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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 1971 for marriages and 1970 for births, deaths, and infant deaths. Comparisons have been restricted, in general, to the individual years 1967 to 1971 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* (4.9) and *Causes of Death* (4.7). Current information is published in the *Monthly Review of Business Statistics* (1.4), the *Quarterly Summary of Australian Statistics* (1.3), the mimeograph bulletins *Births* (4.4), *Deaths* (4.8), *Marriages* (4.10) (annual) and *Vital and Population Statistics* (quarterly) (4.11).

In most tables the statistics of births, deaths and marriages exclude particulars of full-blood Aborigines for years before 1966. 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 statistics in this chapter refer to events registered by the different State and Territorial registrars during the year shown. There is usually an interval of at least several days between the occurrence and the registration of an event. As a result of the delay in registration some events occurring in one year are not registered until the following year. Events which are registered more than ten years after date of occurrence are excluded from the statistics.

For tables showing statistics for the States and Territories, figures are compiled from registrations of events which took place in each State and Territory. Some events take place in States other than the State in which the persons concerned (e.g. mother, deceased, bride/groom) usually resided. The effect of such interstate registrations on State totals however is slight. See page 166.

Marriages

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.

The marriage of minors is not permissible without the consent of parents or guardians or (where this is not obtainable) of a magistrate or some other prescribed authority. The *Marriage Act* 1961-1966 provides that the minimum age at which persons are legally free to marry is 18 years for males and 16 years for females. A judge or magistrate may, in exceptional circumstances, make an order authorising a male who has attained 16 years or a female who has attained 14 years to marry a person of marriageable age.

Numbers of marriages and crude marriage rates

MARRIAGES(a): STATES AND TERRITORIES, 1946 TO 1971

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
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
1971	43,038	32,386	16,538	10,833	9,382	3,578	485	1,397	117,637

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

CRUDE MARRIAGE RATES(a): STATES AND TERRITORIES, 1946 TO 1971

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust
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	8.97	8.85	8.50	8.82	8.88	8.77	5.84	8.69	8.82
Annual rate—									
1967	8.63	8.55	8.02	8.50	8.45	8.56	5.26	8.53	8.47
1968	8.99	8.94	8.59	8.60	8.84	9.02	6.23	8.60	8.85
1969	9.30	9.12	8.89	9.30	9.43	9.18	5.69	9.19	9.18
1970	9.50	9.21	8.97	9.38	9.30	9.12	6.37	9.11	9.28
1971	9.35	9.24	9.05	9.22	9.12	9.16	5.67	9.70	9.22

(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

In most years about ninety per cent of grooms and brides are single at marriage, six per cent divorced and three per cent widowed.

PREVIOUS MARITAL STATUS OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1971

<i>Previous marital status of bridegrooms</i>	<i>Previous marital status of brides</i>			<i>Total bridegrooms</i>
	<i>Spinsters</i>	<i>Widows</i>	<i>Divorced</i>	
Bachelors . .	101,242	1,169	3,839	106,250
Widowers . .	921	1,762	921	3,604
Divorced . .	4,174	902	2,707	7,783
Total brides .	106,337	3,833	7,467	117,637

Age and previous marital status at marriage

There were 18,678 males under 21 years of age married during 1971, while the corresponding number of females was 52,467.

AGE AND PREVIOUS MARITAL STATUS OF BRIDEGROOMS AND BRIDES AUSTRALIA, 1971

<i>Age at marriage (years)</i>	<i>Bridegrooms</i>				<i>Brides</i>			
	<i>Bachelors</i>	<i>Widowers</i>	<i>Divorced</i>	<i>Total</i>	<i>Spinsters</i>	<i>Widows</i>	<i>Divorced</i>	<i>Total</i>
Under 20 . .	9,134	..	..	9,134	35,820	5	8	35,833
20-24 . .	64,116	22	234	64,372	56,447	115	781	57,343
25-29 . .	22,805	77	1,405	24,287	9,729	214	1,784	11,727
30-34 . .	5,705	129	1,506	7,340	2,342	238	1,334	3,914
35-39 . .	2,100	197	1,155	3,452	844	310	1,006	2,160
40-44 . .	1,134	318	1,117	2,569	476	386	978	1,840
45-49 . .	569	403	920	1,892	266	569	755	1,590
50-54 . .	315	480	631	1,426	145	538	459	1,142
55-59 . .	154	503	422	1,079	103	512	218	833
60-64 . .	118	537	230	885	84	442	88	614
65 and over .	100	938	163	1,201	81	504	56	641
Total .	106,250	3,604	7,783	117,637	106,337	3,833	7,467	117,637

RELATIVE AGES OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1971

<i>Age of bridegroom (years)</i>	<i>Age of bride (years)</i>								<i>Total bridegrooms</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>	
Under 20 . .	6	7,658	1,416	48	3	3	..	..	9,134
20-24 . .	3	24,040	37,590	2,447	228	51	9	4	64,372
25-29 . .	..	3,511	14,642	5,089	812	168	47	18	24,287
30-34 . .	..	478	2,754	2,473	1,098	352	117	68	7,340
35-39 . .	..	91	631	1,002	832	500	256	140	3,452
40-44 . .	..	32	194	411	528	539	488	377	2,569
45-49 . .	..	8	76	165	260	287	403	693	1,892
50-54 . .	..	4	23	47	92	154	304	802	1,426
55-59 . .	..	1	11	26	41	62	136	802	1,079
60-64 . .	..	1	5	11	15	29	56	768	885
65 and over .	..	..	1	8	5	15	24	1,148	1,201
Total brides	9	35,824	57,343	11,727	3,914	2,160	1,840	4,820	117,637

The median age at marriage of brides and bridegrooms has declined during recent years. The median ages, in years, of brides for each of the five years to 1971 were: 1967, 21.49; 1968, 21.50; 1969, 21.54; 1970, 21.46 and 1971, 21.39. The median ages, in years, of bridegrooms were: 1967, 24.06; 1968, 23.89; 1969, 23.78; 1970, 23.74 and 1971, 23.78. The difference in the median age at marriage between brides and bridegrooms is generally about two years, the difference in 1971 being 2.39 years. The median age is the age at which half of the bridegrooms or brides were younger and half were older than that age. It gives a better indication of the most common age at marriage than the average age (mean).

Countries of birth of persons marrying

RELATIVE COUNTRIES OF BIRTH OF BRIDEGROOMS AND BRIDES AUSTRALIA, 1971

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	77,313	439	4,896	789	86	312	213	797	97	490	1,115	86,547
New Zealand	988	170	111	22	1	6	3	12	2	12	49	1,376
United Kingdom and Ireland	7,190	141	2,331	155	14	46	32	142	26	111	308	10,496
Germany	1,446	20	173	245	5	12	15	33	18	97	69	2,133
Greece	288	4	25	10	1,801	9	5	7	26	27	112	2,314
Italy	1,256	12	149	43	15	1,928	38	25	28	64	86	3,644
Malta	384	4	69	14	1	11	353	10	4	5	17	872
Netherlands	1,261	10	146	40	1	6	5	203	4	21	48	1,745
Yugoslavia	361	4	54	36	29	37	10	11	1,336	56	35	1,969
Other European	1,074	26	192	154	34	23	15	38	52	728	138	2,474
Other and unspecified	1,802	47	272	54	67	47	12	38	13	100	1,615	4,067
Total brides	93 363	877	8,418	1,562	2,054	2,437	701	1,316	1,606	1,711	3,592	117,637

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 of 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 1971 belonged to more than fifty different religious denominations.

MARRIAGES BY AUTHORISED CELEBRANTS: STATES AND TERRITORIES, 1971

Category of authorised celebrant	Australia									Proportion of total	
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	No.		
Registered ministers of recognised religious denominations—											
Roman Catholic	12,230	9,784	4,510	2,169	2,515	757	108	487	32,560	27.7	
Church of England	12,736	7,230	4,168	2,135	2,700	1,359	63	331	30,722	26.1	
Methodist	4,459	3,174	2,424	2,440	932	498	70	44	14,041	11.9	
Presbyterian	3,671	4,822	2,217	379	478	150	27	101	11,845	10.1	
Orthodox	1,131	1,508	111	159	93	14	19	26	3,061	2.6	
Baptist	758	560	322	285	118	86	3	13	2,145	1.8	
Lutheran	188	262	450	651	39	7	6	21	1,624	1.4	
Churches of Christ	195	592	173	350	202	19	..	12	1,543	1.3	
Congregational	343	393	115	337	114	43	4	4	1,353	1.2	
Salvation Army	175	165	90	71	37	17	8	5	568	0.5	
Other	766	894	365	171	195	103	8	4	2,506	2.0	
Other authorised celebrants—											
Ministers of religion	174	187	35	84	55	..	4	5	544	0.5	
Civil officers	6,212	2,815	1,558	1,602	1,904	525	165	344	15,125	12.9	
Grand Total	43,038	32,386	16,538	10,833	9,382	3,578	485	1,397	117,637	100.0	
Proportion of total (per cent)—											
Ministers of religion	85.57	91.31	90.58	85.21	79.71	85.33	65.98	75.38	87.14	..	
Civil officers	14.43	8.69	9.42	14.79	20.29	14.67	34.02	24.62	12.86	..	

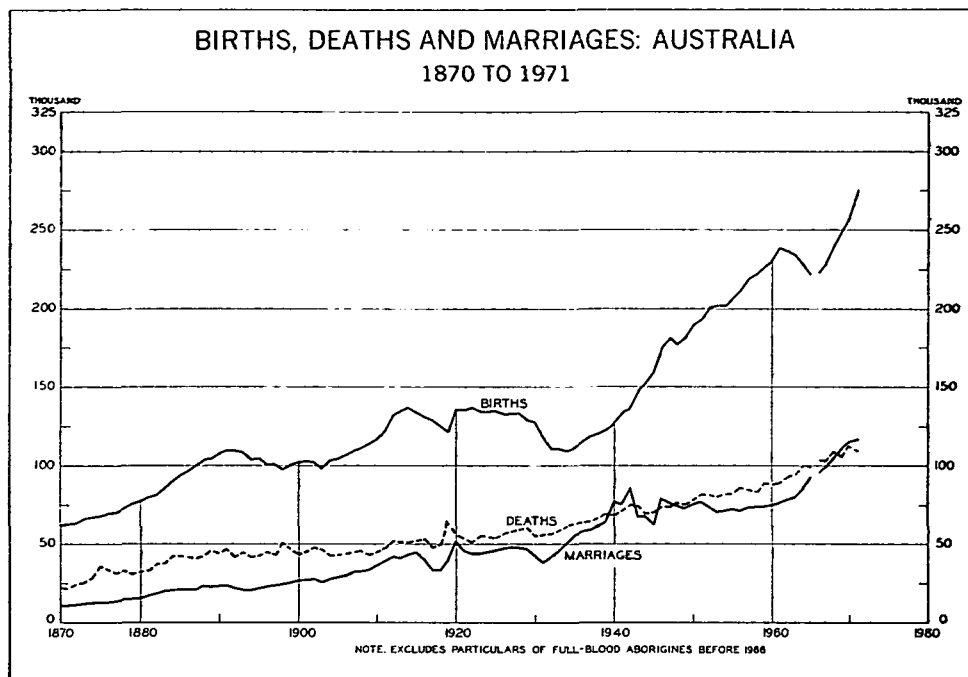


PLATE 19

Divorce

See the chapter Law, Order, and Public Safety.

Births and Fertility

Information concerning a birth is required to be supplied to the registration authority within 28 days in the Australian Capital Territory and the Northern Territory, and 60 days in the States.

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 175-6.

Number of live births

Plate 19, above compares the annual number of births, deaths and marriages. During the 1940s, 1950s and 1960s annual births increased rapidly as fertility rose following the low birthrates of the depression years. The fall from 1961 to 1966 resulted from a steep decline in fertility. Since 1966, numbers have been increasing again.

LIVE BIRTHS(a): STATES AND TERRITORIES, 1946 TO 1971

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
1971 .	98,466	75,498	39,970	22,996	24,239	8,321	2,832	4,040	276,362

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

Masculinity of live births

There is a universal tendency for the number of male births to exceed female births usually by between 5 to 6 per cent. 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 following table shows the figures for Australia for each five year period from 1946 to 1970 and for each of the years 1967 to 1971.

MASCULINITY(a) OF LIVE BIRTHS REGISTERED: AUSTRALIA, 1946 TO 1971

	1946-50	1951-55	1956-60	1961-65	1966-70	1967	1968	1969	1970	1971
Total births	105.60	105.19	105.65	105.83	105.41	105.43	105.41	105.22	105.12	104.34
Ex-nuptial births	104.46	103.36	104.49	106.88	105.11	106.16	104.21	103.95	106.96	106.05

(a) Number of males born for every 100 female births. Excludes particulars of full-blood Aborigines before 1966.

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 168-70. The difference between the crude birth rate and the crude death rate is the rate of natural increase (the hatched area in plate 20, page 167). In the past 100 years the crude birth rate has shown a general downward trend. Since 1967 there has been a small upward movement, which is expected to continue for a few years, partly as a consequence of the increasing number of young women from the postwar baby boom who are now reaching maturity.

CRUDE BIRTH RATES(a): STATES AND TERRITORIES, 1946 TO 1971

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	18.89	20.64	20.43	18.95	21.17	21.01	31.65	24.60	19.97
Annual rates—									
1967	18.36	19.99	20.40	18.37	20.50	20.11	31.10	23.19	19.43
1968	18.74	21.12	20.35	18.89	21.37	21.90	31.01	23.56	20.06
1969	19.38	20.99	20.76	19.29	21.76	21.95	31.32	25.31	20.41
1970	19.56	21.19	20.94	19.53	21.80	21.11	33.38	26.38	20.59
1971	21.40	21.55	21.88	19.56	23.57	21.30	33.13	28.06	21.67

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

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 1970—New South Wales, 19.62; Victoria, 21.17; Queensland, 20.85; South Australia, 19.43; Western Australia, 21.84; Tasmania, 21.15; Northern Territory, 34.14 and Australian Capital Territory, 26.01.

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.

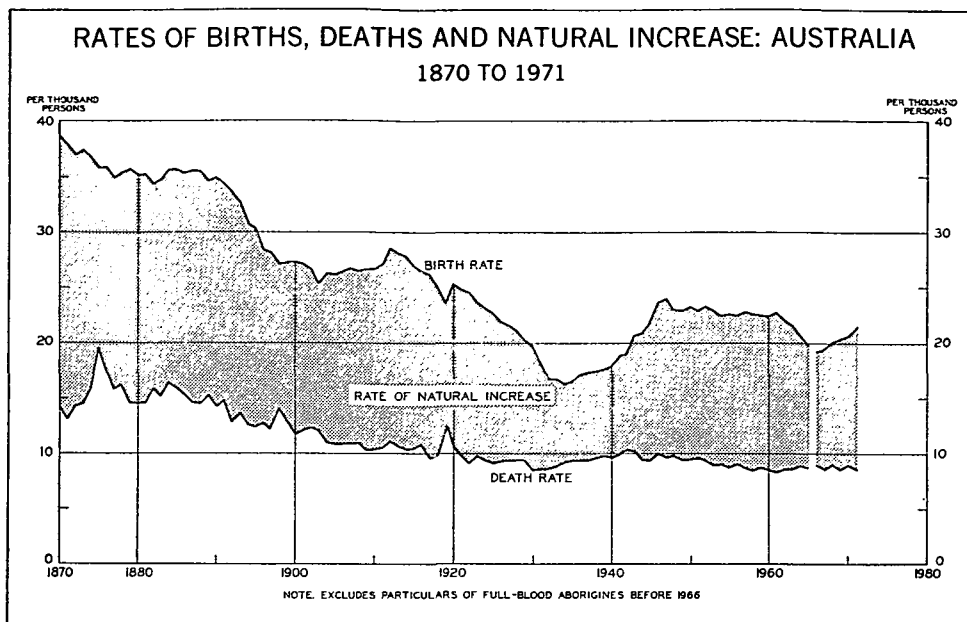


PLATE 20

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 childbearing 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)	Nuptial births Births per 1,000 women aged 15-44 years	Nuptial births per 1,000 married women aged 15-44 years	Crude birth rate(b)	Nuptial births 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.

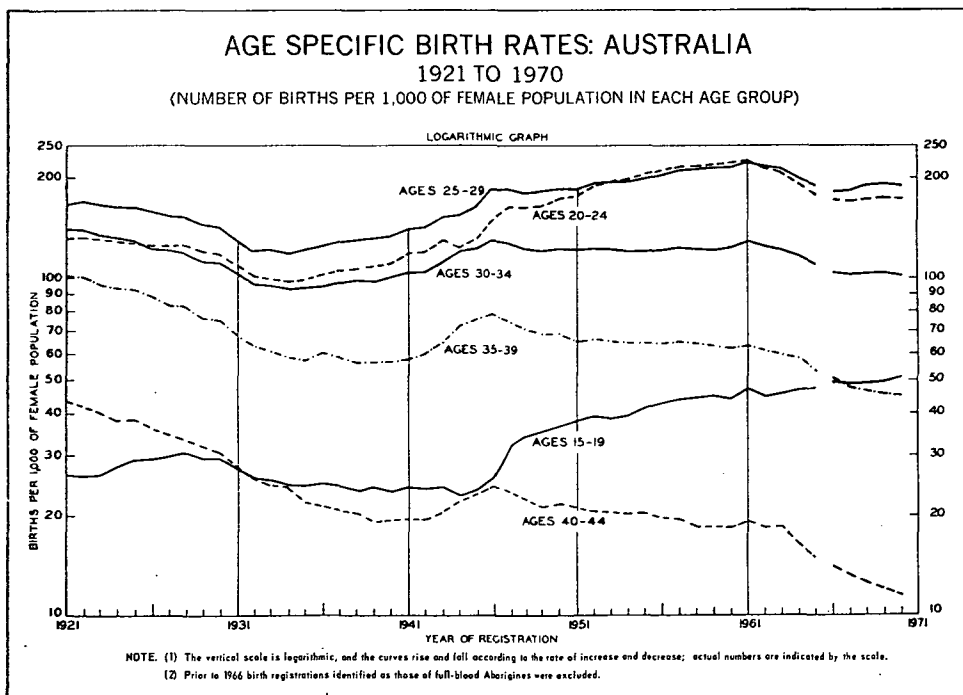
Total fertility is obtained by summing single age specific rates or by summing five-year age-specific rates and multiplying by 5. This total, divided by 1000, represents the hypothetical number of children a woman would bear during her lifetime if she experienced the rates of the year shown.

Since 1946, the fertility of younger women has increased, largely as a result of younger marriage, whereas fertility in the thirty and forty age groups has declined. Total fertility rose to a peak in 1961, of 3.4 children per woman, declined to 2.8 in 1967 and has been about 2.9 since.

AGE-SPECIFIC BIRTH RATES(a): AUSTRALIA, 1946 TO 1970

Period	Age group (years)							Total fertility
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1946-50(b)	33.05	164.22	183.29	126.56	72.33	22.71	1.76	3.020
1951-55(b)	39.54	192.81	192.97	123.51	65.05	20.50	1.53	3.180
1956-60(b)	44.20	216.42	211.47	126.06	63.91	18.96	1.45	3.412
1961-65(b)	46.50	203.95	207.15	122.38	59.18	17.54	1.19	3.289
1966-70(b)	49.28	172.67	188.05	103.32	47.13	12.91	1.00	2.872
1966	49.26	172.81	183.29	105.28	50.60	14.28	1.09	2.883
1967	48.37	170.76	184.97	102.77	47.85	13.49	1.09	2.864
1968	48.88	173.64	190.80	103.30	46.74	12.89	1.05	2.899
1969	48.98	174.15	191.60	103.51	45.56	12.16	1.01	2.889
1970	50.89	172.00	189.59	101.75	44.88	11.74	0.78	2.857

(a) Number of births per 1,000 women in each age group. Excludes particulars of full-blood Aborigines before 1966. The age-specific rates for the years 1967 to 1970 are subject to revision when the age distribution of population is obtained from the results of the 1971 Population Census. (b) Average annual rates.



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, 1947 TO 1970

Year	Gross reproduction rate		Net reproduction rate	
	Gross reproduction rate	Net reproduction rate	Gross reproduction rate	Net reproduction rate
1947	1.494	(b)1.416	1967	1.387 (d)1.342
1954	1.559	(c)1.499	1968	1.406 (d)1.360
1961	1.728	(d)1.672	1969	1.405 (d)1.360
1966	1.400	(d)1.355	1970	1.394 (d)1.349

(a) Excludes particulars of full-blood Aborigines before 1966. Gross and net reproduction rates for the years 1967 to 1970 are subject to revision consequent on any revisions of age-specific birth rates in accordance with 1971 Population Census results. (b) 1946-1948 mortality experience used. (c) 1953-1955 mortality experience used. (d) 1960-62 mortality experience used.

In the following table a comparison is given of the gross and net reproduction rates recorded for various countries in the period 1966 to 1970. 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.

GROSS AND NET REPRODUCTION RATES: VARIOUS COUNTRIES

(Source: *The Population Index*, April-June 1971, Office of Population Research, Princeton University)

Country	Period	Reproduction rate		Country	Period	Reproduction rate	
		Gross	Net			Gross	Net
Panama	1967	2.55	2.30	Austria	1969	1.22	1.17
Mauritius	1968	2.24	1.98	Canada	1969	1.16	1.13
China (Taiwan)	1969	1.99	1.88	United States of America	1968	1.20	1.16
Ireland	1968	1.91	1.82	Germany, Fed. Rep.	1968	1.16	1.11
Chile	1967	1.88	1.56	Yugoslavia	1967	1.23	1.14
Israel	1968	1.85	1.78	Belgium	1968	1.12	1.09
Romania	1968	1.70	1.60	Greece	1967	1.17	1.10
Iceland	1967	1.59	1.55	Denmark	1968	1.03	1.00
New Zealand	1968	1.54	1.50	Finland	1968	1.01	0.97
Australia	1970	1.39	1.35	Italy	1967	1.19	1.14
Scotland	1968	1.35	1.30	Sweden	1967	1.11	1.09
Norway	1968	1.33	1.30	Germany, Dem. Rep.	1967	1.14	1.10
Portugal	1967	1.39	1.25	Czechoslovakia	1967	1.02	0.98
England and Wales	1968	1.24	1.21	Hungary	1968	1.00	0.95
Netherlands	1968	1.32	1.29	Japan	1967	1.08	1.05
France	1967	1.29	1.25				

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, namely, 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, 1959 TO 1970

Births occurring in—	Duration of marriage (years)										Total
	Under 1	1	2	3	4	Total under 5	5-9	10-14	15-19	20 and over	
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
1970	278	236	275	262	231	1,282	675	230	75	16	2,278

(a) Number of births per thousand marriages. From 1966 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 1955-56.

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 $\frac{1}{8}$, $\frac{3}{8}$, $\frac{5}{8}$, $\frac{7}{8}$, $\frac{1}{8}$, $\frac{3}{8}$, and $\frac{1}{8}$ 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, 1955 TO 1970**

Marriages of year—	Completed duration of marriage (years)						
	1	2	3	4	5	10	15
1955-56	352	674	983	1,262	1,511	2,262	2,497
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	2,194	..
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	1,356	..	..
1966-67	308	555	834	1,096	..	..	..
1967-68	308	554	829	..	..	..	..
1968-69	290	526	..	..	..	..	..
1969-70	278	..	..	..	..	..	..

(a) Cumulated number of births per thousand marriages. From 1966 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

A birth is registered as ex-nuptial if the parents were not married to one another at the time of the confinement. Births to tribally-married Aborigines are classified as nuptial. Ex-nuptial births have been increasing and in 1970 they comprised 8.30 per cent of all births. The variations in the proportions of ex-nuptial live births as between the individual States and Territories for 1970 and for Australia at intervals from 1946 to 1970 are shown in the following tables.

EX-NUPTIAL LIVE BIRTHS
NUMBER AND PROPORTION, STATES AND TERRITORIES, 1970

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Number	7,455	4,420	4,251	1,715	2,316	650	426	134	21,367
Proportion of total births %	8.43	6.05	11.33	7.58	10.71	7.94	16.23	3.86	8.30

EX-NUPTIAL LIVE BIRTHS: NUMBERS, PROPORTION AND RATES(a)
AUSTRALIA, 1946 TO 1970

	Annual average									
	1946-50	1951-55	1956-60	1961-65	1966-70	1966	1967	1968	1969	1970
Number	7,349	7,999	10,027	13,798	18,937	16,830	17,734	19,171	19,585	21,367
Rates(b)	0.95	0.91	1.02	1.25	1.57	1.45	1.50	1.60	1.60	1.71
Proportion of total births%	4.04	3.97	4.51	5.92	7.88	7.52	7.73	7.96	7.83	8.30

(a) Excludes particulars of full-blood Aborigines before 1966. (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: 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 1970 was 3,567.

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 single and multiple confinements and the number of live births. The table includes only those confinements resulting in at least one live birth.

LIVE BIRTHS AND CONFINEMENTS: STATES AND TERRITORIES, 1970

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
LIVE BIRTHS									
Single births .	86,430	71,455	36,823	22,135	21,208	8,048	2,568	3,397	252,064
Twins .	1,992	1,532	701	470	407	137	56	75	5,370
Triplets .	22	28	6	12	3	..	..	3	74
Quadruplets .	4	4	..	..	..	..	..	..	8
Males .	45,217	37,350	19,324	11,555	11,172	4,232	1,328	1,794	131,972
Females .	43,231	35,669	18,206	11,062	10,446	3,953	1,296	1,681	125,544
Total .	88,448	73,019	37,530	22,617	21,618	8,185	2,624	3,475	257,516

STILLBIRTHS ASSOCIATED WITH MULTIPLE BIRTHS INCLUDED ABOVE

Twins .	30	12	9	4	9	1	..	1	66
Triplets .	2	2	..	..	..	..	..	..	4
Quadruplets .	..	..	..	..	..	..	..	..	..

CONFINEMENTS RESULTING IN BIRTHS SHOWN ABOVE

Nuptial .	80,068	67,856	32,968	20,679	19,117	7,472	2,176	3,303	233,639
Ex-nuptial .	7,382	4,382	4,212	1,697	2,300	645	420	133	21,171
Total .	87,450	72,238	37,180	22,376	21,417	8,117	2,596	3,436	254,810

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 174.

Multiple births recorded during 1970 comprised 2,718 cases of twins, 26 cases of triplets, and two cases of quadruplets, the resulting number of live-born and stillborn children respectively 5,370 and 66 for twins, 74 and 4 for triplets, 8 and 0 for quadruplets. This represents an average of 10.67 recorded cases of twins and 0.10 recorded cases of triplets per 1,000 confinements or, alternatively, mothers of twins represented 1 in every 94 mothers and mothers of triplets 1 in every 9,800. Total cases of multiple births represented 10.78 per 1,000 confinements or 1 in every 93 mothers.

Confinements—relative ages of parents

The relative ages of the parents of children whose births were registered in 1970 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. 86.

CONFINEMENTS, BY RELATIVE AGES OF PARENTS: AUSTRALIA, 1970

Age of father (years)	Age of mother (years)								Total	
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 and over		Not stated
Under 20 .	1	3,400	624	10	4	..	..	..	..	4,039
20-24 .	5	13,002	34,347	3,007	155	13	..	1	..	50,530
25-29 .	1	2,271	37,471	37,559	2,963	212	26	1	3	80,507
30-34 .	2	383	7,989	28,133	16,463	1,469	91	4	1	54,535
35-39 .	1	80	1,451	6,355	11,876	6,181	539	7	3	26,493
40-44 .	..	33	352	1,525	3,484	4,868	1,824	49	1	12,136
45-49 .	1	17	93	338	788	1,423	1,153	126	..	3,939
50-54 .	..	3	37	92	168	266	267	56	1	890
55-59 .	..	4	17	31	65	84	100	21	1	323
60-64 .	..	1	8	14	19	25	22	4	..	93
65 and over(a) .	..	14	34	25	29	23	15	2	12	154
Total nuptial .	11	19,208	82,423	77,089	36,014	14,564	4,037	271	22	233,639
Total ex-nuptial .	147	8,144	6,983	2,963	1,640	919	337	21	17	21,171
Total .	158	27,352	89,406	80,052	37,654	15,483	4,374	292	39	254,810

(a) Includes 113 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 1970.

**NUPTIAL CONFINEMENTS, BY RELATIVE COUNTRIES OF BIRTH OF PARENTS
AUSTRALIA, 1970**

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	150,669	846	7,797	1,330	148	463	379	1,354	113	706	1,558	165,363
New Zealand	957	529	109	12	..	3	3	14	..	8	31	1,666
United Kingdom and Ireland	9,641	188	9,090	215	15	48	81	217	17	156	402	20,070
Germany	1,814	30	280	838	7	26	18	81	28	157	88	3,367
Greece	390	3	33	16	7,572	19	8	14	17	35	186	8,293
Italy	2,105	17	225	82	45	8,846	55	75	58	123	114	11,745
Malta	616	5	105	13	6	17	1,608	23	..	12	28	2,433
Netherlands	1,998	20	254	73	7	10	23	1,258	7	47	93	3,790
Yugoslavia	680	11	108	118	68	100	18	41	3,266	112	47	4,569
Other European	1,726	37	285	333	60	53	14	79	92	2,063	182	4,924
Other and unspecified	2,203	53	394	85	164	73	31	99	15	135	4,167	7,419
Total mothers	172,799	1,739	18,680	3,115	8,092	9,658	2,238	3,255	3,613	3,554	6,896	233,639

Confinements—age, duration of marriage and issue of mothers

The total number of nuptial confinements resulting in live births in 1970 was 233,639, comprising 231,094 single births, 2,520 cases of twins, 23 cases of triplets, and two 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 calculation of average issue shown.

The following table shows that in 1970 the average size of family increased fairly regularly with the duration of the marriage. However, the average issue relates only to those women who gave birth in 1970. The table should not be interpreted to mean that, for example, *all* women who have been married for over ten years have an average of more than four children or those married twenty years, six children. The average issue of all married mothers who bore children in 1970 was 2.27 compared with 2.30 in 1969, 2.34 in 1968, 2.38 in 1967, and 2.42 in 1966.

**NUPTIAL CONFINEMENTS BY DURATION OF MARRIAGE, AND AVERAGE ISSUE OF
MOTHERS: AUSTRALIA, 1970**

Duration of marriage	Total nuptial confinements	Average issue of mother	Duration of marriage	Total nuptial confinements	Average issue of mother
Under 1 year	32,592	1.03	15 years	2,163	4.96
1 year	27,492	1.24	16 "	1,599	5.25
2 years	30,044	1.58	17 "	1,281	5.48
3 "	27,663	1.83	18 "	1,039	5.62
4 "	23,717	2.11	19 "	856	5.94
5 "	19,400	2.41	20 "	593	6.02
6 "	14,787	2.72	21 "	426	6.44
7 "	11,799	3.02	22 "	295	6.68
8 "	8,909	3.30	23 "	165	6.81
9 "	7,408	3.56	24 "	96	7.19
10 "	6,062	3.78	25 years and over	122	7.90
11 "	4,723	3.98	Not stated	709	3.84
12 "	3,854	4.22			
13 "	3,178	4.44			
14 "	2,667	4.73	Total	233,639	2

**NUPTIAL CONFINEMENTS, BY AGE OF MOTHER AND PREVIOUS ISSUE
AUSTRALIA, 1970**

<i>Previous issue</i>	<i>Age of mother (years)</i>							<i>45 and over</i>	<i>Not stated</i>	<i>Total married mothers</i>
	<i>Under 20</i>	<i>20-24</i>	<i>25-29</i>	<i>30-34</i>	<i>35-39</i>	<i>40-44</i>				
0	15,866	43,600	21,810	5,187	1,555	368	19	7	88,412	
1	3,054	28,018	27,680	8,407	2,142	443	22	6	69,772	
2	280	8,417	17,541	9,594	2,839	560	28	3	39,262	
3	17	1,910	6,683	6,679	2,792	645	33	5	18,764	
4	2	395	2,249	3,269	2,004	604	33	1	8,557	
5 . . . . .	..	70	759	1,567	1,275	429	27	..	4,127
6 . . . . .	..	11	259	724	823	319	31	..	2,167
7 . . . . .	..	1	85	351	476	243	18	..	1,174
8 . . . . .	..	1	14	142	305	159	12	..	633
9 . . . . .	..	..	6	54	160	104	12	..	336
10 and over . . . . .	..	..	3	40	193	163	36	..	435
Total married mothers	19,219	82,423	77,089	36,014	14,564	4,037	271	22	233,639	

Multiple births—previous issue of mothers

Of married mothers of twins in 1970, 792 had no previous issue either living or dead, 702 had one child previously, 489 had two previous issue, 252 three, 145 four, 67 five, 26 six, 29 seven, 11 eight, 1 ten, 5 eleven, and 1 fourteen. Of the 23 cases of nuptial triplets, and two cases of quadruplets registered during 1970, 8 mothers had no previous issue, 6 had one, 7 had two, 1 had three, 1 had four, 1 had five and 1 had nine previous issue.

Nuptial first births

A nuptial first birth is defined as the first birth to the existing marriage. About two-thirds of first births occur to women aged under 25, and over half occur within the first two years of marriage, (36 per cent in the first and 24 per cent in the second year).

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, 1970**

<i>Duration of marriage</i>	<i>Age of mother (years)</i>							<i>45 and over</i>	<i>Not stated</i>	<i>Total</i>
	<i>Under 20</i>	<i>20-24</i>	<i>25-29</i>	<i>30-34</i>	<i>35-39</i>	<i>40-44</i>				
Under 8 months	11,678	8,639	1,263	357	142	39	1	..	22,119	
8 months	354	890	270	106	26	4	..	..	1,650
9 "	442	1,698	565	200	76	19	1	..	3,001	
10 "	431	1,540	488	186	47	6	1	..	2,699	
11 "	410	1,490	448	129	48	8	..	..	2,533
Total under 1 year	13,315	14,257	3,034	978	339	76	3	..	32,002	
1 year and under 2 years	2,080	13,692	4,147	1,114	322	80	3	1	21,439	
2 years " " 3 "	333	8,959	4,067	705	171	50	4	1	14,290	
3 " " " 4 "	65	4,422	3,842	455	133	34	3	..	8,954	
4 " " " 5 "	2	1,623	2,987	403	80	15	1	..	5,111	
5 " " " 10 "	2	607	3,646	1,103	231	49	2	1	5,641	
10 " " " 15 " . . . . .	..	2	81	395	186	30	2	1	697
15 years and over . . . . .	..	..	1	31	91	33	1	..	157
Not stated	69	38	5	3	2	1	..	3	121	
Total	15,866	43,600	21,810	5,187	1,555	368	19	7	88,412	

The following table provides a comparison between the numbers of nuptial first births and subsequent births in periods since 1946 and shows also the proportion of first to total nuptial confinements.

NUPTIAL FIRST BIRTHS AND SUBSEQUENT BIRTHS(a)
AUSTRALIA, 1946 TO 1970

<i>Period</i>	<i>Nuptial confinements</i>			<i>Proportion of first to total nuptial confinements (per cent)</i>
	<i>First births</i>	<i>Other births</i>	<i>Total</i>	
<i>Annual average—</i>				
1946-50	63,413	109,044	172,457	36.77
1951-55	63,062	128,176	191,238	32.98
1956-60	65,695	144,352	210,047	31.28
1961-65	69,280	147,549	216,829	31.95
1966-70	81,103	138,000	219,103	37.02
<i>Annual total—</i>				
1966	73,986	130,808	204,794	36.13
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
1970	88,412	145,227	233,639	37.84

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

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 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>
<i>Annual average—</i>									
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
1966-70	876	767	361	215	192	86	(c)39	27	2,563
<i>Annual total—</i>									
1966	964	762	407	237	174	111	(c)44	31	2,730
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
1970	888	782	312	200	211	80	(c)30	29	2,532

(a) Excludes particulars of full-blood Aborigines before 1966. (b) Excludes Northern Territory. (c) Figures from 1966 include foetal deaths occurring in remote localities for which the period of gestation was not known. The numbers of such cases were: 1966, 18; 1967, 25; 1968, 13; 1969, 13; 1970, 14. The Registration Ordinance requires registration of any foetal death of at least twenty weeks' gestation.

PROPORTION OF STILLBIRTHS(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	20.0	19.6	21.9	22.1	20.5	22.3	n.a.	16.3	(b)20.5
1951-55	16.5	15.5	18.4	15.8	17.0	17.5	17.2	17.1	16.6
1956-60	15.5	13.5	16.1	13.5	13.7	12.6	8.6	14.3	14.6
1961-65	13.1	12.0	13.1	12.2	11.4	10.2	18.4	9.3	12.5
1966-70	10.5	11.0	10.1	10.0	9.8	10.7	18.3	9.7	10.6
Annual rate—									
1966	12.2	11.8	12.2	11.5	10.0	14.8	24.3	13.2	12.1
1967	10.8	12.0	10.6	10.2	10.3	10.9	24.9	9.9	11.2
1968	9.8	10.3	10.3	10.1	9.3	9.4	18.4	9.7	10.1
1969	9.9	10.6	9.5	9.4	9.7	9.3	15.2	8.4	10.0
1970	9.9	10.6	8.2	8.8	9.7	9.7	11.3	8.3	9.7

(a) Number of stillbirths per 1,000 of all births (live and still). Excludes particulars of full-blood Aborigines before 1966. (b) Excludes Northern Territory.

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

This section contains statistics of general mortality and infant mortality. Statistics of foetal deaths (stillbirths) are shown separately in the preceding section. 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.

Number of deaths

The following table shows the number of deaths registered in each State and Territory for years commencing 1946. Stillbirths, although registered as both births and deaths in some States are excluded from the death statistics.

DEATHS(a): STATES AND TERRITORIES, 1946 TO 1971

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
1946-50(b)	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
1971—									
Males	22,603	16,762	9,355	5,310	4,536	1,805	388	349	61,108
Females	19,088	13,883	6,984	4,376	3,270	1,490	249	249	49,589
Persons	41,691	30,645	16,339	9,686	7,806	3,295	637	598	110,697

(a) Excludes particulars of full-blood Aborigines before 1966. (b) Excludes deaths of defence personnel and of internees and prisoners of war from overseas for the period September 1939 to June 1947.

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

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 1971

<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(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	9.44	8.79	9.07	8.50	7.86	8.51	8.01	4.40	8.91
Annual rate—									
1967	9.22	8.66	8.67	8.17	7.71	8.60	8.53	3.63	8.70
1968	9.59	9.01	9.30	8.83	8.17	8.65	8.08	4.35	9.12
1969	9.16	8.56	8.96	8.19	7.71	8.60	6.68	4.83	8.69
1970	9.64	8.80	9.52	8.76	7.61	8.19	7.73	4.51	9.04
1971—									
Males	9.80	9.56	10.15	9.04	8.60	9.18	8.07	4.74	9.53
Females	8.32	7.93	7.72	7.44	6.53	7.68	6.65	3.54	7.82
Persons	9.06	8.75	8.94	8.24	7.59	8.43	7.45	4.15	8.68

(a) Number of deaths per 1,000 of mean population. Excludes particulars of full-blood Aborigines before 1966.
 (b) Excludes deaths of defence personnel, etc., from September 1939 to June 1947.

A graph showing the crude death rate for each year from 1870 to 1971 is shown on plate 20 page 167.

The crude death rate is affected by the particular sex and age composition of the population. While it is an element in the rate of natural increase of the population it cannot validly be used to compare the relative incidence of mortality in different populations. The crude death rate will tend to be low if the community contains a large proportion of young people and high if the population is elderly. Age specific death rates and true death rates are a guide to comparative mortality.

True death rates

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 next table 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
1946-48 TO 1970(a)**

Period	True death rate	
	Males(b)	Females(c)
1946-48 . . .	15.14	14.16
1953-55 . . .	14.89	13.75
1960-62 . . .	14.72	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
1970(d) . . .	14.82	13.47

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

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^o) 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^o = 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 before. 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 1970 is given for Australia in the following table.

DEATHS, BY AGE AT DEATH AND SEX: AUSTRALIA, 1970

Age at death	Males	Fe- males	Per- sons	Age at death	Males	Fe- males	Per- sons
Under 1 week	1,825	1,182	3,007	5-9 years	298	204	502
1 week and under 2 weeks	88	72	160	10-14 "	241	189	430
2 weeks and under 3 weeks	54	36	90	15-19 "	855	316	1,171
3 weeks and under 4 weeks	33	38	71	20-24 "	1,035	293	1,328
<i>Total under 4 weeks</i>	<i>2,000</i>	<i>1,328</i>	<i>3,328</i>	25-29 "	654	297	951
4 weeks and under 3 months	277	182	459	30-34 "	622	348	970
3 months and under 6 months	253	201	454	35-39 "	898	590	1,488
6 months and under 12 months	188	175	363	40-44 "	1,490	874	2,364
<i>Total under 1 year</i>	<i>2,718</i>	<i>1,886</i>	<i>4,604</i>	45-49 "	2,433	1,374	3,807
1 year	204	153	357	50-54 "	3,372	1,856	5,228
2 years	129	92	221	55-59 "	5,215	2,629	7,844
3 "	105	61	166	60-64 "	6,674	3,470	10,144
4 "	77	61	138	65-69 "	8,116	4,523	12,639
<i>Total under 5 years</i>	<i>3,233</i>	<i>2,253</i>	<i>5,486</i>	70-74 "	8,066	6,360	14,426
				75-79 "	8,212	7,952	16,164
				80-84 "	6,530	8,100	14,630
				85 years and over	4,877	8,589	13,466
				Age not stated	7	3	10
				<i>Total all ages</i>	<i>62,828</i>	<i>50,220</i>	<i>113,048</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 five-year periods from 1946 to 1970 and for the year 1970.

PROPORTION OF DEATHS IN EACH AGE GROUP: AUSTRALIA, 1946 TO 1970(a) (Per cent)

Age at death (years)	1946-50	1951-55	1956-60	1961-65	1966-70	1970		
						Males	Females	Persons
Under 1 year	6.48	5.77	5.41	4.74	4.06	4.32	3.76	4.07
1-4 years	1.46	1.48	1.19	0.96	0.81	0.82	0.73	0.78
5-19 "	1.89	1.85	1.76	1.76	1.83	2.22	1.41	1.86
20-39 "	5.69	5.18	4.64	4.26	4.12	5.11	3.04	4.19
40-59 "	18.72	17.54	17.02	17.28	17.37	19.92	13.41	17.02
60-64 "	9.61	9.63	8.75	8.74	8.87	10.62	6.91	8.97
65 and over	56.12	58.52	61.20	62.24	62.92	56.98	70.73	63.10
Age not stated	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.01
<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>

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

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, 1970

Age group (years)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.(b)
MALES							
Under 1(c)	23.60	16.20	20.96	19.56	22.29	15.60	20.60
1-4	0.99	0.91	1.12	0.98	1.62	1.02	1.07
5-9	0.49	0.41	0.46	0.49	0.65	0.37	0.47
10-14	0.36	0.33	0.49	0.39	0.36	0.95	0.39
15-19	1.53	1.39	1.49	1.48	1.52	2.15	1.50
20-24	1.89	1.69	2.05	1.52	2.11	1.78	1.86
25-29	1.46	1.24	1.49	1.09	1.58	2.08	1.42
30-34	1.58	1.46	1.66	1.39	1.48	1.46	1.55
35-39	2.45	2.23	2.71	2.21	2.15	2.50	2.39
40-44	3.81	3.25	4.44	3.36	3.18	3.66	3.65
45-49	6.11	5.91	7.04	5.88	6.33	5.68	6.19
50-54	17.06	9.83	11.18	10.50	9.25	9.33	10.51
55-59	18.24	15.78	18.66	16.72	14.56	15.88	17.17
60-64	29.12	26.03	28.71	26.29	24.69	24.83	27.47
65-69	48.52	44.87	46.14	42.89	43.89	41.21	46.06
70-74	69.97	65.57	60.92	67.63	57.35	60.60	65.93
75-79	111.83	110.36	102.18	101.25	99.24	105.09	107.79
80-84	159.30	152.75	144.72	143.12	149.15	146.96	152.56
85 and over	275.36	275.97	242.54	233.44	272.43	228.90	264.16
FEMALES							
Under 1(c)	15.64	12.76	14.67	12.75	20.10	12.65	15.02
1-4	0.77	0.69	0.98	0.64	0.85	0.60	0.80
5-9	0.30	0.36	0.41	0.29	0.37	0.29	0.34
10-14	0.30	0.34	0.40	0.41	0.17	0.35	0.33
15-19	0.57	0.53	0.78	0.55	0.46	0.60	0.58
20-24	0.60	0.55	0.61	0.38	0.52	0.37	0.56
25-29	0.68	0.73	0.80	0.53	0.57	0.65	0.70
30-34	1.03	0.71	1.07	0.88	0.80	1.08	0.93
35-39	1.73	1.46	2.30	1.42	1.24	1.26	1.68
40-44	2.55	1.98	2.71	2.08	2.11	1.73	2.32
45-49	3.93	3.45	4.07	3.18	2.89	2.46	3.63
50-54	6.11	5.30	6.96	4.49	4.42	6.67	5.80
55-59	9.24	8.05	9.24	7.23	7.17	8.08	8.58
60-64	15.17	12.96	14.41	14.19	11.81	12.86	14.05
65-69	23.59	22.67	20.95	22.58	19.70	25.24	22.62
70-74	39.10	36.91	36.48	35.14	38.66	36.77	37.67
75-79	64.02	63.68	63.24	62.62	54.89	60.50	62.98
80-84	107.54	109.37	105.89	107.80	95.47	82.74	106.47
85 and over	220.95	211.48	202.67	195.17	202.05	219.78	211.44

(a) Number of deaths per 1,000 of population in each age group at 30 June 1970. The age-specific rates are subject to revision when the age distribution of population is obtained from the results of the 1971 Population Census. (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, 1946 TO 1970(b)

Age group (years)	1946-48 (c)	1953-55 (c)	1960-62 (c)	1965-67 (c)	1966	1967	1968	1969	1970
MALES									
Under 1(d)	31.71	25.18	22.36	20.85	20.88	20.57	19.83	20.14	20.60
1-4	2.09	1.69	1.15	1.08	1.18	0.97	0.95	0.95	1.07
5-9	0.92	0.67	0.52	0.45	0.47	0.44	0.47	0.48	0.47
10-14	0.77	0.63	0.48	0.46	0.46	0.42	0.50	0.48	0.39
15-19	1.41	1.51	1.23	1.33	1.37	1.30	1.46	1.32	1.50
20-24	1.73	1.82	1.62	1.67	1.67	1.69	1.78	1.69	1.86
25-29	1.69	1.68	1.49	1.48	1.43	1.52	1.42	1.48	1.42
30-34	2.02	1.79	1.69	1.64	1.62	1.64	1.58	1.64	1.55
35-39	2.66	2.40	2.26	2.45	2.51	2.31	2.36	2.36	2.39
40-44	4.12	3.64	3.67	3.82	3.78	3.90	3.74	3.75	3.65
45-49	6.86	6.01	5.96	6.14	6.01	6.28	6.12	6.42	6.19
50-54	11.39	10.44	10.01	10.45	10.39	10.08	10.55	10.23	10.51
55-59	17.58	17.03	16.57	16.96	16.88	17.12	17.27	16.88	17.17
60-64	27.43	26.58	26.44	27.59	27.83	27.27	28.61	27.07	27.47
65-69	42.42	41.28	41.68	43.66	44.15	43.69	44.53	44.40	46.06
70-74	63.69	64.53	63.04	66.84	67.73	65.82	67.19	63.54	65.93
75-79	99.65	98.77	94.43	99.77	102.41	97.59	104.05	101.76	107.79
80-84	149.31	145.88	141.83	146.95	151.58	145.35	159.31	140.58	152.56
85 and over	253.48	248.14	243.69	241.98	251.13	230.93	272.38	251.88	264.16
FEMALES									
Under 1(d)	24.96	19.88	17.57	16.35	16.45	15.82	15.61	15.57	15.02
1-4	1.72	1.35	1.08	1.14	0.81	0.85	0.86	0.87	0.80
5-9	0.64	0.50	0.38	0.34	0.36	0.32	0.36	0.36	0.34
10-14	0.52	0.37	0.29	0.27	0.26	0.24	0.26	0.25	0.33
15-19	0.70	0.58	0.50	0.54	0.56	0.51	0.56	0.58	0.58
20-24	1.08	0.67	0.60	0.63	0.65	0.61	0.57	0.54	0.56
25-29	1.50	0.83	0.71	0.72	0.70	0.70	0.61	0.68	0.70
30-34	1.77	1.11	0.95	0.98	1.03	0.90	0.97	0.79	0.93
35-39	2.42	1.74	1.47	1.54	1.65	1.34	1.53	1.38	1.68
40-44	3.31	2.55	2.26	2.31	2.22	2.38	2.36	2.24	2.32
45-49	4.92	4.19	3.65	3.86	3.76	3.79	3.68	3.51	3.63
50-54	7.63	6.43	5.55	5.87	6.03	5.90	5.68	5.85	5.80
55-59	10.46	9.25	8.14	8.67	8.85	8.60	8.72	8.31	8.58
60-64	16.52	14.75	13.31	13.56	13.60	13.51	13.82	13.24	14.05
65-69	26.17	23.89	21.99	21.94	22.79	21.13	22.36	22.16	22.62
70-74	45.84	40.93	37.14	37.47	38.39	36.40	36.50	34.65	37.67
75-79	75.14	69.72	63.18	62.37	64.58	60.52	64.52	61.37	62.98
80-84	123.46	117.36	105.10	107.93	110.56	104.26	108.41	98.51	106.47
85 and over	222.12	213.69	210.20	119.73	204.47	195.24	224.05	201.50	211.44

(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 30 June 1947, 1954, 1961 and 1966, and the estimated populations at 30 June 1967, 1968, 1969 and 1970. The age-specific rates for the years 1967 to 1970 are subject to revision when the age distribution of population is obtained from the results of the 1971 Population Census. (b) Excludes particulars of full-blood Aborigines prior to 1965. (c) 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. (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 1971, 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(a): STATES AND TERRITORIES, 1946 TO 1971

<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
1971	1,710	1,154	766	366	464	114	170	80	4,824
Annual average rate(b)—									
1946-50	28.91	23.82	27.49	26.50	28.15	26.53	37.37	19.89	26.98
1951-55	25.11	20.70	23.58	22.55	24.41	23.67	36.28	15.40	23.34
1956-60	22.24	19.67	20.99	20.50	21.42	20.62	36.00	13.68	21.05
1961-65	20.32	17.92	19.69	19.07	20.73	18.46	30.76	17.80	19.42
1966-70	18.99	15.57	18.90	16.60	20.25	15.94	54.91	18.25	18.10
Annual rate(b)—									
1967	18.42	16.81	19.54	16.97	17.42	17.23	63.51	18.33	18.26
1968	18.67	14.38	20.35	16.27	20.37	17.19	48.46	17.03	17.78
1969	18.89	15.01	18.89	15.79	21.83	16.46	45.29	18.84	17.92
1970	19.71	14.52	17.91	16.23	21.23	14.17	48.02	17.55	17.88
1971	17.37	15.29	19.16	15.92	19.14	13.70	60.03	19.80	17.46

(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 616,628 male infants born from 1966 to 1970, 12,578 (20.40 per 1,000) died during the first year of life, while of 584,997 female infants only 9,168 (15.67 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, 1946 TO 1970

Period	Age at death										Total under one year			
	Days		Total under one week	Weeks			Total under four weeks	Months						
	Under 1	1-6		1	2	3		1-2 (b)	3-5	6-8	9-11	Males	Fe-males	Persons
Annual average—														
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
1966-70	1,696	1,125	2,821	160	88	72	3,141	407	420	226	155	2,515	1,834	4,349
Annual total—														
1966	1,528	1,131	2,659	171	80	70	2,980	374	427	240	169	2,403	1,787	4,190
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
1970	1,857	1,150	3,007	160	90	71	3,328	459	454	215	148	2,718	1,886	4,604
Annual average rate(c)—														
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
1966-70	7.06	4.68	11.74	0.66	0.37	0.30	13.07	1.69	1.75	0.94	0.65	20.40	15.67	18.10
Annual rate(c)—														
1966	6.83	5.06	11.89	0.76	0.36	0.31	13.32	1.67	1.91	1.07	0.76	20.88	16.45	18.73
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
1970	7.21	4.47	11.68	0.62	0.35	0.27	12.92	1.78	1.76	0.84	0.58	20.60	15.02	17.88

(a) Excludes particulars of full-blood Aborigines before 1966. (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 below, shows infant mortality rates for each year from 1910 to 1971.

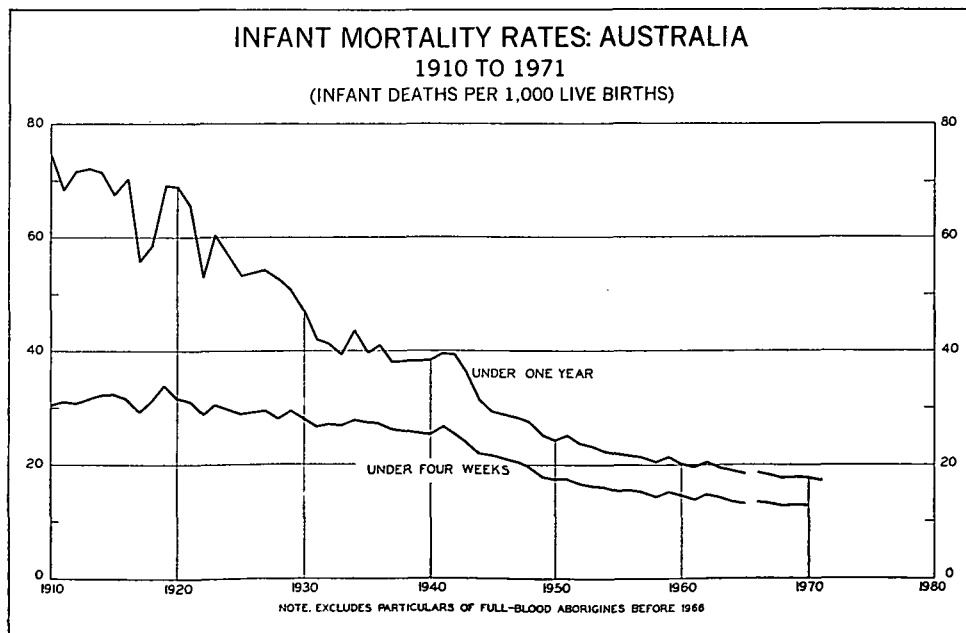


PLATE 22

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 basis of the cause of death tabulations for 1970 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. More detailed data on causes of death will be found in the bulletin *Causes of Death*, No. 7.

A. CAUSES OF DEATH: NUMBERS, PROPORTIONS AND CRUDE RATES(a), MALES AND FEMALES, AUSTRALIA, 1970

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	..	..	..	1	(b)	(c)
B 3 Bacillary dysentery and amoebiasis	004, 006	5	(b)	1	10	(b)	2
B 4 Enteritis and other diarrhoeal diseases	008, 009	162	0.3	26	160	0.3	26
B 5 Tuberculosis of respiratory system	010-012	97	0.2	15	29	0.1	5
B 6 Other tuberculosis, including late effects	013-019	59	0.1	9	18	(b)	3
B 7 Plague	020	..	..	..	..	..	..
B 8 Diphtheria	032	..	..	..	..	..	..
B 9 Whooping cough	033	..	..	..	..	..	..
B10 Streptococcal sore throat and scarlet fever	034	2	(b)	(c)	..	..	..
B11 Meningococcal infection	036	7	(b)	1	4	(b)	1
B12 Acute poliomyelitis	040-043	..	..	..	..	..	..
B13 Smallpox	050	..	..	..	..	..	..
B14 Measles	055	4	(b)	1	5	(b)	1
B15 Typhus and other rickettsioses	080-083	..	..	..	..	..	..
B16 Malaria	084	..	..	..	1	(b)	(c)
B17 Syphilis and its sequelae	090-097	19	(b)	3	9	(b)	1
B18 All other infective and parasitic diseases	Remainder of 000-136	194	0.3	31	156	0.3	25
B19 Malignant neoplasms—							
(i) Digestive organs	150-159	3,122	5.0	496	2,896	5.8	466
(ii) Lung	162	2,755	4.4	438	489	1.0	79
(iii) Skin	172, 173	305	0.5	48	210	0.4	34
(iv) Breast	174	7	(b)	1	1,486	3.0	239
(v) Genital organs	180-187	1,078	1.7	171	1,108	2.2	178
(vi) Urinary organs	188, 189	581	0.9	92	259	0.5	42
(vii) Leukaemia and aleukaemia	204-207	409	0.7	65	313	0.6	50
(viii) Other malignant and lymphatic neoplasms	Remainder of 140-209	1,800	2.9	286	1,301	2.6	209
Total, B19		10,057	16.0	1,598	8,062	16.1	1,297
B20 Benign neoplasms and neoplasms of unspecified nature	210-239	79	0.1	13	117	0.2	19
B21 Diabetes mellitus	250	783	1.2	124	1,095	2.2	176
B22 Avitaminoses and other nutritional deficiency	260-269	46	0.1	7	68	0.1	11
B23 Anaemias	280-285	97	0.2	15	140	0.3	23
B24 Meningitis	320	45	0.1	7	32	0.1	5
B25 Active rheumatic fever	390-392	8	(b)	1	5	(b)	1
B26 Chronic rheumatic heart disease	393-398	424	0.7	67	541	1.1	87
B27 Hypertensive disease	400-404	779	1.2	124	964	1.9	155
B28 Ischaemic heart disease	410-414	20,515	32.7	3,260	13,424	26.7	2,160
B29 Other forms of heart disease	420-429	2,190	3.5	348	2,608	5.2	420
B30 Cerebrovascular disease	430-438	6,508	10.4	1,034	9,178	18.3	1,477
B31 Influenza	470-474	451	0.7	72	362	0.7	58
B32 Pneumonia	480-486	1,719	2.7	273	1,424	2.8	229
B33 Bronchitis, emphysema and asthma	490-493	3,412	5.4	542	793	1.6	128
B34 Peptic ulcer	531-533	413	0.7	66	226	0.5	36
B35 Appendicitis	540-543	30	(b)	5	31	0.1	5
B36 Intestinal obstruction and hernia	550-553, 560	163	0.3	26	219	0.4	35
B37 Cirrhosis of liver	571	479	0.8	76	224	0.4	36
B38 Nephritis and nephrosis	580-584	403	0.6	64	406	0.8	65
B39 Hyperplasia of prostate	600	275	0.4	44	..	..	..
B40 Abortion	640-645	..	..	..	14	(b)	2

For footnotes see end of table next page.

A. CAUSES OF DEATH: NUMBERS, PROPORTIONS AND CRUDE RATES(a), MALES AND FEMALES, AUSTRALIA, 1970—continued

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

Cause of death	ICD numbers	Males			Females		
		Number of deaths	Percentage of total	Crude rates(a)	Number of deaths	Percentage of total	Crude rates(a)
B41 Other complications of pregnancy, childbirth and the puerperium. Delivery without mention of complication	630-639, 650-678	..	..	..	52	0.1	8
B42 Congenital anomalies	740-759	727	1.2	116	566	1.1	91
B43 Birth injury, difficult labour and other anoxic and hypoxic conditions	764-768, 772, 776	559	0.9	89	328	0.7	53
B44 Other causes of perinatal mortality	Remainder of 760-779	979	1.6	156	673	1.3	108
B45 Symptoms and ill-defined conditions	780-796	392	0.6	62	374	0.7	60
B46 (i) Arteriosclerosis	440	1,023	1.6	163	1,537	3.1	247
(ii) Other diseases of circulatory system	441-448, 450-458	966	1.5	154	706	1.4	114
(iii) Other diseases of respiratory system	460-466, 500-508, 510-519	551	0.9	88	368	0.7	59
(iv) All other diseases	Remainder of 740-738	2,130	3.4	339	2,490	5.0	401
Total, B46		4,670	7.4	742	5,101	10.2	821
BE47 Motor vehicle accidents	E810-E823	2,907	4.6	462	1,045	2.1	168
BE48 All other accidents	E800-E807, E825-E949	1,854	3.0	295	1,124	2.2	181
BE49 Suicide and self-inflicted injuries	E950-E959	1,076	1.7	171	475	0.9	76
BE50 All other external causes	E960-E999	239	0.4	38	156	0.3	25
All causes		62,828	100.0	9,985	50,220	100.0	8,081

(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, 1970
ABBREVIATED LIST OF 50 CAUSES (BASED ON THE EIGHTH REVISION OF THE INTERNATIONAL LIST)

Number of deaths in age groups (years)

Cause of death(a)	Sex	Number of deaths in age groups (years)										Total		
		Under 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 and over		Not stated	
B 2 Typhoid fever	F	..	..	..	1	..	..	..	..	..	..	..	..	1
B 3 Bacillary dysentery and amoebiasis	M	2	2	..	..	1	..	..	..	..	..	..	..	5
	F	6	1	1	..	..	..	1	..	..	..	1	..	10
B 4 Enteritis and other diarrhoeal diseases	M	69	33	1	3	..	2	3	7	10	34	..	..	162
	F	48	28	1	..	2	1	8	6	19	47	..	..	160
B 5 Tuberculosis of respiratory system	M	..	..	..	1	..	1	10	22	29	34	..	..	97
	F	..	..	..	..	..	..	4	12	8	5	..	..	29
B 6 Other tuberculosis, including late effects	M	..	2	..	..	..	6	7	15	17	12	..	..	59
	F	..	..	..	..	..	4	5	3	2	4	..	..	18
B10 Streptococcal sore throat and scarlet fever	M	..	1	..	..	..	1	..	..	..	..	..	..	2
B11 Meningococcal infection	M	3	1	..	1	..	1	..	1	..	..	..	..	7
	F	1	1	1	..	..	..	..	1	..	..	..	..	4
B14 Measles	M	1	2	..	1	..	..	..	..	..	..	..	..	4
	F	3	2	..	..	..	..	..	..	..	..	..	..	5
B16 Malaria	F	..	..	..	..	1	..	..	..	..	..	..	..	1
B17 Syphilis and its sequelae	M	3	..	..	..	..	..	2	3	7	4	..	..	19
	F	1	..	..	..	..	1	3	2	2	..	..	..	9
B18 All other infective and parasitic diseases	M	50	6	7	13	6	9	21	24	33	25	..	..	194
	F	26	4	8	9	9	9	14	19	22	36	..	..	156
B19 Malignant neoplasms—														
(i) Digestive organs	M	..	1	1	2	26	107	342	764	991	888	..	..	3,122
	F	1	..	3	4	24	79	284	513	758	1,230	..	..	2,896
(ii) Lung	M	..	..	1	..	8	51	311	888	990	506	..	..	2,755
	F	..	..	..	..	2	20	71	160	146	90	..	..	489
(iii) Skin	M	..	..	..	7	29	45	47	64	53	60	..	..	305
	F	..	..	..	4	12	24	43	43	27	57	..	..	210
(iv) Breast	M	..	..	..	..	..	..	1	1	3	2	..	..	7
	F	..	..	..	3	25	132	274	375	336	341	..	..	1,486
(v) Genital organs	M	..	..	..	10	18	10	23	104	311	602	..	..	1,078
	F	..	1	5	2	14	81	203	277	279	246	..	..	1,108
(vi) Urinary organs	M	2	1	3	2	3	13	60	149	159	189	..	..	581
	F	..	1	3	..	..	7	16	51	68	113	..	..	259
(vii) Leukaemia and aleukaemia	M	2	20	38	28	13	25	33	66	94	90	..	..	409
	F	4	15	31	13	14	19	25	51	66	75	..	..	313
(viii) Other malignant and lymphatic neoplasms	M	..	26	43	51	56	120	293	460	486	265	..	..	1,800
	F	5	20	36	34	35	69	147	275	330	350	..	..	1,301
Total, B19	M	4	48	86	100	153	371	1,110	2,496	3,087	2,602	..	..	10,057
	F	10	37	78	60	126	431	1,063	1,745	2,010	2,502	..	..	8,062

For footnote see end of table next page.

B. CAUSES OF DEATH: MALES AND FEMALES IN AGE GROUPS, AUSTRALIA, 1970—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 and over	Not stated	Total
		Under 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74				
B20 Benign neoplasms and neoplasms of unspecified nature	M	1	1	1	6	6	4	12	23	13	12	..	79	
	F	2	1	5	4	8	12	11	27	20	27	..	117	
B21 Diabetes mellitus	M	..	..	2	5	5	28	60	146	254	283	..	783
	F	1	..	2	8	12	16	42	134	338	541	1	1,095	
B22 Avitaminoses and other nutritional deficiency	M	3	1	3	1	..	7	6	6	4	15	..	46	
	F	6	7	1	..	2	3	2	5	14	31	..	68	
B23 Anaemias	M	..	1	..	3	2	3	3	17	25	43	..	97	
	F	1	..	1	..	1	4	3	17	25	88	..	140	
B24 Meningitis	M	19	11	1	..	..	3	1	5	5	1	..	45
	F	11	7	2	..	3	1	2	1	3	2	..	32	
B25 Active rheumatic fever	M	..	..	1	1	1	2	1	..	2	1	..	8
	F	..	..	..	..	..	1	..	1	1	..	..	5
B26 Chronic rheumatic heart disease	M	..	..	3	14	13	31	68	98	105	92	..	424
	F	..	..	1	5	24	24	66	128	117	176	..	541
B27 Hypertensive disease	M	..	..	..	..	8	25	76	147	206	316	1	779
	F	..	..	..	..	3	34	51	94	214	568	..	964
B28 Ischaemic heart disease	M	..	1	..	7	58	526	2,124	4,976	6,349	6,474	..	20,515	
	F	..	..	..	1	16	119	538	1,647	3,778	7,325	..	13,424
B29 Other forms of heart disease	M	7	5	5	11	19	51	126	233	485	1,248	..	2,190	
	F	5	5	7	6	16	35	48	141	374	1,971	..	2,608	
B30 Cerebrovascular disease	M	3	2	10	17	36	114	362	954	1,879	3,130	1	6,508	
	F	1	2	3	15	31	164	386	800	2,039	5,737	..	9,178	
B31 Influenza	M	11	3	2	6	10	12	57	78	118	153	1	451	
	F	8	3	1	2	8	20	26	46	77	171	..	362	
B32 Pneumonia	M	187	43	8	13	23	57	130	202	305	749	2	1,719	
	F	151	26	14	9	21	28	66	91	192	826	..	1,424	
B33 Bronchitis emphysema and asthma	M	4	5	22	23	15	42	171	642	1,229	1,259	..	3,412	
	F	1	5	7	15	16	37	68	139	200	305	..	793	
B34 Peptic ulcer	M	1	..	..	1	8	17	60	85	116	125	..	413
	F	..	..	1	..	1	11	26	27	45	115	..	226
B35 Appendicitis	M	..	..	2	2	..	3	2	2	8	11	..	30
	F	..	2	2	2	1	..	..	4	4	16	..	31
B36 Intestinal obstruction and hernia	M	24	1	1	4	3	..	10	20	27	73	..	163	
	F	22	1	2	1	1	6	5	23	41	117	..	219	
B37 Cirrhosis of liver	M	1	1	1	1	4	49	138	154	103	27	..	479	
	F	3	3	1	1	5	22	65	57	45	22	..	224	
B38 Nephritis and nephrosis	M	..	2	1	7	8	22	47	96	115	105	..	403	
	F	..	3	3	8	10	27	61	85	78	131	..	406	
B39 Hyperplasia of prostate	M	..	..	..	..	..	..	1	16	71	187	..	275
B40 Abortion	F	..	..	..	3	7	4	..	..	..	..	..	14
B41 Other complications of pregnancy, childbirth and the puerperium. Delivery without mention of complication	F	..	..	..	15	25	10	2	..	..	..	..	52
B42 Congenital anomalies	M	509	65	40	30	11	22	18	15	12	5	..	727	
	F	395	51	29	19	10	11	18	21	9	3	..	566	
B43 Birth injury, difficult labour and other anoxic and hypoxic conditions	M	555	2	1	..	1	..	..	..	..	..	..	559
	F	325	3	..	..	..	..	..	..	..	..	..	328
B44 Other causes of perinatal mortality	M	979	..	..	..	..	..	..	..	..	..	..	979
	F	668	3	2	..	..	..	..	..	..	..	..	673
B45 Symptoms and ill-defined conditions	M	42	15	8	24	19	26	36	35	40	147	..	392	
	F	29	7	2	8	12	15	17	23	38	221	2	374	
B46 (i) Arteriosclerosis	M	..	..	..	..	..	1	4	46	183	789	..	1,023
	F	..	..	..	..	1	..	11	30	150	1,345	..	1,537
(ii) Other diseases of circulatory system	M	3	..	..	4	5	22	57	206	317	352	..	966
	F	2	1	1	3	9	20	39	75	147	409	..	706	
(iii) Other diseases of respiratory system	M	93	31	10	4	9	10	20	68	124	182	..	551	
	F	60	16	8	6	7	10	17	32	54	158	..	368	
(iv) All other diseases	M	42	41	47	72	44	127	241	398	478	640	..	2,130	
	F	27	24	44	48	57	149	251	369	528	993	..	2,490	
<i>Total, B46</i>	M	138	72	57	80	58	160	322	718	1,102	1,963	..	4,670	
	F	89	41	53	57	74	179	318	506	879	2,905	..	5,101	
BE47 Motor vehicle accidents	M	17	81	149	1,084	389	300	306	274	164	143	..	2,907	
	F	6	47	100	261	95	89	120	118	112	97	..	1,045	
BE48 All other accidents	M	79	104	114	250	213	244	224	187	154	284	1	1,854	
	F	63	72	47	29	19	33	63	65	109	624	..	1,124	
BE49 Suicide and self-inflicted injuries	M	..	..	4	139	173	205	240	169	93	53	..	1,076
	F	..	..	4	50	63	86	102	94	53	23	..	475
BE50 All other external causes	M	6	4	9	42	34	44	52	23	15	9	1	239	
	F	4	5	13	19	23	30	26	18	15	3	..	156	
All causes	M	2,718	515	539	1,890	1,276	2,388	5,805	11,889	16,182	19,619	7	62,828	
	F	1,886	367	393	609	645	1,464	3,230	6,099	10,883	24,641	3	50,220	

(a) Categories of the Abbreviated List for which no deaths were recorded in 1970 have been omitted from this Table. For details of such categories see Table A above.

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 1970, 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, 1970

Inter- national Classifi- cation of Diseases number	Cause of death	Age at death										
		Days			Weeks			Months			Total under one year	
		Under		Total under one week	1		Total under four weeks	1-2		Total under one year		
		1	1-6		1	2		(a)	3-5			6-11
760	Chronic circulatory and genito- urinary diseases in mother . . .	17	8	25	1	..	..	26	..	..	..	26
761	Other maternal conditions un- related to pregnancy . . .	68	37	105	4	1	..	110	1	1	1	113
762	Toxaemias of pregnancy . . .	73	55	128	5	1	..	134	..	..	1	135
763	Maternal ante and intrapartum infection . . .	16	5	21	..	..	1	21	1	..	..	22
764-768	Difficult labour . . .	114	62	176	4	1	1	182	2	..	..	184
769	Other complications of pregnancy and childbirth . . .	368	172	540	13	5	1	559	..	..	..	559
770	Conditions of placenta . . .	225	106	331	4	..	2	337	1	..	..	338
771	Conditions of umbilical cord . . .	21	7	28	1	1	..	30	..	..	..	30
772, 773	Birth injury without mention of cause . . .	31	44	75	5	1	..	81	..	..	..	81
774, 775	Haemolytic disease of newborn . . .	53	24	77	5	1	2	85	1	..	..	86
776	Anoxic and hypoxic conditions not elsewhere classified . . .	333	262	595	13	4	1	613	2	4	1	620
777	Immaturity unqualified . . .	190	72	262	4	3	2	271	1	..	..	272
778, 779	Other conditions of newborn . . .	25	24	49	2	1	1	53	3	4	1	61
740-759	Congenital anomalies . . .	265	206	471	66	45	27	609	126	97	72	904
000-136	Infections . . .	6	14	20	8	7	4	39	47	51	76	213
480-486	Pneumonia . . .	14	13	27	4	3	9	43	107	122	66	338
(b)	Other diseases . . .	30	35	65	17	14	17	113	126	118	90	447
E911-E913	Inhalation or ingestion of food or other object causing obstruction or suffocation, and accidental mechanical suffocation . . .	..	4	4	2	1	4	11	33	38	27	109
(c)	Other external causes . . .	8	..	8	2	1	..	11	8	19	28	66
	All causes . . .	1,857	1,150	3,007	160	90	71	3,328	459	454	363	4,604

(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 184-6) 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 0.2 in 1970. 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 1970 are identified in Table B (pages 185-6). Malignant neoplasms are predominantly diseases of advanced age, but leukaemia and aleukaemia frequently cause death at early ages.

Deaths in age groups and age-specific death rates for males and females who died from malignant neoplasms in 1970 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 1970(b)**

Age group (years)	1950				1960				1970			
	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	138	125	7	7
15-29	95	75	10	8	112	75	10	7	161	105	10	7
30-44	249	413	27	47	361	517	32	49	463	512	39	46
45-54	552	669	118	148	852	831	138	143	1,110	1,063	155	152
55-64	1,294	1,171	347	299	1,671	1,186	401	276	2,496	1,745	457	315
65 and over	3,072	2,694	1,014	748	4,067	3,373	1,075	679	5,689	4,512	1,305	738
Total	5,355	5,075	130	125	7,207	6,092	139	120	10,057	8,062	160	130
	(d)				(e)							

(a) Includes neoplasms of lymphatic and haematopoietic tissues. (b) Excludes particulars of full-blood Aborigines prior to 1966. (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.

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, 114; Poland, 133; South Africa (white population), 137; Canada, 141; Australia, 145; United States of America, 159; Italy, 166; Uruguay, 188; Netherlands, 196; France, 210; England and Wales, 235; Scotland, 242.

Causes of infant mortality. See paragraph devoted to causes of infant deaths on page 187.

Diseases of the circulatory system (B25-B30, part B46). This class is the largest among causes of death, representing 58 per cent of total deaths in 1970. 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 1950-70. Comparability of the figures is not significantly 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 1970(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
1970	6,508	9,178	103	148	23,639	17,269	376	278	2,266	2,516	36	40	32,413	28,963	515	466

(a) Excludes particulars of full-blood Aborigines prior to 1966. (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, 1941 TO 1970(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
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
1966-70 .	43	15	17	9	2	1	33	20	95	45	9.61	5.71
1967 .	42	14	19	11	2	1	35	20	98	47	10.08	6.11
1968 .	43	14	17	8	2	1	34	21	95	45	9.43	5.51
1969 .	44	16	17	8	2	1	30	18	92	43	9.54	5.65
1970 .	46	17	17	8	2	1	32	19	97	45	9.67	5.58

(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 1970 the total number of deaths from *accidental causes* (BE47, BE48) was 6,930 (4,761 males and 2,169 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, 3,845 (55.48 per cent); motor vehicle non-traffic accidents, 107 (1.54 per cent); other road vehicle accidents, 37 (0.53 per cent); railway accidents, 103 (1.49 per cent); water transport accidents, 93 (1.34 per cent); aircraft accidents, 48 (0.69 per cent); a total of 4,233 (61.08 per cent). Other important causes were accidental falls, 1,161 (16.75 per cent); accidental drowning (not in transport), 377 (5.44 per cent); accidents caused by fires and flames, 220 (3.17 per cent); and accidental poisonings, 129 (1.86 per cent).

Deaths from *suicide* (BE 49) in 1970 numbered 1,551 (males, 1,076; females, 475). Poisoning, other than by gases, occurred in 579 cases (37.33 per cent of total deaths by suicide). Other important modes adopted, together with the numbers and relevant percentages, were as follows: firearms and explosives, 400 (25.79 per cent); poisoning by gases, 218 (14.06 per cent); hanging or strangulation 173 (11.15 per cent); submersion (drowning), 67 (4.32 per cent); other and unspecified modes, 114 (7.35 per cent). Of the 1,076 males who committed suicide, 376 (34.94 per cent) used firearms or explosives. For females the most common mode was poisoning (other than by gases). This was used in 282 cases (59.37 per cent).

Of the 395 deaths assigned in 1970 to all other external causes (BE50), there were 190 deaths from homicide and injury purposely inflicted by other persons, 1 death from legal intervention by firearms, 195 deaths from injury undetermined whether accidentally or purposely inflicted (of which 119 were due to poisoning other than by gases), 2 deaths from injury due to war operations by bullets and fragments and 7 deaths from late effects of injury due to operations of war.

Vital statistics of External Territories

The following table shows, for the year 1970, 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. 86.

EXTERNAL TERRITORIES: VITAL STATISTICS, 1970

Territory	Marriages	Births	Deaths
Christmas Island(a)	10	35	7
Cocos (Keeling) Islands(a)	6	10	3
Norfolk Island(a)	13	24	9
Territory of Papua New Guinea(b)	383	1,292	161

(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, 1970* (see explanation of true death rates, pages 177-8).

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, 1970* (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 147 of the Population chapter.

VITAL STATISTICS RATES: CERTAIN COUNTRIES—LATEST AVAILABLE YEAR

(Source: United Nations *Demographic Yearbook, 1970*)

Country	Year	Rates(a)				True death rates(b)		
		Marriage	Birth	Death	Infant mortality	Male	Female	
Africa—								
United Arab Republic	1969	9.4	36.9	(c)16.5	118.0	1960	19.4	18.6
Ethiopia	1963	n.a.	43.1	(c)25.0	84.2	1965-70	26.0	
South Africa—								
Asian population	1970	(d)9.0	34.1	8.1	37.0	1959-61	17.3	16.8
Coloured population	1970	(d)6.5	38.0	14.5	133.7	1959-61	20.2	18.4
White population	1970	(d)10.7	24.0	9.1	21.1	1959-61	15.4	14.0
Morocco	1962	n.a.	46.1	(c)16.5	149.0	1965-70		19.8
Algeria	1968	(e)4.7	40.9	(c)16.9	(f)86.3	1965-70		19.7
Tanzania	1967	n.a.	47.0	n.a.	160-165	1967		24-25
Kenya	1966-70	n.a.	47.8	17.5	(d)49.9	1965-70		21.1
North America—								
United States of America	1970	10.7	18.2	9.4	19.8	1968	15.0	13.5
Mexico	1970	(g)6.8	41.3	9.2	67.4	1965-70	16.4	15.7
Canada	1969	8.6	17.5	7.3	19.3	1965-67	14.5	13.3
South America—								
Brazil	1966-70	(h)3.4	37.8	9.5	n.a.	1965-70		16.5
Argentina	1967	6.4	20.7	8.4	58.3	1960-65	15.7	14.4
Colombia	1966-70	(d)3.7	44.6	10.6	(h)70.4		n.a.	n.a.
Peru	1966-70	(h)4.1	41.8	11.1	(e)61.9	1960-65	19.0	18.0
Venezuela	1966-70	(h)5.7	40.9	7.8	(h)46.2	1961		15.1
Asia—								
Indonesia	1966-70	(i)10.6	48.3	19.4	(j)125.0	1960	21.1	21.1
Pakistan	1966-70	n.a.	50.9	18.4	(j)142.0	1962	18.6	20.5
Japan	1970	10.0	18.9	6.9	(d)15.3	1968	14.5	13.5
Philippines	1966-70	(g)6.0	44.7	12.0	(g)72.2		n.a.	n.a.
Thailand	1966-70	(d)3.3	42.8	10.4	(d)26.2	1960	18.7	17.0
Turkey	1967	n.a.	39.6	14.6	153.0	1966		18.6
Korea, Republic of	1966-70	(f)12.0	35.6	11.0	(e)40-50	1965-70	19.6	18.6
China, Republic of (Taiwan)	1970	7.8	28.1	5.1	(d)17.5	1965	15.2	14.2
Korea, North	1966-70	n.a.	38.8	11.2	n.a.	1965-70		17.3
Ceylon	1968	6.9	(d)31.7	7.9	(e)47.7	1962	16.2	16.3
Nepal	1966-70	n.a.	44.6	22.9	n.a.	1965-70		24.6
Europe—								
Germany—								
Eastern Germany	1970	7.7	13.9	14.1	(d)20.0	1965-66	14.6	13.6
Federal Republic of	1970	7.2	13.3	11.6	23.5	1966-68	14.8	13.6
United Kingdom	1970	(d)8.1	16.2	11.8	(d)18.6	1966-68	14.6	13.4
England and Wales	1970	(d)8.1	16.0	11.7	17.9	1967-69	14.6	13.4
Northern Ireland	1970	(d)7.7	21.1	10.9	22.7	1967-69	14.6	13.6
Scotland	1970	8.3	16.8	12.3	(d)21.1	1967-69	14.9	13.7
Italy	1970	7.4	16.8	9.7	29.2	1960-62	14.9	13.8
France	1970	7.7	16.7	10.6	15.1	1968	14.7	13.2
Spain	1970	7.4	19.8	8.6	27.8	1960	14.9	13.9
Poland	1970	8.5	16.7	8.1	33.1	1965-66	15.0	13.7
Yugoslavia	1970	8.9	17.6	8.9	(d)56.3	1966-67	15.4	14.5
Romania	1970	7.2	21.1	9.6	49.5	1964-67	15.0	14.2
Czechoslovakia	1970	8.7	15.8	11.4	22.1	1966	14.9	13.6
Netherlands	1970	9.5	18.4	8.4	12.7	1968	14.1	13.1
Hungary	1970	9.3	14.7	11.6	35.7	1964	14.9	13.9
Greece	1969	8.2	17.4	8.1	31.8	1960-62	14.8	14.1
Oceania—								
Australia	1970	9.2	20.5	9.0	17.9	1970	14.8	13.5
New Zealand	1970	9.2	22.1	8.8	16.7	1960-62	14.6	13.6
U.S.S.R.—								
Union of Soviet Socialist Republics	1970	9.7	17.5	8.2	24.4	1967-68	15.4	13.5

(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 177). (c) 1966-70. (d) 1969. (e) 1967. (f) 1965. (g) 1970. (h) 1968. (i) 1962. (j) 1962-65.