accurate measure of this nature is obtained by multiplying the specific fertility rates by the number of females in the corresponding age group of the stationary or life table population and summing the products. Allowance is thus made for the effect of mortality, and the result is known as the net reproduction rate. The net reproduction rate indicates the average number of female children who would be born to women during their lifetime if they were subject at each age to the fertility and mortality rates on which the calculation is based. A constant net reproduction rate of unity indicates that the population will ultimately become stationary. If it continues greater than unity, the population will ultimately increase; if less than unity, it will ultimately decrease. The following table should be read in the light of the comment which follows it and of the index of marriage fertility, page 239.

**GROSS AND NET REPRODUCTION RATES: AUSTRALIA, 1881 TO 1964**

Year	Gross reproduction rate	Net reproduction rate	Year	Gross reproduction rate	Net reproduction rate
1881(a)	2.65	(b) 1.88	1947	1.493	(g) 1.416
1891(a)	2.30	(b) 1.73	1954	1.558	(h) 1.497
1901(a)	1.74	(c) 1.39	1960	1.677	(i) 1.623
1911	1.705	(d) 1.421	1961	1.724	(i) 1.668
1921	1.511	(e) 1.313	1962	1.659	(i) 1.605
1931	1.141	(f) 1.039	1963	1.620	(i) 1.567
1941	1.154	(f) 1.053	1964	1.525	(i) 1.475

(a) Approximate only. (b) 1881-1890 mortality experience used. (c) 1891-1900 mortality experience used. (d) 1901-1910 mortality experience used. (e) 1920-1922 mortality experience used. (f) 1932-1934 mortality experience used. (g) 1946-1948 mortality experience used. (h) 1953-1955 mortality experience used. (i) 1960-62 mortality experience used.

It is not strictly correct to assume, as in the calculations of the rates above, that a particular age-specific fertility rate can be applied to a hypothetical group of women reaching that age, without taking into account of previous fertility and marriage experience. Reproduction rates are therefore unreliable when birth and marriage rates have been changing. The indexes of marriage fertility shown on the next page are also of doubtful reliability in similar circumstances.

In the following table a comparison is given of the gross and net reproduction rates recorded for various countries in the period 1954 to 1964. These represent the latest available international comparisons.

**GROSS AND NET REPRODUCTION RATES: VARIOUS COUNTRIES**

Country	Period	Reproduction rate		Country	Period	Reproduction rate	
		Gross	Net			Gross	Net
Thailand	1954	(d) 2.06	1.70	France	1962	1.36	1.31
New Zealand(a)	1962	1.97	1.91	Yugoslavia	1961	1.33	1.18
Ireland, Republic of	1962	1.90	(h) 1.45	Finland	1962	1.29	(f) 1.30
Canada	1963	1.80	(e) 1.77	Belgium	1961	1.29	1.24
United States of America(b)	1962	1.63	1.58	Denmark	1962	1.24	(g) 1.20
Netherlands	1963	1.56	(e) 1.50	Czechoslovakia	1962	1.14	1.09
Australia(c)	1964	1.53	1.48	Germany—			
Scotland	1963	1.47	1.42	Federal Rep.	1962	1.20	(g) 1.11
Portugal	1955-58	1.43	1.23	Democratic Rep.	1955	1.13	1.06
Norway	1962	1.40	(f) 1.34	Switzerland	1955-59	1.13	1.09
England and Wales	1962	1.38	1.34	Sweden	1961	1.07	1.05
Austria	1963	1.38	(e) 1.28	Japan	1962	0.95	0.90
				Hungary	1963	0.88	(e) 0.81

(a) Excludes Maoris. (b) White population only. (c) Excludes full-blood Aborigines. (d) 1950-54. (e) 1962. (f) 1961. (g) 1960. (h) 1955.

In comparing the reproduction rates of the countries shown allowance should be made for any differences in years, as the rates for any one country from year to year are affected by variations in the incidence of marriage, as well as the stationary or life table population used.

#### Fertility of marriages

More satisfactory estimates of the fertility of marriages may be made by relating nuptial confinements in each year to the marriages from which they could have resulted. Confinements of women of a certain number of years duration of marriage are related to the number of marriages taking place that number of years previously. The table below sets out this index of current fertility per marriage in respect of confinements in the individual years shown.

FERTILITY OF MARRIAGES: AUSTRALIA, 1950 TO 1964

Year	Nuptial confinements per marriage	Year	Nuptial confinements per marriage	Year	Nuptial confinements per marriage
1950	2.56	1955	2.71	1960	2.96
1951	2.55	1956	2.76	1961	3.05
1952	2.63	1957	2.87	1962	2.98
1953	2.66	1958	2.88	1963	2.92
1954	2.66	1959	2.93	1964	2.78

See text following first table on page 238.

The figure for a particular year gives the estimated number of children which a marriage would produce according to the fertility conditions of that year. The figures for 1949 and subsequent years present a somewhat inflated index, as many of the births which have been used to calculate the index relate to marriages of immigrants which took place overseas and consequently are not included in Australian marriage records. Partial investigation suggests that this factor probably overstated the index by very little in 1949, but that the overstatement at present is about 8 per cent.

#### Masculinity of live births

The masculinity of live births, i.e., the number of males born for every 100 female births, has remained fairly stable for Australia at about 105. But when the number of births for which masculinity is being calculated is small (for example, totals for smaller States) considerable variation is shown. The averages for the ten years 1951-60 were as follows: New South Wales, 105.38; Victoria, 105.50; Queensland, 105.80; South Australia, 104.89; Western Australia, 105.25; Tasmania, 104.96; Northern Territory, 107.16; Australian Capital Territory, 108.77; Australia, 105.43. The following table shows the figures for Australia for each ten-year period from 1901 to 1960 and for each of the years 1963 to 1965.

MASCULINITY(a) OF LIVE BIRTHS REGISTERED: AUSTRALIA, 1901 TO 1965

Particulars	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60	1963	1964	1965
Total births	105.22	105.27	105.55	105.12	105.38	105.43	105.75	106.28	105.61
Ex-nuptial births	104.08	105.25	105.16	105.36	105.34	103.99	106.76	106.00	

(a) Number of males born for every 100 female births.

#### Ex-nuptial live births

The variations in the proportions of ex-nuptial live births as between the individual States and Territories for 1964 and for Australia at intervals from 1901 to 1964 are shown in the following table.

**EX-NUPTIAL LIVE BIRTHS**  
**NUMBER AND PROPORTION, STATES AND TERRITORIES, 1964**

Particulars	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Number . . .	5,427	3,402	2,898	1,239	1,311	502	103	43	14,925
Proportion of total births %	6.74	5.23	8.29	5.94	7.86	6.08	11.31	2.20	6.51

**EX-NUPTIAL LIVE BIRTHS: NUMBER AND PROPORTION**  
**AUSTRALIA, 1901<sup>1</sup> TO 1964**

Particulars	Annual average						1960	1961	1962	1963	1964
	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60					
Number . . .	6,498	6,836	6,238	5,133	6,780	9,013	10,987	12,269	12,813	13,454	14,925
Proportion of total births % . . .	6.05	5.22	4.66	4.40	4.13	4.25	4.77	5.11	5.40	5.71	6.51

A further measure of ex-nuptiality is obtained by calculating the number of ex-nuptial births per thousand of the single, widowed and divorced female population aged from 15 to 44 years. On this basis, the number of ex-nuptial births per 1,000 unmarried women of ages 15 to 44 is as follows: 1880-82, 14.49; 1890-92, 15.93; 1900-02, 13.30; 1910-12, 12.53; 1920-22, 10.50; 1932-34, 6.91; 1946-48, 11.45; 1953-55, 14.45; and 1960-62, 18.49. Ex-nuptial births to married women, which are not recorded separately, are included in these figures and it is not possible to determine to what extent they influence the trend shown. The following table shows the relative ratios of ex-nuptial and nuptial births to the total population for periods from 1901.

**CRUDE EX-NUPTIAL, NUPTIAL, AND TOTAL BIRTH RATES(a)**  
**AUSTRALIA, 1901 TO 1964**

Birth rate	Annual average						1962	1963	1964
	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60			
Ex-nuptial . . .	1.60	1.39	1.04	0.76	0.90	0.97	1.19	1.23	1.34
Nuptial . . .	24.91	25.18	21.40	16.47	20.99	21.75	20.95	20.36	19.24
<b>Total . . .</b>	<b>26.51</b>	<b>26.57</b>	<b>22.44</b>	<b>17.23</b>	<b>21.89</b>	<b>22.72</b>	<b>22.14</b>	<b>21.59</b>	<b>20.58</b>

(a) Number of births per 1,000 of mean population.

**Legitimations**

Under the provisions of the Commonwealth *Marriage Act* 1961, which came into operation on 1 September 1963, a child whose parents were not married to each other at the time of its birth becomes legitimized on the subsequent marriage of its parents. The legitimation takes place whether or not there was a legal impediment to the marriage of the parents at the time of the child's birth and whether or not the child was still living at the time of the marriage, or in the case of a child born before 1 September 1963, at that date. Prior to the introduction of this

Act, legitimations took place under Acts passed in the several States to legitimize children born before the marriage of their parents, provided that no legal impediment to the marriage existed at the time of birth. On registration in accordance with the provisions of the Legitimation Acts, any child who came within the scope of their purposes, born before or after the passing thereof, was deemed to be legitimate from birth by the post-natal union of its parents, and entitled to the status of offspring born in wedlock. The number of children legitimized in Australia during 1964 was 3,765.

**Multiple births**

Because the current Australian birth statistics are based only on those confinements which resulted in a live-born child, the number of confinements for multiple births for Australia is understated—firstly, because in cases where all children of a multiple birth are still-born the confinement is excluded, and secondly, because some cases of multiple births in which only one child was live-born are registered as single births.

Multiple births recorded on this basis during 1964 comprised 2,393 cases of twins and 22 cases of triplets, the resultant numbers of live-born and still-born children being respectively 4,707 and 79 for twins, 64 and 2 for triplets. This represents an average of 10.55 recorded cases of twins and 0.10 recorded cases of triplets per 1,000 confinements or, alternatively, mothers of twins represented 1 in every 95 mothers and mothers of triplets 1 in every 10,309. Total cases of multiple births represented 10.65 per 1,000 confinements or 1 in every 94 mothers. The proportion of mothers of multiple births to total mothers does not vary greatly from year to year.

**Births—ages of parents**

The relative ages of the parents of children whose births were registered in 1964 have been tabulated separately for male and female births, multiple births being distinguished from single births. For total births and for multiple births, the relative ages of parents are shown in *Demography*, Bulletin No. 82. In the following table the relative ages of parents are shown in five-year groups.

**CONFINEMENTS, BY RELATIVE AGES OF PARENTS: AUSTRALIA, 1964**

Age of father (years) and type of birth	Total	Age of mother (years)								Not stated
		Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 and over	
Under 20 . . . . .	3,078	3	2,591	472	11	1	..	..	..	..
20-24 . . . . .	38,444	..	11,088	24,880	2,328	122	21	5	..	..
25-29 . . . . .	65,758	..	2,558	31,440	28,905	2,567	268	18	1	..
30-34 . . . . .	52,083	..	461	7,984	24,516	16,798	2,159	161	4	..
35-39 . . . . .	32,534	..	103	1,665	6,945	13,611	9,337	859	14	..
40-44 . . . . .	13,889	..	24	338	1,300	3,567	6,088	2,517	55	..
45-49 . . . . .	4,395	..	4	74	305	750	1,665	1,442	155	..
50-54 . . . . .	1,333	..	3	32	104	231	407	468	88	..
55-59 . . . . .	367	..	..	13	18	63	124	131	18	..
60-64 . . . . .	103	..	..	3	8	20	36	33	3	..
65 and over(a) . . . . .	39	..	..	5	4	5	12	11	2	..
Mothers of nuptial children {	209,764	4	16,736	66,363	63,756	37,219	19,770	5,582	334	..
Single . . . . .	2,237	..	96	536	682	511	344	62	6	..
Twins . . . . .	22	..	..	7	6	5	3	1	..	..
Triplets . . . . .	212,023	4	16,832	66,906	64,444	37,735	20,117	5,645	340	..
Mothers of ex-nuptial children {	14,514	90	5,176	4,183	2,203	1,484	1,081	364	29	4
Single . . . . .	156	..	32	34	27	39	18	6	..	..
Twins . . . . .	14,770	90	5,208	4,217	2,230	1,523	1,099	370	29	4
Triplets . . . . .	224,378	94	21,912	70,546	65,959	38,703	20,851	5,946	363	4
Total mothers {	2,393	..	128	570	709	550	362	68	6	..
Twins . . . . .	22	..	..	7	6	5	3	1	..	..
Triplets . . . . .	226,793	94	22,040	71,123	66,674	39,258	21,216	6,015	369	4
Total . . . . .										

(a) Includes two fathers age 'Not stated'.

**Births—countries of birth of parents**

The following table shows the countries of birth of parents of children whose births from nuptial confinements were registered during 1964.

**NUPTIAL CONFINEMENTS, BY RELATIVE COUNTRIES OF BIRTH OF PARENTS  
AUSTRALIA, 1964**

Country of birth of father	Country of birth of mother										Total fathers	
	Australia	New Zealand	United Kingdom and Ireland	Germany	Greece	Italy	Netherlands	Poland	Yugoslavia	Other European		Other and unspecified
Australia	150,739	547	5,374	506	110	236	717	99	72	591	980	159,971
New Zealand	575	155	47	3	..	..	4	2	..	6	18	810
United Kingdom and Ireland	6,987	77	6,320	98	8	25	83	9	8	144	245	14,004
Germany	873	9	118	1,181	10	18	58	30	21	111	49	2,478
Greece	335	3	18	14	4,764	13	6	7	16	33	74	5,283
Italy	1,772	12	146	66	40	9,114	59	14	72	123	110	11,528
Netherlands	1,346	10	154	66	3	7	2,148	3	3	55	103	3,898
Poland	346	5	64	118	12	6	19	486	19	93	32	1,200
Yugoslavia	468	3	59	119	76	109	35	33	1,359	93	32	2,386
Other European	1,812	27	250	285	98	66	88	74	98	3,208	129	6,135
Other and unspecified	1,609	29	278	44	154	44	103	17	11	95	1,946	4,330
<b>Total mothers</b>	<b>166,862</b>	<b>877</b>	<b>12,828</b>	<b>2,500</b>	<b>5,275</b>	<b>9,638</b>	<b>3,320</b>	<b>774</b>	<b>1,679</b>	<b>4,552</b>	<b>3,718</b>	<b>212,023</b>

**Births—occupation of fathers**

In the 212,023 cases where nuptial confinements resulted in one or more live births, the classes of occupations of the fathers were distributed as follows: craftsmen, 67,930; rural and mining workers, 27,225; administrative and clerical workers, 28,194; labourers, 22,491; workers in transport and communication, 18,949; professional and technical workers, 19,523; sales workers, 13,730; service, sport and other workers, 13,335; persons not in the work force, 646.

**Births—age, duration of marriage and issue of mothers**

The total number of nuptial confinements resulting in live births in 1964 was 212,023, comprising 209,764 single births, 2,237 cases of twins and 22 cases of triplets. The following tables relating to previous issue exclude the issue of former marriages and still-born children. On the other hand, they include in some States children by the same father who were born to the mother prior to the marriage. Children born at the present confinement are included in the total issue shown.

The following table shows that in 1964 the duration of marriage of mothers of nuptial children ranged from less than one year to over 25 years and that the average family increased fairly regularly with the duration of marriage. The average issue of married mothers who bore children in 1964 was 2.56, compared with 2.60 in 1963, 2.61 in 1962, 2.60 in 1961 and 2.59 in 1960.

**NUPTIAL CONFINEMENTS, BY DURATION OF MARRIAGE  
AND ISSUE OF MOTHERS: AUSTRALIA, 1964**

Duration of marriage	Total married mothers	Total issue	Average issue	Duration of marriage	Total married mothers	Total issue	Average issue
Under 1 year	30,758	31,443	1.02	15 years	2,727	13,741	5.04
1 year	24,242	31,393	1.30	16 "	2,278	12,027	5.28
2 years	24,140	41,893	1.74	17 "	1,835	10,063	5.48
3 "	22,136	46,012	2.08	18 "	1,334	7,645	5.73
4 "	18,497	44,715	2.42	19 "	905	5,452	6.02
5 "	15,381	41,830	2.72	20 "	668	4,196	6.28
6 "	13,075	39,034	2.99	21 "	510	3,346	6.56
7 "	11,182	36,365	3.25	22 "	360	2,355	6.54
8 "	9,488	33,345	3.51	23 "	228	1,600	7.02
9 "	7,943	29,902	3.76	24 "	125	956	7.65
10 "	6,460	25,811	4.00	25 years and over	147	1,156	7.86
11 "	5,410	22,756	4.21	Not stated	1	4	4.00
12 "	4,751	21,154	4.45				
13 "	4,080	18,999	4.66				
14 "	3,362	16,556	4.92	<b>Total</b>	<b>212,023</b>	<b>543,749</b>	<b>2.56</b>

The following table shows the average number of children born to mothers of different ages.

**NUPTIAL CONFINEMENTS: AVERAGE ISSUE OF MOTHERS  
BY AGE, AUSTRALIA, 1911 TO 1964**

Period	Average issue of mothers aged—							All ages
	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45 years and over	
1911-20 . . .	1.21	1.75	2.61	3.74	5.11	6.69	8.16	3.25
1921-30 . . .	1.20	1.71	2.46	3.48	4.80	6.27	7.74	3.04
1931-40 . . .	1.20	1.68	2.30	3.19	4.41	5.89	7.40	2.71
1941-50 . . .	1.17	1.56	2.15	2.85	3.67	4.79	6.19	2.37
1951-60 . . .	1.23	1.71	2.42	3.12	3.84	4.63	5.57	2.51
1964 . . .	1.23	1.76	2.54	3.42	4.13	4.88	5.63	2.56

A classification of mothers by age and previous issue is given for 1964 in the following table.

**NUPTIAL CONFINEMENTS, BY AGE OF MOTHER AND PREVIOUS ISSUE  
AUSTRALIA, 1964**

Previous issue	Age of mother (years)							Total married mothers
	Under 20	20-24	25-29	30-34	35-39	40-44	45 and over	
0 . . . . .	13,452	32,670	15,032	4,835	2,054	519	24	68,586
1 . . . . .	2,977	22,404	20,400	7,593	2,741	575	23	56,713
2 . . . . .	374	8,696	16,239	9,532	3,913	819	38	39,611
3 . . . . .	31	2,408	7,854	7,345	3,917	919	50	22,524
4 . . . . .	2	594	3,121	4,162	2,961	844	56	11,740
5 . . . . .	..	105	1,152	2,092	1,858	634	33	5,874
6 . . . . .	..	28	435	1,125	1,161	478	29	3,256
7 . . . . .	..	1	150	594	675	297	26	1,743
8 . . . . .	..	..	46	272	400	190	25	933
9 . . . . .	..	..	13	106	205	138	15	477
10 and over . . .	..	..	2	79	232	232	21	566
<b>Total married mothers .</b>	<b>16,836</b>	<b>66,906</b>	<b>64,444</b>	<b>37,735</b>	<b>20,117</b>	<b>5,645</b>	<b>340</b>	<b>212,023</b>

**Multiple births—previous issue of mothers**

Of married mothers of twins in 1964, 573 had no previous issue either living or deceased, 553 had one child previously, 467 had two previous issue, 280 three, 153 four, 92 five, 49 six, 33 seven, 22 eight, 7 nine, 2 ten, 3 eleven, 1 twelve, 1 thirteen, and 1 fifteen. Of the 22 cases of nuptial triplets registered during 1964, 6 mothers had no previous issue, 4 had one, 4 had two, 2 had three, 2 had four, 1 had five, 2 had six, and 1 had nine previous issue.

**Nuptial first births**

The following table shows the interval between marriage and first birth for periods since 1911. In cases of multiple births, the first live-born child only is enumerated.



## NUPTIAL FIRST BIRTHS, BY DURATION OF MARRIAGE: AUSTRALIA, 1911 TO 1964

Duration of marriage	Annual average					1963	1964
	1911-20	1921-30	1931-40	1941-50	1951-60		

## NUMBER OF NUPTIAL FIRST BIRTHS

Under 8 months . . .	9,312	10,351	10,677	8,822	11,796	17,621	18,343
8 months . . . . .	1,562	1,530	1,417	2,104	2,144	2,205	2,007
9 " . . . . .	3,517	3,253	2,668	4,298	4,673	4,594	3,983
10 " . . . . .	2,877	2,907	2,202	3,447	3,947	3,749	3,301
11 " . . . . .	2,018	2,152	1,836	2,896	3,287	3,074	2,803
<i>Total under 1 year . . .</i>	<i>19,286</i>	<i>20,193</i>	<i>18,800</i>	<i>21,567</i>	<i>25,847</i>	<i>31,243</i>	<i>30,437</i>
1 year and under 2 years	8,563	10,133	10,595	17,762	18,463	17,751	17,547
2 years " " 3 "	2,626	3,369	4,319	8,028	7,937	7,852	8,201
3 " " " 4 "	1,230	1,743	2,214	4,361	4,373	4,313	4,429
4 " " " 5 "	700	941	1,205	2,569	2,632	2,582	2,623
5 " " " 10 "	980	1,446	1,766	3,936	4,262	4,343	4,342
10 " " " 15 "	168	240	289	501	721	817	794
15 years and over . . .	42	55	55	94	144	229	213
<b>Total . . . . .</b>	<b>33,595</b>	<b>38,120</b>	<b>39,243</b>	<b>58,818</b>	<b>64,379</b>	<b>69,130</b>	<b>68,586</b>

## PROPORTION OF TOTAL NUPTIAL FIRST BIRTHS

(Per cent)

Under 8 months . . .	27.72	27.15	27.21	15.00	18.32	25.49	26.74
8 months . . . . .	4.65	4.01	3.61	3.58	3.33	3.19	2.93
9 " . . . . .	10.47	8.53	6.80	7.31	7.26	6.64	5.81
10 " . . . . .	8.56	7.63	5.61	5.86	6.13	5.42	4.81
11 " . . . . .	6.01	5.65	4.68	4.92	5.11	4.45	4.09
<i>Total under 1 year . . .</i>	<i>57.41</i>	<i>52.97</i>	<i>47.91</i>	<i>36.67</i>	<i>40.15</i>	<i>45.19</i>	<i>44.38</i>
1 year and under 2 years	25.49	26.58	27.00	30.20	28.68	25.68	25.58
2 years " " 3 "	7.82	8.84	11.01	13.65	12.33	11.36	11.96
3 " " " 4 "	3.66	4.57	5.64	7.41	6.79	6.24	6.46
4 " " " 5 "	2.08	2.47	3.07	4.37	4.09	3.74	3.82
5 " " " 10 "	2.92	3.79	4.50	6.69	6.62	6.28	6.33
10 " " " 15 "	0.50	0.63	0.73	0.85	1.12	1.18	1.16
15 years and over . . .	0.12	0.15	0.14	0.16	0.22	0.33	0.31
<b>Total . . . . .</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

In 1964 the masculinity of nuptial first births was 106.22 and of total births 106.28.

A summary showing grouped ages and grouped durations of marriage of mothers of nuptial first-born children is given in the following table.

**NUPTIAL FIRST BIRTHS, BY AGE OF MOTHER AND DURATION OF MARRIAGE  
AUSTRALIA, 1964**

Duration of marriage	Age of mother (years)								Total
	Under 20	20-24	25-29	30-34	35-39	40-44	45 and over	Not stated	
	NUMBER OF NUPTIAL FIRST BIRTHS								
Under 8 months . . . . .	9,661	7,059	1,048	356	172	45	2	..	18,343
8 months . . . . .	410	1,130	317	111	31	8	..	..	2,007
9 " . . . . .	623	2,370	716	195	67	12	..	..	3,983
10 " . . . . .	473	1,992	571	187	68	10	..	..	3,301
11 " . . . . .	394	1,660	529	144	63	13	..	..	2,803
<i>Total under 1 year . . . . .</i>	<i>11,561</i>	<i>14,211</i>	<i>3,181</i>	<i>993</i>	<i>401</i>	<i>88</i>	<i>2</i>	<i>..</i>	<i>30,437</i>
1 year and under 2 years . . . . .	1,635	10,756	3,563	1,053	437	101	2	..	17,547
2 years " " 3 " . . . . .	218	4,698	2,453	535	225	66	6	..	8,201
3 " " " 4 " . . . . .	34	1,954	1,885	367	143	46	..	..	4,429
4 " " " 5 " . . . . .	4	731	1,439	313	113	22	1	..	2,623
5 " " " 10 " . . . . .	..	320	2,446	1,129	368	75	4	..	4,342
10 " " " 15 " . . . . .	..	..	65	430	243	53	3	..	794
15 years and over . . . . .	..	..	..	15	124	68	6	..	213
<b>Total . . . . .</b>	<b>13,452</b>	<b>32,670</b>	<b>15,032</b>	<b>4,835</b>	<b>2,054</b>	<b>519</b>	<b>24</b>	<b>..</b>	<b>68,586</b>

The following table provides a comparison between the numbers of nuptial first births and subsequent births in periods since 1911 and shows also the proportion of first to total nuptial confinements.

**NUPTIAL FIRST BIRTHS AND SUBSEQUENT BIRTHS  
AUSTRALIA, 1911 TO 1964**

Period	Nuptial confinements			Proportion of first to total nuptial confinements (per cent)
	First births	Other births	Total	
<b>Annual average—</b>				
1911-20 . . . . .	33,595	88,997	122,592	27.40
1921-30 . . . . .	38,120	88,086	126,206	30.20
1931-40 . . . . .	39,243	71,136	110,379	35.55
1941-50 . . . . .	58,818	96,994	155,812	37.75
1951-60 . . . . .	64,379	136,264	200,643	32.09
<b>Annual total—</b>				
1960 . . . . .	66,890	150,073	216,963	30.83
1961 . . . . .	70,177	155,105	225,282	31.15
1962 . . . . .	68,310	153,547	221,857	30.79
1963 . . . . .	69,130	150,713	219,843	31.45
1964 . . . . .	68,586	143,437	212,023	32.35

**Stillbirths**

Interstate comparisons of the figures and rates in the following tables are affected by the differences in the definitions of stillbirths adopted by the various States, and only the trends in the rates for the States should be compared. For various reasons, the registration of stillbirths is not as complete as for live births and deaths; particulars for the Territories and the smaller States are more affected by this than are those for the larger States. Stillbirth registration is not compulsory in Tasmania. The figures shown represent those stillbirths voluntarily registered during the year.

## STILLBIRTHS: STATES AND TERRITORIES, 1936 TO 1964

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
1936-40 . . . . .	1,409	854	(a)	(b) 274	234	144	(a)	5	(a)
1941-45 . . . . .	1,478	966	(c) 657	324	248	143	(a)	9	de 3,825
1946-50 . . . . .	1,405	949	626	368	274	161	(a)	12	(e) 3,795
1951-55 . . . . .	1,239	849	581	290	271	139	8	16	3,393
1956-60 . . . . .	1,253	839	558	274	235	109	6	19	3,293
Annual total—									
1960 . . . . .	1,261	850	551	280	226	106	13	22	3,309
1961 . . . . .	1,306	885	553	272	240	111	17	19	3,403
1962 . . . . .	1,099	775	520	278	203	102	9	20	3,006
1963 . . . . .	1,163	792	476	262	178	63	30	14	2,978
1964 . . . . .	1,003	771	402	252	170	69	13	15	2,695

(a) Not available. (b) Three years 1938-40. (c) Four years 1942-45. (d) Excludes Queensland for 1941. (e) Excludes Northern Territory.

The incidence of stillbirths in each State and Territory as measured by the rate per 1,000 of all births, both live and still, is as follows.

## PROPORTION OF STILLBIRTHS(a): STATES AND TERRITORIES, 1936 TO 1964

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average annual rate—									
1936-40 . . . . .	28.7	27.4	(b)	(c) 27.5	25.7	28.7	(b)	22.2	(b)
1941-45 . . . . .	25.5	24.8	d 26.8	25.2	23.3	25.7	(b)	22.9	ef 25.25
1946-50 . . . . .	20.0	19.6	21.9	22.1	20.5	22.3	(b)	16.3	f 20.46
1951-55 . . . . .	16.5	15.5	18.4	15.8	17.0	17.5	17.2	17.1	16.57
1956-60 . . . . .	15.5	13.5	16.1	13.5	13.7	12.6	8.6	14.3	14.59
Annual rate—									
1960 . . . . .	15.1	13.1	15.4	13.2	13.2	11.8	(g)	13.7	14.16
1961 . . . . .	14.9	13.3	14.9	12.0	13.9	12.2	(g)	(g)	13.98
1962 . . . . .	12.7	11.6	14.4	12.8	11.8	11.3	(g)	10.9	12.52
1963 . . . . .	13.6	11.9	13.1	12.1	10.2	7.3	33.7	(g)	12.48
1964 . . . . .	12.3	11.7	11.4	11.9	10.1	8.3	(g)	(g)	11.62

(a) Numbers of stillbirths per 1,000 of all births (live and still). (b) Not available. (c) Three years 1938-40. (d) Four years 1942-45. (e) Excludes Queensland for 1941. (f) Excludes Northern Territory. (g) Less than twenty events: rates not calculated.

NOTE. Because of the smallness of the numbers of stillbirths occurring in the Australian Capital Territory and the Northern Territory, the rates for these Territories (i.e. the number per thousand live births and stillbirths) are subject to considerable fluctuation.

## Mortality

## Number of deaths

The following tables show the number of deaths, male and female, registered in each State and Territory during 1965. Stillbirths, although registered as both births and deaths in some States, are excluded from the death statistics published herein.

## DEATHS, SEXES: STATES AND TERRITORIES, 1965

Sex	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Males . . . . .	21,553	15,453	8,172	4,836	3,715	1,716	125	200	55,770
Females . . . . .	17,396	12,578	5,942	3,952	2,559	1,327	36	155	43,945
Persons . . . . .	38,949	28,031	14,114	8,788	6,274	3,043	161	355	99,715

A summary of the number of deaths in each State and Territory from 1941 to 1965 is given in the following table. Annual averages for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 597.

## DEATHS: STATES AND TERRITORIES, 1941 TO 1965

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Annual average—</b>									
1941-45(a)	27,807	20,964	9,715	6,303	4,724	2,488	64	71	72,136
1946-50(a)	29,552	21,827	10,357	6,507	4,802	2,459	76	103	75,683
1951-55	32,135	22,900	11,187	7,182	5,263	2,576	109	131	81,483
1956-60	34,002	24,254	12,008	7,732	5,523	2,668	117	184	86,488
1961-65	37,514	26,569	13,570	8,388	6,043	2,939	152	290	95,465
<b>Annual total—</b>									
1961	35,048	24,500	12,756	7,815	5,729	2,789	128	196	88,961
1962	36,861	25,847	13,182	8,232	5,810	2,870	144	217	93,163
1963	37,226	26,920	13,275	8,201	5,976	2,818	161	317	94,894
1964	39,487	27,548	14,523	8,906	6,429	3,174	164	363	100,594
1965	38,949	28,031	14,114	8,788	6,274	3,043	161	355	99,715

(a) Excludes deaths of defence personnel and of internees and prisoners of war from overseas for the period September 1939 to June 1947.

A graph showing the number of deaths in each year from 1870 to 1965 will be found on plate 22.

## Crude death rates

The commonest method of measuring the mortality rate is to relate the number of deaths for a given period to the mean population for that period, thus obtaining the crude death rate. This rate for a given period measures the number per thousand of population by which the population is depleted through deaths during that period.

## CRUDE DEATH RATES(a): STATES AND TERRITORIES, 1941 TO 1965

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Average annual rate—</b>									
1941-45(b)	9.73	10.63	9.24	10.26	9.86	10.21	6.4*	5.0*	9.96
1946-50(b)	9.70	10.37	9.13	9.76	9.23	9.30	6.3*	5.3*	9.74
1951-55	9.49	9.55	8.71	9.25	8.49	8.48	6.9*	4.58	9.25
1956-60	9.20	8.91	8.36	8.62	7.90	7.97	5.32	4.31	8.78
1961-65	9.26	8.68	8.69	8.30	7.82	8.10	5.15	3.94	8.74
<b>Annual rate—</b>									
1961	8.95	8.37	8.42	8.06	7.77	7.89	4.9*	3.3*	8.47
1962	9.26	8.64	8.56	8.32	7.69	7.99	5.3*	3.3*	8.70
1963	9.19	8.81	8.50	8.13	7.73	7.74	5.6*	4.3*	8.69
1964	9.58	8.80	9.16	8.63	8.14	8.64	5.2*	4.5*	9.03
1965—									
Males	10.23	9.59	10.02	9.10	9.08	9.17	6.4*	4.3*	9.74
Females	8.33	7.88	7.51	7.57	6.44	7.28	2.5*	3.6*	7.80
Persons	9.28	8.74	8.78	8.34	7.78	8.24	4.7*	4.0*	8.78

(a) Number of deaths per 1,000 of mean population. (b) Excludes deaths of defence personnel, etc., from September 1939 to June 1947.

\* Based on too few events to warrant calculation of rates to two decimal places.

NOTE. Crude death rates (i.e., the number of deaths per thousand of mean population) are affected by the particular age and sex composition of the population. In the Australian Capital Territory and the Northern Territory the population at risk in the higher ages is lower proportionately than in other States, largely as a result of the rapid increases of the population in the lower ages.

A graph showing the crude death rate for each year from 1870 to 1965 will be found on plate 23.

#### Standardized death rates

The death rates quoted on p. 247 are crude rates, i.e., they simply show the number of deaths per thousand of mean population without taking into consideration differences in the sex and age composition of the population. Other conditions being equal, however, the crude death rate of a community will be low if it contains a large proportion of young people (not infants), and conversely it will be relatively high if the population includes a large proportion of elderly people. The foregoing table of crude death rates, therefore, does not indicate comparative incidence of mortality either as between States in the same year or in any one State over a period of years. In order to obtain a comparison of mortality rates on a uniform basis as far as sex and age constitution are concerned, 'standardized' death rates may be computed. These are computed by selecting a particular distribution of age and sex as a standard, and then calculating what would have been the general death rate if the death rates for each sex and in each age group had been as recorded, but the age and sex distribution had been the same as in the standard population. For the standardized rates which follow, the standard population compiled by the International Institute of Statistics has been used. This standard is based upon the age distribution according to sex of nineteen European countries at their censuses nearest to the year 1900. An examination of the age distribution of deaths and the resultant age-specific death rates is made on pages 252-4.

#### Comparison of crude and standardized death rates

The relative incidence of mortality as between individual States and as between the years 1921, 1933, 1947, 1954 and 1961 is illustrated in the following statement of crude and 'standardized' death rates. These years have been chosen for comparison because the census data give essential information as to sexes and ages of the State populations. Crude death rates are shown to indicate the degree to which they disguise the true position.

#### CRUDE AND STANDARDIZED DEATH RATES: STATES, 1921 TO 1961

Particulars	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
Crude death rate(a)—							
1921 . . . . .	9.50	10.52	9.37	10.02	10.42	10.30	9.91
1933 . . . . .	8.58	9.59	8.84	8.44	8.64	9.60	8.92
1947 . . . . .	9.53	10.44	9.15	9.61	9.39	9.17	9.69
1954 . . . . .	9.46	9.20	8.63	9.01	8.38	8.67	9.10
1961 . . . . .	8.95	8.37	8.42	8.06	7.77	7.89	8.47
Standardized death rate(b)—							
1921 . . . . .	10.35	10.79	10.24	10.38	11.88	10.83	10.58
1933 . . . . .	8.52	8.74	9.10	7.66	8.74	8.86	8.62
1947 . . . . .	7.44	7.31	7.47	6.77	7.28	7.21	7.34
1954 . . . . .	7.24	6.63	6.80	6.52	6.71	7.02	6.90
1961 . . . . .	6.56	6.12	6.26	5.90	6.02	6.19	6.27

(a) Total deaths per 1,000 of mean population. (b) See explanation of standardized death rates above.

The comparisons above relate to individual years in which a census of population was taken and should not be used as the basis for general conclusions as to changes in incidence of mortality for other than those years.

#### True death rates

The main objections to standardized death rates are that the choice of a standard population is arbitrary and that the standardized rates have little value except for comparative purposes, and even then variation of the standard population may make appreciable differences. However, a correct measurement of the mortality of the population can be obtained from life tables. A life table represents the number of survivors at each age from a group of newly-born children

who are subject to given mortality conditions, and from such a table the complete expectation of life at birth can be calculated. The reciprocal of this figure is known as the true death rate, since, if the complete expectation of life of a person at birth is fifty years, say, then each person will on the average die fifty years after birth, so that in a stationary population one person in fifty, or twenty per thousand, will die each year. The true death rate for a given period is unaffected by the particular age distribution of that period and is determined solely by the mortality experience of the period as manifested in the rate of survival from each year of age to the next. The table below sets out complete expectation of life at birth and true death rates for the periods covered by Australian life tables.

COMPLETE EXPECTATION OF LIFE AT BIRTH  
AND TRUE DEATH RATES: AUSTRALIA, 1881-90 TO 1960-62

Period	Complete expectation of life at birth (years)		True death rate	
	Males	Females	Males(a)	Females(b)
1881-90 . . .	47.20	50.84	21.19	19.67
1891-1900 . . .	51.06	54.76	19.58	18.26
1901-10 . . .	55.20	58.84	18.12	17.00
1920-22 . . .	59.15	63.31	16.91	15.80
1932-34 . . .	63.48	67.14	15.75	14.89
1946-48 . . .	66.07	70.63	15.14	14.16
1953-55 . . .	67.14	72.75	14.89	13.75
1960-62 . . .	67.92	74.18	14.72	13.48

(a) Number of deaths per 1,000 males in stationary population.

(b) Number of deaths per 1,000 females in stationary population.

The crude death rates and the true death rates of Australia and the more populous countries of the world for the latest available year are shown in the table in International Vital Statistics at the end of this chapter.

#### Australian Life Tables

*Life Tables prior to 1961.* It has been the practice at each census from 1911 onwards to prepare Life Tables representative of the mortality experience of Australia. The mortality of the Australian population for the thirty years from 1881 to 1910 inclusive was investigated in 1911 by the Commonwealth Statistician. Tables were compiled for each State and for Australia as a whole in respect of each sex for each of the decennial periods 1881-90, 1891-1900 and 1901-10. These compilations furnished a comprehensive view of Australian mortality in respect of sex, time, and geographical distribution, and practically superseded all Life Tables prepared in Australia prior to 1911. In addition, monetary tables based on the experience for the whole of Australia for the ten years 1901-10 were prepared and published. At the census of 1921 Life Tables were prepared by the Commonwealth Statistician from the recorded census population and the deaths in the three years 1920 to 1922. In 1933, 1947 and 1954, Life Tables based on the census population and the deaths in the years 1932 to 1934, 1946 to 1948 and 1953 to 1955 respectively were compiled by the Commonwealth Actuary.

*Life Tables of census of 1961.* On the occasion of the 1961 Census, the eighth Life Tables in the series were compiled by the Commonwealth Actuary. These were based on the population recorded at the census, adjusted to allow for variation in the net movement into Australia over the years 1960 to 1962, and deaths during these years. Full particulars of the data used, the method of construction and the tabulation of these Life Tables will be found in the report of the Commonwealth Actuary, which was published by the Commonwealth Statistician in 1966. This report will also appear in Volume VIII of the detailed tables of the 1961 census. The main features of the tables, including comparisons with earlier Australian tables, are set out in the following summary tables.

## AUSTRALIAN COMPARATIVE LIFE TABLES

RATES OF MORTALITY ( $q_x$ ) AT REPRESENTATIVE AGES

Age (x)	1901-10	1920-22	1932-34	1946-48	1953-55	1960-62
<b>MALES</b>						
0 . . . . .	.09510	.07132	.04543	.03199	.02521	.02239
10 . . . . .	.00179	.00156	.00119	.00072	.00056	.00041
20 . . . . .	.00370	.00284	.00219	.00169	.00186	.00173
30 . . . . .	.00519	.00390	.00271	.00186	.00170	.00157
40 . . . . .	.00816	.00617	.00460	.00337	.00297	.00300
50 . . . . .	.01395	.01158	.00966	.00919	.00819	.00804
60 . . . . .	.02584	.02407	.02216	.02078	.02221	.02176
70 . . . . .	.06162	.05290	.05082	.05256	.05315	.05177
80 . . . . .	.13795	.13340	.12659	.12011	.11958	.11617
<b>FEMALES</b>						
0 . . . . .	.07953	.05568	.03642	.02519	.01989	.01757
10 . . . . .	.00159	.00127	.00087	.00050	.00035	.00028
20 . . . . .	.00329	.00252	.00183	.00091	.00064	.00060
30 . . . . .	.00519	.00387	.00279	.00165	.00096	.00082
40 . . . . .	.00718	.00524	.00402	.00284	.00217	.00187
50 . . . . .	.00956	.00808	.00744	.00641	.00530	.00464
60 . . . . .	.01920	.01571	.01466	.01360	.01203	.01074
70 . . . . .	.04777	.04090	.03802	.03607	.03250	.02933
80 . . . . .	.11333	.11230	.10106	.10027	.09314	.08507

$q_x$  = probability of dying within one year at specified ages.

## RATES OF MORTALITY FOR ONE PERIOD AS A PROPORTION OF THE RATES FOR THE PRECEDING PERIOD

Age	Males				Females			
	1932-34	1946-48	1953-55	1960-62	1932-34	1946-48	1953-55	1960-62
	1920-22	1932-34	1946-48	1953-55	1920-22	1932-34	1946-48	1953-55
0 . . . . .	.64	.70	.79	.89	.65	.69	.79	.88
10 . . . . .	.76	.61	.78	.73	.69	.57	.70	.80
20 . . . . .	.77	.77	1.10	.93	.73	.50	.70	.94
30 . . . . .	.69	.69	.91	.92	.72	.59	.58	.85
40 . . . . .	.75	.73	.88	1.01	.77	.71	.76	.86
50 . . . . .	.83	.95	.89	.98	.92	.86	.83	.88
60 . . . . .	.92	1.03	.97	.98	.93	.93	.88	.89
70 . . . . .	.96	1.03	1.01	.97	.93	.95	.90	.90
80 . . . . .	.95	.95	1.00	.97	.90	.99	.93	.91

**RATES OF MORTALITY AS A PROPORTION OF THE RATES  
FOR THE PERIOD 1901-1910**

Age	Males				Females			
	1932-34	1946-48	1953-55	1960-62	1932-34	1946-48	1953-55	1960-62
	1901-10	1901-10	1901-10	1901-10	1901-10	1901-10	1901-10	1901-10
0 . . . . .	.48	.34	.27	.24	.46	.32	.25	.22
10 . . . . .	.66	.40	.31	.23	.55	.31	.22	.18
20 . . . . .	.59	.46	.50	.47	.56	.28	.19	.18
30 . . . . .	.52	.36	.33	.30	.54	.32	.18	.16
40 . . . . .	.56	.41	.36	.37	.56	.40	.30	.26
50 . . . . .	.69	.66	.59	.58	.78	.67	.55	.49
60 . . . . .	.86	.88	.86	.84	.76	.71	.63	.56
70 . . . . .	.82	.85	.86	.84	.80	.76	.68	.61
80 . . . . .	.92	.87	.87	.84	.89	.88	.82	.75

**NUMBER OF SURVIVORS ( $l_x$ ) AT SELECTED AGES OUT OF 100,000 BIRTHS**

Age (x)	Males				Females			
	1901-10	1946-48	1953-55	1960-62	1901-10	1946-48	1953-55	1960-62
0 . . . . .	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
10 . . . . .	86,622	95,619	96,488	97,062	88,395	96,549	97,228	97,664
20 . . . . .	84,493	94,562	95,460	96,215	86,459	95,953	96,774	97,278
30 . . . . .	80,844	92,967	93,801	94,726	82,909	94,740	96,055	96,649
40 . . . . .	75,887	90,823	90,861	92,859	78,001	92,758	94,715	95,481
50 . . . . .	68,221	85,946	87,553	88,473	71,945	89,011	91,573	92,713
60 . . . . .	56,782	74,251	76,256	77,456	63,247	81,257	84,665	86,537
70 . . . . .	38,275	52,230	54,054	54,944	46,793	65,398	69,613	72,505
80 . . . . .	14,330	22,785	23,658	24,669	21,356	35,401	39,633	43,453
90 . . . . .	1,652	3,144	3,507	3,800	3,566	6,556	8,087	10,005

**COMPLETE EXPECTATION OF LIFE ( ${}^e e_x$ ) AT SELECTED AGES**

Age (x)	Males				Females			
	1901-10	1946-48	1953-55	1960-62	1901-10	1946-48	1953-55	1960-62
0 . . . . .	55.20	66.07	67.14	67.92	58.84	70.63	72.75	74.18
10 . . . . .	53.53	59.04	59.53	59.93	56.38	63.11	64.78	65.92
20 . . . . .	44.74	49.64	50.10	50.40	47.52	53.47	55.06	56.16
30 . . . . .	36.52	40.40	40.90	41.12	39.33	44.08	45.43	46.49
40 . . . . .	28.56	31.23	31.65	31.84	31.47	34.91	35.99	36.99
50 . . . . .	21.16	22.67	22.92	23.13	23.69	26.14	27.03	27.92
60 . . . . .	14.35	15.36	15.47	15.60	16.20	18.11	18.78	19.51
70 . . . . .	8.67	9.55	9.59	9.77	9.96	11.14	11.62	12.19
80 . . . . .	4.96	5.36	5.47	5.57	5.73	6.02	6.30	6.68

$l_x$  = number surviving at specified ages out of 100,000 births.  ${}^e e_x$  = complete expectation of life at specified ages.

As indicated in the foregoing tables, the progress towards lower mortality rates for both males and females has continued over the past sixty years or more. For example, the probability of a child born in 1961 dying in one year is less than one-quarter of the probability of death in one year attached to the child who was born sixty years ago. Even at advanced ages, the reductions



which have occurred in mortality rates as compared with sixty years ago are very substantial. With the exception of males of ages forty to forty-seven and ages sixty-two to sixty-six lower mortality rates were experienced by males and females during 1960 to 1962 than for the period 1953 to 1955.

There is evidence that female longevity continues to improve at a faster rate than male longevity. It would seem that the risks associated with child-bearing for females are far outweighed by the greater accident propensity of younger males and the more rapid deterioration of health, presumably due to business and other pressures, of older males.

An improvement has occurred in male mortality from accidents of all types. Even though there is some indication that for females the accident rates have deteriorated slightly, the rates are, however, still substantially below the corresponding rates for males.

#### Age distribution at death

Age at death is recorded for statistical purposes in days for the first week of life, in weeks for the first four weeks, in months for the first year and in completed years of life thereafter. These ages are usually combined in groups for publication, the most common being weeks for the first four weeks, months or groups of months for the first year, single years of age for the first five years, and thereafter the five-year groups 5-9 years, 10-14 years, etc. A summary in this form for the year 1964 is given for Australia in the following table.

#### DEATHS, BY AGE AT DEATH AND SEX: AUSTRALIA, 1964

Age at death	Males	Fe- males	Per- sons	Age at death	Males	Fe- males	Per- sons
Under 1 week ..	1,631	1,198	2,829	5-9 years ..	302	210	512
1 week and under 2 weeks ..	85	64	149	10-14 " ..	285	164	449
2 weeks and under 3 weeks ..	52	42	94	15-19 " ..	587	265	852
3 weeks and under 4 weeks ..	27	27	54	20-24 " ..	683	236	919
				25-29 " ..	483	236	719
<i>Total under 4 weeks ..</i>	<i>1,795</i>	<i>1,331</i>	<i>3,126</i>	30-34 " ..	671	326	997
				35-39 " ..	921	590	1,511
4 weeks and under 3 months	256	176	432	40-44 " ..	1,532	883	2,415
3 months and under 6 months	240	176	416	45-49 " ..	2,042	1,276	3,318
6 months and under 12 months	217	176	393	50-54 " ..	3,266	1,724	4,990
				55-59 " ..	4,541	2,152	6,693
<i>Total under 1 year ..</i>	<i>2,508</i>	<i>1,859</i>	<i>4,367</i>	60-64 " ..	5,901	3,014	8,915
				65-69 " ..	6,571	4,109	10,680
1 year ..	220	176	396	70-74 " ..	7,975	6,101	14,076
2 years ..	120	88	208	75-79 " ..	7,640	7,227	14,867
3 " ..	86	90	176	80-84 " ..	5,508	6,705	12,213
4 " ..	83	60	143	85 years and over	4,302	6,849	11,151
				Age not stated ..	19	8	27
<i>Total under 5 years ..</i>	<i>3,017</i>	<i>2,273</i>	<i>5,290</i>	<i>Total all ages ..</i>	<i>56,246</i>	<i>44,348</i>	<i>100,594</i>

There are different mortality rates at various stages of life, and the actual number of deaths in any period is related to the numbers living at the respective stages. Changes in the number of deaths from one period to another are associated with changes in the rate of mortality in the various age groups and by the changed proportions of persons living in the different groups. The combined effect of various influences, i.e., the steady decline in the rate of mortality, the long-term decline in the birth-rate, and the effects of past and present migration on the age distribution of the population, is shown in the following table, which shows the proportion of deaths in various age groups in ten-year periods from 1901 to 1960 and for the year 1964.

#### PROPORTION OF DEATHS IN EACH AGE GROUP: AUSTRALIA, 1901 TO 1964 (Per cent)

Period	Age at death (years)								Total
	Under 1	1-4	5-19	20-39	40-59	60-64	65 and over	Unspeci- fied	
1901-10 ..	20.51	6.45	6.37	14.99	17.99	5.31	28.26	0.12	100.00
1911-20 ..	16.66	6.09	5.49	14.44	20.32	6.19	30.68	0.13	100.00
1921-30 ..	13.10	4.51	4.85	12.12	20.55	8.26	36.53	0.08	100.00
1931-40 ..	7.40	2.56	3.83	9.36	20.54	8.36	47.92	0.03	100.00
1941-50 ..	6.79	1.71	2.26	6.01	19.04	9.33	54.84	0.02	100.00
1951-60 ..	5.59	1.33	1.80	4.90	17.27	9.18	59.90	0.03	100.00
1964—									
Males ..	4.46	0.91	2.09	4.90	20.23	10.49	56.89	0.03	100.00
Females ..	4.19	0.93	1.44	3.13	13.61	6.80	69.88	0.02	100.00
Persons ..	4.34	0.92	1.80	4.12	17.31	8.86	62.62	0.03	100.00

A table showing these proportions for males and females separately for the period 1901 to 1950 was published in Year Book No. 39, page 614.

### Age-specific death rates

In previous issues of the Year Book, average annual age-specific death rates were given for each State and Australia for the periods 1932-1934, 1946-1948 and 1953-1955 (see Year Books, No. 37, pp. 778-9, No. 39, pp. 615-6 and No. 44, pp. 640-1). These rates were based on the age distribution of the population at the relevant censuses. Rates for the period 1960-1962 are shown in the following table.

#### AGE-SPECIFIC DEATH RATES(a): STATES, 1960-62

Age group (years)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
MALES							
Under 1(b)	23.6	20.3	22.9	27.9	22.9	20.3	22.4
1-4	1.2	1.1	1.1	1.2	1.2	1.2	1.2
5-9	0.5	0.5	0.5	0.5	0.5	0.6	0.5
10-14	0.5	0.4	0.6	0.5	0.4	0.4	0.5
15-19	1.2	1.2	1.4	1.1	1.2	1.3	1.2
20-24	1.6	1.6	1.8	1.4	1.7	1.6	1.6
25-29	1.5	1.3	1.8	1.6	1.5	1.7	1.5
30-34	1.7	1.6	2.1	1.6	1.6	1.2	1.7
35-39	2.4	2.1	2.6	2.1	2.1	1.9	2.3
40-44	3.9	3.3	4.0	3.4	3.5	3.6	3.7
45-49	6.4	5.7	6.2	5.4	5.0	5.3	6.0
50-54	10.8	9.3	10.2	9.2	9.5	9.1	10.0
55-59	17.8	16.2	15.7	15.7	14.8	16.1	16.6
60-64	28.0	26.2	25.0	24.4	23.8	26.3	26.3
65-69	43.4	42.5	39.8	37.8	40.3	39.6	41.7
70-74	65.9	63.1	59.2	59.5	59.6	65.6	63.1
75-79	97.9	93.6	88.0	88.7	96.7	94.3	94.1
80-84	148.5	144.9	133.9	135.8	140.9	131.2	142.8
85 and over	249.8	242.1	242.3	227.4	244.5	242.9	243.8
FEMALES							
Under 1(b)	18.5	16.1	18.4	15.7	19.4	17.3	17.6
1-4	1.1	0.9	1.0	0.9	1.2	0.8	1.0
5-9	0.4	0.4	0.5	0.4	0.3	0.3	0.4
10-14	0.3	0.3	0.3	0.3	0.2	0.3	0.3
15-19	0.5	0.5	0.6	0.4	0.5	0.6	0.5
20-24	0.6	0.6	0.7	0.6	0.5	0.4	0.6
25-29	0.7	0.6	0.9	0.7	0.6	0.6	0.7
30-34	1.0	0.8	1.1	1.0	0.8	0.8	1.0
35-39	1.5	1.3	1.7	1.3	1.4	1.7	1.5
40-44	2.5	2.0	2.7	1.8	2.0	1.9	2.3
45-49	4.0	3.3	4.0	3.0	3.3	3.8	3.7
50-54	5.9	5.1	5.6	5.2	5.0	5.1	5.5
55-59	8.7	8.0	8.0	7.9	7.2	7.9	8.2
60-64	13.8	13.5	12.0	12.7	11.4	13.7	13.2
65-69	23.3	22.2	20.6	21.1	19.4	21.8	22.1
70-74	38.5	37.0	34.8	35.5	35.4	37.6	37.0
75-79	66.3	62.6	60.3	58.3	60.6	62.5	63.2
80-84	108.6	108.3	99.9	108.7	101.9	107.6	106.8
85 and over	208.1	203.7	191.5	199.5	191.5	187.1	202.0

(a) Average annual number of deaths per 1,000 of population in each age group at 30 June 1961.  
 (b) Infant deaths per 1,000 live births registered.

Intercensal estimates of the age distribution of the population are available for Australia and for the larger States. The following table shows age-specific death rates i.e. the average number of deaths per 1,000 of population in each age group, for Australia for the year 1964, for males and females.

**AGE-SPECIFIC DEATH RATES(a), BY SEX: AUSTRALIA, 1964**

Age group (years)	Males	Females	Age group (years)	Males	Females
Under 1(b)	21.2	16.7	45-49	6.2	3.9
1-4	1.1	0.9	50-54	10.3	5.7
5-9	0.5	0.4	55-59	17.4	8.6
10-14	0.5	0.3	60-64	28.2	13.9
15-19	1.2	0.6	65-69	44.3	22.1
20-24	1.7	0.6	70-74	68.1	38.9
25-29	1.3	0.7	75-79	98.8	65.4
30-34	1.8	1.0	80-84	155.1	116.1
35-39	2.3	1.6	85 and over	260.6	212.8
40-44	4.0	2.4			

(a) Average number of deaths per 1,000 of mid-year population in each age group estimated in respect of 30 June 1964. (b) Infant deaths per 1,000 live births registered.

**Infant deaths and death rates—States and Territories**

Compared with other countries, Australia occupies a favourable position in respect of infant mortality. In 1964, only a few countries recorded a lower rate than Australia. Rates for Australia and the more populous countries of the world for the latest available year are shown in the table in International Vital Statistics, pp. 269-70. The next tables show, for each State and Territory for the period 1941 to 1965, the number of deaths under one year of age and the rates of infant mortality under one year, and for the period 1936 to 1964 the rates under four weeks, and four weeks and under one year.

**INFANT MORTALITY UNDER ONE YEAR: STATES AND TERRITORIES, 1941 TO 1965**

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
1941-45	2,034	1,311	804	413	347	213	7	7	5,136
1946-50	1,990	1,129	770	431	370	187	11	14	4,902
1951-55	1,852	1,113	730	407	384	184	17	14	4,701
1956-60	1,770	1,205	717	410	362	176	25	18	4,683
1961-65	1,685	1,168	696	407	350	156	28	34	4,524
Annual total—									
1961	1,800	1,173	733	448	336	151	21	27	4,689
1962	1,825	1,219	754	409	380	184	37	32	4,840
1963	1,673	1,242	722	399	353	153	27	38	4,607
1964	1,634	1,098	673	397	328	166	30	41	4,367
1965	1,492	1,109	598	385	352	125	23	34	4,118
Annual average rate(a)—									
1941-45	35.9	34.5	34.3	32.9	33.3	39.3	61.7	18.7	34.97
1946-50	28.9	23.8	27.5	26.5	28.1	26.5	37.4	19.9	26.98
1951-55	25.1	20.7	23.6	22.6	24.4	23.7	36.3	15.4	23.34
1956-60	22.2	19.7	21.0	20.5	21.4	20.6	36.0	13.7	21.05
1961-65	20.3	17.9	19.7	19.0	20.8	18.5	31.2	17.6	19.42
Annual rate(a)—									
1961	20.8	17.8	20.0	20.0	19.7	16.8	23.9	15.6	19.54
1962	21.4	18.5	21.1	19.1	22.3	20.7	40.0	17.6	20.41
1963	19.9	18.9	20.1	18.7	20.4	17.9	31.4	19.0	19.55
1964	20.3	16.9	19.2	19.0	19.7	20.1	32.9	21.0	19.06
1965	19.1	17.5	17.8	18.4	21.7	16.6	25.2	15.8	18.48

(a) Number of deaths of children aged under one year per 1,000 live births registered.

**INFANT MORTALITY RATES<sup>(a)</sup>—UNDER FOUR WEEKS  
STATES AND TERRITORIES, 1936 TO 1964**

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Average annual rate—</b>									
1936-40.	27.6	25.9	26.1	21.6	22.6	29.6	(b)	(b)	26.19
1941-45.	24.3	24.3	24.3	20.9	20.6	27.1	35.3	12.5	23.85
1946-50.	20.5	17.6	19.9	18.4	19.5	19.3	21.4	15.8	19.34
1951-55.	17.3	15.2	17.1	14.9	17.3	16.3	19.6	11.3	16.45
1956-60.	16.0	14.5	15.1	13.7	15.0	13.3	24.2	9.6	15.07
<b>Annual rate—</b>									
1960	15.2	15.8	13.7	13.3	15.9	11.2	27.0	(b)	14.64
1961	14.9	13.5	14.8	13.0	12.8	11.9	(b)	(b)	14.01
1962	15.5	14.2	15.0	13.4	14.5	14.1	(b)	11.5	14.71
1963	14.1	14.9	14.8	12.9	14.9	12.1	(b)	13.5	14.32
1964	14.3	12.9	13.5	13.3	13.0	13.8	25.2	15.3	13.64

(a) Number of deaths of children aged under four weeks per 1,000 live births registered. (b) Less than twenty events, rates not calculated.

**INFANT MORTALITY RATES<sup>(a)</sup>—FOUR WEEKS AND UNDER ONE YEAR  
STATES AND TERRITORIES, 1936 TO 1964**

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Average annual rate—</b>									
1936-40.	13.5	11.7	10.6	11.5	17.1	11.7	(b)	(b)	12.62
1941-45.	11.6	10.2	10.0	12.1	12.7	12.2	(b)	(b)	11.12
1946-50.	8.4	6.3	7.5	8.1	8.6	7.2	15.9	(b)	7.64
1951-55.	7.8	5.5	6.5	7.6	7.1	7.3	16.7	(b)	6.89
1956-60.	6.2	5.2	5.8	6.8	6.4	7.3	11.8	4.0	5.98
<b>Annual rate—</b>									
1960	5.9	4.8	5.2	5.7	5.7	7.9	(b)	(b)	5.52
1961	6.0	4.3	5.2	7.0	6.9	4.9	(b)	(b)	5.53
1962	5.9	4.3	6.1	5.7	7.8	6.6	(b)	(b)	5.70
1963	5.8	4.0	5.3	5.8	5.6	5.9	(b)	(b)	5.23
1964	6.0	4.0	5.7	5.8	6.7	6.3	(b)	(b)	5.42

(a) Number of deaths of children aged four weeks and under one year per 1,000 live births registered. (b) Less than twenty events; rates not calculated.

Because of the smallness of the numbers of these deaths occurring in the Australian Capital Territory and the Northern Territory, the rates for these Territories (i.e., number of such deaths per thousand live births) are subject to considerable fluctuation.

**Infant deaths and death rates—Australia**

The fact that out of 602,835 male infants born from 1960 to 1964, 13,275 (22.02 per 1,000) died during the first year of life, while of 569,396 female infants only 9,871 (17.34 per 1,000) died during the first year, accords with the universal experience that during the first few years of life the higher death rate of male infants tends to counteract the excess of male births. Stillbirths, for which masculinity is also higher, are not included in any of the tables relating to deaths.

As shown by the following table, the disparity is greater during the first four weeks of life, termed the neonatal period, than during the remainder of the first year of life, or the post-neonatal period.

## INFANT DEATHS AND MORTALITY RATES, BY SEX: AUSTRALIA, 1936 TO 1964

Period	Number of deaths						Rates(a)					
	Neonatal— under four weeks		Post- neonatal— four weeks and under one year		Total under one year		Neonatal— under four weeks		Post- neonatal— four weeks and under one year		Total under one year	
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males
	ANNUAL AVERAGES						AVERAGE ANNUAL RATES					
1936-40 . . .	1,816	1,353	863	663	2,679	2,016	29.30	22.93	13.93	11.23	43.23	34.16
1941-45 . . .	2,007	1,495	914	720	2,921	2,215	26.66	20.88	12.14	10.05	38.80	30.93
1946-50 . . .	2,024	1,490	784	604	2,808	2,094	21.68	16.86	8.40	6.84	30.08	23.70
1951-55 . . .	1,907	1,406	776	612	2,683	2,018	18.47	14.32	7.52	6.24	25.99	20.56
1956-60 . . .	1,921	1,432	741	589	2,662	2,021	16.81	13.24	6.48	5.45	23.29	18.69
	ANNUAL TOTALS						ANNUAL RATES					
1960 . . .	1,934	1,437	717	555	2,651	1,992	16.33	12.84	6.06	4.96	22.39	17.80
1961 . . .	1,951	1,410	739	589	2,690	1,999	15.85	12.06	6.00	5.04	21.85	17.10
1962 . . .	2,038	1,451	752	599	2,790	2,050	16.69	12.62	6.16	5.21	22.85	17.83
1963 . . .	1,946	1,429	690	542	2,636	1,971	16.06	12.48	5.70	4.73	21.76	17.21
1964 . . .	1,795	1,331	713	528	2,508	1,859	15.20	11.98	6.04	4.75	21.24	16.73

(a) Number of deaths per 1,000 male or female live births registered.

From the following table, showing particulars of infant deaths in the first four weeks of life, or the neonatal period, it will be seen that for both males and females the risk of death is very much greater during the first day of life than subsequently.

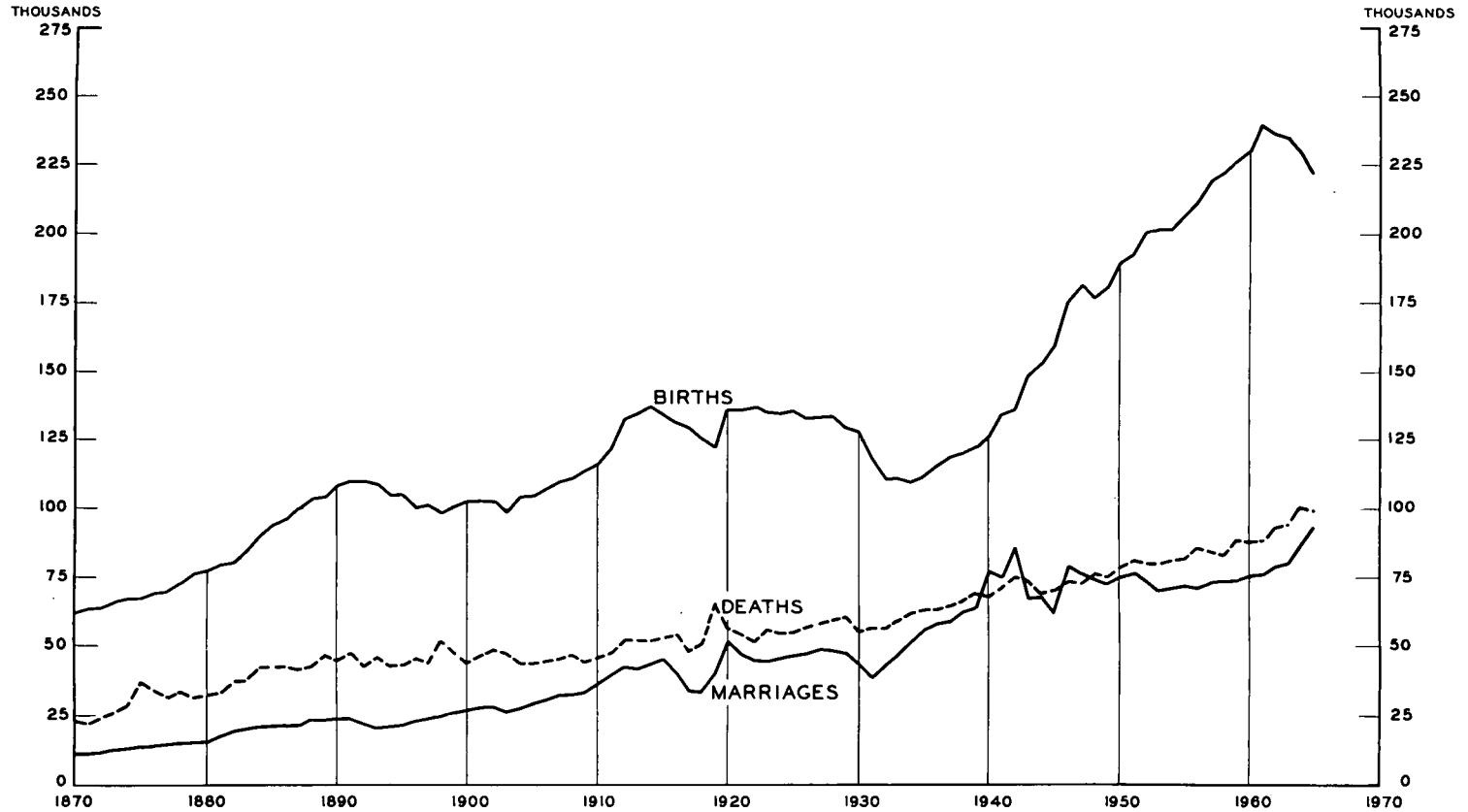
## INFANT DEATHS AND MORTALITY RATES—UNDER FOUR WEEKS, BY SEX AUSTRALIA, 1936 TO 1964

Period	Number of deaths						Rates(a)					
	Early neonatal				Late neonatal— one week and under four weeks		Early neonatal				Late neonatal— one week and under four weeks	
	Under one day		One day and under one week				Under one day		One day and under one week			
Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	
	ANNUAL AVERAGES						AVERAGE ANNUAL RATES					
1936-40 . . .	(b)	(b)	c 1,496	c 1,120	320	233	(b)	(b)	c24.13	c18.99	5.17	3.94
1941-45 . . .	906	674	728	541	373	280	12.03	9.42	9.67	7.55	4.96	3.91
1946-50 . . .	986	731	758	539	280	220	10.56	8.28	8.12	6.09	3.00	2.49
1951-55 . . .	918	713	742	508	247	185	8.88	7.26	7.19	5.17	2.40	1.89
1956-60 . . .	972	765	705	490	244	177	8.50	7.07	6.17	4.53	2.13	1.64
	ANNUAL TOTALS						ANNUAL RATES					
1960 . . .	967	755	715	516	252	166	8.17	6.75	6.04	4.61	2.13	1.48
1961 . . .	976	744	739	490	236	176	7.93	6.36	6.00	4.19	1.92	1.51
1962 . . .	1,080	733	719	548	239	170	8.84	6.38	5.89	4.76	1.96	1.48
1963 . . .	1,043	765	691	509	212	155	8.61	6.68	5.70	4.44	1.75	1.36
1964 . . .	940	719	691	479	164	133	7.96	6.47	5.85	4.31	1.39	1.20

(a) Number of deaths per 1,000 male or female live births registered. (b) Not available. (c) Includes under one day.

A graph showing infant mortality rates for each year from 1910 to 1965 will be found on plate 25.

# BIRTHS, DEATHS, AND MARRIAGES: AUSTRALIA, 1870 TO 1965



# RATES OF BIRTHS, DEATHS, AND NATURAL INCREASE

AUSTRALIA, 1870 TO 1965

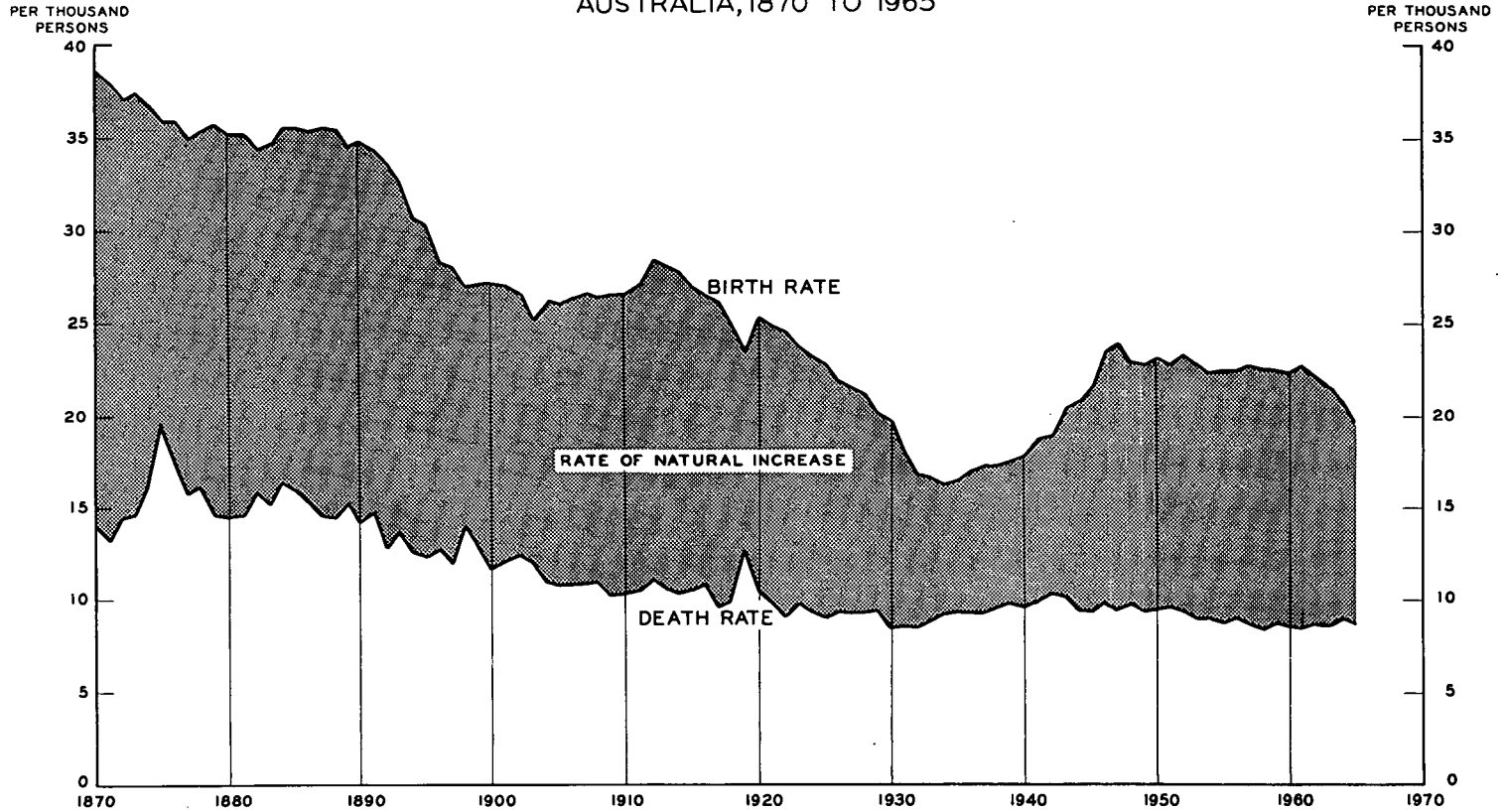
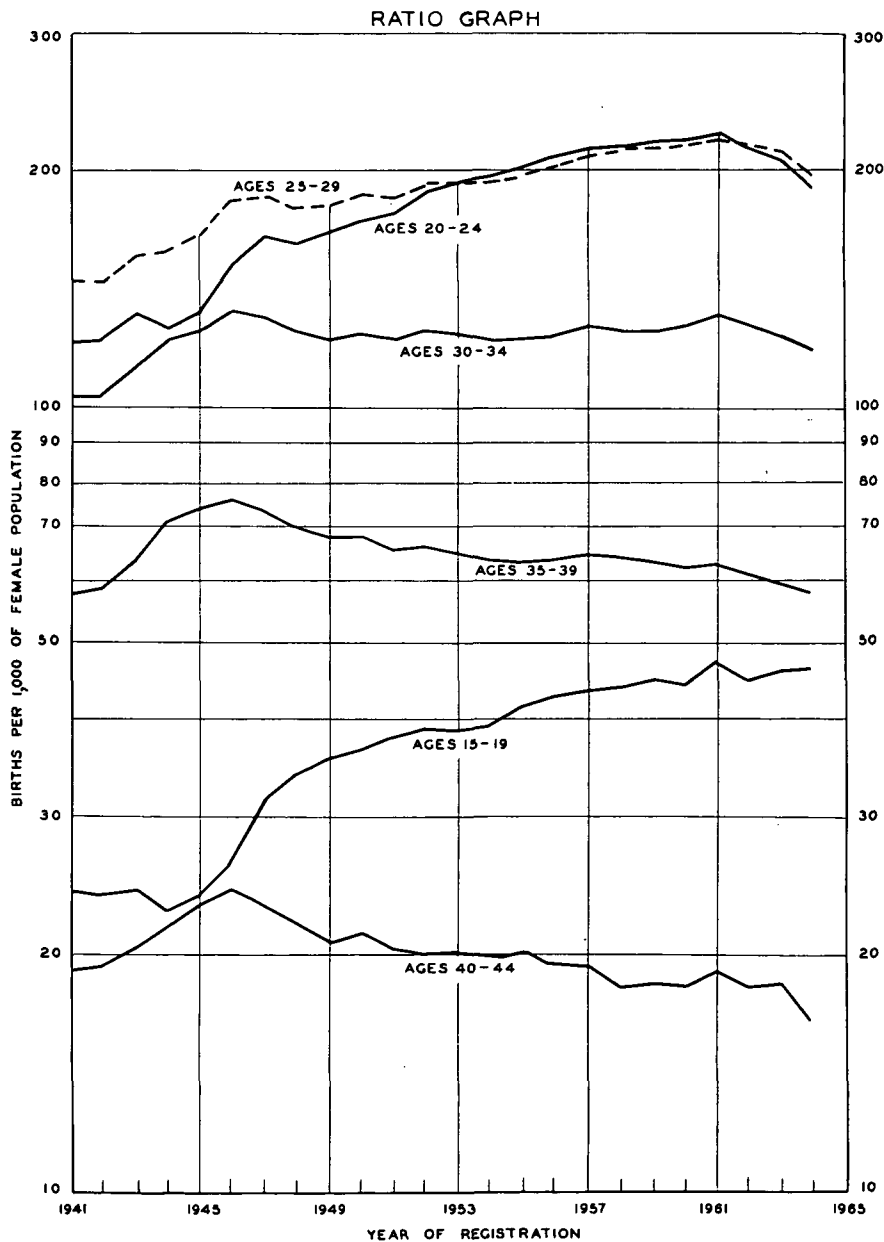


PLATE 23

BIRTH RATES, BY AGE OF MOTHER  
 AUSTRALIA, 1941 TO 1964  
 (NUMBER OF BIRTHS PER 1,000 OF FEMALE POPULATION  
 IN EACH AGE GROUP)



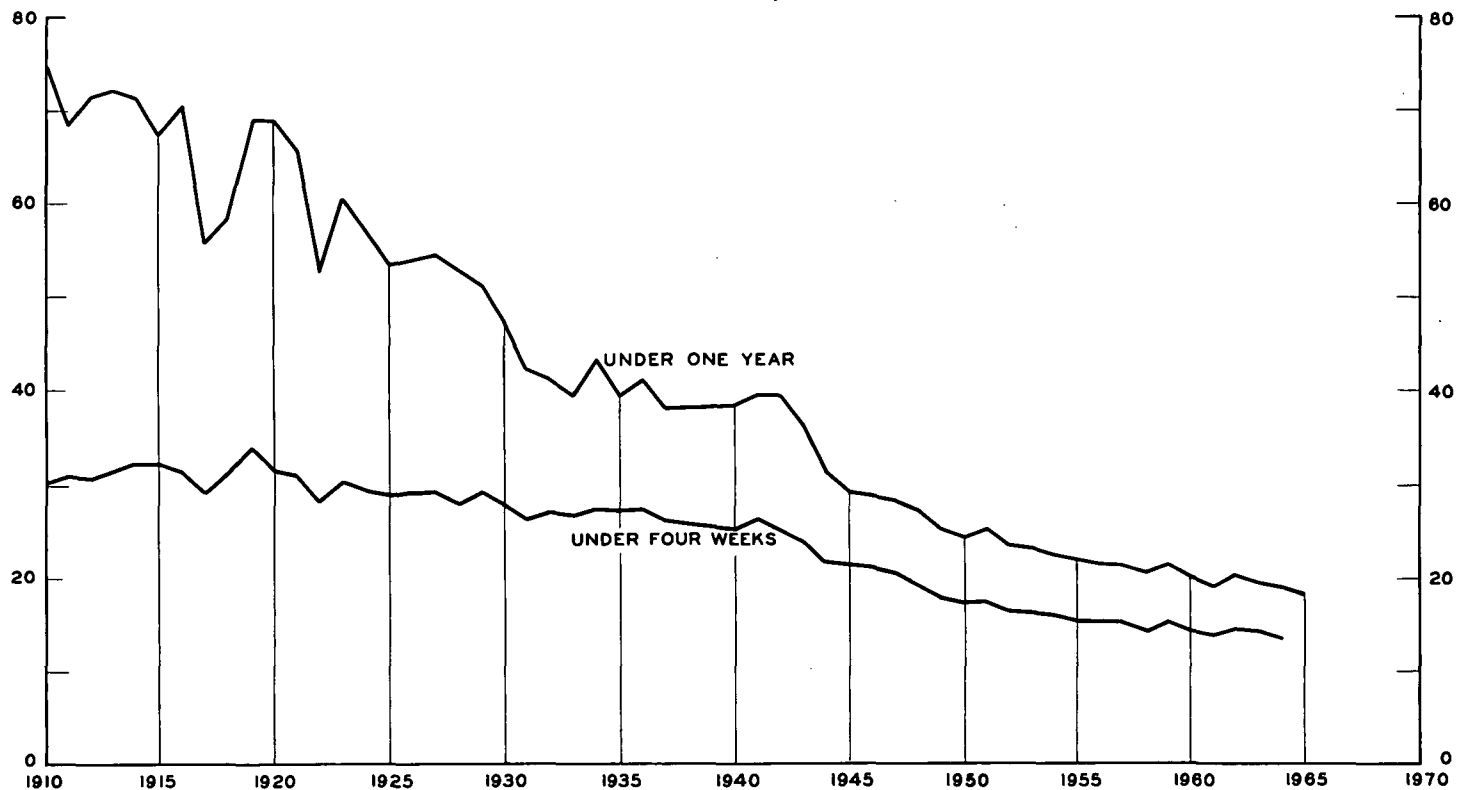
NOTE: THE VERTICAL SCALE IS LOGARITHMIC, AND THE CURVES RISE AND FALL ACCORDING TO THE RATE OF INCREASE OR DECREASE; ACTUAL NUMBERS ARE INDICATED BY THE SCALE.



# INFANT MORTALITY RATES: AUSTRALIA, 1910 TO 1965

(INFANT DEATHS PER 1,000 LIVE BIRTHS)

PLATE 25



## Causes of death—children under one year

Causes of death of children under one year of age should be considered in relation to age at death, because the emphasis on various causes changes rapidly as age at death varies. A summary for 1964 of deaths of children under one year of age, classified according to principal causes of death and age at death, is given in the following table.

DEATHS OF CHILDREN UNDER ONE YEAR OF AGE, BY CAUSE OF DEATH  
AUSTRALIA, 1964

International Classification of Diseases number	Cause of death	Age at death										Total under one year		
		Days		Total under one week	Weeks			Months						
		Under 1	1-6		1	2	3	1-2 (a)	3-5	6-8	9-11			
	Causes mainly of pre-natal and natal origin—													
750-759	Congenital malformations . . . . .	182	198	380	51	53	33	141	114	47	30			849
760, 761	Birth injury . . . . .	333	229	562	20	1	..	..	..	..	..	..	..	583
762	Post-natal asphyxia and atelectasis . . . . .	336	195	531	7	4	..	6	1	..	..	..	..	549
769	Attributed to maternal toxæmia . . . . .	43	36	79	2	..	1	..	..	..	..	..	1	83
770	Erythroblastosis . . . . .	71	22	93	1	..	..	..	..	..	..	..	..	94
771	Haemorrhagic disease of the newborn . . . . .	12	33	45	1	1	..	2	1	..	..	..	..	50
773	Ill-defined diseases of early infancy . . . . .	119	105	224	6	2	2	7	5	3	1	..	..	250
774-776	Immaturity alone, or primary to diseases other than of early infancy . . . . .	493	256	749	22	5	1	4	1	..	..	..	..	782
	<i>Total</i> . . . . .	1,589	1,074	2,663	110	66	37	160	122	50	52	..	..	3,240
	Causes mainly of post-natal origin—													
571, 764	Gastro-enteritis (including diarrhoea of newborn) . . . . .	..	1	1	3	3	2	15	22	19	17	..	..	82
(b)	Pneumonia and bronchitis . . . . .	18	45	63	17	15	6	119	122	71	39	..	..	452
(c)	Septicæmia, skin and subcutaneous tissue infections, sepsis of newborn . . . . .	3	11	14	6	2	..	4	7	1	1	..	..	35
057, 340	Meningococcal infections and non-meningococcal meningitis . . . . .	..	2	2	8	1	1	7	9	8	10	..	..	46
(d)	Causes classified as infective or mainly infective in origin not specified above . . . . .	..	2	2	..	1	1	14	19	15	10	..	..	62
E921-E925	Accidental mechanical suffocation from vomit, food, foreign body or in cot . . . . .	..	3	3	..	2	3	50	37	11	9	..	..	115
E926, E980-E985	Lack of care, neglect, infanticide . . . . .	5	..	5	..	..	..	1	1	1	1	..	..	9
(e)	Other accidents, poisonings and violence . . . . .	1	1	2	..	2	..	5	11	11	15	..	..	46
	<i>Total</i> . . . . .	27	65	92	34	26	13	215	228	137	102	..	..	847
140-239	Neoplasms . . . . .	2	1	3	..	..	..	7	2	2	8	..	..	22
Residual	Other causes remaining . . . . .	41	30	71	5	2	4	50	64	33	29	..	..	258
	<i>All causes</i> . . . . .	1,659	1,170	2,829	149	94	54	432	416	222	171	..	..	4,367

(a) Age four weeks and under three months. (b) 490-493, 500-502, 763. (c) 053,690-698, 765-768. (d) 001-052, 054-056, 058-138, 391-393, 470-483, 518, 519. (e) E800-E920, E927-E979, E990-E999.

The following table summarizes the detail contained in the previous table, and, in addition, shows the proportions of deaths from the various causes in each of the periods—under one week, one week and under one month, one month and under one year, and total under one year.

**DEATHS OF CHILDREN UNDER ONE YEAR OF AGE, BY CAUSE OF DEATH  
NUMBERS AND PROPORTIONS, AUSTRALIA, 1964**

Inter- national Classi- fication of Diseases number	Cause of death	Age at death						Total under one year	
		Under one week		One week and under one month		One month and under one year			
		Num- ber	Per cent	Num- ber	Per cent	Num- ber	Per cent	Num- ber	Per cent
	Causes mainly of pre-natal and natal origin—								
750-759	Congenital malformations . . . . .	380	13.4	137	46.1	332	26.7	849	19.4
760, 761	Birth injury . . . . .	562	19.8	21	7.1	..	..	583	13.4
762	Post-natal asphyxia and atelec- tasis . . . . .	531	18.8	11	3.7	7	0.6	549	12.6
769	Attributed to maternal toxæmia . . . . .	79	2.8	3	1.0	1	0.1	83	1.9
770	Erythroblastosis . . . . .	93	3.3	1	0.3	..	..	94	2.2
771	Haemorrhagic disease of the newborn . . . . .	45	1.6	2	0.7	3	0.2	50	1.1
773	Ill-defined diseases of early in- fancy . . . . .	224	7.9	10	3.4	16	1.3	250	5.7
774-776	Immaturity alone, or primary to diseases other than of early infancy . . . . .	749	26.5	28	9.4	5	0.4	782	17.9
	<i>Total</i> . . . . .	2,663	94.1	213	71.7	364	29.3	3,240	74.2
	Causes mainly of post-natal origin—								
571, 764	Gastro-enteritis (including diarrhoea of newborn) . . . . .	1	(b)	8	2.7	73	5.9	82	1.9
(a)	Pneumonia and bronchitis . . . . .	63	2.3	38	12.8	351	28.3	452	10.3
	Other . . . . .	28	1.0	27	9.1	258	20.8	313	7.2
	<i>Total</i> . . . . .	92	3.3	73	24.6	682	55.0	847	19.4
140-239, residual	Neoplasms and other causes remaining . . . . .	74	2.6	11	3.7	195	15.7	280	6.4
	<b>All causes</b> . . . . .	<b>2,829</b>	<b>100.0</b>	<b>297</b>	<b>100.0</b>	<b>1,241</b>	<b>100.0</b>	<b>4,367</b>	<b>100.0</b>

(a) 490-493, 500-502, 763.

(b) Rate less than 0.05.

**Causes of death**

The classification of causes of death adopted for Australia by the Commonwealth Bureau of Census and Statistics at the inception of its mortality statistics in 1907 was that introduced by the International Institute of Statistics in 1893, reviewed by that Institute in 1899, and revised by an International Commission in 1900. This classification became known as the International List of Causes of Death, and further international revisions in 1909 (Second), 1920 (Third), 1929 (Fourth), 1938 (Fifth), 1948 (Sixth), and 1955 (Seventh), were successively adapted for use in Australian statistics.

The Sixth Revision of the International Statistical Classification of Diseases, Injuries and Causes of Death was used in Australia for deaths registered in 1950 to 1957. The Seventh Revision has been used for deaths registered in 1958 and subsequent years. The Sixth Revision, for the first time in connection with the International Classification, laid down rules for a uniform method of selecting the main cause to be tabulated if more than one cause is stated on the death certificate. These rules were maintained in the Seventh Revision, which was concerned mainly with certain essential changes and amendment of errors and inconsistencies in the previous classification. Prior to 1950 the rules adopted in Australia for the selection of the cause of death to be tabulated were those laid down in the United States Manual of Joint Causes of Death, first published in 1914 and revised to conform to successive revisions of the International List.

The adoption of the new method introduced with the Sixth Revision and maintained in the Seventh marked a fundamental change in Australian cause of death statistics, emphasis now being placed on the underlying cause of death as indicated by the certifying practitioner. This change in principle affects the comparability of the statistics for 1950 and subsequent years with those for earlier years. A complete detailed classification of causes of death for Australia for 1950 according to both the Fifth and Sixth Revisions was shown in *Demography*, Bulletin No. 68, 1950.

In order to facilitate the concise presentation of cause of death statistics, the present International Classification provides two special lists of causes for tabulation—the Intermediate List of 150 causes and the Abbreviated List of 50 causes. The latter has been used as the base of the cause of death tabulations for 1964 which follow. Some categories have been sub-divided to show additional particulars of interest in Australian statistics. Tables A and B show deaths of males and females, respectively, in age groups, and Table C shows the total numbers of males and females who died, the death rates per million of mean population, and the percentage of total deaths.

**A. DEATHS OF MALES, BY CAUSE OF DEATH AND AGE GROUP: AUSTRALIA, 1964**  
 ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE INTERNATIONAL LIST)

Cause of death(a)	Detailed list numbers	Age groups (years)									Total	
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 and over		
B 1 Tuberculosis of respiratory system . . . . .	001-008	..	..	..	1	1	15	36	72	d	182	307
B 2 Tuberculosis, other forms . . . . .	010-019	..	1	..	..	1	2	3	5	..	13	13
B 3 Syphilis and its sequelae . . . . .	020-029	..	..	..	..	..	2	3	16	33	54	54
B 6 Dysentery, all forms . . . . .	045-048	2	1	..	..	..	..	1	2	1	7	7
B 8 Diphtheria . . . . .	055	..	1	..	..	..	..	..	..	..	1	1
B 9 Whooping cough . . . . .	056	..	1	..	..	..	..	..	..	..	1	1
B10 Meningococcal infections . . . . .	057	9	6	..	1	..	..	2	1	..	20	20
B14 Measles . . . . .	085	1	3	3	1	..	..	..	..	..	8	8
B17 All other diseases classified as infective and parasitic . . . . .	(b)	14	12	11	7	6	10	19	18	47	144	144
Malignant neoplasms of . . . . .												
Digestive organs and peritoneum . . . . .	150-159	2	2	2	6	24	97	279	682	1,748	2,842	2,842
Lung . . . . .	162, 163	..	..	1	1	7	52	258	693	e	1,016	2,028
Breast . . . . .	170	..	..	..	..	..	..	1	2	8	11	11
Genital organs . . . . .	171-179	..	2	1	6	12	11	13	94	795	934	934
Urinary organs . . . . .	180, 181	1	1	3	..	2	10	40	115	319	491	491
Leukaemia and leukaemia . . . . .	204	4	14	42	20	13	32	35	66	156	382	382
Other malignant and lymphatic neoplasms . . . . .	(c)	5	20	50	43	64	135	269	386	d	647	1,619
B19 Benign neoplasms and neoplasms of unspecified nature . . . . .	210-239	2	..	3	3	3	14	17	13	25	80	80
B20 Diabetes mellitus . . . . .	260	..	1	..	2	4	23	44	131	383	587	587
B21 Anaemias . . . . .	290-293	1	2	..	1	1	2	9	17	85	118	118
B22 Vascular lesions affecting central nervous system . . . . .	330-334	3	2	5	17	30	118	336	881	4,120	5,512	5,512
B23 Non-meningococcal meningitis . . . . .	340	24	6	2	3	1	6	3	3	11	59	59
B24 Rheumatic fever . . . . .	400-402	..	..	2	3	1	4	1	..	..	11	11
B25 Chronic rheumatic heart disease . . . . .	410-416	..	..	..	18	22	31	63	87	119	340	340
B26 Arteriosclerotic heart disease . . . . .	420	..	..	..	6	53	531	1,942	4,147	f	10,190	16,869
Degenerative heart disease . . . . .	421, 422	3	1	2	5	11	48	149	271	1,848	2,338	2,338
B27 Other diseases of heart . . . . .	430-434	8	5	5	8	14	36	67	200	d	1,320	1,663
B28 Hypertension with heart disease . . . . .	440-443	..	..	..	..	..	9	43	118	441	611	611
B29 Hypertension without mention of heart . . . . .	444-447	..	..	..	1	3	29	56	66	254	409	409
B30 Influenza . . . . .	480-483	6	7	4	4	2	6	6	13	109	157	157
B31 Pneumonia . . . . .	490-493	175	70	17	15	19	53	93	220	1,388	2,050	2,050
B32 Bronchitis . . . . .	500-502	14	13	3	3	2	15	86	361	1,398	1,895	1,895
B33 Ulcer of stomach and duodenum . . . . .	540, 541	..	1	..	1	8	22	52	121	274	479	479
B34 Appendicitis . . . . .	550-553	..	3	5	6	1	3	2	3	16	39	39
B35 Intestinal obstruction and hernia . . . . .	560, 561, 570	35	4	2	3	2	6	14	32	d	169	267

For footnotes see following page.

**A. DEATHS OF MALES, BY CAUSE OF DEATH AND AGE GROUP  
AUSTRALIA, 1964—continued**

**ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE  
INTERNATIONAL LIST)—continued**

Cause of death(a)	Detailed list numbers	Age groups (years)									Total
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 and over	
B36 Gastritis, duodenitis, enteritis, and colitis except diarrhoea of the newborn	543, 571, 572	43	25	4	3	3	10	12	34	92	226
B37 Cirrhosis of liver	581	1	..	2	..	5	41	87	113	110	359
B38 Nephritis and nephrosis	590-594	1	3	5	16	24	38	81	103	(e) 252	523
B39 Hyperplasia of prostate	610	..	..	..	..	..	..	1	16	353	370
B41 Congenital malformations	750-759	464	52	44	28	15	17	19	12	16	667
B42 Birth injuries, postnatal asphyxia and atelectasis	760-762	662	..	..	..	..	..	..	..	..	662
B43 Infections of the newborn	763-768	78	..	..	..	..	..	..	..	..	78
B44 Other diseases peculiar to early infancy, and immaturity unqualified	769-776	732	1	..	..	..	..	..	..	..	733
B45 Senility without mention of psychosis, ill-defined and unknown causes	780-795	9	3	2	1	1	7	14	20	(g) 191	248
General arteriosclerosis	450	..	..	..	..	..	1	11	52	1,065	1,129
Other diseases of circulatory system	451-468	..	..	1	3	8	24	62	151	470	719
B46 Other diseases of respiratory system	470-475	36	15	6	5	10	16	44	126	(d) 438	696
Residual	510-527	62	59	68	70	62	173	260	377	1,080	2,211
All other diseases	E800-E802, E840-E962	5	50	134	622	320	282	282	221	292	2,208
BE47 Motor vehicle accidents	E810-E835	102	113	149	230	199	268	249	203	(d) 377	1,890
BE48 All other accidents	E840-E962	..	..	2	94	176	238	232	173	156	1,071
BE49 Suicide and self-inflicted injury	E963, E970-E979	..	..	..	..	..	..	..	..	..	..
BE50 Homicide and operations of war	E964, E965, E980-E999	4	10	7	13	24	17	13	7	15	110
<b>All causes</b>	..	<b>2,508</b>	<b>509</b>	<b>587</b>	<b>1,270</b>	<b>1,154</b>	<b>2,453</b>	<b>5,308</b>	<b>10,442</b>	<b>32,015</b> (h)	<b>56,246</b>

(a) No male deaths were recorded in the following categories in 1964: B4, Typhoid fever (040); B5, Cholera (043); B7, Scarlet fever and streptococcal sore throat (050, 051); B11, Plague (058); B12, Acute poliomyelitis (080); B13, Smallpox (084); B15, Typhus and other rickettsial diseases (100-108); B16, Malaria (110-117). (b) 030-039, 041, 044, 049, 052-054, 059-074, 081-083, 086-093, 120-138. (c) All causes, 140-205 not shown above. (d) Includes 1, age 'not stated'. (e) Includes 2, age 'not stated'. (f) Includes 6, age 'not stated'. (g) Includes 3, age 'not stated'. (h) Includes 19, age 'not stated'.

**B. DEATHS OF FEMALES, BY CAUSE OF DEATH AND AGE GROUP: AUSTRALIA, 1964**

**ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE  
INTERNATIONAL LIST)**

Cause of death(a)	Detailed list numbers	Age groups (years)									Total
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 and over	
B 1 Tuberculosis of respiratory system	001-008	..	..	..	1	3	12	19	14	32	81
B 2 Tuberculosis, other forms	010-019	..	..	1	..	..	3	1	3	4	12
B 3 Syphilis and its sequelae	020-029	..	..	..	1	..	..	1	4	12	18
B 6 Dysentery, all forms	045-048	2	1	..	..	..	..	..	..	2	5
B 9 Whooping Cough	056	3	..	..	..	..	..	..	..	3	3
B10 Meningococcal infections	057	1	6	..	..	..	..	1	1	..	9
B14 Measles	085	1	5	..	..	..	..	..	..	..	6
B17 All other diseases classified as infective and parasitic	(b)	12	11	4	7	8	11	25	14	40	132

For footnotes see following page.

B. DEATHS OF FEMALES, BY CAUSE OF DEATH AND AGE GROUP  
AUSTRALIA, 1964—continued

ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE  
INTERNATIONAL LIST)—continued

Cause of death(a)	Detailed list numbers	Age groups (years)										Total
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 and over		
B18	Malignant neoplasms of Digestive organs and peritoneum ..	150-159	1	..	2	2	22	84	209	403	d 1,763	2,486
	Lung ..	162, 163	..	..	..	2	9	63	68	155	297	
	Breast ..	170	..	..	..	20	129	254	298	652	1,353	
	Genital organs ..	171-179	..	..	1	6	20	93	195	264	455	1,034
	Urinary organs ..	180, 181	..	4	1	2	1	9	20	50	167	254
	Leukaemia and aleuk- aemia ..	204	2	17	40	16	11	21	28	42	115	292
	Other malignant and lymphatic neoplasms ..	(c)	3	21	22	39	41	79	156	215	567	1,143
B19	Benign neoplasms and neo- plasms of unspecified nature ..	210-239	2	2	3	1	9	20	20	12	41	110
B20	Diabetes mellitus ..	260	..	..	1	4	1	8	29	136	709	888
B21	Anaemias ..	290-293	1	6	6	1	2	1	9	12	123	161
B22	Vascular lesions affecting central nervous system ..	330-334	..	2	8	14	30	143	388	762	d 6,263	7,610
B23	Non-meningococcal men- ingitis ..	340	12	4	..	1	2	3	2	7	4	35
B24	Rheumatic fever ..	400-402	..	..	5	4	2	1	..	..	..	12
B25	Chronic rheumatic heart disease ..	410-416	..	..	..	4	12	37	69	96	215	433
B26	Arteriosclerotic heart disease ..	420	..	..	1	3	7	104	424	1,393	e 8,129	10,061
	Degenerative heart dis- ease ..	421, 422	1	4	2	7	13	24	51	156	2,347	2,605
B27	Other diseases of heart ..	430-434	6	4	3	3	7	16	42	101	1,469	1,651
B28	Hypertension with heart disease ..	440-443	..	..	..	..	2	13	40	72	(d) 755	882
B29	Hypertension without men- tion of heart ..	444-447	..	..	..	2	6	24	39	33	294	398
B30	Influenza ..	480-483	3	..	4	1	3	9	2	11	112	145
B31	Pneumonia ..	490-493	155	47	23	10	14	35	57	84	1,247	1,672
B32	Bronchitis ..	500-502	7	9	3	4	3	10	21	38	247	342
B33	Ulcer of stomach and duo- denum ..	540, 541	..	..	1	1	6	11	15	14	124	172
B34	Appendicitis ..	550-553	1	3	2	4	2	1	3	5	25	46
B35	Intestinal obstruction and hernia ..	560, 561, 570	28	..	1	3	2	6	8	27	186	261
B36	Gastritis, duodenitis, enter- itis and colitis, except diarrhoea of the newborn ..	543, 571, 572	32	27	3	1	3	4	11	20	133	234
B37	Cirrhosis of liver ..	581	1	..	2	2	3	19	51	43	66	187
B38	Nephritis and nephrosis ..	590-594	1	1	5	8	14	51	53	63	162	358
B40	Complications of pregn- ancy, childbirth and the puerperium ..	{ 640-652, 670-689 }	..	..	..	12	29	34	..	..	..	75
B41	Congenital malformations ..	750-759	385	48	27	17	5	14	15	14	20	545
B42	Birth injuries, post-natal asphyxia and atelectasis ..	760-762	470	1	..	..	..	..	..	..	..	471
B43	Infections of the newborn ..	763-768	55	..	..	..	..	..	..	..	..	55
B44	Other diseases peculiar to early infancy and immat- urity unqualified ..	769-776	538	..	..	..	..	..	..	..	..	538
B45	Senility without mention of psychosis, ill-defined and unknown causes ..	780-795	5	1	2	3	4	4	14	6	331	370
B46	General arteriosclerosis ..	450	..	..	..	..	..	1	7	30	d 1,315	1,353
	Other diseases of circula- tory system ..	451-468	..	..	..	8	12	15	31	51	297	414
	Other diseases of respira- tory system ..	{ 470-475, 510-527 }	21	13	5	3	5	7	17	23	177	271
	All other diseases ..	Residual	51	37	57	58	72	156	295	355	1,297	2,378
BE47	Motor vehicle accidents ..	E810-E835	7	40	81	165	58	60	83	71	188	753
BE48	All other accidents ..	E800-E802, E840-E962	52	90	43	31	27	57	81	70	(d) 669	1,120
BE49	Suicide and self-inflicted injury ..	E963, E970- E979	..	..	4	43	68	121	143	84	(d) 86	549
BE50	Homicide and opera- tions of war ..	E964, E965, E980-E999	..	10	11	9	11	14	8	1	4	68
	All causes ..	..	1,859	414	374	501	562	1,473	3,000	5,166	f 30,999	44,348

(a) No female deaths were recorded in the following categories in 1964: B4, Typhoid fever (040); B5, Cholera (043); B7, Scarlet fever and streptococcal sore throat (050, 051); B8, Diphtheria (055); B11, Plague (058); B12, Acute poliomyelitis (080); B13, Smallpox (084); B15, Typhus and other rickettsial diseases (100-108); B16, Malaria (110-117). (b) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138. (c) All causes, 140-205, not shown above. (d) Includes 1, age 'not stated'. (e) Includes 2, age 'not stated'. (f) Includes 8, age 'not stated'.

**C. DEATHS, BY CAUSE OF DEATH AND SEX  
NUMBERS AND RATES, AUSTRALIA, 1964**

ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE  
INTERNATIONAL LIST)

Cause of death	Detailed list numbers	Number of deaths			Rate per 1,000,000 of mean population	Percentage of total deaths	
		Males	Females	Persons			
B 1 Tuberculosis of respiratory system	001-008	307	81	388	35	0.39	
B 2 Tuberculosis, other forms	010-019	13	12	25	2	0.02	
B 3 Syphilis and its sequelae	020-029	54	18	72	6	0.07	
B 4 Typhoid fever	040	..	..	..	..	..	
B 5 Cholera	043	..	..	..	..	..	
B 6 Dysentery, all forms	045-048	7	5	12	1	0.01	
B 7 Scarlet fever and streptococcal sore throat	050, 051	..	..	..	..	..	
B 8 Diphtheria	055	1	..	1	(a)	0.00	
B 9 Whooping cough	056	1	3	4	(a)	0.00	
B10 Meningococcal infections	057	20	9	29	3	0.03	
B11 Plague	058	..	..	..	..	..	
B12 Acute poliomyelitis	080	..	..	..	..	..	
B13 Smallpox	084	..	..	..	..	..	
B14 Measles	085	8	6	14	1	0.01	
B15 Typhus and other rickettsial diseases	100-108	..	..	..	..	..	
B16 Malaria	110-117	..	..	..	..	..	
B17 All other diseases classified as infective and parasitic	(b)	144	132	276	25	0.28	
B18 Malignant neoplasms of—	Digestive organs and peritoneum	150-159	2,842	2,486	5,328	478	5.30
	Lung	162, 163	2,028	297	2,325	209	2.31
	Breast	170	11	1,353	1,364	123	1.36
	Genital organs	171-179	934	1,034	1,968	177	1.96
	Urinary organs	180, 181	491	254	745	67	0.74
	Leukaemia and aleukaemia	204	382	292	674	61	0.67
B19 Other malignant and lymphatic neoplasms	(c)	1,619	1,143	2,762	248	2.75	
B20 Benign and unspecified neoplasms	210-239	80	110	190	17	0.19	
B21 Diabetes mellitus	260	587	888	1,475	132	1.47	
B22 Anaemias	290-293	118	161	279	25	0.28	
B22 Vascular lesions affecting central nervous system	330-334	5,512	7,610	13,122	1,178	13.04	
B23 Non-meningococcal meningitis	340	59	35	94	8	0.09	
B24 Rheumatic fever	400-402	11	12	23	2	0.02	
B25 Chronic rheumatic heart disease	410-416	340	433	773	69	0.77	
B26 Arteriosclerotic heart disease	420	16,869	10,061	26,930	2,418	26.77	
B27 Degenerative heart disease	421, 422	2,338	2,605	4,943	444	4.91	
B27 Other diseases of heart	430-434	1,663	1,651	3,314	298	3.29	
B28 Hypertension with heart disease	440-443	611	882	1,493	134	1.48	
B29 Hypertension without mention of heart	444-447	409	398	807	72	0.80	
B30 Influenza	480-483	157	145	302	27	0.30	
B31 Pneumonia	490-493	2,050	1,672	3,722	334	3.70	
B32 Bronchitis	500-502	1,895	342	2,237	201	2.22	
B33 Ulcer of stomach and duodenum	540, 541	479	172	651	58	0.65	
B34 Appendicitis	550-553	39	46	85	8	0.08	
B35 Intestinal obstruction and hernia	560, 561, 570	267	261	528	47	0.53	
B36 Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the newborn	543, 571, 572	226	234	460	41	0.46	
B37 Cirrhosis of liver	581	359	187	546	49	0.54	
B38 Nephritis and nephrosis	590-594	523	358	881	79	0.88	
B39 Hyperplasia of prostate	610	370	..	370	33	0.37	
B40 Complications of pregnancy, child-birth and the puerperium	{ 640-652 670-689 }	..	75	75	7	0.07	
B41 Congenital malformations	750-759	667	545	1,212	109	1.21	
B42 Birth injuries, post-natal asphyxia and atelectasis	760-762	662	471	1,133	102	1.13	
B43 Infections of the newborn	763-768	78	55	133	12	0.13	
B44 Other diseases peculiar to early infancy, and immaturity unqualified	769-776	733	538	1,271	114	1.26	
B45 Senility without mention of psychosis, ill-defined and unknown causes	780-795	248	370	618	56	0.62	
B46 General arteriosclerosis	450	1,129	1,353	2,482	223	2.47	
	Other diseases of circulatory system	451-468	719	414	1,133	102	1.13
B46 Other diseases of respiratory system	470-475	696	271	967	87	0.96	
	510-527	..	..	..	..	..	
All other diseases	Residual	2,211	2,378	4,589	412	4.56	
	E810-E835	2,208	753	2,961	266	2.94	
BE47 Motor vehicle accidents	E800-E802	1,890	1,120	3,010	270	2.99	
BE48 All other accidents	E840-E962	..	..	..	..	..	
BE49 Suicide and self-inflicted injury	E963	1,071	549	1,620	146	1.61	
	E970-E979	..	..	..	..	..	
BE50 Homicide and operations of war	E964, E965 E980-E999	110	68	178	16	0.18	
All causes	..	56,246	44,348	100,594	9,032	100.00	

(a) Less than 0.5. (b) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138.  
(c) 140-148, 160, 161, 164, 165, 190-203, 205.

## Deaths from principal causes

In the preceding tables, particulars have been given for each of the causes of death comprising the Abbreviated Classification according to the Seventh Revision of the International List. Certain important causes are treated in detail hereunder. The Abbreviated Classification numbers used in tables A to C (pages 259-62) are indicated in parentheses for each cause or group of causes.

*All forms of tuberculosis (B1, B2).* In comparing any of the figures for 1950 and subsequent years with those for 1949 and earlier years, consideration should be given to the effect of the change in basis from the Fifth to the Sixth Revision of the International List. This was discussed in Year Book No. 39, page 626. The following table shows the age groups of males and females who were classified as dying from tuberculosis in 1964, together with figures for 1931, 1941, 1951 and 1961.

**DEATHS FROM TUBERCULOSIS (ALL FORMS), BY AGE GROUP AND SEX  
AUSTRALIA, 1931 TO 1964**

Age group (years)	Males					Females				
	1931	1941	1951	1961	1964	1931	1941	1951	1961	1964
0-14 . . . . .	90	63	23	5	1	81	54	35	1	1
15-29 . . . . .	294	162	46	2	2	487	275	68	..	3.
30-44 . . . . .	585	428	135	25	17	422	319	142	20	16
45-64 . . . . .	674	793	570	128	113	252	251	126	41	37
65 and over . . . . .	193	279	306	175	186	89	110	86	50	36
Not stated . . . . .	..	..	..	..	1	..	..	1	..	..
<b>Total . . . . .</b>	<b>1,836</b>	<b>1,725</b>	<b>1,080</b>	<b>335</b>	<b>320</b>	<b>1,331</b>	<b>1,009</b>	<b>458</b>	<b>112</b>	<b>93</b>

The reduction in mortality from tuberculosis is shown by the decline in the crude death rate from tubercular diseases, which fell from 49 per 100,000 of mean population in 1931 to 18 in 1951, and to 4 in 1964. The reductions in the younger age groups are much greater, as can be seen from the table above. In making these comparisons, consideration of the effect of the change in basis from the Fifth to the Sixth Revision of the International List (*see above*) is particularly important.

Of the more populous countries, those with lowest death rates from tuberculosis per 100,000 of population are: Netherlands, 2.1; New Zealand, 3.7; Denmark, 3.9; Australia, 4.0; Canada, 4.0; Israel (Jewish population), 4.1; and United States of America, 4.9. Rates for selected countries in each continent are:

Africa—South Africa (white population), 7.1; United Arab Republic, 21.6.

North America—Dominican Republic, 15.6; Mexico, 26.1; Guatemala, 31.4.

South America—Argentina, 19.9; Peru, 50.2; Brazil, 82.3.

Asia—Japan, 24.3; India, 82.6; Philippines, 79.7.

Europe—England and Wales, 6.3; Scotland, 9.4; Italy, 15.7; France, 18.3; Poland, 41.1.

*Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues (B18.)* Deaths classified under this heading according to the Sixth and Seventh Revisions of the International List (used in Australia for deaths registered since 1950) are not directly comparable in total with those on the Fifth Revision basis (*see Year Book No. 39, p. 628*).

Tables showing the seat of disease in conjunction with age and conjugal condition of the persons dying from malignant neoplasms in 1964 are included in *Causes of Death*, Bulletin No. 2. A summary regarding seat of disease for 1964 is given below.



## DEATHS FROM MALIGNANT NEOPLASMS AND NEOPLASMS OF LYMPHATIC AND HAEMATOPOIETIC TISSUES, BY SEAT OF DISEASE AND SEX: AUSTRALIA, 1964

Seat of disease	Males	Females	Persons
<b>Malignant neoplasms—</b>			
Buccal cavity and pharynx . . . . .	180	99	279
<b>Digestive organs and peritoneum—</b>			
Oesophagus . . . . .	206	110	316
Stomach . . . . .	949	630	1,579
Small intestine . . . . .	20	25	45
Large intestine . . . . .	697	937	1,634
Other . . . . .	970	784	1,754
Respiratory system . . . . .	2,174	334	2,508
Breast . . . . .	11	1,353	1,364
Uterus . . . . .	..	560	560
Other female genital organs . . . . .	..	474	474
Male genital organs . . . . .	934	..	934
Urinary organs . . . . .	491	254	745
Skin . . . . .	246	147	393
Other and unspecified organs . . . . .	618	550	1,168
<i>Total, malignant neoplasms . . . . .</i>	<i>7,496</i>	<i>6,257</i>	<i>13,753</i>
<b>Neoplasms of lymphatic and haematopoietic tissues—</b>			
Lymphosarcoma and reticulosarcoma . . . . .	216	170	386
Hodgkin's disease . . . . .	96	42	138
Other forms of lymphoma (reticulosis) . . . . .	30	31	61
Multiple myeloma (plasmocytoma) . . . . .	81	67	148
Leukaemia and aleukaemia . . . . .	382	292	674
Mycosis fungoides . . . . .	6	..	6
<i>Total, neoplasms of lymphatic and haematopoietic tissues . . . . .</i>	<i>811</i>	<i>602</i>	<i>1,413</i>
<b>Grand total . . . . .</b>	<b>8,307</b>	<b>6,859</b>	<b>15,166</b>

The ages of males and females who died from malignant neoplasms in 1964 are given below, together with figures for 1931, 1941, 1951 and 1961. The increase in the number of deaths from malignant neoplasms in the years since 1931 is due principally to the increase in the number of people in the higher age groups, at which ages the risks of cancer are much greater. While the total population increased by about 72 per cent between 1931 and 1964, the number of people aged 55 years and over increased by about 113 per cent. The increase in the number of deaths in the lower age groups from 1951 is due partly to the inclusion of neoplasms of lymphatic and haematopoietic tissues, and it is probable also that part of the increased number of deaths from cancer recorded in recent years has been due to improved diagnosis and certification on the part of the medical profession.

DEATHS FROM MALIGNANT NEOPLASMS<sup>(a)</sup>, BY AGE GROUP AND SEX  
AUSTRALIA, 1931 TO 1964

Age group (years)	Males					Females				
	1931	1941	1951 (a)	1961 (a)	1964 (a)	1931	1941	1951 (a)	1961 (a)	1964 (a)
Under 15 . . . . .	25	21	91	130	150	23	25	71	114	114
15-29 . . . . .	43	49	103	109	122	38	45	76	84	112
30-44 . . . . .	196	176	275	380	413	326	344	387	481	494
45-54 . . . . .	410	465	584	823	895	548	685	692	847	925
55-64 . . . . .	868	983	1,334	1,699	2,038	744	926	1,180	1,207	1,340
65 and over . . . . .	1,942	2,561	3,128	4,239	4,686	1,426	2,198	2,698	3,575	3,873
Not stated . . . . .	..	..	..	..	3	..	..	..	1	1
<b>Total . . . . .</b>	<b>3,484</b>	<b>4,255</b>	<b>5,515</b>	<b>7,380</b>	<b>8,307</b>	<b>3,105</b>	<b>4,223</b>	<b>5,104</b>	<b>6,309</b>	<b>6,859</b>

(a) Includes neoplasms of lymphatic and haematopoietic tissues.

The death rates from malignant neoplasms have continued to rise over recent years. The rates are crude death rates representing the number of deaths from malignant neoplasms per 100,000 of mean population and do not take account of changes in the age constitution of the population, and to a substantial extent they reflect the increasing age of the population rather than the true change in mortality from malignant neoplasms (see previous paragraph). In 1931 the rate for Australia was 101 (males, 105; females, 97); in 1941 it was 119 (males, 119; females, 120); and in 1951 it had risen to 126 (males, 130; females, 122). Figures for 1961 gave a rate of 130 (males, 139; females, 121), and for 1964 a rate of 136 (males, 148; females, 124).

Death rates from malignant neoplasms per 100,000 of mean population for Australia and for various other countries are as follows: Brazil, 94; Poland, 104; Japan, 106; Israel (Jewish population), 108; South Africa (white population), 111; Canada, 132; Australia, 136; United States of America, 151; Italy, 155; Netherlands, 178; France, 203; England and Wales, 217; Scotland, 224. The rates are for the latest available year in each case.

*Diseases of the heart (B25 to B28).* The number of deaths classified to diseases of the heart in 1964 was 37,453 (21,821 males and 15,632 females). This class is the largest among causes of death, the rate having increased from 112 per 100,000 of mean population in 1911-15 to 336 in 1964. The increase in the number of deaths recorded from heart diseases has been particularly pronounced during the past twenty years. The rapid increase in mortality is partly a reflection of the ageing of the population, but the figures have been influenced mainly by improved diagnosis and certification by medical practitioners.

The death rates from heart diseases for various years from 1931 were as follows:—1931, 159 (males, 178; females, 142); 1941, 269 (males, 306; females, 231); 1951, 314 (males, 367; females, 259); 1961, 304 (males, 356; females, 250); and 1964, 336 (males, 389; females, 283). Deaths from heart diseases in 1964 represented 37 per cent of the total deaths.

*Puerperal causes (B40).* It was shown in Year Book No. 39, page 634, that the changes introduced with the Sixth Revision of the International List did not significantly affect the comparability of the total number of deaths from puerperal causes. The Seventh Revision, introduced in 1958, did not affect comparability. The death rate from these causes has fallen rapidly during recent years and in 1964 the rate was 0.3 per 1,000 live births, compared with a rate of 6 per 1,000 in 1936. The 75 deaths in 1964 correspond to a death rate of 1.36 per 100,000 females. The death rate may be expressed in other terms by stating that for every 3,055 babies born alive in 1964 one woman died from puerperal causes. The death rate per 1,000 live births from puerperal causes in various countries for the latest available year is as follows: Sweden, 0.1; Denmark and Norway, 0.2; Netherlands, United Kingdom, and Australia, 0.3; New Zealand, United States, Canada and France, 0.4; Finland, 0.5; Switzerland, 0.6; Italy and Japan, 1.0; and Venezuela, 1.1.

*Causes of infant mortality.* See paragraphs devoted to causes of infant deaths on pages 257-8.

*Accidents, poisonings and violence (BE47 to BE50).* Deaths in this class are classified according to external cause and not according to nature of injury. The classification provides sub-groups for accidents, including adverse reactions to prophylactic inoculations, therapeutic misadventures and late effects of accidental injury; suicide; homicide and injuries purposely inflicted by other persons; and injury resulting from operations of war, including delayed effects.

The following table, showing the death rates in the main sub-groups per 100,000 of mean population, indicates that the death rate from violence is between two and three times as great for males as for females. The low level of the rates and proportions for the years 1941-45 is due largely to the exclusion of deaths of defence personnel from accidents, suicide and homicide though the rates have been based on total mean population (including defence personnel). A further contributing factor is the decrease during this period in the number of automobile accidents. From July 1947 deaths of defence personnel from accidents, etc. have again been included.

**ACCIDENTS, POISONINGS AND VIOLENCE: DEATH RATES(a), BY SEX  
AUSTRALIA, 1936 TO 1964**

Period	Death rate from—												All violence, proportion per 10,000 deaths		
	Accidents(b)			Suicide			Homicide(c)			Total violence					
	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.
1936-40 . . .	86	28	58	17	5	11	2	1	1	105	34	70	979	399	724
1941-45 . . .	67	26	46	11	4	8	1	1	1	79	31	55	730	348	558
1946-50 . . .	76	27	51	14	5	10	1	1	1	91	33	62	844	383	640
1951-55 . . .	82	31	57	15	5	10	2	1	1	99	37	68	964	453	740
1956-60 . . .	75	32	53	16	6	11	2	1	2	93	39	66	957	495	754
1960 . . .	72	33	52	15	6	11	2	1	2	89	40	65	934	518	751
1961 . . .	72	30	52	17	7	12	2	1	1	91	38	65	966	514	769
1962 . . .	71	33	52	19	9	14	2	1	2	92	43	68	952	559	780
1963 . . .	69	29	49	21	11	16	2	1	1	92	41	66	944	529	762
1964 . . .	73	34	53	19	10	15	2	1	2	94	45	70	939	561	772

(a) Number of deaths per 100,000 of mean population. (b) Includes 'open verdict'. (c) Includes late effects of injuries due to operations of war.

In 1964 the total number of deaths from *accidental causes* (BE47, BE48) was 5,971 (4,098 males and 1,873 females). Over half of the accidental deaths were the result of transport accidents. Of these, the numbers attributable to the major causes, and the percentages of the total accidental deaths in each case, were as follows: Motor vehicle traffic accidents, 2,894 (48.47 per cent); motor vehicle non-traffic accidents, 67 (1.12 per cent); other road vehicle accidents, 48 (0.80 per cent); railway accidents, 87 (1.46 per cent); water transport accidents, 113 (1.89 per cent); aircraft accidents, 28 (0.47 per cent); a total of 3,237 (54.21 per cent). Other important causes were accidental falls, 1,023 (17.13 per cent); accidental drowning, 409 (6.85 per cent); and accidents caused by fire and explosion of combustible material, 193 (3.23 per cent).

Deaths from *suicide* (BE49) in 1964 numbered 1,620 (males, 1,071; females, 549). Poisoning, other than by gases, was used in 683 cases (42.16 per cent of total deaths by suicide). Other important modes adopted, together with the numbers and relevant percentages, were as follows: firearms and explosives, 345 (21.30 per cent); poisoning by gases, 249 (15.37 per cent); hanging or strangulation, 172 (10.62 per cent); submersion (drowning), 70 (4.32 per cent); other and unspecified modes, 101 (6.23 per cent). Of the 1,071 males who committed suicide, 321 (29.97 per cent) used firearms or explosives. For females the most common mode was poisoning (other than by gases). This was used in 371 cases (67.58 per cent). The following table shows the age of persons who committed suicide in 1964.

**PERSONS WHO COMMITTED SUICIDE, BY AGE GROUP AND SEX  
AUSTRALIA, 1964**

Age group (years)	Males	Females	Persons	Age group (years)	Males	Females	Persons
10-14 . . .	2	4	6	60-64 . . .	83	37	120
15-19 . . .	29	14	43	65-69 . . .	59	39	98
20-24 . . .	65	29	94	70-74 . . .	43	30	73
25-29 . . .	70	32	102	75-79 . . .	30	8	38
30-34 . . .	106	36	142	80-84 . . .	14	6	20
35-39 . . .	105	55	160	85 and over . . .	9	3	12
40-44 . . .	133	66	199	Not stated . . .	1	..	1
45-49 . . .	110	79	189				
50-54 . . .	122	64	186				
55-59 . . .	90	47	137	<b>Total deaths . . .</b>	<b>1,071</b>	<b>549</b>	<b>1,620</b>

Of the 178 deaths recorded in 1964 from *homicide and operations of war (BE50)* there were 168 deaths from homicide and injury purposely inflicted by other persons (not in war), of which assault by firearms and explosives caused 64, assault by cutting and piercing instruments 17, and assault by other means 87. Deaths from injury resulting from the operations of war numbered 10 but all were deaths from late effects of such injuries.

#### Age at death and average issue of deceased married males and females

*Demography*, Bulletin No. 82, contains a number of tables showing, in combination with the issue, the age at marriage, age at death and occupation of married (including widowed or divorced) persons who died in Australia in 1964. Deaths of married males in 1964 numbered 43,828, and those of married females, 35,980. The tables which follow deal, however, with only 43,163 males and 35,733 females, the information regarding issue in the remaining 912 cases being incomplete. The total number of children in the families of the 43,163 males was 125,754 and of the 35,733 females, 111,221. The average number of children is shown for various age groups in the following table.

#### DECEASED MARRIED<sup>(a)</sup> MALES AND FEMALES, BY AGE AT DEATH AND AVERAGE ISSUE: AUSTRALIA, 1931 TO 1964

Age at death (years)	Average issue									
	Males					Females				
	1931	1941	1951	1961	1964	1931	1941	1951	1961	1964
Under 20 . . . . .	0.75	..	0.43	0.33	0.67	0.66	0.79	0.83	0.75	0.56
20-24 . . . . .	0.81	0.73	0.96	0.93	0.76	1.13	0.95	0.86	1.12	1.08
25-29 . . . . .	1.33	1.12	1.29	1.56	1.77	1.81	1.45	1.61	2.00	1.93
30-34 . . . . .	1.79	1.76	1.79	2.23	2.34	2.34	1.91	1.98	2.37	2.68
35-39 . . . . .	2.13	2.11	2.12	2.37	2.48	2.89	2.30	2.49	2.47	2.58
40-44 . . . . .	2.77	2.49	2.30	2.44	2.59	3.29	2.77	2.39	2.44	2.45
45-49 . . . . .	3.10	2.68	2.51	2.49	2.59	3.55	2.93	2.59	2.38	2.54
50-54 . . . . .	3.46	2.96	2.56	2.46	2.55	3.60	3.29	2.76	2.43	2.42
55-59 . . . . .	3.69	3.28	2.71	2.45	2.56	4.01	3.55	3.03	2.50	2.45
60-64 . . . . .	4.02	3.55	3.07	2.58	2.56	4.21	3.79	3.29	2.69	2.63
65-69 . . . . .	4.41	3.73	3.25	2.77	2.69	4.82	4.01	3.63	3.04	2.83
70-74 . . . . .	5.06	4.17	3.58	3.00	2.87	5.41	4.29	3.64	3.30	3.00
75-79 . . . . .	5.65	4.56	3.83	3.31	3.15	6.02	4.85	3.96	3.44	3.28
80-84 . . . . .	6.17	4.93	4.30	3.62	3.45	6.26	5.39	4.19	3.58	3.52
85-89 . . . . .	6.59	5.70	4.63	3.94	3.69	6.57	5.85	4.68	3.78	3.70
90-94 . . . . .	6.94	6.57	5.06	4.39	4.07	6.73	6.11	5.08	3.99	3.85
95-99 . . . . .	6.69	7.04	5.78	4.76	4.51	7.10	6.34	5.76	4.51	4.22
100 and over . . . . .	7.00	8.69	5.71	5.38	3.82	8.20	6.73	7.72	4.63	4.94
Age not stated . . . . .	5.00	..	8.00	..	3.00	5.00	..	5.50	5.00	..
All ages . . . . .	4.44	3.91	3.39	2.98	2.91	4.72	4.22	3.68	3.22	3.11

(a) Includes widowed or divorced.

#### Age at marriage of deceased males and females, and issue

The following table shows the average issue of males and females according to the age at marriage of the deceased parent.

**DECEASED MALES AND FEMALES, BY AGE AT MARRIAGE AND AVERAGE ISSUE  
AUSTRALIA, 1931 TO 1964**

Age at marriage (years)(a)	Average issue									
	Males					Females				
	1931	1941	1951	1961	1964	1931	1941	1951	1961	1964
Under 15	..	..	..	..	..	6.36	7.80	4.88	4.45	5.00
15-19	6.15	5.40	4.63	4.11	4.17	6.79	6.10	5.41	4.74	4.62
20-24	5.56	4.89	4.23	3.65	3.59	5.23	4.80	4.28	3.77	3.56
25-29	4.70	4.21	3.65	3.16	3.06	3.79	3.51	3.14	2.85	2.78
30-34	3.96	3.41	3.00	2.64	2.61	2.42	2.35	2.23	1.98	1.97
35-39	3.14	2.80	2.45	2.11	1.99	1.40	1.26	1.16	1.14	1.05
40-44	2.36	2.01	1.69	1.49	1.44	0.39	0.35	0.36	0.31	0.32
45-49	1.96	1.52	1.33	1.11	0.89	0.12	0.01	0.07	0.06	0.07
50-54	1.60	1.05	0.80	0.71	0.51	..	..	..	..	..
55-59	0.95	0.79	0.49	0.25	0.46	..	..	..	..	..
60-64	0.63	0.29	0.24	0.25	0.13	..	..	..	..	..
65 and over	0.18	0.01	0.29	0.24	.01	..	..	..	..	..
Age not stated	3.64	2.95	2.81	2.40	2.33	3.96	2.45	3.17	2.44	2.47
All ages	4.44	3.91	3.39	2.98	2.91	4.72	4.22	3.68	3.22	3.11

(a) In cases where the deceased was married more than once this represents age at first marriage.

**Vital statistics of external territories**

The following table shows, for the year 1964, the number of marriages, births and deaths registered in the external territories under the control of Australia. More detailed information will be found in a series of tables in *Demography*, Bulletin No. 82.

**EXTERNAL TERRITORIES: VITAL STATISTICS, 1964**

Territory	Marriages	Births	Deaths
Christmas Islands(a)	6	69	7
Cocos (Keeling) Islands(a)	..	18	4
Norfolk Island(a)	9	11	6
Papua(b)	94	402	28
Trust Territory of New Guinea(b)	94	617	56
Trust Territory of Nauru(b)	3	12	1

(a) Total population. (b) Non-indigenous population only.

**International vital statistics**

In the following table vital statistics rates for selected countries are shown. Crude marriage, birth, and death rates represent the number of 'events' reported for the year stated per 1,000 of the population. Infant mortality rates are the number of deaths which occurred under one year of age per 1,000 live births. The true death rates (reciprocals of the expectation of life at birth) have been computed from the life tables for the respective countries as published in the United Nations *Demographic Yearbook*, 1964 (see explanation of true death rates, pages 248-9).

In many instances the rates shown in the following table are estimates and the results of sample surveys only. Reference should be made to the detailed comments contained in the United Nations *Demographic Yearbook*, 1964 (see particularly Technical Notes on Statistical Tables and footnotes to the tables). The countries are arranged in the same order as in the table on pages 227-8 of the Population chapter.

**VITAL STATISTICS RATES: SELECTED COUNTRIES—LATEST AVAILABLE YEAR**  
(Source: United Nations *Demographic Yearbook*, 1964)

Country	Year	Rates(a)				Year	True death rates (b)	
		Marriage	Birth	Death	Infant mortality		Male	Female
<b>Africa—</b>								
<b>South Africa—</b>								
Asian population . . . . .	1963	13.7	46.3	7.6	44.7	1950-52	17.9	18.3
Coloured population . . . . .	1963	5.8	46.3	15.3	126.9	1950-52	22.3	20.9
White population . . . . .	1964	(c) 9.1	24.1	9.0	(c) 29.0	1950-52	15.5	14.3
Congo, Democratic Republic of(d) . . . . .	1955-57	(e)	43	20	104	1950-52	26.6	25.0
Morocco . . . . .	1962	(e)	46.1	18.7	149	1960	20.2	
Upper Volta . . . . .	1960-61	(e)	49.1	30.5	174.3	1960-61	31.2	32.2
Southern Rhodesia(d) . . . . .	1964	8.6	(f) 48	(j) 14	54.9	1962	20.0	
Ivory Coast . . . . .	1961	(e)	56.1	33.3	(g) 138	1956-58	28.6	
Zambia(d) . . . . .	1962	5.3	(h) 51	(c) 19	(i) 26.3	1963	25.0	
Guinea . . . . .	1955	(e)	62	40	220	1954-55		
Senegal . . . . .	1960-61	(e)	43.3	(c) 19.1	92.9	1957	27.0	
Dahomey . . . . .	1961	(e)	54	26	110	1961	27.0	
Central African Republic . . . . .	1960	(e)	48	30	200	1959-66	28.6	
<b>North America—</b>								
United States of America . . . . .	1964	9.0	21.2	9.4	(c) 25.2	1963	15.0	13.6
Mexico . . . . .	1964	7.1	45.2	9.8	(c) 67.7	1956	18.1	17.3
Canada . . . . .	1964	7.4	23.8	7.6	(c) 26.3	1960-62	14.6	13.5
Haiti . . . . .	1964	(e)	44.4	21.6	171.6	1950	30.7	
Guatemala . . . . .	1963	3.7	47.7	17.2	92.8	1949-51	22.8	23.0
El Salvador . . . . .	1964	3.9	46.8	10.4	65.5	1951-61	22.4	21.1
Puerto Rico . . . . .	1964	9.3	30.3	7.1	51.3	1959-61	14.9	13.9
Jamaica . . . . .	1964	4.7	40.1	7.7	39.2	1950-52	17.9	17.0
Costa Rica . . . . .	1964	5.6	47.1	8.9	(c) 77.6	1949-51	18.3	17.5
<b>South America—</b>								
Brazil(j) . . . . .	1955-60	(e)	43-47	(f) 8.2	(k) 70.0	1940-50	25.4	22.0
Argentina . . . . .	1964	6.5	21.5	8.0	60.7	1947	17.6	16.3
Colombia(j) . . . . .	1963	5.6	44.1	11.7	88.2	1950-52	22.6	21.8
Peru(j) . . . . .	1961	4.2	31.1	11.2	(c) 94.8		(e)	(e)
Chile . . . . .	1963	6.9	33.7	12.0	111.0	1952	20.1	18.6
Venezuela(j) . . . . .	1963	5.2	43.4	7.2	47.9		(e)	(e)
Bolivia(j) . . . . .	1963	3.8	21.7	6.0	(l) 86.0	1949-51	20.1	20.1
<b>Asia—</b>								
China (mainland) . . . . .	1957	(e)	34	11	(e)		(e)	(e)
India(m) . . . . .	1962	(e)	20.9	8.8	139	1951-60	23.9	24.7
Indonesia . . . . .	1962	10.6	43	21.4	74.7		(e)	(e)
Pakistan . . . . .	1962	(e)	43-46	16-17	(e)		(e)	(e)
Japan . . . . .	1964	9.9	17.7	6.9	20.4	1963	14.9	13.8
Philippines(m) . . . . .	1963	5.0	26.0	7.1	72.8	1946-49	20.5	18.7
Thailand . . . . .	1962	(c) 2.2	34.8	7.9	44.7	1947-48	20.5	19.3
Turkey in Asia . . . . .	1960	7.6	(n) 43	10.9	(f) 165	1950-51	21.7	19.8
Korea, Republic of . . . . .	1961	12.0	(k) 40.6	(k) 12.2	(k) 58.2	1955-60	19.6	18.6
Burma . . . . .	1964	(e)	39.7	17.8	128.1	1954	24.5	22.8
China (Taiwan) . . . . .	1964	7.7	34.5	5.7	(c) 26.4	1959-60	16.3	15.2
Malaya . . . . .	1963	(g) 1.0	39.4	8.9	56.7	1956-58	17.9	17.2
Cambodia . . . . .	1959	(e)	41.4	19.7	127	1958-59	22.6	23.1
Hong Kong . . . . .	1964	(e)	29.4	4.9	26.4	1961	15.7	14.2
Israel . . . . .	1964	7.8	25.7	6.3	26.2	(o) 1963	14.1	13.7
<b>Europe—</b>								
Germany, Federal Republic of . . . . .	1964	8.7	18.2	11.0	(c) 26.9	1960-62	15.0	13.8
United Kingdom of Great Britain and Northern Ireland . . . . .	1964	7.5	18.7	11.3	20.7			
England and Wales . . . . .	1964	(c) 7.5	18.4	11.3	20.0	1961-63	14.7	13.5
Northern Ireland . . . . .	1964	7.3	23.5	10.6	26.5	1961-63	14.8	13.8
Scotland . . . . .	1964	7.7	20.1	11.7	24.1	1961-63	15.1	13.9
Italy . . . . .	1964	8.2	20.0	9.6	35.5	1954-57	15.2	14.3
France . . . . .	1964	7.2	18.1	10.7	23.4	1963	14.9	13.5
Spain . . . . .	1964	7.4	22.2	8.7	37.9	1960	14.9	13.9

See footnotes on following page.

VITAL STATISTICS RATES: SELECTED COUNTRIES—LATEST AVAILABLE  
YEAR—*continued*

Country	Year	Rates(a)				Year	True death rates (b)	
		Marriage	Birth	Death	Infant mortality		Male	Female
<i>Europe—continued</i>								
Poland . . . . .	1964	7.4	18.1	7.6	47.8	1960-61	15.4	14.2
Yugoslavia . . . . .	1964	8.6	20.8	9.4	77.5	1960-61	16.1	15.3
Romania . . . . .	1964	9.0	15.2	8.0	(c) 55.2	1961	15.6	14.8
Czechoslovakia . . . . .	1964	7.9	17.1	9.6	21.2	1962	14.9	13.7
Netherlands . . . . .	1964	8.5	20.7	7.7	(c) 15.8	1956-60	14.0	13.4
Hungary . . . . .	1964	8.7	13.0	9.9	39.8	1959-60	15.3	14.4
Belgium . . . . .	1963	6.7	17.1	12.6	27.2	1946-49	16.1	14.9
Portugal . . . . .	1964	8.0	23.7	10.2	(c) 73.1	1959-62	16.5	15.1
Bulgaria . . . . .	1964	8.3	16.1	7.9	32.2	1960-62	14.7	14.0
Sweden . . . . .	1964	7.5	16.0	10.0	13.6	1962	14.0	13.3
Austria . . . . .	1964	8.0	18.5	12.3	29.9	1959-61	15.2	13.8
Switzerland . . . . .	1964	7.3	18.8	9.2	(c) 20.5	1959-61	14.4	13.4
Denmark . . . . .	1964	8.4	17.6	9.9	18.7	1956-60	14.2	13.6
Finland . . . . .	1964	7.5	17.6	9.3	16.9	1956-60	15.4	14.0
Norway . . . . .	1964	6.5	17.9	10.0	16.7	1951-55	14.1	13.4
Ireland . . . . .	1964	(c) 5.5	22.5	11.4	26.8	1950-52	15.5	14.9
<i>Oceania—</i>								
Australia . . . . .	1964	7.7	20.6	9.0	19.1	1953-55	14.9	13.7
New Zealand . . . . .	1964	8.0	24.1	8.8	19.1	1955-57	14.7	13.7
<i>U.S.S.R.—</i>								
Union of Soviet Socialist Republics . . . . .	1962	10.0	(c) 21.2	(c) 7.2	(c) 30.9	1960-61	15.4	13.7

(a) Crude marriage, birth and death rates, i.e., number of marriages, births and deaths per 1,000 of population. Infant mortality—number of deaths of children under one year of age per 1,000 live births. (b) Number of deaths per 1,000 males and 1,000 females respectively in stationary population (see explanation on pp. 248-9). (c) 1963. (d) African population only. (e) Not available. (f) 1962. (g) 1957. (h) 1961. (i) 1964. (j) Estimates specially prepared and published by UN Economic Commission for Latin America. (k) 1960. (l) 1955-60. (m) Derived from census results by United Nations Statistical Office using reverse survival methods. (n) 1955. (o) Jewish population.