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## CHAPTER 8

### 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 1970 for marriages and 1969 for births, deaths, and infant deaths. Comparisons have been restricted, in general, to the individual years 1966 to 1970 and the five-year periods 1946–50 to 1966–70, 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, are published in the annual bulletins, *Demography* and *Causes of Death*. Current information is published in the *Monthly Review of Business Statistics*, the *Quarterly Summary of Australian Statistics*, the mimeograph bulletins *Births, Deaths, Marriages* (annual), and *Vital and Population Statistics* (quarterly).

In most tables the statistics of births, deaths and marriages exclude particulars of full-blood Aborigines for years before 1967. Differences between the statistics now published and those formerly published which implied the exclusion of Aboriginal vital events cannot be taken as reliable statistics of births, deaths, or marriages among full-blood Aborigines, because in many areas no satisfactory administrative or other basis existed for distinguishing vital events of full-blood Aborigines from those of part-Aborigines or the rest of the population.

Vital statistics for certain 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 from South Australia in 1911 in respect of the Northern Territory and from New South Wales in 1930 in respect of the Australian Capital Territory. 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.

The *Marriage Act* 1961–1966 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 most cases district registrars. In each State or Territory the authorised celebrant is required to register particulars of the parties married with the appropriate registering authority as soon as practicable and in any case not later than fourteen days after the marriage.

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

Information is required in all States and Territories concerning what have been commonly known as 'stillbirths'. These are excluded from all the tables of births and deaths in this chapter and are included only in the special tables on stillbirths shown on pages 169–70.

## Marriages

## Numbers of marriages and crude marriage rates

NOTE. Annual averages for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 575.

## MARRIAGES(a): STATES AND TERRITORIES, 1946 TO 1970

<i>Period</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Annual average—									
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
1966-70 . . .	39,216	29,481	14,717	9,920	8,147	3,330	394	983	106,188
Annual total—									
1967 . . .	37,077	28,004	13,634	9,434	7,430	3,213	325	883	100,000
1968 . . .	39,213	29,724	14,860	9,652	8,086	3,426	419	965	106,345
1969 . . .	41,286	30,860	15,669	10,599	8,993	3,532	413	1,118	112,470
1970 . . .	42,928	31,729	16,082	10,864	9,227	3,535	501	1,200	116,066

(a) Excludes particulars of full-blood Aborigines before 1966.

## CRUDE MARRIAGE RATES(a): STATES AND TERRITORIES, 1946 TO 1970

<i>Period</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Average annual rate—									
1946-50 . . .	9.90	9.72	9.41	9.87	10.01	9.56	9.39	9.36	9.77
1951-55 . . .	8.41	8.34	7.91	8.11	8.44	8.35	9.13	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 . . .	7.86	7.64	7.27	7.42	7.43	7.49	8.09	7.26	7.63
1966-70 . . .	8.92	8.85	8.48	8.79	8.92	8.71	6.14	8.64	8.80
Annual rate—									
1967 . . .	8.60	8.55	8.01	8.49	8.47	8.53	5.47	8.51	8.46
1968 . . .	8.94	8.93	8.57	8.57	8.89	8.96	6.52	8.56	8.83
1969 . . .	9.22	9.11	8.86	9.26	9.49	9.09	6.05	9.15	9.14
1970 . . .	9.38	9.20	8.93	9.32	9.39	9.00	6.97	8.99	9.23

(a) Number of marriages per 1,000 of mean population. Excludes particulars of full-blood Aborigines before 1966.

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.

## Previous marital status

## PREVIOUS MARITAL STATUS OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1970

Previous marital status of bridegrooms	Previous marital status of brides			Total bridegrooms
	Spinsters	Widows	Divorced	
Bachelors . . .	100,359	1,186	3,677	105,222
Widowers . . .	905	1,700	855	3,460
Divorced. . .	3,971	869	2,544	7,384
<b>Total brides . . .</b>	<b>105,235</b>	<b>3,755</b>	<b>7,076</b>	<b>116,066</b>

## Age and previous marital status at marriage

There were 17,443 males under 21 years of age married during 1970, while the corresponding number of females was 50,369.

## AGE AND PREVIOUS MARITAL STATUS OF BRIDEGROOMS AND BRIDES AUSTRALIA, 1970

Age at marriage (years)	Bridegrooms				Brides			
	Bachelors	Widowers	Divorced	Total	Spinsters	Widows	Divorced	Total
Under 20 . . .	8,599	..	..	8,599	33,967	10	7	33,984
20-24 . . .	63,431	27	194	63,652	57,526	129	683	58,338
25-29 . . .	23,040	77	1,214	24,331	9,461	219	1,634	11,314
30-34 . . .	5,699	118	1,392	7,209	2,266	222	1,260	3,748
35-39 . . .	2,070	153	1,145	3,368	840	280	979	2,099
40-44 . . .	1,152	250	1,099	2,501	429	422	877	1,728
45-49 . . .	553	371	939	1,863	290	536	773	1,599
50-54 . . .	292	472	624	1,388	183	516	429	1,128
55-59 . . .	181	534	424	1,139	126	510	259	895
60-64 . . .	101	501	214	816	81	428	102	611
65 and over . . .	104	957	139	1,200	66	483	73	622
<b>Total . . .</b>	<b>105,222</b>	<b>3,460</b>	<b>7,384</b>	<b>116,066</b>	<b>105,235</b>	<b>3,755</b>	<b>7,076</b>	<b>116,066</b>

## RELATIVE AGES OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1970

Age of bridegroom (years)	Age of bride (years)								Total bridegrooms
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 and over	
Under 20 . . .	2	7,077	1,479	37	4	..	..	..	8,599
20-24 . . .	4	22,882	38,169	2,315	229	36	12	5	63,652
25-29 . . .	..	3,469	14,953	4,899	766	186	36	22	24,331
30-34 . . .	..	442	2,780	2,442	1,031	341	119	54	7,209
35-39 . . .	..	70	638	937	826	504	239	154	3,368
40-44 . . .	..	24	192	443	512	505	419	406	2,501
45-49 . . .	..	9	81	147	231	315	421	659	1,863
50-54 . . .	..	2	28	61	99	130	274	794	1,388
55-59 . . .	..	3	12	16	35	53	133	887	1,139
60-64 . . .	..	..	4	12	10	17	51	722	816
65 and over . . .	..	..	2	5	5	12	24	1,152	1,200
<b>Total brides</b>	<b>6</b>	<b>33,978</b>	<b>58,338</b>	<b>11,314</b>	<b>3,748</b>	<b>2,099</b>	<b>1,728</b>	<b>4,855</b>	<b>116,066</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 1970 were: 1966, 24.02; 1967, 24.03; 1968, 23.90; 1969, 23.84 and 1970, 23.78. The average ages, in years, of bridegrooms were: 1966, 27.10; 1967, 27.01; 1968, 26.76; 1969, 26.63 and 1970, 26.55. The difference in the average age at marriage between brides and bridegrooms is generally about three years, the difference in 1970 being 2.77 years.

### Countries of birth of persons marrying

#### RELATIVE COUNTRIES OF BIRTH OF BRIDEGROOMS AND BRIDES AUSTRALIA, 1970

Country of birth of bridegroom	Country of birth of bride										Total bridegrooms	
	Australia	New Zealand	United Kingdom and Ireland	Germany	Greece	Italy	Malta	Netherlands	Yugoslavia	Other European		Other and unspecified
Australia . . . . .	76,228	398	4,899	953	74	293	211	790	81	485	1,073	85,485
New Zealand . . . . .	911	144	114	15	..	6	2	11	1	13	34	1,251
United Kingdom and Ireland . . . . .	7,116	129	2,312	173	12	39	49	125	12	103	269	10,339
Germany . . . . .	1,459	19	213	316	2	16	9	51	18	107	62	2,272
Greece . . . . .	248	6	23	7	2,102	12	2	6	14	21	111	2,552
Italy . . . . .	1,117	16	156	35	14	2,060	45	31	25	50	83	3,632
Malta . . . . .	336	1	54	13	2	3	356	7	1	6	14	793
Netherlands . . . . .	1,208	16	150	29	2	8	14	270	6	27	52	1,782
Yugoslavia . . . . .	341	7	57	45	36	31	5	19	1,057	68	35	1,701
Other European . . . . .	1,145	24	191	140	18	19	12	33	36	791	136	2,545
Other and unspecified . . . . .	1,732	50	240	65	93	46	14	44	14	82	1,334	3,714
<b>Total brides</b> . . . . .	<b>91,841</b>	<b>810</b>	<b>8,409</b>	<b>1,791</b>	<b>2,355</b>	<b>2,533</b>	<b>719</b>	<b>1,387</b>	<b>1,265</b>	<b>1,753</b>	<b>3,203</b>	<b>116,066</b>

### Celebration of marriages

Under the provisions of the *Marriage Act* 1961-1966 marriages may be celebrated either by ministers of religion who are registered for that purpose with the Registrars 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 1970 belonged to more than fifty different religious denominations.

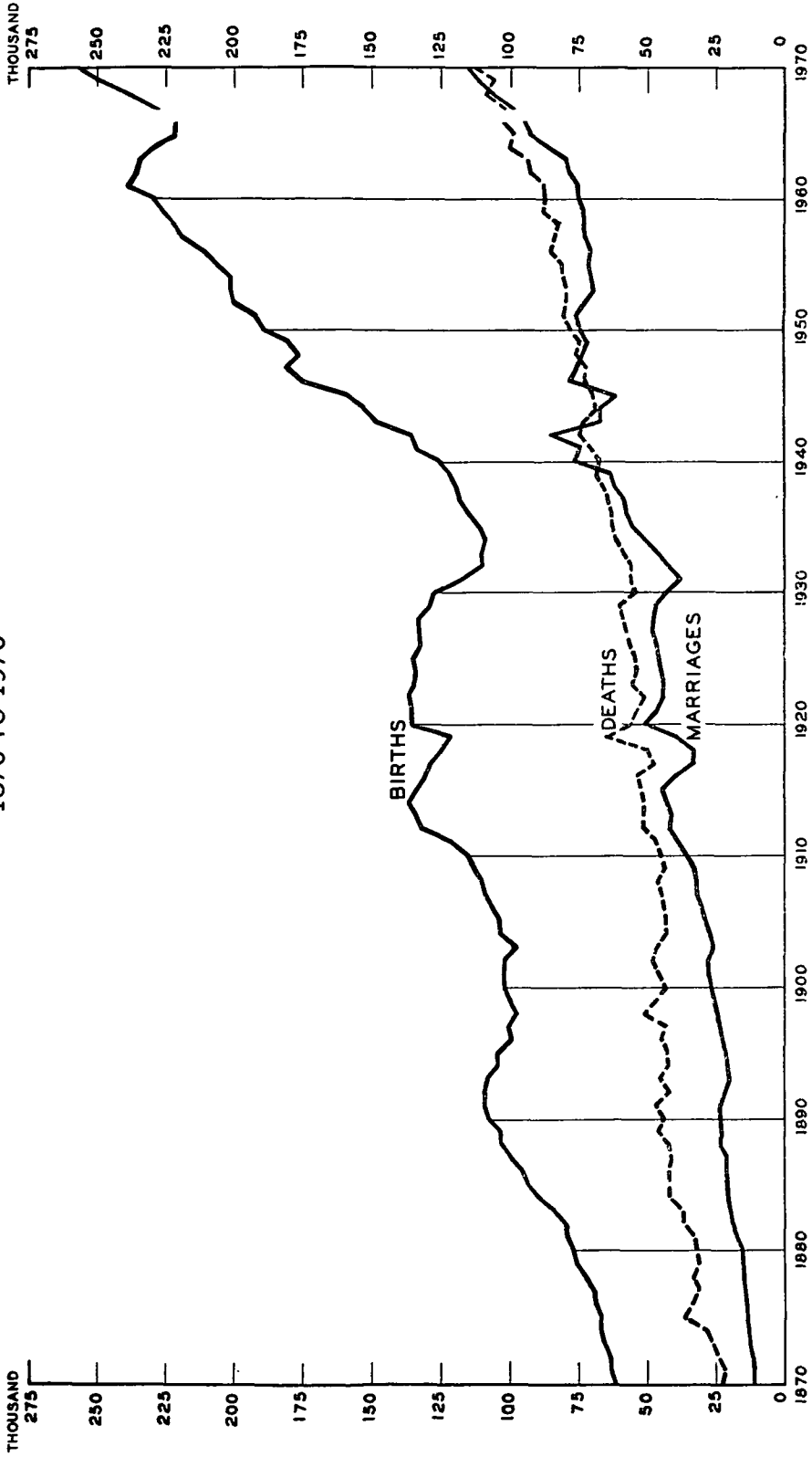
#### MARRIAGES BY AUTHORISED CELEBRANTS: STATES AND TERRITORIES, 1970

Category of authorised celebrant	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia	
									No.	Proportion of total
Registered Ministers of recognised religious denominations—										
Roman Catholic . . . . .	12,181	9,497	4,328	2,275	2,490	738	123	396	32,028	27.6
Church of England . . . . .	12,996	7,278	4,102	2,115	2,778	1,431	70	298	31,068	26.8
Methodist . . . . .	4,423	3,353	2,263	2,637	962	477	51	43	14,209	12.2
Presbyterian . . . . .	3,885	4,816	2,243	378	475	160	52	97	12,106	10.4
Orthodox . . . . .	1,234	1,406	107	184	75	8	29	18	3,061	2.6
Baptist . . . . .	670	524	299	297	133	97	5	17	2,042	1.8
Lutheran . . . . .	202	306	457	585	47	7	12	19	1,635	1.4
Churches of Christ . . . . .	177	520	144	329	175	23	..	19	1,387	1.2
Congregational . . . . .	328	390	115	342	123	45	11	2	1,356	1.2
Salvation Army . . . . .	166	172	100	59	33	23	3	4	560	0.5
Other . . . . .	700	818	357	215	144	81	9	16	2,340	2.0
Other authorised celebrants—										
Ministers of religion . . . . .	145	170	26	59	38	1	..	..	439	0.4
Civil officers . . . . .	5,821	2,479	1,541	1,389	1,754	444	136	271	13,835	11.9
<b>Grand Total</b> . . . . .	<b>42,928</b>	<b>31,729</b>	<b>16,082</b>	<b>10,864</b>	<b>9,227</b>	<b>3,535</b>	<b>501</b>	<b>1,200</b>	<b>116,066</b>	<b>100.0</b>
Proportion of total (per cent)—										
Ministers of religion . . . . .	86.44	92.19	90.42	87.21	80.99	87.44	72.85	77.42	88.08	..
Civil officers . . . . .	13.56	7.81	9.58	12.79	19.01	12.56	27.15	22.58	11.92	..

### Divorce

See the chapter Law, Order, and Public Safety.

# BIRTHS, DEATHS AND MARRIAGES: AUSTRALIA 1870 TO 1970



NOTE. EXCLUDES PARTICULARS OF FULL-BLOOD ABORIGINES BEFORE 1967

### Births and Fertility

#### Number of live births

NOTE. Corresponding figures for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 583.

#### LIVE BIRTHS(a): STATES AND TERRITORIES, 1946 TO 1970

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
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
1966-70 .	82,560	68,755	35,378	21,310	19,426	7,979	2,134	2,783	240,325
Annual total—									
1967 .	78,841	65,485	34,692	20,386	18,023	7,547	1,921	2,401	229,296
1968 .	81,696	70,228	35,190	21,207	19,541	8,317	2,084	2,643	240,906
1969 .	86,036	71,035	36,576	21,977	20,754	8,445	2,274	3,079	250,176
1970 .	88,448	73,019	37,530	22,617	21,618	8,185	2,624	3,475	257,516

(a) Excludes particulars of full-blood Aborigines before 1966.

#### Masculinity of live births

The masculinity of live births, is the number of males born for every 100 female births. 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 1961-70 were as follows: New South Wales, 105.53; Victoria, 105.59; Queensland, 105.35; South Australia, 105.88; Western Australia, 106.09; Tasmania, 106.14; Northern Territory, 105.48; Australian Capital Territory, 105.97; Australia, 105.62. The following table shows the figures for Australia for each ten-year period from 1901 to 1960 and for each of the years 1967 to 1969.

#### MASCULINITY(a) OF LIVE BIRTHS REGISTERED: AUSTRALIA, 1901 TO 1969

	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60	1967	1968	1969
Total births .	105.22	105.27	105.55	105.12	105.38	105.43	105.43	105.41	105.22
Ex-nuptial births .	104.08	105.25	105.16	105.36	105.34	103.99	106.16	104.21	103.95

(a) Number of males born for every 100 female births. Excludes particulars of full-blood Aborigines before 1967.

#### Crude birth rates

The simplest method of measuring fertility is to relate the number of births to the mean population, which gives 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 161 and 163.

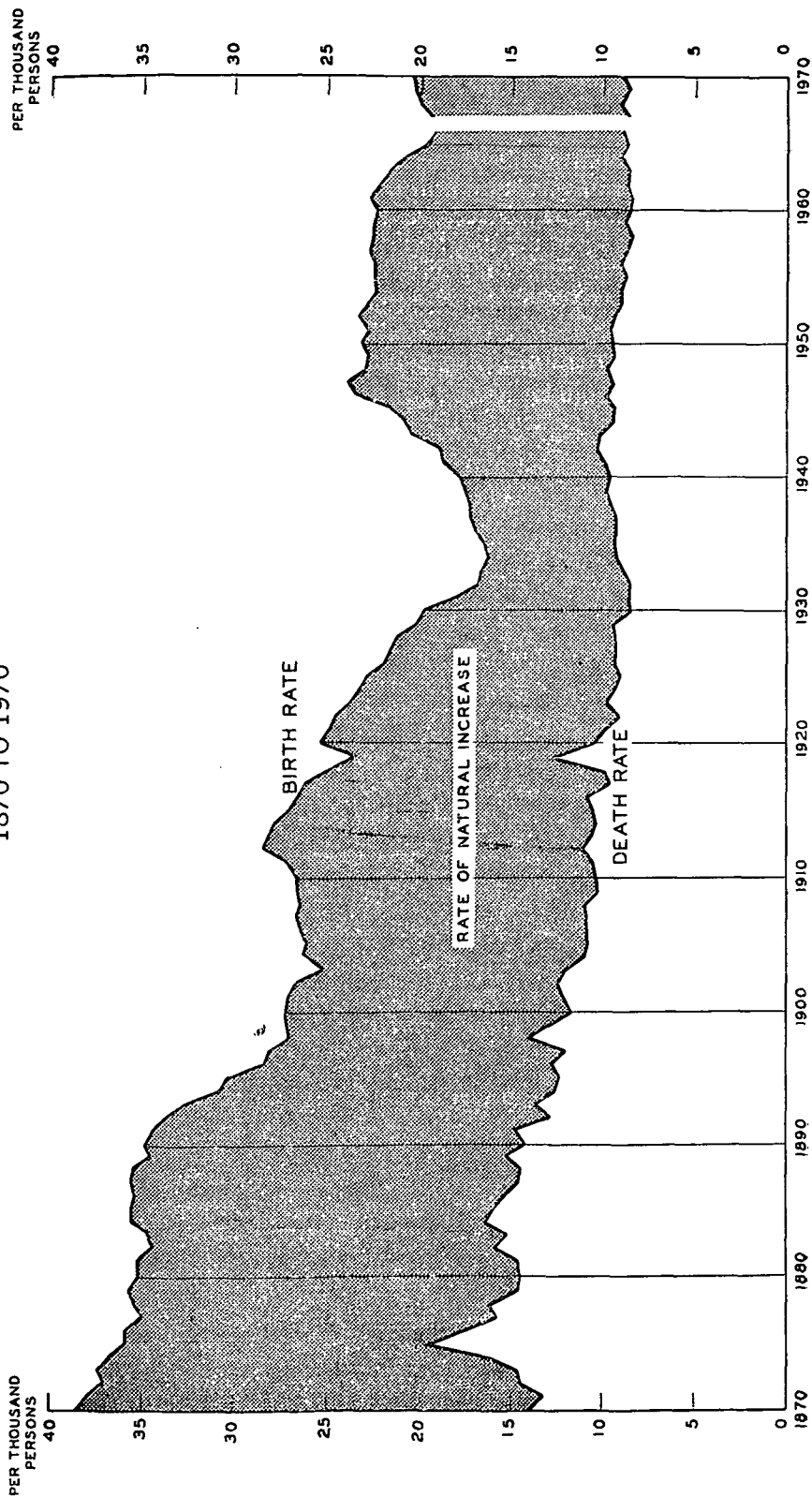
#### CRUDE BIRTH RATES(a): STATES AND TERRITORIES, 1946 TO 1970

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average annual rates—									
1946-50 .	22.60	22.51	24.69	24.41	25.24	26.71	23.77	37.92	23.39
1951-55 .	21.78	22.42	24.11	23.25	25.37	25.58	29.37	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 .	20.49	21.42	22.49	21.11	21.71	23.41	29.30	26.31	21.34
1966-70 .	18.77	20.63	20.37	18.88	21.27	20.86	33.28	24.47	19.91
Annual rates—									
1967 .	18.30	19.98	20.38	18.34	20.55	20.04	32.20	23.15	19.40
1968 .	18.62	21.10	20.30	18.84	21.47	21.76	32.42	23.44	20.00
1969 .	19.21	20.97	20.67	19.19	21.91	21.73	33.34	25.19	20.33
1970 .	19.33	21.17	20.83	19.41	21.99	20.83	36.51	26.04	20.48

(a) Number of births per 1,000 of mean population. Excludes particulars of full-blood Aborigines before 1966.

# RATES OF BIRTHS, DEATHS AND NATURAL INCREASE: AUSTRALIA

1870 TO 1970



NOTE. EXCLUDES PARTICULARS OF FULL-BLOOD ABORIGINES BEFORE 1967



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 1969—New South Wales, 19.28, Victoria, 20.94; Queensland, 20.61; South Australia, 19.03; Western Australia, 21.93; Tasmania, 21.81; Northern Territory, 34.16; and Australian Capital Territory, 25.04.

A graph showing the birth rate for each year from 1870 to 1970 is shown on page 159. 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

Changes in the crude birth rate are in general indicative of changes in fertility. However they may result from changes in the proportion of women of childbearing age in the population. Changes in the proportion of such women who are married may also affect fertility and the crude birth rate.

The fertility rates in the following table are for the Census years 1881 to 1966. The births for the three years around the census are related to women of childbearing age as enumerated at each census. Although the child bearing age has been taken to be 15–44 years, births to younger and older women are included in the computations. Nuptial births are related to married women aged 15–44 years to give married fertility rates.

Although married fertility fell by 59 per cent between 1880–82 and 1965–67, total fertility and the crude birth rate fell by only 44 and 45 per cent. The effect of a decline in the fertility of married women on total fertility and the crude birth rate is partly offset by an increase in the proportion of such women in the population. In 1881 only 51 per cent of females aged 15–44 were married but in 1966, 67 per cent were married.

### CRUDE BIRTH RATES AND FERTILITY RATES: AUSTRALIA, 1880-82 TO 1965-67(a)

Period	Average annual rates			Index Nos (Base: 1880–82 = 100)		
	Fertility rates			Fertility rates		
	Crude birth rate(b)	Births per 1,000 women aged 15–44 years	Nuptial births per 1,000 married women aged 15–44 years	Crude birth rate(b)	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
1965–67 . . .	19.5	95	132	55	56	41

(a) Excludes particulars of full-blood Aborigines before 1965–67.

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

### Age-specific birth rates

Fertility within the childbearing group varies considerably, as may be seen from the five-year age-specific rates in the following table. These rates were obtained by dividing births according to age of mother by the estimated number of women in the corresponding five-year age group.

Total fertility is obtained by summing single age specific rates. This total represents the hypothetical number of children a woman would bear during her lifetime if she experienced the rates of the year shown.

Since 1946 the fertility of younger women has increased, largely as a result of younger marriage, whereas fertility in the thirties and forties had declined. Total fertility rose to a peak in 1961.

## AGE-SPECIFIC BIRTH RATES(a): AUSTRALIA, 1946 TO 1969

Age group (years)	1946-50 (b)	1951-55 (b)	1956-60 (b)	1961-65 (b)	1966	1967	1968	1969
15-19 . . .	33.05	39.54	44.20	46.50	48.89	48.37	48.88	48.98
20-24 . . .	164.22	192.82	216.42	203.95	173.07	170.76	173.64	174.15
25-29 . . .	183.28	192.97	211.47	207.15	183.88	184.97	190.80	191.60
30-34 . . .	126.56	123.51	126.06	122.38	105.12	102.77	103.30	103.51
35-39 . . .	72.33	65.05	63.91	59.18	50.62	47.85	46.74	45.56
40-44 . . .	22.71	20.50	18.96	17.54	14.16	13.49	12.89	12.16
45-49 . . .	1.75	1.53	1.45	1.19	1.04	1.09	1.05	1.01
<b>Total fertility (c)</b>	<b>3.006</b>	<b>3.175</b>	<b>3.430</b>	<b>3.311</b>	<b>2.889</b>	<b>2.864</b>	<b>2.899</b>	<b>2.889</b>

(a) Number of births per 1,000 women in each age group. Excludes particulars of full-blood Aborigines before 1967.  
 (b) Average annual rates. (c) See next preceding table

## Gross and net reproduction rates

The gross reproduction rate is derived from total fertility and the ratio of female to total births. It indicates the number of female children who would be born on average to women supposing the rates from which it was calculated were to apply throughout the reproductive period. It is an indication of the extent to which the population is reproducing itself except that it does not allow for females who failed to survive to the end of the childbearing period. The net reproduction rate allows for such mortality. It is obtained by multiplying the age-specific rates by the survivor proportions in the corresponding age group of the stationary or life table population. Mortality in childhood and young adulthood is now so low that there is little difference between current gross and net reproduction rates.

## GROSS AND NET REPRODUCTION RATES(a): AUSTRALIA, 1881 TO 1969

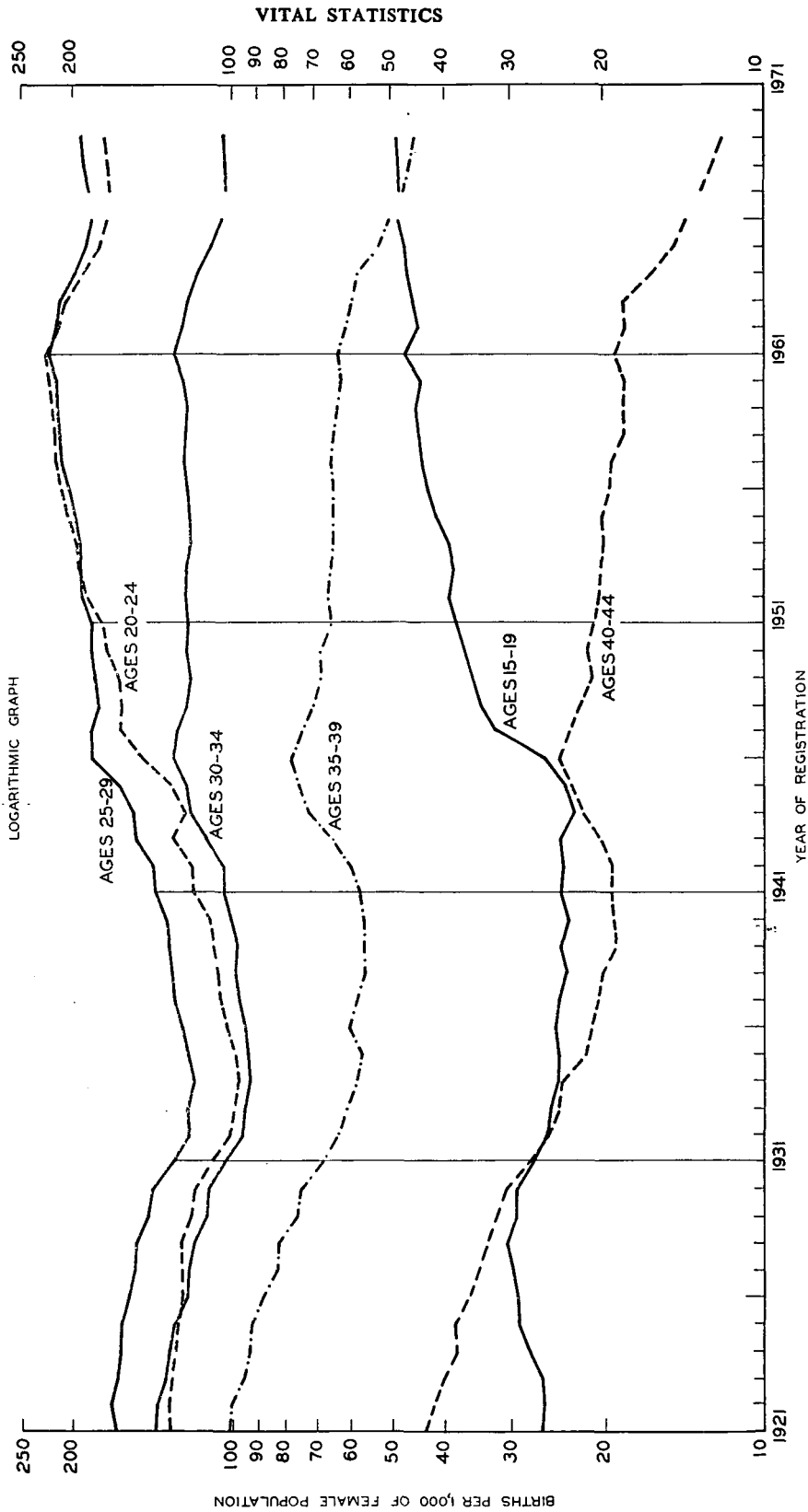
Year	Gross reproduction rate	Net reproduction rate	Year	Gross reproduction rate	Net reproduction rate
1881(b)	2.65	(c)1.88	1951.	1.486	(h)1.428
1891(b)	2.30	(c)1.73	1954.	1.559	(i)1.499
1901(b)	1.74	(d)1.39	1961.	1.728	(j)1.672
1911.	1.693	(e)1.395	1965.	1.447	(j)1.400
1921.	1.516	(f)1.317	1966.	1.400	(j)1.355
1931.	1.144	(g)1.043	1967.	1.387	(j)1.342
1941.	1.152	(g)1.092	1968.	1.406	(j)1.360
1947.	1.494	(h)1.416	1969.	1.405	(j)1.360

(a) Excludes particulars of full-blood Aborigines before 1967. (b) Approximate only. (c) 1881-1890 mortality experience used. (d) 1891-1900 mortality experience used. (e) 1901-1910 mortality experience used. (f) 1920-1922 mortality experience used. (g) 1932-1934 mortality experience used. (h) 1946-1948 mortality experience used. (i) 1953-1955 mortality experience used. (j) 1960-1962 mortality experience used.

# AGE SPECIFIC BIRTH RATES: AUSTRALIA

1921 TO 1969

(NUMBER OF BIRTHS PER 1,000 OF FEMALE POPULATION IN EACH AGE GROUP)



Note. (1) The vertical scale is logarithmic, and the curves rise and fall according to the rate of increase and decrease; actual numbers are indicated by the scale.  
 (2) There is a break in continuity between 1966 and 1967. From 1967 the figures include Aborigines. Prior to 1967 birth registrations identified as those of full-blood Aborigines were excluded.

PLATE 21

In the following table a comparison is given of the gross and net reproduction rates recorded for various countries in the period 1966 to 1969. The registration of vital events has not been fully established in many countries and consequently details for the calculation of reproduction rates for those countries are not available. In order that the table should be as representative as possible some countries have been included even though the gross reproduction rate is the only figure available.

### GROSS AND NET PRODUCTION RATES: VARIOUS COUNTRIES

(Source: *The Population Index, April-June 1969*, Office of Population Research, Princeton University)

Country	Period	Reproduction rate		Country	Period	Reproduction rate	
		Gross	Net			Gross	Net
Panama . . . . .	1967	2.55	..	Austria . . . . .	1967	1.27	1.22
Mauritius . . . . .	1968	2.25	1.99	Canada . . . . .	1967	1.26	1.23
China (Taiwan) . . . . .	1967	2.04	1.91	United States of			
Ireland . . . . .	1966	1.91	1.82	America . . . . .	1967	1.26	1.21
Chile . . . . .	1967	1.89	1.57	Germany, Fed. Rep. . . . .	1966	1.23	1.18
Israel . . . . .	1966	1.79	..	Yugoslavia . . . . .	1967	1.23	1.11
Romania . . . . .	1967	1.76	1.65	Belgium . . . . .	1967	1.17	1.13
Iceland . . . . .	1967	1.59	1.55	Greece . . . . .	1967	1.17	1.10
New Zealand . . . . .	1967	1.57	1.52	Denmark . . . . .	1967	1.14	1.11
Australia . . . . .	1969	1.41	1.36	Finland . . . . .	1966	1.14	1.09
Scotland . . . . .	1966	1.40	1.35	Bulgaria . . . . .	1968	1.12	1.08
Norway . . . . .	1966	1.39	1.35	Sweden . . . . .	1967	1.11	1.09
Portugal . . . . .	1967	1.39	1.25	Germany, Dem. Rep. . . . .	1967	1.11	1.07
England and Wales . . . . .	1966	1.33	1.29	Czechoslovakia . . . . .	1967	1.02	0.98
Netherlands . . . . .	1968	1.31	1.28	Hungary . . . . .	1968	1.00	0.95
France . . . . .	1967	1.29	1.25	Japan . . . . .	1966	0.77	0.74

### Fertility of marriages

Estimates of the fertility of marriages may be made by relating nuptial births in each year to the marriages from which they could have resulted. Births to women of a certain number of years duration of marriage are related to the number of marriages taking place that number of years previously and the resulting rates are added to give a total for all durations, the index of current marriage fertility.

The figure for a particular year gives the estimated number of children which a thousand marriages would produce according to the fertility conditions of that year.

Births are omitted from the calculation if the marriage did not take place in Australia. Births which occur overseas to Australian marriages cannot be included and hence some understatement is present.

The following table gives an analysis of the index, shown in the Total column, according to duration of marriage, expressing the results as births per thousand marriages.

### DURATION—SPECIFIC FERTILITY RATES(a): AUSTRALIA, 1958 TO 1969

Year of birth	Duration of marriage (years)										Total
	Under 1	1	2	3	4	Total under 5	5-9	10-14	15-19	20 and over	
1958 . . . . .	365	318	309	280	242	1,514	757	290	101	27	2,689
1959 . . . . .	379	319	316	279	249	1,542	760	298	99	25	2,724
1960 . . . . .	382	322	317	288	249	1,558	772	302	100	25	2,757
1961 . . . . .	403	332	328	290	254	1,607	789	314	106	26	2,842
1962 . . . . .	389	318	324	290	247	1,568	781	308	101	22	2,780
1963 . . . . .	384	307	318	288	241	1,538	756	302	105	24	2,725
1964 . . . . .	368	288	296	275	231	1,458	712	283	99	21	2,573
1965 . . . . .	341	275	287	261	222	1,386	662	260	90	19	2,417
1966 . . . . .	324	258	282	260	215	1,339	638	238	84	19	2,318
1967 . . . . .	308	251	273	268	222	1,322	648	239	80	18	2,307
1968 . . . . .	308	247	280	267	235	1,337	668	234	79	17	2,335
1969 . . . . .	290	246	279	270	231	1,316	688	233	75	17	2,329

(a) Number of births per thousand marriages. From 1967 includes births of Aborigines where parents were legally married and excludes births of tribal marriages.

The summation of duration-specific rates for a particular year without reference to changing patterns in age at marriage or age of parents contributes to the hypothetical nature of the index. It is more satisfactory, therefore, to express the rates in cohort form by following the experience of marriages of a particular year cumulated over successive durations of marriage.

Since the fertile period of a marriage has a duration of up to some thirty years, completed fertility can only be determined with certainty for marriages occurring before 1940. Fortunately, because of the concentration of births in the early years of marriage the ultimate level of fertility and the size of family can be assessed with a fair degree of precision by the end of the fifteenth year. The most recent cohort to reach this duration was that of 1954-55.

To determine the relevant marriage cohorts from which births can have derived, a system of quarterly weights is applied. Births in 1969 to marriages in their third year, for example, could have arisen from marriages in any one of the eight quarters of 1966 and 1967. Proportions of the marriages in each of these quarters, namely  $\frac{1}{8}$ ,  $\frac{3}{8}$ ,  $\frac{5}{8}$ ,  $\frac{7}{8}$ ,  $\frac{1}{8}$ ,  $\frac{3}{8}$ ,  $\frac{5}{8}$ , and  $\frac{7}{8}$  respectively, are summed to arrive at the total marriages in the 1966-67 cohort. This method is applied to all marriages of completed durations three or more years. The first two years of marriage are weighted on a monthly basis.

**CUMULATED DURATION—SPECIFIC FERTILITY RATES, MARRIAGE COHORTS(a)**  
**AUSTRALIA, 1954 TO 1969**

Marriages of year—	Completed duration of marriage (years)						
	1	2	3	4	5	10	15
1954-55 . . .	342	646	956	1,236	1,485	2,258	2,501
1955-56 . . .	352	674	983	1,262	1,511	2,262	..
1956-57 . . .	367	685	1,001	1,289	1,543	2,262	..
1957-58 . . .	365	684	1,001	1,291	1,538	2,219	..
1958-59 . . .	379	701	1,029	1,319	1,560	2,216	..
1959-60 . . .	382	714	1,038	1,326	1,557	2,210	..
1960-61 . . .	403	721	1,039	1,314	1,536	..	..
1961-62 . . .	389	696	992	1,253	1,468	..	..
1962-63 . . .	384	672	959	1,219	1,441	..	..
1963-64 . . .	368	643	925	1,193	1,428	..	..
1964-65 . . .	341	599	872	1,139	1,370	..	..
1965-66 . . .	324	575	855	1,125	..	..	..
1966-67 . . .	308	555	834	..	..	..	..
1967-68 . . .	308	554	..	..	..	..	..
1968-69 . . .	290	..	..	..	..	..	..

(a) Cumulated number of births per thousand marriages. From 1967 includes births of Aborigines where parents were legally married and excludes births of tribal marriages.

A more detailed analysis of the figures in the above table and of earlier cohorts has been made by tabulating the number of births within each duration of marriage which were first, second, third or subsequent births to the marriages under consideration. Details then derived of relative family size at each duration of marriage have enabled the computation of duration-parity-specific fertility rates.

#### Ex-nuptial live births

The variations in the proportions of ex-nuptial live births as between the individual States and Territories for 1969 and for Australia at intervals from 1901 to 1969 are shown in the following tables.

**EX-NUPTIAL LIVE BIRTHS**  
**NUMBER AND PROPORTION, STATES AND TERRITORIES, 1969**

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Number . . .	6,860	4,098	3,835	1,508	2,231	647	315	91	19,585
Proportion of total births % . . . . .	7.97	5.77	10.49	6.86	10.75	7.66	13.85	2.96	7.83

**EX-NUPTIAL LIVE BIRTHS: NUMBERS, PROPORTION AND RATES(a)  
AUSTRALIA, 1901 TO 1969**

	Annual average						1965	1966	1967	1968	1969
	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	15,531	16,541	17,734	19,171	19,585
Rates(b)	1.60	1.39	1.04	0.76	0.90	0.97	1.37	1.43	1.50	1.59	1.59
Proportion of total births%	6.05	5.22	4.66	4.40	4.13	4.25	6.97	7.43	7.73	7.96	7.83

(a) Excludes particulars of full-blood Aborigines before 1967. (b) Number of ex-nuptial births per 1,000 of mean population.

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; 1960-62, 18.49; and 1965-67, 20.96. Particulars of full-blood Aborigines are excluded throughout. 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.

### Legitimations

Under the provisions of the Commonwealth *Marriage Act* 1961-1966, 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 legitimised on the subsequent marriage of its parents. The legitimisation 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 legitimise 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 legitimised in Australia during 1969 was 3,229.

### 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 stillborn 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.

### Number of confinements

The following table shows the number of confinements resulting in single or multiple live births and the number of live births.

LIVE BIRTHS AND CONFINEMENTS: STATES AND TERRITORIES, 1969									
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
LIVE BIRTHS									
Single births.	84,192	69,549	35,855	21,553	20,349	8,277	2,221	3,017	245,013
Twins.	1,812	1,462	715	421	403	165	53	59	5,090
Triplets	28	20	6	3	2	3	..	3	65
Quadruplets	4	4	..	..	..	..	..	..	8
Males	44,136	36,421	18,741	11,262	10,595	4,337	1,170	1,609	128,271
Females	41,900	34,614	17,835	10,715	10,159	4,108	1,104	1,470	121,905
<b>Total</b>	<b>86,036</b>	<b>71,035</b>	<b>36,576</b>	<b>21,977</b>	<b>20,754</b>	<b>8,445</b>	<b>2,274</b>	<b>3,079</b>	<b>250,176</b>

LIVE BIRTHS AND CONFINEMENTS: STATES AND TERRITORIES, 1969—*continued*

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
<b>STILLBIRTHS ASSOCIATED WITH MULTIPLE BIRTHS INCLUDED ABOVE</b>									
Twins . . . . .	44	22	1	1	11	1	1	1	82
Triplets . . . . .	2	1	..	..	1	..	..	..	4
Quadruplets . . . . .	..	4	..	..	..	..	..	..	4

<b>CONFINEMENTS RESULTING IN BIRTHS SHOWN ABOVE</b>									
Nuptial . . . . .	78,322	66,238	32,401	20,272	18,342	7,719	1,937	2,958	228,189
Ex-nuptial . . . . .	6,809	4,062	3,814	1,493	2,215	642	311	90	19,436
<b>Total . . . . .</b>	<b>85,131</b>	<b>70,300</b>	<b>36,215</b>	<b>21,765</b>	<b>20,557</b>	<b>8,361</b>	<b>2,248</b>	<b>3,048</b>	<b>247,625</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 liveborn, the confinement has been treated as a single birth. However, the numbers of multiple births are not significantly affected. See also page 168.

Multiple births recorded during 1969 comprised 2,586 cases of twins, 23 cases of triplets, and three cases of quadruplets, the resulting number of live born and stillborn children respectively 5,090 and 82 for twins, 65 and 4 for triplets, and 8 and 4 for quadruplets. This represents an average of 10.44 recorded cases of twins and 0.09 recorded cases of triplets per 1,000 confinements or, alternatively, mothers of twins represented 1 in every 96 mothers and mothers of triplets 1 in every 10,766. Total cases of multiple births represented 10.54 per 1,000 confinements or 1 in every 95 mothers.

**Confinements—relative ages of parents**

The relative ages of the parents of children whose births were registered in 1969 have been tabulated separately for male and female births, multiple births being distinguished from single births. For confinements and for multiple births, the relative ages of parents are shown in *Demography*, Bulletin No. 85.

**CONFINEMENTS, BY RELATIVE AGES OF PARENTS: AUSTRALIA, 1969**

<i>Age of father (years)</i>	<i>Age of mother (years)</i>									<i>Total</i>
	<i>Under 15</i>	<i>15-19</i>	<i>20-24</i>	<i>25-29</i>	<i>30-34</i>	<i>35-39</i>	<i>40-44</i>	<i>45 and over</i>	<i>Not stated</i>	
Under 20 . . . . .	3	3,315	650	7	2	..	..	..	..	3,977
20-24 . . . . .	6	12,458	33,013	2,793	143	12	..	..	..	48,425
25-29 . . . . .	3	2,307	36,903	35,654	2,808	181	24	2	1	77,883
30-34 . . . . .	1	416	8,042	26,886	16,129	1,486	120	..	3	53,083
35-39 . . . . .	2	98	1,485	6,537	11,990	6,527	547	17	1	27,204
40-44 . . . . .	1	26	333	1,451	3,571	4,958	1,935	67	..	12,342
45-49 . . . . .	..	9	95	322	729	1,332	1,162	167	1	3,817
50-54 . . . . .	..	4	39	89	155	271	315	62	1	936
55-59 . . . . .	..	4	14	31	52	96	81	25	..	303
60-64 . . . . .	..	1	5	5	19	29	25	5	..	89
65 and over(a) . . . . .	3	8	22	25	14	33	13	4	8	130
<b>Total nuptial . . . . .</b>	<b>19</b>	<b>18,646</b>	<b>80,601</b>	<b>73,800</b>	<b>35,612</b>	<b>14,925</b>	<b>4,222</b>	<b>349</b>	<b>15</b>	<b>228,189</b>
<b>Total ex-nuptial . . . . .</b>	<b>114</b>	<b>7,247</b>	<b>6,514</b>	<b>2,737</b>	<b>1,539</b>	<b>903</b>	<b>337</b>	<b>23</b>	<b>22</b>	<b>19,436</b>
<b>Total . . . . .</b>	<b>133</b>	<b>25,893</b>	<b>87,115</b>	<b>76,537</b>	<b>37,151</b>	<b>15,828</b>	<b>4,559</b>	<b>372</b>	<b>37</b>	<b>247,625</b>

(a) Includes eighty-eight confinements in which the age of the father was not stated.

## Confinements—relative countries of birth of parents

The following table shows the relative countries of birth of parents of children whose births from nuptial confinements were registered during 1969.

**NUPTIAL CONFINEMENTS, BY RELATIVE COUNTRIES OF BIRTH OF PARENTS  
AUSTRALIA, 1969**

Country of birth of father	Country of birth of mother											Total fathers
	Australia	New Zealand	United Kingdom and Ireland	Germany	Greece	Italy	Malta	Netherlands	Yugoslavia	Other European	Other and unspecified	
Australia . . . . .	149,884	744	7,335	1,238	140	396	327	1,280	96	706	1,326	163,472
New Zealand . . . . .	813	426	106	10	..	1	4	15	1	10	32	1,418
United Kingdom and Ireland . . . . .	9,098	154	8,679	201	11	44	66	199	13	148	393	19,006
Germany . . . . .	1,595	31	232	900	10	17	27	75	26	189	62	3,164
Greece . . . . .	376	2	35	21	7,444	12	11	7	21	17	133	8,079
Italy . . . . .	1,980	15	169	98	38	8,997	52	63	62	100	148	11,722
Malta . . . . .	617	1	91	24	5	13	1,731	16	1	10	30	2,539
Netherlands . . . . .	1,874	14	209	91	2	11	26	1,412	11	44	103	3,797
Yugoslavia . . . . .	610	16	109	143	92	116	20	47	2,458	121	32	3,764
Other European . . . . .	1,669	42	288	323	49	59	19	89	105	2,057	178	4,878
Other and unspecified . . . . .	2,011	55	382	75	181	61	27	88	10	112	3,348	6,350
<b>Total mothers</b>	<b>170,527</b>	<b>1,500</b>	<b>17,635</b>	<b>3,124</b>	<b>7,972</b>	<b>9,727</b>	<b>2,310</b>	<b>3,291</b>	<b>2,804</b>	<b>3,514</b>	<b>5,785</b>	<b>228,189</b>

## Confinements—age, duration of marriage and issue of mothers

The total number of nuptial confinements resulting in live births in 1969 was 228,189, comprising 225,730 single births, 2,434 cases of twins, 22 cases of triplets, and three cases of quadruplets. The following tables relating to previous issue exclude the issue of former marriages and stillborn 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 1969 the average size of family increased fairly regularly with the duration of marriage. The average issue of married mothers who bore children in 1969 was 2.30, compared with 2.34 in 1968, 2.38 in 1967, 2.42 in 1966, and 2.48 in 1965.

**NUPTIAL CONFINEMENTS BY DURATION OF MARRIAGE, AND AVERAGE ISSUE OF MOTHERS: AUSTRALIA, 1969**

Duration of marriage	Total nuptial confinements	Average issue of mother	Duration of marriage	Total nuptial confinements	Average issue of mother
Under 1 year . . . . .	32,344	1.03	15 years . . . . .	2,051	4.99
1 year . . . . .	26,846	1.25	16 " . . . . .	1,645	5.20
2 years . . . . .	28,966	1.58	17 " . . . . .	1,384	5.35
3 " . . . . .	27,241	1.85	18 " . . . . .	1,100	5.68
4 " . . . . .	22,530	2.13	19 " . . . . .	811	5.99
5 " . . . . .	17,846	2.48	20 " . . . . .	614	6.08
6 " . . . . .	14,326	2.77	21 " . . . . .	431	6.39
7 " . . . . .	11,354	3.06	22 " . . . . .	322	6.52
8 " . . . . .	9,345	3.32	23 " . . . . .	177	6.94
9 " . . . . .	7,612	3.58	24 " . . . . .	86	6.70
10 " . . . . .	5,985	3.84	25 years and over . . . . .	122	7.75
11 " . . . . .	4,727	4.03	Not stated . . . . .	576	3.64
12 " . . . . .	3,969	4.25			
13 " . . . . .	3,205	4.53			
14 " . . . . .	2,574	4.77	<b>Total . . . . .</b>	<b>228,189</b>	<b>2.30</b>



**NUPTIAL CONFINEMENTS, BY AGE OF MOTHER AND PREVIOUS ISSUE  
AUSTRALIA, 1969**

Previous issue	Age of mother (years)							45 and over	Not stated	Total married mothers
	Under 20	20-24	25-29	30-34	35-39	40-44				
0 . . . . .	15,272	42,797	20,567	4,929	1,626	430	25	4	85,650	
1 . . . . .	3,081	27,203	25,508	8,061	2,217	421	26	2	66,519	
2 . . . . .	286	8,214	17,279	9,571	2,893	605	36	5	38,889	
3 . . . . .	22	1,913	6,932	6,658	2,892	660	51	1	19,129	
4 . . . . .	4	380	2,343	3,366	2,028	626	46	..	8,793	
5 . . . . .	..	78	795	1,621	1,349	477	37	1	4,358	
6 . . . . .	..	14	251	765	780	324	39	1	2,174	
7 . . . . .	..	2	91	366	476	227	20	..	1,182	
8 . . . . .	..	..	27	155	301	170	29	..	682	
9 . . . . .	..	..	4	71	179	107	13	..	374	
10 and over . . . . .	..	..	3	49	184	175	27	1	439	
<b>Total married mothers . . . . .</b>	<b>18,665</b>	<b>80,601</b>	<b>73,800</b>	<b>35,612</b>	<b>14,925</b>	<b>4,222</b>	<b>349</b>	<b>15</b>	<b>228,189</b>	

**Multiple births—previous issue of mothers**

Of married mothers of twins in 1969, 761 had no previous issue either living or dead, 702 had one child previously, 485 had two previous issue, 240 three, 134 four, 64 five, 24 six, 19 seven, 6 eight, 13 nine, 3 ten, 3 eleven, 3 twelve, 1 thirteen, and 1 fourteen. Of the 22 cases of nuptial triplets, and three cases of quadruplets registered during 1969, 10 mothers had no previous issue, 7 had one, 5 had two, 2 had three, and 1 had four previous issue.

**Nuptial first births**

The following table shows the number of nuptial first births classified by grouped ages of mothers and grouped durations of marriage of mothers.

**NUPTIAL FIRST BIRTHS, BY AGE OF MOTHER AND DURATION OF MARRIAGE  
AUSTRALIA, 1969**

Duration of marriage	Age of mother (years)							45 and over	Not stated	Total
	Under 20	20-24	25-29	30-34	35-39	40-44				
Under 8 months . . . . .	11,254	8,753	1,211	348	130	30	3	..	21,729	
8 months . . . . .	426	946	282	85	39	6	..	..	1,784	
9 " . . . . .	486	1,840	601	188	52	12	1	..	3,180	
10 " . . . . .	441	1,643	459	164	42	11	..	..	2,760	
11 " . . . . .	357	1,408	410	111	42	12	..	1	2,341	
<b>Total under 1 year . . . . .</b>	<b>12,964</b>	<b>14,590</b>	<b>2,963</b>	<b>896</b>	<b>305</b>	<b>71</b>	<b>4</b>	<b>1</b>	<b>31,794</b>	
1 year and under 2 years . . . . .	1,872	13,278	4,120	1,052	347	110	7	..	20,786	
2 years " " 3 " . . . . .	315	8,581	3,839	717	226	52	1	1	13,732	
3 " " " 4 " . . . . .	37	4,305	3,627	442	129	47	2	..	8,589	
4 " " " 5 " . . . . .	6	1,488	2,716	364	107	21	2	..	4,704	
5 " " " 10 " . . . . .	..	515	3,228	1,054	217	41	5	..	5,060	
10 " " " 15 " . . . . .	..	..	62	380	179	26	1	..	648	
15 years and over . . . . .	..	..	..	17	109	57	2	..	185	
Not stated . . . . .	78	40	12	7	7	5	1	2	152	
<b>Total . . . . .</b>	<b>15,272</b>	<b>42,797</b>	<b>20,567</b>	<b>4,929</b>	<b>1,626</b>	<b>430</b>	<b>25</b>	<b>4</b>	<b>85,650</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(a)**  
**AUSTRALIA, 1911 TO 1969**

Period	Nuptial confinements			Proportion of first to total nuptial confinements (per cent)
	First births	Other births	Total	
Annual average—				
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
Annual total—				
1965 . . . . .	70,197	134,941	205,138	34.22
1966 . . . . .	73,462	130,499	203,961	36.02
1967 . . . . .	76,127	133,302	209,429	36.35
1968 . . . . .	81,341	138,124	219,465	37.06
1969 . . . . .	85,650	142,539	228,189	37.53

(a) Excludes particulars of full-blood Aborigines before 1967.

### Stillbirths

Interstate comparison of the figures and rates in the following tables are affected by the differences in the definitions adopted by the various States and only the trends in the rates for each State should be compared. Beginning in 1964, steps were taken to amend the States' registration laws and so make uniform the criteria whereby stillbirths are registered. The amended legislation provides for all foetal deaths of at least twenty weeks' gestation (or 400 grammes weight) to be registered. The dates on which the legislation came into effect for each State are as follows: New South Wales, January 1969; Victoria, May 1971; Queensland, October 1967; South Australia, January 1968; Western Australia, January 1968; Tasmania, March 1967; Northern Territory, September 1964; Australian Capital Territory, September 1969. Prior to these dates the statistics of stillbirths shown relate to those in several States of at least seven months gestation and in other States to those of at least twenty-eight weeks' gestation. So as to preserve as much comparability as possible with figures for earlier years the figures shown for each State since the amended legislation relate to stillbirths of at least twenty-eight weeks' gestation.

**STILLBIRTHS(a): STATES AND TERRITORIES, 1946 TO 1969**

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
1946-50 . . . . .	1,405	949	626	368	274	161	n.a.	12	(b)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
1961-65 . . . . .	1,104	794	468	264	194	87	17	18	2,946
Annual total—									
1965 . . . . .	947	747	391	256	181	89	15	23	2,649
1966 . . . . .	964	762	405	237	168	111	11	31	2,689
1967 . . . . .	863	797	372	211	188	83	(c)49	24	2,587
1968 . . . . .	806	734	365	217	183	79	(c)39	26	2,449
1969 . . . . .	857	761	350	208	203	79	(c)35	26	2,519

(a) Excludes particulars of full-blood Aborigines before 1967. (b) Excludes Northern Territory. (c) Includes 25 foetal deaths in 1967 and 13 foetal deaths in both 1968 and 1969 occurring in remote localities for which the period of gestation was not stated. The Registration Ordinance requires registration of any foetal death of at least twenty weeks' gestation.

PROPORTION OF STILLBIRTHS<sup>(a)</sup>: STATES AND TERRITORIES, 1946 TO 1969

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average annual rate—									
1946-50 . . . . .	20.0	19.6	21.9	22.1	20.5	22.3	n.a.	16.3	(b)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
1961-65 . . . . .	13.1	12.0	13.1	12.2	11.4	10.2	18.4	9.3	12.49
Annual rate—									
1965 . . . . .	12.0	11.6	11.5	12.1	11.1	11.7	(c)	10.5	11.75
1966 . . . . .	12.2	11.8	12.2	11.5	9.8	14.8	(c)	13.2	11.93
1967 . . . . .	10.8	12.0	10.6	10.2	10.3	10.9	24.9	9.9	11.16
1968 . . . . .	9.8	10.3	10.3	10.1	9.3	9.4	18.4	9.7	10.11
1969 . . . . .	9.9	10.6	9.5	9.4	9.7	9.3	15.2	8.4	9.97

(a) Numbers of stillbirths per 1,000 of all births (live and still). Excludes particulars of full-blood Aborigines before 1967. (b) Excludes Northern Territory. (c) 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 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 1970. Stillbirths, although registered as both births and deaths in some States are excluded from the death statistics.

## DEATHS: STATES AND TERRITORIES, 1970

Sex	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Males . . . . .	24,123	16,472	9,762	5,576	4,392	1,785	364	354	62,828
Females . . . . .	19,478	13,863	7,293	4,562	3,151	1,389	244	240	50,220
Persons . . . . .	43,601	30,335	17,055	10,138	7,543	3,174	608	594	113,048

NOTE. Annual averages for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 597.

DEATHS<sup>(a)</sup>: STATES AND TERRITORIES, 1946 TO 1970

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
1946-50 <sup>(b)</sup> . . . . .	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
1966-70 . . . . .	41,249	29,265	15,711	9,562	7,208	3,231	540	497	107,263
Annual total—									
1967 . . . . .	39,613	28,373	14,736	9,071	6,779	3,228	527	376	102,703
1968 . . . . .	41,803	29,967	16,078	9,916	7,468	3,284	543	488	109,547
1969 . . . . .	40,665	28,976	15,786	9,337	7,350	3,309	485	588	106,496
1970 . . . . .	43,601	30,335	17,055	10,138	7,543	3,174	608	594	113,048

(a) Excludes particulars of full-blood Aborigines before 1967. (b) Excludes deaths of defence personnel and of internees and prisoners of war from overseas for the period September 1939 to June 1947.

## Crude death rates

The simplest method of measuring mortality is to relate the number of deaths for a given period to the mean population for that period, which gives 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, 1946 TO 1970

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average annual rate—									
1946-50(b)	9.70	10.37	9.13	9.76	9.23	9.30	6.27	5.31	9.74
1951-55	9.49	9.55	8.71	9.25	8.49	8.48	6.86	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	9.27	8.73	8.63	8.28	7.78	8.15	4.95	3.94	8.75
1966-70	9.38	8.78	9.05	8.47	7.89	8.45	8.42	4.37	8.89
Annual rate—									
1967	9.19	8.66	8.65	8.16	7.73	8.57	8.83	3.62	8.69
1968	9.53	9.01	9.27	8.81	8.21	8.59	8.45	4.33	9.10
1969	9.08	8.55	8.92	8.15	7.76	8.51	7.11	4.81	8.65
1970—									
Males	10.50	9.51	10.70	9.52	8.78	9.00	9.40	5.14	9.92
Females	8.55	8.07	8.20	7.87	6.53	7.14	7.36	3.72	8.05
Persons	9.53	8.79	9.47	8.70	7.67	8.08	8.47	4.45	8.99

(a) Number of deaths per 1,000 of mean population. Excludes particulars of full-blood Aborigines before 1967.  
 (b) Excludes deaths of defence personnel, etc., from September 1939 to June 1947.

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 1970 is shown on plate 20 page 159.

## Standardised death rates

The death rates quoted above 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, 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, 'standardised' death rates may be computed. For a description of the method used, and a table showing standardised death rates as compared with crude death rates as at Census dates from 1921 to 1966 see Year Book No. 55, page 184.

## True death rates

The main objections to standardised death rates are that the choice of a standard population is arbitrary and that the standardised 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 true death rates for the periods covered by Australian life tables together with estimates for recent years based on abridged life tables calculated by the Commonwealth Statistician. These estimates are subject to revision when the Australian life tables 1965-1967 become available.

**TRUE DEATH RATES: AUSTRALIA**  
1881-90 TO 1969(a)

<i>Period</i>	<i>True death rate</i>	
	<i>Males(b)</i>	<i>Females(c)</i>
1881-90 . . . .	21.19	19.67
1891-1900 . . . .	19.58	18.26
1901-10 . . . .	18.12	17.00
1920-22 . . . .	16.91	15.80
1932-34 . . . .	15.75	14.89
1946-48 . . . .	15.14	14.16
1953-55 . . . .	14.89	13.75
1960-62 . . . .	14.72	13.48
1965(d) . . . .	14.77	13.48
1966(d) . . . .	14.80	13.51
1967(d) . . . .	14.76	13.43
1968(d) . . . .	14.83	13.50
1969(d) . . . .	14.81	13.41

(a) Excludes particulars of full-blood Aborigines before 1967. (b) Number of deaths per 1,000 males in stationary population. (c) Number of deaths per 1,000 females in stationary population. (d) Based on abridged life tables calculated by the Commonwealth Statistician. These tables are based on estimates of population by age, adjusted to take into account the 1966 census.

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, mortality 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 also appears 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 Year Book No. 55, pages 186 and 187. The table most frequently used by the general reader is that relating to expectation of life, and is published below.

COMPLETE EXPECTATION OF LIFE ( $e_x^0$ ) 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

NOTE.  $e_x^0$  = complete expectation of life at specified ages.

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 increase at a faster rate than male longevity.

#### 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 1969 is given for Australia in the following table.

## DEATHS, BY AGE AT DEATH AND SEX: AUSTRALIA, 1969

Age at death				Age at death			
	Males	Fe- males	Per- sons		Males	Fe- males	Per- sons
Under 1 week	1,724	1,182	2,906	5-9 years	303	215	518
1 week and under 2 weeks	95	60	155	10-14 "	285	142	427
2 weeks and under 3 weeks	58	52	110	15-19 "	736	310	1,046
3 weeks and under 4 weeks	48	21	69	20-24 "	903	274	1,177
<i>Total under 4 weeks</i>	<i>1,925</i>	<i>1,315</i>	<i>3,240</i>	25-29 "	645	274	919
4 weeks and under 3 months	228	179	407	30-34 "	636	287	923
3 months and under 6 months	227	205	432	35-39 "	896	487	1,383
6 months and under 12 months	204	199	403	40-44 "	1,531	850	2,381
<i>Total under 1 year</i>	<i>2,584</i>	<i>1,898</i>	<i>4,482</i>	45-49 "	2,468	1,302	3,770
1 year	189	163	352	50-54 "	3,256	1,868	5,124
2 years	97	93	190	55-59 "	5,032	2,466	7,498
3 "	78	76	154	60-64 "	6,408	3,184	9,592
4 "	84	57	141	65-69 "	7,618	4,392	12,010
<i>Total under 5 years</i>	<i>3,032</i>	<i>2,287</i>	<i>5,319</i>	70-74 "	7,581	5,761	13,342
				75-79 "	7,904	7,645	15,549
				80-84 "	5,904	7,261	13,165
				85 years and over	4,532	7,799	12,331
				Age not stated	16	6	22
				<i>Total all ages</i>	<i>59,686</i>	<i>46,810</i>	<i>106,496</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 decline in the rate of mortality, the long term decline in the birthrate, 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 1969.

PROPORTION OF DEATHS IN EACH AGE GROUP: AUSTRALIA, 1901 TO 1969<sup>(a)</sup>

(Per cent)

Age at death (years)							1969		
	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60	Males	Females	Persons
Under 1 year	20.51	16.66	13.09	7.40	6.79	5.59	4.33	4.05	4.21
1-4	6.45	6.09	4.51	2.56	1.71	1.33	0.75	0.83	0.79
5-14	3.71	3.47	3.00	2.29	1.34	1.04	0.99	0.76	0.89
15-24	6.22	5.10	4.33	3.61	2.09	1.71	2.75	1.25	2.09
25-34	7.31	7.40	5.92	4.49	2.87	2.30	2.15	1.20	1.73
35-44	8.39	8.02	7.72	6.25	4.52	4.00	4.07	2.86	3.53
45-54	9.29	10.34	9.99	10.34	9.15	8.29	9.59	6.77	8.35
55-64	9.74	12.12	14.82	15.11	16.67	15.81	19.17	12.07	16.05
65-74	13.39	13.51	17.85	22.53	23.09	25.47	25.46	21.69	23.81
75 and over	14.99	17.29	18.77	25.42	31.77	34.46	30.75	48.52	38.56
<i>Total</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>

(a) Excludes particulars of full-blood Aborigines before 1967.

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, i.e. the average number of deaths per 1,000 of population in each age group, were given for each State and Australia for the periods 1932-1934, 1946-1948, 1953-1955, 1960-1962, and 1965-1967 (see Year Books, No. 37, pp. 778-9, No. 39, pp. 615-6, No. 44, pp. 640-1, No. 52, p. 253, and No. 55, p. 189). These rates were based on the age distribution of the population at the relevant censuses.

### AGE-SPECIFIC DEATH RATES(a): STATES, 1969

Age group (years)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.(b)
MALES							
Under 1(c)	21.4	16.6	21.8	18.2	23.6	18.9	20.1
1-4	0.8	1.0	1.2	1.0	1.2	0.9	0.9
5-9	0.4	0.5	0.6	0.5	0.4	0.9	0.5
10-14	0.4	0.5	0.5	0.5	0.5	0.5	0.5
15-19	1.3	1.3	1.5	1.0	1.3	1.4	1.3
20-24	1.6	1.8	1.6	1.1	2.0	2.2	1.7
25-29	1.5	1.4	1.6	1.2	1.6	1.8	1.5
30-34	1.6	1.3	1.8	1.6	2.3	2.4	1.6
35-39	2.2	2.1	3.1	2.0	2.7	2.8	2.4
40-44	4.0	3.7	3.5	3.2	3.6	3.9	3.7
45-49	7.0	5.8	7.3	5.5	5.5	6.1	6.4
50-54	10.6	9.6	11.5	8.8	9.8	10.4	10.2
55-59	17.8	16.5	17.1	15.8	14.4	16.1	16.9
60-64	28.9	25.7	26.0	25.2	28.0	23.8	27.1
65-69	46.5	43.8	42.9	41.1	42.8	45.5	44.4
70-74	65.8	63.6	60.0	61.6	61.0	62.6	63.5
75-79	102.2	105.4	94.8	95.6	103.2	117.0	101.8
80-84	147.4	140.0	133.7	133.0	131.4	142.8	140.6
85 and over	252.7	252.1	237.0	261.1	257.9	274.4	251.9
FEMALES							
Under 1(c)	16.3	13.4	15.9	13.3	20.0	13.9	15.6
1-4	0.8	0.8	0.9	0.8	1.0	0.9	0.9
5-9	0.3	0.4	0.4	0.5	0.2	0.2	0.4
10-14	0.2	0.3	0.3	0.3	0.2	0.2	0.3
15-19	0.5	0.6	0.7	0.5	0.5	0.8	0.6
20-24	0.6	0.5	0.4	0.4	0.6	0.6	0.5
25-29	0.8	0.7	0.7	0.5	0.7	0.6	0.7
30-34	0.8	0.7	1.0	0.7	0.9	1.1	0.8
35-39	1.4	1.1	1.8	1.5	1.3	1.4	1.4
40-44	2.3	2.0	2.8	2.0	1.8	2.2	2.2
45-49	3.7	3.1	4.3	2.6	3.6	3.8	3.5
50-54	6.2	5.6	6.3	4.4	5.5	6.2	5.8
55-59	9.0	8.0	8.1	7.7	7.1	7.4	8.3
60-64	14.0	13.0	12.9	11.5	12.0	14.6	13.2
65-69	22.9	21.6	21.3	20.7	22.1	24.3	22.2
70-74	36.5	34.4	32.2	31.2	35.1	33.7	34.7
75-79	61.7	62.3	59.9	59.2	59.2	64.6	61.4
80-84	101.4	99.5	91.9	96.8	95.3	88.4	98.5
85 and over	207.5	207.5	189.4	182.0	184.5	231.0	201.5

(a) Number of deaths per 1,000 of population in each age group at 30 June 1969. (b) Includes the Australian Capital Territory and the Northern Territory. (c) Infant deaths per 1,000 live births registered.



## AGE-SPECIFIC DEATH RATES(a): AUSTRALIA, 1920-22 TO 1969

Age group (years)	1920-22 (b)	1932-34 (b)	1946-48 (b)	1953-55 (b)	1960-62 (b)	1965-67 (b)(c)	1967	1968	1969
MALES									
Under 1(d)	70.1	46.0	31.7	25.2	22.4	20.3	20.6	19.8	20.1
1-4	7.1	4.1	2.0	1.7	1.2	1.0	1.0	0.9	0.9
5-9	2.0	1.5	0.9	0.7	0.5	0.4	0.4	0.5	0.5
10-14	1.6	1.2	0.8	0.6	0.5	0.5	0.4	0.5	0.5
15-19	2.3	1.8	1.4	1.5	1.2	1.3	1.3	1.5	1.3
20-24	3.1	2.4	1.7	1.8	1.6	1.7	1.7	1.8	1.7
25-29	3.7	2.5	1.7	1.7	1.5	1.5	1.5	1.4	1.5
30-34	4.2	2.9	2.0	1.8	1.7	1.6	1.6	1.6	1.6
35-39	5.4	3.9	2.7	2.4	2.3	2.4	2.3	2.4	2.4
40-44	6.9	5.2	4.1	3.6	3.7	3.8	3.9	3.7	3.7
45-49	9.8	7.8	6.9	6.0	6.0	6.1	6.3	6.1	6.4
50-54	13.1	11.5	11.3	10.4	10.0	10.4	10.1	10.6	10.2
55-59	18.9	17.5	17.7	16.9	16.6	16.9	17.1	17.3	16.9
60-64	28.7	26.4	27.4	26.6	26.4	27.5	27.3	28.6	27.1
65-69	42.9	40.2	42.5	41.3	41.7	43.5	43.7	44.5	44.4
70-74	64.6	61.2	63.4	64.6	63.0	66.7	65.8	67.2	63.5
75-79	105.8	98.5	100.0	98.2	94.6	99.6	97.6	104.0	101.8
80-84	162.7	158.2	148.9	145.9	142.4	145.7	145.3	159.3	140.6
85 and over	284.0	252.5	257.4	250.6	243.4	240.7	230.9	272.4	251.9
FEMALES									
Under 1(d)	54.5	36.7	25.0	19.9	17.6	15.8	15.8	15.6	15.6
1-4	6.2	3.5	1.7	1.4	1.0	0.8	0.8	0.9	0.9
5-9	1.8	1.2	0.6	0.5	0.4	0.3	0.3	0.4	0.4
10-14	1.3	0.9	0.5	0.4	0.3	0.3	0.2	0.3	0.3
15-19	1.9	1.4	0.7	0.6	0.5	0.5	0.5	0.6	0.6
20-24	2.8	2.1	1.1	0.7	0.6	0.6	0.6	0.6	0.5
25-29	3.6	2.6	1.5	0.8	0.7	0.7	0.7	0.6	0.7
30-34	4.1	2.9	1.8	1.1	1.0	1.0	0.9	1.0	0.8
35-39	5.0	3.8	2.4	1.7	1.5	1.5	1.3	1.5	1.4
40-44	5.5	4.3	3.3	2.6	2.3	2.3	2.4	2.4	2.2
45-49	6.8	6.1	4.9	4.2	3.7	3.8	3.8	3.7	3.5
50-54	9.3	8.6	7.6	6.4	5.5	5.8	5.9	5.7	5.8
55-59	12.8	11.5	10.5	9.2	8.1	8.6	8.6	8.7	8.3
60-64	19.1	18.0	16.5	14.8	13.3	13.5	13.5	13.8	13.2
65-69	31.2	29.3	26.2	23.9	22.1	21.8	21.1	22.4	22.2
70-74	50.3	46.9	45.7	40.8	37.0	37.2	36.4	36.5	34.7
75-79	86.9	77.0	75.3	69.5	63.1	62.4	60.5	64.5	61.4
80-84	139.6	126.8	123.0	117.1	105.5	107.7	104.3	108.4	98.5
85 and over	247.5	227.4	223.2	214.0	210.3	197.4	195.2	224.0	201.5

(a) Number of deaths per 1,000 of population of the same age group and sex. The populations used in the calculation of these rates are based on census populations at 4 April 1921 and 30 June 1933, 1947, 1954, 1961 and 1966, and the estimated populations at 30 June 1967, 1968 and 1969. (b) Average annual rate per 1,000 of census population, based on deaths in the three year period, i.e. census year and the years preceding and following it. Full-blood Aborigines are excluded. (c) For purposes of comparison with earlier periods for which full-blood Aborigines are excluded, and because published figures for 1965 and 1966 exclude Aborigines, the figures for the 1967 component have been adjusted to exclude full-blood Aborigines. (d) Infant deaths per 1,000 live births registered.

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

The next table shows for each State and Territory for the period 1946 to 1970, the number of deaths under one year of age and the rates of infant mortality under one year. Rates for Australia and the more populous countries of the world for the latest available year are shown in the table International Vital Statistics at the end of this Chapter.

#### INFANT MORTALITY UNDER ONE YEAR<sup>(a)</sup>: STATES AND TERRITORIES, 1946 TO 1970

<i>Period</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Annual average—									
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
1966-70 . . . . .	1,567	1,071	669	354	393	127	117	51	4,349
Annual total—									
1967 . . . . .	1,452	1,101	678	346	314	130	122	44	4,187
1968 . . . . .	1,525	1,010	716	345	398	143	101	45	4,283
1969 . . . . .	1,625	1,066	691	347	453	139	103	58	4,482
1970 . . . . .	1,743	1,060	672	367	459	116	126	61	4,604
Annual average rate <sup>(b)</sup> —									
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
1966-70 . . . . .	19.0	15.6	18.9	16.6	20.3	15.9	54.9	18.3	18.1
Annual rate <sup>(b)</sup> —									
1967 . . . . .	18.4	16.8	19.5	17.0	17.4	17.2	63.5	18.3	18.26
1968 . . . . .	18.7	14.4	20.3	16.3	20.4	17.2	48.5	17.0	17.78
1969 . . . . .	18.9	15.0	18.9	15.8	21.8	16.5	48.3	18.8	17.92
1970 . . . . .	19.7	14.5	17.9	16.2	21.2	14.3	48.4	17.6	17.89

(a) Excludes particulars of full-blood Aborigines before 1966. (b) Number of deaths of children aged under one year per 1,000 live births registered.

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 599,717 male infants born from 1965 to 1969, 12,288 (20.49 per 1,000) died during the first year of life, while of 568,371 female infants only 9,111 (16.03 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(a): AUSTRALIA, 1941 TO 1969

Period	Age at death											Total under one year		
	Days		Total under one week	Weeks			Total under four weeks	Months				Males	Females	Persons
	Under 1	1-6		1	2	3		1-2 (b)	3-5	6-8	9-11			
<b>Annual average—</b>														
1941-45 . . .	1,580	1,269	2,849	332	189	132	3,502	497	460	375	302	2,921	2,215	5,136
1946-50 . . .	1,717	1,297	3,014	259	138	103	3,514	404	415	318	251	2,808	2,094	4,902
1951-55 . . .	1,631	1,250	2,881	237	109	86	3,313	396	431	316	245	2,683	2,018	4,701
1956-60 . . .	1,737	1,195	2,932	221	116	84	3,353	398	457	271	204	2,662	2,021	4,683
1961-65 . . .	1,709	1,187	2,896	191	102	71	3,260	426	417	245	176	2,596	1,928	4,524
<b>Annual total—</b>														
1965 . . .	1,544	1,067	2,611	164	103	69	2,947	372	389	244	165	2,357	1,760	4,117
1966 . . .	1,511	1,107	2,618	165	77	67	2,927	362	394	213	149	2,328	1,717	4,045
1967 . . .	1,572	1,144	2,716	169	91	77	3,053	385	390	215	144	2,421	1,766	4,187
1968 . . .	1,768	1,050	2,818	146	70	72	3,106	408	394	221	154	2,452	1,831	4,283
1969 . . .	1,755	1,151	2,906	155	110	69	3,240	407	432	241	162	2,584	1,898	4,482
<b>Annual average rate(c)—</b>														
1941-45 . . .	10.75	8.64	19.39	2.27	1.29	0.90	23.85	3.38	3.13	2.55	2.06	38.80	30.93	34.97
1946-50 . . .	9.45	7.14	16.59	1.43	0.76	0.56	19.34	2.22	2.29	1.75	1.38	30.08	23.70	26.98
1951-55 . . .	8.09	6.20	14.29	1.18	0.54	0.43	16.44	1.97	2.14	1.57	1.22	25.99	20.56	23.34
1956-60 . . .	7.81	5.37	13.18	0.99	0.52	0.38	15.07	1.79	2.06	1.22	0.92	23.29	18.69	21.05
1961-65 . . .	7.34	5.09	12.43	0.82	0.44	0.30	13.99	1.83	1.79	1.05	0.76	21.67	17.03	19.42
<b>Annual rate(c)—</b>														
1965 . . .	6.93	4.79	11.72	0.73	0.46	0.31	13.22	1.67	1.75	1.09	0.74	20.59	16.24	18.47
1966 . . .	6.79	4.97	11.76	0.74	0.35	0.30	13.15	1.62	1.77	0.96	0.67	20.33	15.88	18.17
1967 . . .	6.85	4.99	11.84	0.74	0.40	0.33	13.31	1.68	1.70	0.94	0.63	20.57	15.82	18.26
1968 . . .	7.34	4.36	11.70	0.60	0.29	0.30	12.89	1.69	1.64	0.92	0.64	19.83	15.61	17.78
1969 . . .	7.02	4.60	11.62	0.61	0.44	0.28	12.95	1.63	1.73	0.96	0.65	20.14	15.57	17.92

(a) Excludes particulars of full-blood Aborigines before 1967. (b) Age four weeks and under three months. (c) Number of deaths of children aged under one year per 1,000 live births registered.

Plate 22, on page 179 shows infant mortality rates for each year from 1910 to 1969.

### 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), 1955 (Seventh) and 1965 (Eighth), were successively adopted for use in Australian statistics.

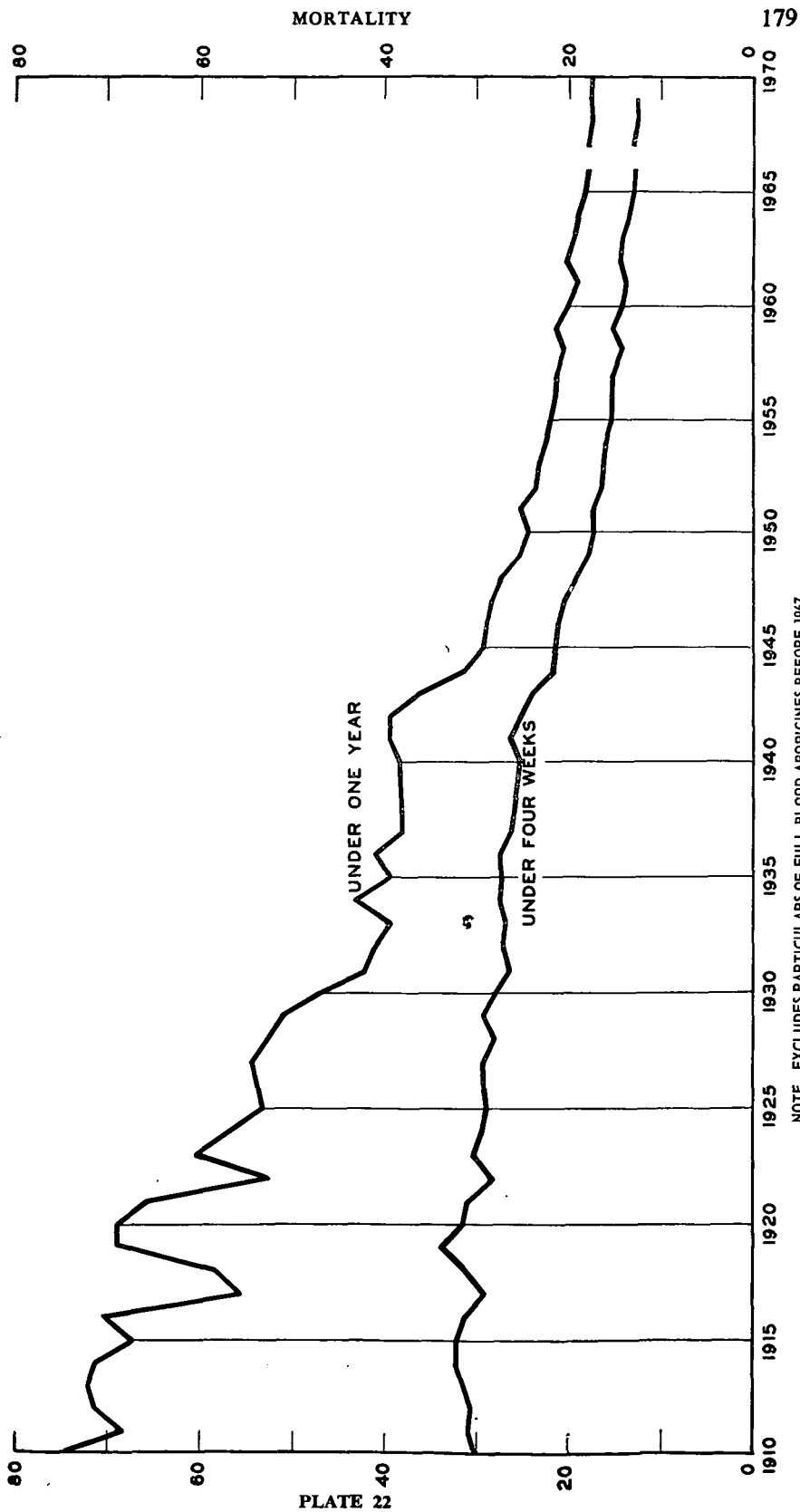
The Eighth Revision of the classification (now known as the International Classification of Diseases, Injuries and Causes of Death) was used in Australia for the first time in 1968. Hence, cause of death figures for 1968 and subsequent years are not comparable, for some causes, with figures for 1967 and earlier years.

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 1969 which follow. Some categories have been sub-divided to show additional particulars of interest in Australian statistics. Table A shows the total number of males and females who died, the death rates per million of mean population, and the percentage of total deaths. Table B shows deaths for males and females, classified by age groups.

# INFANT MORTALITY RATES: AUSTRALIA

1910 TO 1970

(INFANT DEATHS PER 1,000 LIVE BIRTHS)



NOTE: EXCLUDES PARTICULARS OF FULL-BLOOD ABORIGINES BEFORE 1967

**A. CAUSES OF DEATH: NUMBERS, PROPORTIONS AND CRUDE RATES(a), MALES AND FEMALES, AUSTRALIA, 1969**

**ABBREVIATED LIST OF 50 CAUSES WITH CERTAIN SUB-DIVISIONS**

Cause of death	Males			Females			
	ICD numbers	Number of deaths	Percentage of total	Crude rates(a)	Number of deaths	Percentage of total	Crude rates(a)
B 1 Cholera . . . . .	000	..	..	..	..	..	..
B 2 Typhoid fever . . . . .	001	..	..	..	..	..	..
B 3 Bacillary dysentery and amoebiasis . . . . .	004, 006	3	(b)	(c)	4	(b)	1
B 4 Enteritis and other diarrhoeal diseases . . . . .	008, 009	163	0.3	26	181	0.4	30
B 5 Tuberculosis of respiratory system . . . . .	010-012	119	0.2	19	29	0.1	5
B 6 Other tuberculosis, including late effects . . . . .	013-019	38	0.1	6	27	0.1	4
B 7 Plague . . . . .	020	..	..	..	..	..	..
B 8 Diphtheria . . . . .	032	..	..	..	..	..	..
B 9 Whooping cough . . . . .	033	2	(b)	(c)	2	(b)	(c)
B10 Streptococcal sore throat and scarlet fever . . . . .	034	..	..	..	2	(b)	(c)
B11 Meningococcal infection . . . . .	036	17	(b)	3	9	(b)	1
B12 Acute poliomyelitis . . . . .	040-043	..	..	..	..	..	..
B13 Smallpox . . . . .	050	..	..	..	..	..	..
B14 Measles . . . . .	055	15	(b)	2	19	(b)	3
B15 Typhus and other rickettsioses . . . . .	080-083	..	..	..	..	..	..
B16 Malaria . . . . .	084	1	(b)	(c)	..	..	..
B17 Syphilis and its sequelae . . . . .	090-097	16	(b)	3	5	(b)	1
B18 All other infective and parasitic diseases . . . . .	Remainder of 000-136	144	0.2	23	123	0.3	20
B19 Malignant neoplasms—							
Digestive organs . . . . .	150-159	3,013	5.0	486	2,884	6.2	472
Lung . . . . .	162	2,654	4.4	428	383	0.8	63
Skin . . . . .	172, 173	316	0.5	51	183	0.4	30
Breast . . . . .	174	9	(b)	1	1,448	3.1	237
Genital organs . . . . .	180-187	1,039	1.7	168	1,073	2.3	176
Urinary organs . . . . .	188, 189	537	0.9	87	262	0.6	43
Leukaemia and aleukaemia . . . . .	204-207	389	0.7	63	294	0.6	48
Other malignant and lymphatic neoplasms . . . . .	Remainder of 140-209	1,705	2.9	275	1,161	2.5	190
B20 Benign neoplasms and neoplasms of unspecified nature . . . . .	210-239	100	0.2	16	99	0.2	16
B21 Diabetes mellitus . . . . .	250	761	1.3	123	996	2.1	163
B22 Avitaminoses and other nutritional deficiency . . . . .	260-269	41	0.1	7	56	0.1	9
B23 Anaemias . . . . .	280-285	94	0.2	15	133	0.3	22
B24 Meningitis . . . . .	320	49	0.1	8	52	0.1	9
B25 Active rheumatic fever . . . . .	390-392	13	(b)	2	10	(b)	2
B26 Chronic rheumatic heart disease . . . . .	393-398	407	0.7	66	512	1.1	84
B27 Hypertensive disease . . . . .	400-404	749	1.3	121	945	2.0	155
B28 Ischaemic heart disease . . . . .	410-414	19,943	33.4	3,217	12,768	27.3	2,090
B29 Other forms of heart disease . . . . .	420-429	2,067	3.5	333	2,591	5.5	424
B30 Cerebrovascular disease . . . . .	430-438	6,239	10.5	1,007	8,394	17.9	1,374
B31 Influenza . . . . .	470-474	122	0.2	20	93	0.2	15
B32 Pneumonia . . . . .	480-486	1,499	2.5	242	1,167	2.5	191
B33 Bronchitis, emphysema and asthma . . . . .	490-493	2,990	5.0	482	685	1.5	112
B34 Peptic ulcer . . . . .	531-533	381	0.6	61	206	0.4	34
B35 Appendicitis . . . . .	540-543	38	0.1	6	29	0.1	5
B36 Intestinal obstruction and hernia . . . . .	550-553, 560	175	0.3	28	199	0.4	33
B37 Cirrhosis of liver . . . . .	571	460	0.8	74	216	0.5	35
B38 Nephritis and nephrosis . . . . .	580-584	412	0.7	66	359	0.8	59
B39 Hyperplasia of prostate . . . . .	600	247	0.4	40	..	..	..
B40 Abortion . . . . .	640-645	..	..	..	3	(b)	(c)
B41 Other complications of pregnancy, childbirth and the puerperium. Delivery without mention of complication . . . . .	630-639, 650-678	..	..	..	41	0.1	7
B42 Congenital anomalies . . . . .	740-759	651	1.1	105	592	1.3	97
B43 Birth injury, difficult labour and other anoxic and hypoxic conditions . . . . .	764-768, 772, 776	530	0.9	86	342	0.7	56
B44 Other causes of perinatal mortality . . . . .	Remainder of 760-779	942	1.6	152	635	1.4	104
B45 Symptoms and ill-defined conditions . . . . .	780-796	358	0.6	58	338	0.7	55

For footnotes see end of table next page.

**A. CAUSES OF DEATH: NUMBERS, PROPORTIONS AND CRUDE RATES(a), MALES AND FEMALES, AUSTRALIA, 1969—continued**

**ABBREVIATED LIST OF 50 CAUSES WITH CERTAIN SUB-DIVISIONS—continued**

Cause of death	Males			Females				
	ICD numbers	Number of deaths	Percentage of total	Crude rates(a)	Number of deaths	Percentage of total	Crude rates(a)	
B46	Arteriosclerosis	440	986	1.7	159	1,275	2.7	209
	Other diseases of circulatory system	441-448, 450-458			153	677	1.4	111
	Other diseases of respiratory system	460-466, 500-508, 510-519	465	0.8	75	345	0.7	56
	All other diseases	Remainder of 240-738	2,141	3.6	345	2,320	5.0	380
BE47	Motor vehicle accidents	E810-E823	2,700	4.5	436	988	2.1	162
BE48	All other accidents	E800-E807, E825-E949	1,707	2.9	275	1,031	2.2	169
BE49	Suicide and self-inflicted injuries	E950-E959	1,025	1.7	165	477	1.0	78
BE50	All other external causes	E960-E999	265	0.4	43	147	0.3	24
	All causes		59,686	100.0	9,629	46,810	100.0	7,663

(a) Number of deaths per million of estimated mean population. (b) Less than 0.05. (c) Less than 0.5.

**B. CAUSES OF DEATH: MALES AND FEMALES IN AGE GROUPS, AUSTRALIA, 1969**

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

Cause of death(a)	Sex	Number of deaths in age groups (years)										75 plus	Not stated	Total		
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74						
B 3	Bacillary dysentery and amoebiasis	M	1	..	..	..	2	..	..	..	..	..	..	..	..	3
		F	1	1	..	..	..	1	..	..	..	1	..	..	..	4
B 4	Enteritis and other diarrhoeal diseases	M	57	31	3	..	2	5	9	7	23	26	..	..	..	163
		F	56	36	1	..	1	1	8	9	19	50	..	..	..	181
B 5	Tuberculosis of respiratory system	M	..	..	..	1	3	3	14	32	37	29	..	..	..	119
		F	..	..	1	..	2	2	7	6	8	3	..	..	..	29
B 6	Other tuberculosis, including late effects	M	..	1	..	..	1	1	3	14	13	5	..	..	..	38
		F	..	2	..	..	2	1	4	11	3	4	..	..	..	27
B 9	Whooping cough	M	2	..	..	..	..	..	..	..	..	..	..	..	..	2
		F	1	1	..	..	..	..	..	..	..	..	..	..	..	2
B10	Streptococcal sore throat and scarlet fever	M	1	..	1	..	..	..	..	..	..	..	..	..	..	2
		F	1	..	..	..	..	..	..	..	..	..	..	..	..	2
B11	Meningococcal infection	M	4	4	6	2	..	..	..	..	..	..	..	..	..	17
		F	3	4	2	..	..	..	..	..	..	..	..	..	..	9
B14	Measles	M	2	7	2	3	..	..	..	..	1	..	..	..	..	15
		F	3	12	2	1	..	..	..	..	1	..	..	..	..	19
B16	Malaria	M	..	..	..	..	..	1	..	..	..	..	..	..	..	1
B17	Syphilis and its sequelae	M	..	..	..	..	..	1	4	3	5	3	..	..	..	16
		F	1	..	..	..	..	..	..	1	1	2	..	..	..	5
B18	All other infective and parasitic diseases	M	35	6	12	4	6	10	10	21	24	16	..	..	..	144
		F	27	7	5	3	8	13	15	10	11	24	..	..	..	123
B19	Malignant neoplasms:															
	Digestive organs	M	1	1	..	6	20	99	323	708	950	905	..	..	..	3,013
		F	..	1	..	3	23	82	262	495	781	1,236	1	..	..	2,884
	Lung	M	..	..	..	1	5	63	337	814	972	462	..	..	..	2,654
		F	..	..	..	..	2	15	62	109	94	101	..	..	..	383
	Skin	M	..	..	1	6	24	35	59	82	61	48	..	..	..	316
		F	..	..	..	4	11	27	30	28	36	47	..	..	..	183
	Breast	M	..	..	..	..	..	..	4	..	3	2	..	..	..	9
		F	..	..	..	1	15	111	310	377	272	362	..	..	..	1,448
	Genital organs	M	..	3	..	19	15	11	15	105	303	568	..	..	..	1,039
		F	..	..	2	4	13	81	215	240	269	249	..	..	..	1,073
	Urinary organs	M	..	7	4	..	2	13	66	133	160	152	..	..	..	537
		F	1	3	5	2	1	4	26	54	72	94	..	..	..	262
	Leukaemia and aleukaemia	M	3	27	41	19	13	18	45	83	81	59	..	..	..	389
		F	..	22	27	18	15	23	25	46	52	66	..	..	..	294
	Other malignant and lymphatic neoplasms	M	4	17	40	55	54	121	252	445	418	298	1	..	..	1,705
		F	3	11	23	30	34	61	150	276	281	292	..	..	..	1,161
B20	Benign neoplasms and neoplasms of unspecified nature	M	3	4	5	6	..	10	13	22	22	15	..	..	..	100
		F	5	2	5	5	5	5	22	21	17	12	..	..	..	99
B21	Diabetes mellitus	M	..	1	..	2	6	33	51	137	256	275	..	..	..	761
		F	1	1	3	6	2	22	43	115	316	488	..	..	..	996
B22	Avitaminoses and other nutritional deficiency	M	1	1	..	1	..	..	2	6	11	19	..	..	..	41
		F	9	3	..	1	2	..	5	11	5	20	..	..	..	56

For footnote see end of table next page.

B. CAUSES OF DEATH: MALES AND FEMALES IN AGE GROUPS, AUSTRALIA, 1969—*continued*ABBREVIATED LIST OF 50 CAUSES (BASED ON THE EIGHTH REVISION OF THE INTERNATIONAL LIST)—*continued*

Cause of death(a)	Sex	Number of deaths in age groups (years)										75 plus	Not stated	Total
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74				
B23 Anaemias . . . . .	M	2	2	3	1	4	4	3	10	16	49	..	94	
	F	1	..	2	2	2	4	6	13	27	76	..	133	
B24 Meningitis . . . . .	M	20	9	4	1	1	3	3	3	2	3	..	49	
	F	22	3	5	1	1	3	1	6	4	6	..	52	
B25 Active rheumatic fever . . . . .	M	..	1	..	2	1	..	3	2	2	2	..	13	
	F	..	1	1	..	2	1	..	2	1	2	..	10	
B26 Chronic rheumatic heart disease . . . . .	M	..	..	2	9	16	36	63	104	105	72	..	407	
	F	..	..	2	7	12	28	63	109	115	176	..	512	
B27 Hypertensive disease . . . . .	M	..	..	..	2	5	26	70	159	207	280	..	749	
	F	..	..	..	1	7	30	47	109	229	522	..	945	
B28 Ischaemic heart disease . . . . .	M	..	..	..	1	58	562	2,212	4,898	5,994	6,215	3	19,943	
	F	..	..	..	2	10	101	518	1,601	3,642	6,893	1	12,768	
B29 Other forms of heart disease . . . . .	M	7	1	3	12	17	44	105	214	448	1,214	2	2,067	
	F	11	5	5	11	22	31	56	127	392	1,930	1	2,591	
B30 Cerebrovascular disease . . . . .	M	1	1	4	16	47	137	398	947	1,757	2,930	1	6,239	
	F	..	3	5	8	26	124	372	721	1,860	5,274	1	8,394	
B31 Influenza . . . . .	M	4	..	1	4	4	6	19	17	28	39	..	122	
	F	3	1	..	1	2	4	10	10	26	36	..	93	
B32 Pneumonia . . . . .	M	219	29	12	10	11	50	114	135	263	656	..	1,499	
	F	166	36	7	9	14	21	38	70	145	661	..	1,167	
B33 Bronchitis, emphysema and asthma . . . . .	M	13	10	15	14	18	40	153	569	1,073	1,085	..	2,990	
	F	6	2	5	21	17	39	73	107	155	260	..	685	
B34 Peptic ulcer . . . . .	M	1	..	..	..	3	19	45	85	98	129	1	381	
	F	..	..	1	..	3	5	23	32	42	100	..	206	
B35 Appendicitis . . . . .	M	..	1	4	..	1	2	6	7	10	7	..	38	
	F	..	1	1	4	1	3	1	1	7	10	..	29	
B36 Intestinal obstruction and hernia . . . . .	M	28	1	..	4	3	4	11	21	38	65	..	175	
	F	25	..	4	1	..	3	7	12	41	106	..	199	
B37 Cirrhosis of liver . . . . .	M	1	1	2	4	12	64	127	133	94	22	..	460	
	F	3	1	2	3	2	19	62	51	47	26	..	216	
B38 Nephritis and nephrosis . . . . .	M	2	1	5	5	19	19	60	92	97	112	..	412	
	F	1	..	4	5	9	27	49	65	77	122	..	359	
B39 Hyperplasia of prostate . . . . .	M	..	..	..	..	..	..	1	16	43	187	..	247	
B40 Abortion . . . . .	F	..	..	..	..	..	3	..	..	..	..	..	3	
B41 Other complications of pregnancy, childbirth and the puerperium. Delivery without mention of complication . . . . .	F	..	..	..	12	14	14	1	..	..	..	..	41	
B42 Congenital anomalies . . . . .	M	479	50	35	26	16	5	13	20	7	..	..	651	
	F	400	55	39	15	12	9	19	26	11	6	..	592	
B43 Birth injury, difficult labour and other anoxic and hypoxic conditions . . . . .	M	525	1	1	2	..	..	1	..	..	..	..	530	
	F	339	1	1	1	..	..	..	..	..	..	..	342	
B44 Other causes of perinatal mortality . . . . .	M	942	..	..	..	..	..	..	..	..	..	..	942	
	F	633	1	1	..	..	..	..	..	..	..	..	635	
B45 Symptoms and ill-defined conditions . . . . .	M	30	6	3	22	28	26	33	48	48	112	2	358	
	F	17	2	1	7	9	12	20	21	43	205	1	338	
Arteriosclerosis . . . . .	M	..	..	..	..	..	3	5	35	191	752	..	986	
	F	..	..	..	..	..	1	7	17	115	1,135	..	1,275	
Other diseases of circulatory system . . . . .	M	..	1	1	5	9	13	68	181	305	366	..	949	
	F	..	2	1	8	6	14	30	75	145	396	..	677	
Other diseases of respiratory system . . . . .	M	69	19	12	11	7	11	30	64	103	139	..	465	
	F	69	19	2	5	3	16	26	30	50	125	..	345	
All other diseases . . . . .	M	52	37	50	81	44	137	237	416	481	605	1	2,141	
	F	28	16	45	38	66	122	246	354	457	947	1	2,320	
BE47 Motor vehicle accidents . . . . .	M	6	63	154	902	407	301	267	296	203	99	2	2,700	
	F	6	59	92	244	77	85	109	123	122	71	..	988	
BE48 All other accidents . . . . .	M	65	97	146	233	180	210	222	174	125	252	3	1,707	
	F	51	71	47	35	16	35	60	64	107	545	..	1,031	
BE49 Suicide and self-inflicted injuries . . . . .	M	..	..	6	118	176	230	198	139	106	52	..	1,025	
	F	..	..	..	41	70	100	121	78	47	20	..	477	
BE50 All other external causes . . . . .	M	5	7	11	29	41	51	50	42	15	14	..	265	
	F	6	4	7	24	22	34	21	17	7	5	..	147	
All Causes . . . . .	M	2,584	448	588	1,639	1,281	2,427	5,724	11,440	15,199	18,340	16	59,686	
	F	1,898	389	357	584	561	1,337	3,170	5,650	10,153	22,705	6	46,810	

(a) In 1969, there were no male deaths recorded in the following categories: B1, Cholera (000); B2, Typhoid fever (001); B7, Plague (020); B8, Diphtheria (032); B10, Streptococcal sore throat and scarlet fever (034); B12, Acute poliomyelitis (040-043); B13, Smallpox (050); B15, Typhus and other rickettsioses (080-083). No female deaths were recorded in the following categories: B1; B2; B7; B8; B12; B13; B15; B16, Malaria (084).

## 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 1969 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, 1969

Inter- national Classi- fication of Diseases number	Cause of death	Age at death										
		Days			Weeks			Months			Total under one year	
		Under 1	1-6	one week	1	2	3 weeks	1-2 (a)	3-5	6-11		
760	Chronic circulatory and genito- urinary diseases in mother . . .	19	9	28	..	..	2	30	..	..	..	30
761	Other maternal conditions un- related to pregnancy . . .	52	31	83	2	..	..	85	4	1	..	90
762	Toxaemias of pregnancy . . .	45	55	100	..	1	..	101	1	..	..	102
763	Maternal ante and intrapartum infection . . .	16	9	25	1	1	..	27	..	..	..	27
764-768	Difficult labour . . .	116	76	192	4	3	..	199	1	..	..	200
769	Other complications of pregnancy and childbirth . . .	362	158	520	13	5	..	538	..	..	..	538
770	Conditions of placenta . . .	215	106	321	3	1	1	326	1	..	..	327
771	Conditions of umbilical cord . . .	30	12	42	1	..	1	44	1	1	..	46
772, 773	Birth injury without mention of cause . . .	35	50	85	4	3	1	93	1	2	1	97
774, 775	Haemolytic disease of newborn . . .	63	28	91	3	..	1	95	..	..	..	95
776	Anoxic and hypoxic conditions not elsewhere classified . . .	308	245	553	13	6	1	573	3	..	..	576
777	Immaturity unqualified . . .	184	62	246	3	1	2	252	2	..	..	254
778, 779	Other conditions of newborn . . .	15	32	47	2	5	2	56	1	..	..	57
740-759	Congenital anomalies . . .	253	208	461	60	42	28	591	122	94	72	879
000-136	Infections . . .	3	7	10	13	10	7	40	35	41	78	194
480-486	Pneumonia . . .	5	29	34	17	12	6	69	96	128	92	385
(b)	Other diseases . . .	30	31	61	14	19	14	108	102	124	112	446
E911-E913	Inhalation or ingestion of food or other object causing obstruction or suffocation, and accidental mechanical suffocation . . .	..	3	3	2	..	2	7	28	29	22	86
(c)	Other external causes . . .	4	..	4	..	1	1	6	9	12	26	53
	<b>All Causes . . .</b>	<b>1,755</b>	<b>1,151</b>	<b>2,906</b>	<b>155</b>	<b>110</b>	<b>69</b>	<b>3,240</b>	<b>407</b>	<b>432</b>	<b>403</b>	<b>4,482</b>

(a) Age four weeks and under 3 months.

(b) 140-474, 490-738, 780-796.

(c) E800-E910, E914-E999

**Deaths from certain important causes**

In the preceding tables, particulars have been given for each of the causes of death comprising the Abbreviated Classification according to the Eighth Revision of the International List. Certain important causes are discussed in detail below. The Abbreviated Classification numbers used in Tables A and B (pages 180-2) are indicated in parentheses for each cause or group of causes.

*All forms of tuberculosis (B5, B6).* 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 0.5 in 1969. The reductions in the younger age groups are much greater. In making these comparisons, consideration of the effect of the change in basis from the Fifth to the Sixth Revision of the International List is particularly important.

*Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues (B19).* Deaths classified under this heading according to the Sixth, Seventh and Eighth 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).

The most common sites of malignant neoplasms causing death in 1969 were as follows: digestive organs (males, 3,013; females, 2,884); lung (males, 2,654; females, 383); genital organs (males, 1,039; females, 1,073); breast (males, 9; females, 1,448); urinary organs (males, 537; females, 262); leukaemia and aleukaemia (males, 389; females, 294).

Deaths in age groups and age-specific death rates for males and females who died from malignant neoplasms in 1969 are given in the table below, together with figures for 1950 and 1960.



**DEATHS AND DEATH RATES FROM MALIGNANT NEOPLASMS(a), BY AGE GROUP AND SEX  
AUSTRALIA, 1950 TO 1969(b)**

Age group (years)	1950				1960				1969			
	Number		Rate(c)		Number		Rate(c)		Number		Rate(c)	
	M	F	M	F	M	F	M	F	M	F	M	F
Under 15 . . . . .	92	53	8	5	141	110	9	7	149	98	8	6
15-29 . . . . .	95	75	10	8	112	75	10	7	165	104	11	7
30-44 . . . . .	249	413	27	47	361	517	32	49	434	476	37	43
45-54 . . . . .	552	669	118	148	852	831	138	143	1,101	1,080	157	156
55-64 . . . . .	1,294	1,171	347	299	1,671	1,186	401	276	2,370	1,625	443	303
65 and over . . . . .	3,072	2,694	1,014	748	4,067	3,373	1,075	679	5,442	4,304	1,270	716
<b>Total . . . . .</b>	<b>5,355</b>	<b>5,075</b>	<b>130</b>	<b>125</b>	<b>7,207</b>	<b>6,092</b>	<b>139</b>	<b>120</b>	<b>9,662</b>	<b>7,688</b>	<b>156</b>	<b>126</b>
	(d)				(e)				(d)	(f)		

(a) Includes neoplasms of lymphatic and haematopoietic tissues. (b) Excludes particulars of full-blood Aborigines prior to 1967. (c) Number of deaths per 100,000 of population at risk. For the individual age groups, the population at risk is that estimated at 30 June. For the total of all ages, the population at risk is the calendar year mean population. (d) Includes 1 male, age not stated. (e) Includes 3 males, age not stated. (f) Includes 1 female, age not stated.

Death rates from malignant neoplasms per 100,000 of mean population for Australia and for various other countries for the latest available year are as follows: Israel, 109; Japan, 113; Poland, 133; South Africa (white population), 137; Canada, 138; Australia, 141; United States of America, 157; Italy, 166; Uruguay, 188; Netherlands, 198; France, 212; England and Wales, 232; Scotland, 240.

*Causes of infant mortality.* See paragraph devoted to causes of infant deaths on page 182.

*Diseases of the circulatory system (B25-B30, part B46).* This class is the largest among causes of death, representing 55 per cent of total deaths in 1969. The following table shows the number of deaths and death rates per 100,000 of mean population from diseases of the circulatory system for the years 1950-69. Comparability of the figures is not affected by the various revisions of the International Classification of Diseases.

**DEATHS AND DEATH RATES FROM DISEASES OF THE CIRCULATORY SYSTEM  
BY SEX, AUSTRALIA, 1950 TO 1969(a)**

Year	Cerebrovascular disease				Heart disease				Other diseases of circulatory system				Total			
	Number		Rate(b)		Number		Rate(b)		Number		Rate(b)		Number		Rate(b)	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1950 . . . . .	4,035	5,351	98	132	14,687	10,256	356	253	1,736	1,802	42	44	20,458	17,409	496	429
1955 . . . . .	4,811	6,224	103	137	16,382	11,303	352	249	1,843	1,886	40	42	23,036	19,413	495	427
1960 . . . . .	5,183	6,659	100	131	18,654	13,173	359	259	2,068	1,970	40	39	25,905	21,802	499	429
1965 . . . . .	5,809	7,835	101	139	21,843	15,546	381	275	2,029	2,071	35	37	29,681	25,452	517	450
1969 . . . . .	6,239	8,394	101	137	22,887	16,529	369	271	2,227	2,249	36	37	31,353	27,172	506	445

(a) Excludes particulars of full-blood Aborigines prior to 1967. (b) Per 100,000 of mean population.

*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; injuries undetermined whether accidentally or purposely inflicted; 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 1969(b)**

Period	Death rate from—										All violence, percentage of total deaths	
	Motor vehicle accidents		Suicide		Homicide(c)		Other violence(d)		Total violence			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1936-40 . . . . .	32	8	17	5	2	1	55	20	105	34	9.80	3.99
1941-45 . . . . .	19	5	11	5	1	1	48	21	79	31	7.30	3.48
1946-50 . . . . .	30	6	14	5	1	1	46	21	91	33	8.44	3.83
1951-55 . . . . .	38	9	15	5	2	1	44	22	99	37	9.64	4.53
1956-60 . . . . .	37	11	17	6	2	1	38	20	93	39	9.57	4.95
1961-65 . . . . .	38	13	19	9	2	1	34	19	93	42	9.54	5.50
1966 . . . . .	41	15	17	11	2	1	32	19	92	46	9.33	5.72
1967 . . . . .	42	15	19	11	2	1	35	20	97	47	10.08	6.11
1968 . . . . .	43	14	17	8	2	1	33	21	95	45	9.43	5.51
1969 . . . . .	44	16	17	8	2	1	30	18	92	43	9.54	5.65

(a) Number of deaths per 100,000 of mean population. (b) Excludes particulars of full-blood Aborigines before 1967. (c) Includes deaths from injury purposely inflicted by other persons (not in war) and legal intervention. (d) Includes deaths from injury undetermined whether accidentally or purposely inflicted.

In 1969 the total number of deaths from *accidental causes* (BE47, BE48) was 6,426 (4,407 males and 2,019 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, 3,597 (55.98 per cent); motor vehicle non-traffic accidents, 91 (1.42 per cent); other road vehicle accidents, 38 (0.59 per cent); railway accidents, 77 (1.20 per cent); water transport accidents, 102 (1.59 per cent); aircraft accidents, 62 (0.96 per cent); a total of 3,967 (61.73 per cent). Other important causes were accidental falls, 1,073 (16.70 per cent); accidental drowning, 326 (5.07 per cent); accidents caused by fires and flames, 190 (2.96 per cent); and accidental poisonings, 146 (2.27 per cent).

Deaths from *suicide* (BE 49) in 1969 numbered 1,502 (males, 1,025; females, 477). Poisoning, other than by gases, occurred in 617 cases (41.08 per cent of total deaths by suicide). Other important modes adopted, together with the numbers and relevant percentages, were as follows: firearms and explosives, 330 (21.97 per cent); poisoning by gases, 238 (15.85 per cent); hanging or strangulation 148 (9.85 per cent); submersion (drowning), 57 (3.79 per cent); other and unspecified modes, 57 (3.79 per cent). Of the 1,025 males who committed suicide, 303 (29.56 per cent) used firearms or explosives. For females the most common mode was poisoning (other than by gases). This was used in 303 cases (63.52 per cent).

Of the 412 deaths recorded in 1969 to all other external causes (BE50), there were 153 deaths from homicide and injury purposely inflicted by other persons, 4 deaths from legal intervention by firearms, 243 deaths from injury undetermined whether accidentally or purposely inflicted (of which 135 were due to poisoning other than by gases), 1 death from injury due to war operations by bullets and fragments and 11 deaths from late effects of injury due to operations of war.

### Vital statistics of External Territories

The following table shows, for the year 1969, the number of marriages, births and deaths registered in the External Territories under the control of Australia. More detailed information will be found in *Demography*, Bulletin No. 85.

#### EXTERNAL TERRITORIES: VITAL STATISTICS, 1969

Territory	Marriages	Births	Deaths
Christmas Island(a)	9	32	8
Cocos (Keeling) Islands(a)	5	8	4
Norfolk Island(a)	12	17	9
Territory of Papua and New Guinea(b)	321	1,256	148

(a) Total population.

(b) Non-indigenous population only.

## International vital statistics

In the following table vital statistics rates for certain 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*, 1969 (see explanation of true death rates, pages 171-2).

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*, 1969 (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 page 152 of the Population chapter.

## VITAL STATISTICS RATES: CERTAIN COUNTRIES—LATEST AVAILABLE YEAR

(Source: United Nations *Demographic Yearbook*, 1969)

Country	Rates(a)					True death rates(b)		
	Year	Marriage	Birth	Death	Infant mortality	Year	Male	Female
<b>Africa—</b>								
United Arab Republic	1969	9.4	36.8	14.4	118.5	1960	19.4	18.6
Ethiopia	1963	n.a.	43.1	22.2	84.2		n.a.	n.a.
<b>South Africa—</b>								
Asian population	1968	8.3	32.3	7.3	50.8	1959-61	17.3	16.8
Coloured population	1968	6.4	40.0	14.4	128.8	1959-61	20.2	18.4
White population	1968	10.1	23.6	8.8	24.6	1959-61	15.4	14.0
Morocco	1962	n.a.	46.1	18.7	149.0	1962	21.3	
Algeria	1968	(c)4.7	40.9	10.4	(d)86.3		n.a.	n.a.
Tanzania	1967	n.a.	47	22	160-165	1967	24-25	
Kenya	1962	n.a.	50	20	n.a.	1962	22-25	
<b>North America—</b>								
United States of America	1969	10.6	17.7	9.5	20.8	1967	14.9	13.5
Mexico	1960-65	(e)7.1	44-45	10-11	(e)65.7	1959-61	17.4	16.6
Canada	1969	8.6	17.6	7.3	(f)20.8	1960-62	14.6	13.5
<b>South America—</b>								
Brazil	1960-65	n.a.	41-43	10-12	n.a.		n.a.	n.a.
Argentina	1960-65	(c)6.8	22-23	8-9	(c)58.3	1960-65	15.7	14.4
Colombia	1960-65	(f)4.2	41-44	12-14	(f)78.3		n.a.	n.a.
Peru	1960-65	(c)3.3	44-45	12-14	(e)61.9	1960-65	19.0	18.0
Venezuela	1960-65	(c)5.7	46-48	9-10	(c)41.4	1961	15.1	
<b>Asia—</b>								
Indonesia	1962	10.6	43.0	21.4	125	1960	21.1	21.1
Pakistan	1965	n.a.	49	18	(g)142	1962	18.6	20.5
Japan	1969	9.3	18.3	6.7	15.3	1967	14.5	13.5
Philippines	1968	(f)5.5	25.0	6.9	(h)72.0		n.a.	n.a.
Thailand	1964	(c)1.4	46.0	12.9	(c)27.9	1960	18.7	17.0
Turkey	1966	n.a.	43	16	155	1966	18.6	
Korea, Republic of	1965	12.0	n.a.	n.a.	(c)40-50		n.a.	n.a.
China, Republic of (Taiwan)	1969	6.7	25.2	5.2	(f)19.0	1965	15.2	14.2
Korea, North	1962	n.a.	41.1	10.8	n.a.		n.a.	n.a.
Ceylon	1968	(c)6.5	31.8	7.9	(c)47.7	1962	16.2	16.3
Nepal	1961	n.a.	41.1	20.8	n.a.		n.a.	n.a.
West Malaysia (Malaya)	1967	1.2	35.3	7.5	45.1	1966	15.8	15.1
<b>Europe—</b>								
<b>Germany—</b>								
Eastern Germany	1968	7.0	14.3	14.3	20.4	1965-66	14.6	13.6
Federal Republic of	1969	7.3	14.8	12.2	(f)22.8	1965-67	14.8	13.6
United Kingdom	1968	8.4	17.1	11.9	18.8	1966-68	14.6	13.4
England and Wales	1968	8.4	16.9	11.9	18.3	1966-68	14.6	13.4
Northern Ireland	1968	7.5	22.1	10.6	24.0	1966-68	14.7	13.6
Scotland	1968	8.4	18.3	12.2	20.8	1968	14.9	13.7
Italy	1969	7.2	17.6	10.1	30.3	1960-62	14.9	13.8
France	1968	7.2	16.8	11.0	20.4	1966	14.7	13.3
Spain	1969	7.2	20.1	9.2	29.8	1960	14.9	13.9
Poland	1969	8.3	16.3	8.1	34.3	1965-66	15.0	13.7
Yugoslavia	1969	8.5	18.8	9.2	56.3	1961-62	16.0	15.2
Romania	1969	7.0	23.3	10.1	54.9	1964-67	15.0	14.2
Czechoslovakia	1969	8.7	15.5	11.2	22.9	1966	14.9	13.6
Netherlands	1969	9.1	19.2	8.3	13.1	1967	14.1	13.1
Hungary	1969	9.3	15.0	11.3	35.6	1964	14.9	13.9
Greece	1968	7.4	18.2	8.3	34.4	1960-62	14.8	14.1
<b>Oceania—</b>								
Australia	1969	9.1	20.3	8.7	17.9	1969	14.8	13.4
New Zealand	1969	9.0	22.5	8.7	16.9	1960-62	14.6	13.6
<b>U.S.S.R.—</b>								
Union of Soviet Socialist Republics	1968	8.9	17.2	7.7	26.4	1967-68	14.3	

(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 page 171). (c) 1967. (d) 1965. (e) 1969. (f) 1968. (g) 1962-65. (h) 1966.