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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 1967 for marriages and 1966 for births, deaths, and infant deaths. Comparisons have been restricted, in general, to the individual years 1963 to 1967 and the five-year periods 1941-45 to 1961-65, while age data have been shown in five-year groups. Comparisons over longer periods, together with more detailed figures such as single age particulars and cross-classifications of various characteristics, will be found in the annual bulletins, *Demography and Causes of Death*. Current information is published in the *Monthly Review of Business Statistics*, the *Quarterly Summary of Australian Statistics*, and the *Australian Demographic Review* (a mimeographed series issued at intervals throughout the year on population and vital statistics).

Statistics of 1967 births, deaths and marriages include particulars of Aborigines. For earlier years registrations identified as those of full-blood Aborigines were excluded. 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 among full-blood Aborigines from those among part-Aborigines or the rest of the population.

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

Provisions for registration and compilation of statistics

In Australia vital statistics are compiled from information supplied for the registration of births, deaths, and marriages. Each State and Territory has an independent system of registration. Provisions for the civil registration of births, deaths, and marriages have been in force in Tasmania from 1839, in Western Australia from 1841, in South Australia from 1842, in Victoria from 1853, and in New South Wales and Queensland (then part of New South Wales) from 1856. Registration in the Territories is administered by the Commonwealth Government, registration having been taken over 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.

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

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

Information is required in all States and Territories concerning what have been commonly known as 'still-births'. These are excluded from all the tables of births and deaths in this chapter and are included only in the special tables of still-births shown on page 195. The statistics of still-births shown relate to those, in several States, of at least seven months gestation or, in other States and the two Territories, the approximate equivalent of twenty-eight weeks. The statistics relate to periods up to the end of 1966. Compulsory registration was introduced in Western Australia in 1908, the Australian Capital Territory in 1930, New South Wales in 1935, South Australia in 1937, the Northern Territory in 1949, Victoria in 1953, and Queensland in 1959.

Legislation has been adopted in most States and in the Territories for the completion of a medical certificate of cause of perinatal death for children not born alive (equivalent terms—foetal death, still-birth) and children dying within the first twenty-eight complete days of life. The purpose of this new certificate of cause of death is to make available additional information on the causes of such mortality, and it has originated from the endeavours of the medical profession and health authorities to seek further reduction of the loss of life at or around birth.

The medical certificate of cause of perinatal death came into use in Western Australia, the Australian Capital Territory, and the Northern Territory in 1963, in Tasmania and Queensland in 1967, and in South Australia in 1968. No date has yet been proclaimed for the operation of the New South Wales amending Act of 1967.

The period of gestation was 'at least twenty weeks' (or if not known, alternatively a weight of at least four hundred grammes) in the Australian Capital Territory and the Northern Territory from September 1963, in Tasmania from 15 March 1967, in Queensland from 1 October 1967, and in South Australia and Western Australia from 1 January 1968. The New South Wales legislation (yet to be proclaimed) also provides for the same criteria.

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

Marriages

Numbers of marriages and crude marriage rates

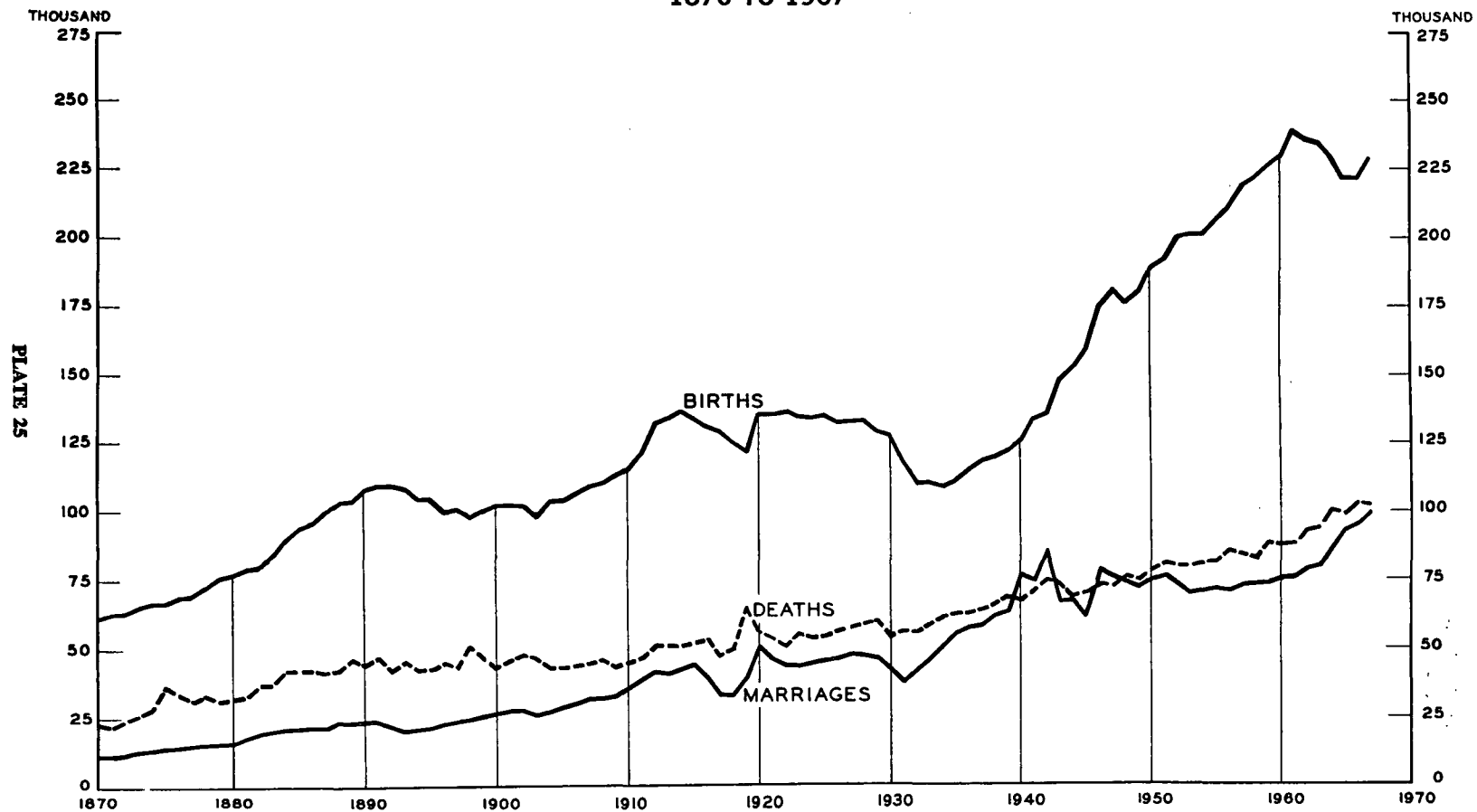
The numbers of marriages registered in each State and Territory in five-year periods from 1941-45 to 1961-65, and for each of the years 1963 to 1967, and crude marriage rates for the same periods are shown in the following tables. Annual averages for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 575. The graph opposite shows the number of marriages in each year from 1870 to 1967. From the beginning of 1967 marriages of Aborigines are included. Before 1967 marriages between full-blood Aborigines were excluded. The marriage rates (number per thousand of mean population) for 1966 including marriages between Aborigines are shown in footnote (c) to the table of rates on page 178.

MARRIAGES: STATES AND TERRITORIES, 1941 TO 1967

<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—									
1941-45	28,506	19,450	10,563	6,517	4,668	2,097	71	109	71,981
1946-50	30,162	20,453	10,666	6,581	5,205	2,529	114	181	75,891
1951-55	28,483	20,007	10,171	6,290	5,232	2,539	146	234	73,102
1956-60	28,432	20,422	10,254	6,517	5,145	2,573	190	321	73,854
1961-65	31,788	23,262	11,437	7,514	5,768	2,700	248	533	83,250
Annual total—									
1963	30,999	22,061	11,431	7,302	5,755	2,579	260	529	80,916
1964	32,633	24,169	11,752	7,765	6,023	2,869	233	569	86,013
1965	35,176	26,421	12,967	8,680	6,448	2,888	296	670	93,546
1966	35,575	27,089	13,325	9,051	7,001	2,946	312	747	96,046
1967(a)	37,077	28,004	13,634	9,434	7,430	3,213	325	883	100,000

(a) Includes Aborigines (see text above).

BIRTHS, DEATHS AND MARRIAGES: AUSTRALIA 1870 TO 1967



NOTE. FROM 1967 INCLUDES ABORIGINES

CRUDE MARRIAGE RATES(a): STATES AND TERRITORIES, 1941 TO 1967

<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—									
1941-45	9.97	9.86	10.04	10.61	9.74	8.61	7.2	7.6	9.94
1946-50	9.90	9.72	9.41	9.87	10.01	9.56	9.4	9.4	9.77
1951-55	8.41	8.34	7.91	8.11	8.44	8.35	9.1	8.2	8.29
1956-60	7.70	7.50	7.14	7.26	7.36	7.69	8.6	7.5	7.50
1961-65(b)	7.86	7.64	7.27	7.42	7.43	7.49	8.1	7.3	7.63
Annual rate—									
1963(b)	7.66	7.25	7.29	7.24	7.40	7.15	8.6	7.2	7.42
1964(b)	7.95	7.78	7.34	7.50	7.55	7.87	7.0	7.1	7.73
1965(b)	8.43	8.35	7.94	8.16	7.91	7.85	8.4	7.6	8.25
1966(b)	8.40	8.41	8.01	8.29	8.36	7.93	8.3	7.7	8.31
1967(c)	8.60	8.55	8.01	8.49	8.47	8.53	5.5	8.5	8.46

(a) Number of marriages per 1,000 of mean population. (b) Recalculated from population figures revised in accordance with results of the census of 30 June 1966. (c) Number of marriages (including marriages of Aborigines) per 1,000 of mean population (including Aborigines). For 1966 the corresponding marriage rates (i.e. including marriages of Aborigines) are: New South Wales, 8.39; Victoria, 8.41; Queensland, 7.97; South Australia, 8.27; Western Australia, 8.25; Tasmania, 7.93; Northern Territory, 5.5; Australian Capital Territory, 7.7; Australia, 8.28.

NOTE. In some instances rates are based on too few marriages to warrant calculation to the second decimal place.

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

Marriage rates based on marriageable population

As the marriage rates in some international tabulations are based on the unmarried population aged 15 years and over, the corresponding rates have been calculated for Australia for the ten census periods to 1965-67. The period in each case comprises the census year with the year immediately preceding and the year immediately following, and the figures are as follows.

PERSONS MARRYING, PER 1,000 OF UNMARRIED
POPULATION(a): AUSTRALIA
1880-82 TO 1965-67

<i>Period</i>	<i>Rate(b)</i>	<i>Period</i>	<i>Rate(b)</i>
1880-82	48.63	1932-34	42.88
1890-92	44.04	1946-48	71.24
1900-02	42.14	1953-55	65.32
1910-12	50.12	1960-62	62.27
1920-22	55.97	1965-67	68.34

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

Age and marital status at marriage

Particulars of age at marriage in age groups, and previous marital status, of bridegrooms and brides in 1967 are given hereunder. There were 14,991 males under 21 years of age married during 1967, while the corresponding number of females was 43,145. At the other extreme there were 1,096 bridegrooms and 585 brides in the age group 65 years and over.

**AGE AND MARITAL STATUS OF BRIDEGROOMS AND BRIDES
AUSTRALIA, 1967(a)**

Age at marriage (years)	Bridegrooms				Brides			
	Bachelors	Widowers	Divorced	Total	Spinsters	Widows	Divorced	Total
Under 20 . . .	7,545	1	..	7,546	28,141	12	4	28,157
20-24 . . .	50,610	25	117	50,752	49,509	92	434	50,035
25-29 . . .	22,010	78	693	22,781	8,680	200	1,131	10,011
30-34 . . .	5,718	119	997	6,834	2,048	218	1,047	3,313
35-39 . . .	2,473	169	1,058	3,700	930	292	973	2,195
40-44 . . .	1,185	291	1,030	2,506	514	391	858	1,763
45-49 . . .	549	357	783	1,689	306	535	682	1,523
50-54 . . .	328	445	567	1,340	214	560	426	1,200
55-59 . . .	172	478	373	1,023	116	428	193	737
60-64 . . .	107	433	193	733	77	321	83	481
65 and over . . .	91	877	128	1,096	73	452	60	585
Total . . .	90,788	3,273	5,939	100,000	90,608	3,501	5,891	100,000

(a) Includes Aborigines.

In the following table the proportional distribution of bridegrooms and brides according to previous marital status is shown in five-year periods from 1936-40 to 1961-65 and for each of the years 1963 to 1967.

**MARITAL STATUS OF BRIDEGROOMS AND BRIDES: PROPORTIONAL
DISTRIBUTION, AUSTRALIA, 1936 TO 1967
(Per cent)**

Period	Bridegrooms				Brides			
	Bachelors	Widowers	Divorced	Total	Spinsters	Widows	Divorced	Total
1936-40 . . .	92.59	4.82	2.59	100.00	93.94	3.38	2.68	100.00
1941-45 . . .	91.44	4.77	3.79	100.00	92.11	3.93	3.96	100.00
1946-50 . . .	88.82	4.74	6.44	100.00	88.71	4.74	6.55	100.00
1951-55 . . .	88.77	4.63	6.60	100.00	88.04	4.81	7.15	100.00
1956-60 . . .	89.86	4.18	5.96	100.00	88.80	4.47	6.73	100.00
1961-65 . . .	90.55	3.68	5.77	100.00	90.04	3.87	6.09	100.00
1963 . . .	90.53	3.77	5.70	100.00	90.01	3.85	6.14	100.00
1964 . . .	90.78	3.53	5.69	100.00	90.30	3.74	5.96	100.00
1965 . . .	91.01	3.35	5.64	100.00	90.70	3.49	5.81	100.00
1966 . . .	90.83	3.34	5.83	100.00	90.69	3.45	5.86	100.00
1967(a) . . .	90.79	3.27	5.94	100.00	90.61	3.50	5.89	100.00

(a) Includes Aborigines.

The relative ages of bridegrooms and brides in 1967 are shown below in age groups of five years.

RELATIVE AGES OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1967(a)

Age of bride-groom (years)	Total bride-grooms	Age of bride (years)							45 and over
		Under 15	15-19	20-24	25-29	30-34	35-39	40-44	
Under 20 . . .	7,546	5	6,129	1,354	53	4	..	..	1
20-24 . . .	50,752	7	17,997	30,718	1,827	154	37	11	1
25-29 . . .	22,781	1	3,423	14,251	4,252	636	158	45	15
30-34 . . .	6,834	..	459	2,701	2,256	901	332	132	53
35-39 . . .	3,700	..	96	672	1,038	829	575	299	191
40-44 . . .	2,506	..	27	219	385	474	549	456	396
45-49 . . .	1,689	..	10	66	140	188	292	369	624
50-54 . . .	1,340	..	2	29	46	75	159	255	774
55-59 . . .	1,023	..	..	16	11	38	61	126	771
60-64 . . .	733	..	1	6	2	8	22	43	651
65 and over . . .	1,096	..	..	3	1	6	10	27	1,049
Total brides	100,000	13	28,144	50,035	10,011	3,313	2,195	1,763	4,526

(a) Includes Aborigines.

The average age at marriage of brides and bridegrooms has declined during recent years. The average ages, in years, of brides for each of the five years to 1967 were: 1963, 24.42; 1964, 24.31; 1965, 24.09; 1966, 24.02; and 1967, 24.03. The average ages, in years, of bridegrooms were: 1963, 27.76; 1964, 27.58; 1965, 27.24; 1966, 27.10; and 1967, 27.01. The difference in the average age at marriage between brides and bridegrooms is generally about three years, the difference in 1967 being 2.98 years.

Previous marital status

The following table shows the relative marital status of bridegrooms and brides in 1967.

MARITAL STATUS OF BRIDEGROOMS AND BRIDES AUSTRALIA, 1967(a)

Marital status of bridegrooms	Total bride- grooms	Marital status of brides		
		Spinsters	Widows	Divorced
Bachelors . . .	90,788	86,540	1,119	3,129
Widowers . . .	3,273	935	1,576	762
Divorced . . .	5,939	3,133	806	2,000
Total brides . . .	100,000	90,608	3,501	5,891

(a) Includes Aborigines.

Countries of birth of persons marrying

The following table shows the relative countries of birth of bridegrooms and brides married in 1967.

RELATIVE COUNTRIES OF BIRTH OF BRIDEGROOMS AND BRIDES AUSTRALIA, 1967(a)

Country of birth of bridegroom	Country of birth of bride											Total bride- grooms
	Austra- lia	New Zea- land	United King- dom and Ireland	Ger- many	Greece	Italy	Malta	Nether- lands	Yugo- slavia	Other Euro- pean	Other and un- specified	
Australia . . .	66,457	302	4,319	915	54	193	155	637	50	436	669	74,187
New Zealand . . .	675	60	56	8	2	1	2	5	..	6	17	832
United Kingdom and Ireland . . .	5,642	71	1,848	146	4	25	20	127	8	92	176	8,159
Germany . . .	1,008	11	177	367	6	17	18	38	17	87	68	1,814
Greece . . .	197	1	18	10	3,162	5	6	3	8	13	77	3,500
Italy . . .	759	12	103	58	18	2,220	24	20	28	50	62	3,354
Malta . . .	268	1	38	11	2	5	483	6	..	12	12	838
Netherlands . . .	902	7	146	36	..	4	7	275	5	26	35	1,443
Yugoslavia . . .	312	4	44	79	52	42	6	19	564	67	15	1,204
Other European and un- specified . . .	921	23	167	214	27	20	13	41	42	701	83	2,252
Total brides	78,288	516	7,076	1,893	3,402	2,562	745	1,205	730	1,549	2,034	100,000

(a) Includes Aborigines.

Occupation of bridegrooms

The distribution of the 100,000 bridegrooms for 1967 among classes of occupations was as follows: craftsmen, 32,313; administrative and clerical workers, 14,298; labourers, 10,822; rural and mining workers, 8,618; professional and technical workers, 10,869; workers in transport and communication, 6,749; service, sport, and other workers, 8,174; sales workers, 6,164; persons not in the work force, 1,993.

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 Registrar of Ministers of Religion in each State or Territory, or by certain civil officers, in most cases district registrars. Most of the marriages are celebrated by ministers of religion. The registered ministers in 1967 belonged to more than fifty different denominations, some of which, however, have only very few adherents. The categories 'Ministers of Other recognised denominations' and 'Other ministers' combine ministers of some of these denominations. The figures for 1967 are shown in the following table.

MARRIAGES IN EACH DENOMINATION: STATES AND TERRITORIES, 1967(a)

Category of celebrant	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia	
									No.	Proportion of total
Ministers of religion—										
Recognised denominations—										
Church of England	11,640	6,435	3,557	1,984	2,388	1,299	47	226	27,576	27.58
Roman Catholic	10,254	7,995	3,644	1,992	1,928	690	77	276	26,856	26.86
Methodist	3,723	3,018	1,972	2,357	806	434	26	40	12,376	12.38
Presbyterian	3,370	4,230	2,107	370	405	147	24	70	10,723	10.72
Orthodox	1,393	1,784	109	187	70	18	13	13	3,587	3.59
Baptist	638	433	225	245	104	83	2	12	1,742	1.74
Lutheran	178	261	314	512	26	9	13	13	1,326	1.33
Churches of Christ	181	498	107	238	176	20		16	1,296	1.30
Congregational	281	321	93	304	127	44	40	6	1,216	1.22
Salvation Army	158	135	98	51	50	19	5	2	518	0.52
Jewry	160	198	4	4	11	1			378	0.38
Seventh-day Adventist	94	68	52	22	36	9	1	1	283	0.28
Jehovah's Witnesses	50	38	40	19	16	3	1	1	168	0.17
Church of Jesus Christ of Latter Day Saints	51	34	26	15	20	9	1	1	157	0.16
Christian Brethren	45	31	29	14	9	25			153	0.15
Assemblies of God	19	13	61	14	3				110	0.11
Other recognised denominations	146	162	79	45	89	17	2		540	0.54
Other ministers	102	147	26	13	25	1		1	315	0.32
Total ministers	32,483	25,801	12,543	8,446	6,289	2,828	252	678	89,320	89.32
Civil officers	4,594	2,203	1,091	988	1,141	385	73	205	10,680	10.68
Grand total	37,077	28,004	13,634	9,434	7,430	3,213	325	883	100,000	100.00
Proportion of total (per cent)—										
Ministers of religion	87.61	92.13	92.00	89.53	84.64	88.02	77.54	76.78	89.32	..
Civil officers	12.39	7.87	8.00	10.47	15.36	11.98	22.46	23.22	10.68	..

(a) Includes Aborigines.

Divorce

The number of dissolutions of marriage, nullities of marriage and judicial separations was 9,921 in 1966 and 9,746 in 1967. Further information may be found in the chapter Public Justice.

Fertility and reproduction

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

Number of live births and confinements

There are various methods of measuring the fertility of the population by relating the number of births to the numbers of the population. In each the basic data are, of course, the numbers of live births. The number of live births registered in Australia during 1966 is shown in the following table. The table shows also the number of confinements resulting in one or more live births. The figures exclude cases where the births were of still-born children only.

LIVE BIRTHS AND CONFINEMENTS: STATES AND TERRITORIES, 1966(a)

	<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>
LIVE BIRTHS									
Single births .	76,164	62,566	32,198	19,969	16,668	7,274	955	2,220	218,014
Twins .	1,576	1,417	635	350	336	127	17	95	4,553
Triplets .	18	21	10	..	3	..	..	3	55
Quadruplets .	..	4	..	..	..	..	..	..	4
Males .	40,178	32,782	16,849	10,537	8,800	3,753	485	1,146	114,530
Females .	37,580	31,226	15,994	9,782	8,207	3,648	487	1,172	108,096
Total .	77,758	64,008	32,843	20,319	17,007	7,401	972	2,318	222,626
STILL-BIRTHS ASSOCIATED WITH MULTIPLE BIRTHS INCLUDED ABOVE									
Twins .	30	11	11	2	8	1	1	3	67
Triplets .	..	..	2	..	..	..	..	..	2
CONFINEMENTS RESULTING IN BIRTHS SHOWN ABOVE									
Nuptial .	71,005	59,749	29,332	18,784	15,247	6,818	830	2,196	203,961
Ex-nuptial .	5,968	3,539	3,193	1,361	1,594	520	134	74	16,383
Total .	76,973	63,288	32,525	20,145	16,841	7,338	964	2,270	220,344

(a) Excludes full-blood Aborigines.

NOTE. Owing to the registration procedure adopted in some States, it is possible that in some cases where one child only of a multiple pregnancy was live-born, the confinement has been treated as a single birth. However, the numbers of multiple births are not significantly affected. See also page 190.

The average annual number of live births in each State and Territory for each five-year period from 1941 to 1965 and the total number of live births for each year from 1963 to 1967 are given in the following table. Corresponding figures for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 583.

From the beginning of 1967 births of Aborigines are included. Before 1967 births of full-blood Aborigines were excluded. The birth rates (number per 1,000 of mean population) for 1966 including Aborigines are shown in footnote (c) to the table of rates on page 184.

LIVE BIRTHS: STATES AND TERRITORIES, 1941 TO 1967

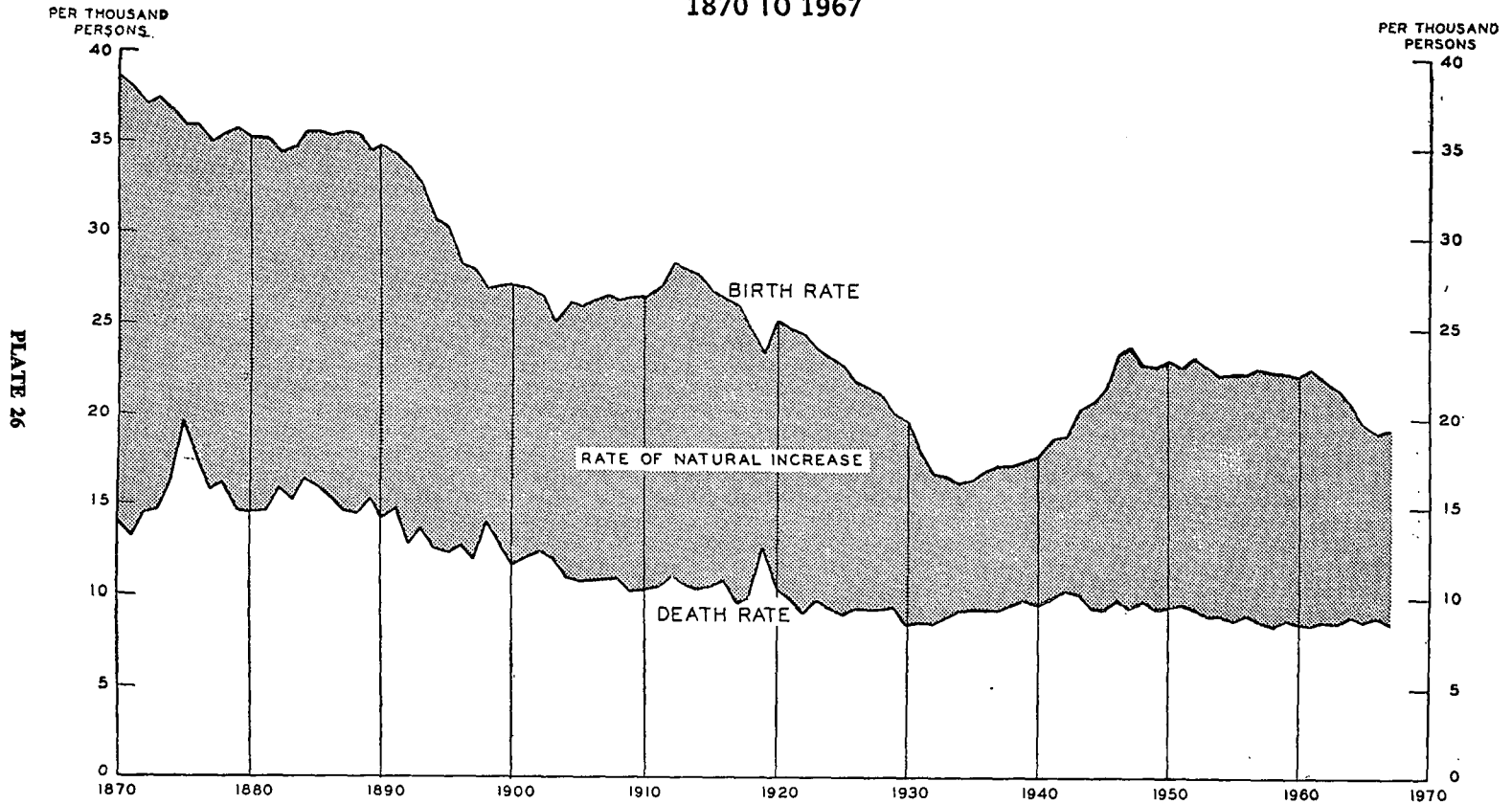
<i>Period</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Annual average—									
1941-45 .	56,583	38,002	23,431	12,546	10,409	5,418	113	384	146,886
1946-50 .	68,856	47,372	28,003	16,270	13,130	7,064	289	734	181,718
1951-55 .	73,737	53,770	30,983	18,045	15,724	7,774	468	922	201,423
1956-60 .	79,613	61,279	34,171	19,977	16,922	8,517	694	1,286	222,459
1961-65 .	82,896	65,193	35,357	21,377	16,861	8,439	897	1,932	232,952
Annual total—									
1963 .	84,065	65,649	35,934	21,367	17,290	8,530	859	1,995	235,689
1964 .	80,518	64,990	34,972	20,866	16,685	8,252	911	1,955	229,149
1965 .	78,069	63,550	33,551	20,891	16,186	7,535	914	2,158	222,854
1966 .	77,758	64,008	32,843	20,319	17,007	7,401	972	2,318	222,626
1967(a) .	78,841	65,485	34,692	20,386	18,023	7,547	1,921	2,401	229,296

(a) Includes Aborigines. See text above.

A graph on page 177 shows the number of births in each year from 1870 to 1967.

RATES OF BIRTHS, DEATHS AND NATURAL INCREASE: AUSTRALIA

1870 TO 1967



Crude birth rates

The oldest and most popular method of measuring fertility is to relate the number of births to the total population, thus obtaining the crude birth rate. The crude birth rate measures the rate per thousand persons (irrespective of age or sex) at which the population has added to its numbers by way of births during a given period. Other methods of measuring fertility are shown on pages 185, 187-8. Crude birth rates for each five-year period from 1941 to 1965 and for each year from 1963 to 1967 are set out below for each State and Territory.

CRUDE BIRTH RATES(a): STATES AND TERRITORIES, 1941 TO 1967

<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 rates—									
1941-45 .	19.79	19.27	22.28	20.43	21.72	22.23	11.4	26.8	20.28
1946-50 .	22.60	22.51	24.69	24.41	25.24	26.71	23.8	37.9	23.39
1951-55 .	21.78	22.42	24.11	23.25	25.37	25.58	29.4	32.22	22.86
1956-60 .	21.55	22.52	23.80	22.27	24.20	25.45	31.49	30.10	22.59
1961-65(b)	20.49	21.42	22.49	21.11	21.71	23.41	29.30	26.31	21.34
Annual rates—									
1963(b) .	20.77	21.59	22.90	21.20	22.23	23.66	28.4	27.2	21.61
1964(b) .	19.61	20.93	21.84	20.16	20.93	22.64	27.6	24.3	20.60
1965(b) .	18.71	20.08	20.54	19.63	19.85	20.48	25.8	24.4	19.65
1966(b) .	18.35	19.87	19.74	18.62	20.31	19.92	25.9	24.0	19.27
1967(c) .	18.30	19.98	20.37	18.34	20.55	20.04	32.3	23.1	19.40

(a) Number of births per 1,000 of mean population. (b) Recalculated from population figures revised in accordance with results of the census of 30 June 1966. (c) Number of births (including births of Aborigines) per 1,000 of mean population (including Aborigines). For 1966 the corresponding birth rates (i.e., including births of Aborigines) are: New South Wales, 18.34; Victoria, 19.87; Queensland, 19.65; South Australia, 18.60; Western Australia, 20.26; Tasmania 19.91; Northern Territory, 31.2; Australian Capital Territory, 24.0; Australia, 19.28.

NOTE. In some instances rates are based on too few births to warrant calculation to the second decimal place.

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 1966—New South Wales, 18.38; Victoria, 19.86; Queensland, 19.69; South Australia, 18.57; Western Australia, 20.32; Tasmania, 19.93; Northern Territory, 27.1; and Australian Capital Territory, 24.2. See Year Book No. 47 (p. 339) for the effect of the variations in the availability of hospital facilities on the birth rate in the Australian Capital Territory and in the neighbouring town of Queanbeyan in New South Wales.

A graph showing the birth rate for each year from 1870 to 1967 will be found on page 183. The crude birth rates of Australia and the more populous countries of the world for the latest available year are shown in International Vital Statistics at the end of this chapter.

Fertility rates

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

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

CRUDE BIRTH RATES AND FERTILITY RATES: AUSTRALIA, 1880-82 TO 1960-62(a)

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

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

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

Age-specific birth rates

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

Age-specific birth rates are more commonly expressed in age groups than in single ages. In the following table such rates are shown in five-year age groups for Australia for the period 1941 to 1966. A graph on the following page shows the age-specific birth rates for each year during the period 1921 to 1966.

AGE-SPECIFIC BIRTH RATES(a): AUSTRALIA, 1941 TO 1966(b)

Age group (years)	1941	1946	1951	1956	1961	1964	1965	1966
15-19	24.27	26.13	38.62	42.99	47.35	46.95	47.52	48.89
20-24	121.02	151.07	177.23	210.87	225.81	190.51	179.31	173.07
25-29	143.46	183.18	185.32	203.04	221.21	198.11	188.54	183.88
30-34	104.94	131.72	123.10	123.52	131.11	119.12	110.10	105.12
35-39	57.82	78.29	65.03	64.20	63.38	58.38	53.00	50.62
40-44	19.61	24.57	21.02	19.74	19.17	16.53	15.03	14.16
45-49	1.67	2.10	1.61	1.58	1.41	1.16	1.11	1.04

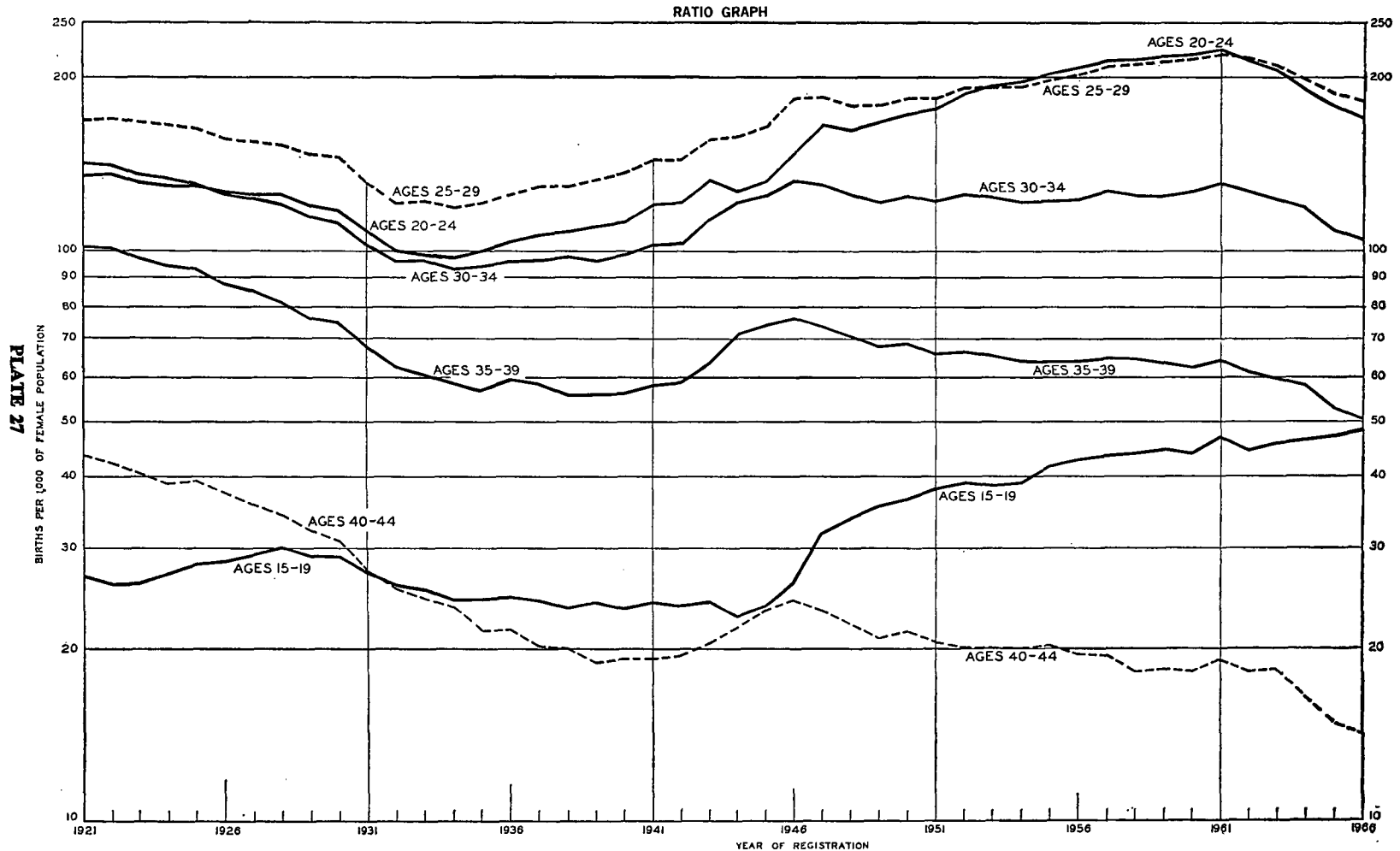
(a) Number of births per 1,000 women in each age group. (b) Excludes full-blood Aborigines.

Gross and net reproduction rates for females

A single measure of reproduction, known as the gross reproduction rate, is obtained by adding together the specific fertility rates for each age in the child-bearing group. This measure indicates the number of female children who would be born on an average to women living right through the child-bearing period, if the conditions on which the rate is based continue. The rate is unaffected by the age composition of the potential mothers, and consequently it shows more clearly than the crude birth rate the reproductive propensity of the population. It is, however, an imperfect measure

BIRTH RATES BY AGE OF MOTHER: AUSTRALIA, 1921 TO 1966

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



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

of reproduction because it does not take into account the females who fail to live from birth to the end of the reproductive period. A more accurate measure of this nature is obtained by multiplying the specific fertility rates by the number of females in the corresponding age group of the stationary or life table population and summing the products. Allowance is thus made for the effect of mortality and the result is known as the net reproduction rate. The net reproduction rate indicates the average number of female children who would be born to women during their lifetime if they were subject at each age to the fertility and mortality rates on which the calculation is based. A constant net reproduction rate of unity indicates that the population will ultimately become stationary. If it continues greater than unity, the population will ultimately increase; if less than unity, it will ultimately decrease. The following table should be read in the light of the comment which follows it and of the index of marriage fertility, page 188.

GROSS AND NET REPRODUCTION RATES(a): AUSTRALIA, 1881 TO 1966

Year	Gross reproduction rate	Net reproduction rate	Year	Gross reproduction rate	Net reproduction rate
1881(b)	2.65	(c) 1.88	1951	1.485	(h) 1.409
1891(b)	2.30	(c) 1.73	1954	1.558	(i) 1.497
1901(b)	1.74	(d) 1.39	1961	1.728	(j) 1.672
1911	1.705	(e) 1.421	1962	1.666	(j) 1.609
1921	1.511	(f) 1.313	1963	1.625	(j) 1.572
1931	1.141	(g) 1.039	1964	1.529	(j) 1.480
1941	1.154	(g) 1.053	1965	1.447	(j) 1.400
1947	1.493	(h) 1.416	1966	1.400	(j) 1.355

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

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

In the following table a comparison is given of the gross and net reproduction rates recorded for various countries in the period 1954 to 1966. These represent the latest available international comparisons. The registration of vital events has not been fully established in many countries and consequently details for the calculation of reproduction rates are not available. In order that the table should be as representative as possible some countries have been included even though the gross reproduction rate is the only figure available.

GROSS AND NET REPRODUCTION RATES: VARIOUS COUNTRIES

Country	Period	Reproduction rate		Country	Period	Reproduction rate	
		Gross	Net			Gross	Net
Venezuela	1963	3.04	..	Norway	1963	1.42	1.38
Mauritius	1964	2.94	2.54	France	1964	1.42	1.37
Malaya	1960	2.9	..	Australia(a)	1966	1.40	1.36
Ceylon	1961	2.5	..	England and Wales	1963	1.39	1.34
Thailand	1954	2.26	1.70	Belgium	1963	1.30	1.25
Chile	1964	2.16	1.83	Yugoslavia	1963	1.29	1.06
Ireland, Republic of	1963	1.90	1.74	Czechoslovakia	1963	1.22	1.18
New Zealand	1964	1.83	1.77	Germany—			
Canada	1964	1.72	1.66	Federal Rep.	1963	1.22	1.17
United States of America	1963	1.62	1.56	Democratic Rep.	1960	1.16	1.06
Netherlands	1964	1.55	1.50	Sweden	1964	1.21	1.18
Portugal	1960	1.52	1.33	Switzerland	1962	1.20	1.16
Scotland	1964	1.49	1.44	Japan	1963	0.96	0.92
				Hungary	1964	0.87	0.81

(a) Excludes full-blood Aborigines.

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

Fertility of marriages

More satisfactory estimates of the fertility of marriages may be made by relating nuptial 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. The table below sets out this index of current fertility per marriage in respect of births in the individual years shown.

FERTILITY OF MARRIAGES: AUSTRALIA, 1955 TO 1966

<i>Year</i>	<i>Nuptial births per marriage</i>	<i>Year</i>	<i>Nuptial births per marriage</i>	<i>Year</i>	<i>Nuptial births per marriage</i>
1955	2.54	1959	2.73	1963	2.72
1956	2.58	1960	2.76	1964	2.58
1957	2.69	1961	2.84	1965	2.42
1958	2.69	1962	2.78	1966	2.32

See text following first table on page 187.

The figure for a particular year gives the estimated number of children which a marriage would produce according to the fertility conditions of that year. The figures published in recent years present a somewhat inflated index, as many of the births used to calculate the index related to marriages of immigrants which took place overseas and consequently were not included in Australian marriage records. A revised series of indexes from which such births have been eliminated has been calculated from the year 1955 and is shown in the table above. The index has also now been expressed in terms of nuptial births and not nuptial confinements as formerly, while at the same time weights used for the calculation of fertility during the first two years of marriage have been revised. The net effect of these adjustments has been to reduce the index of current marriage fertility, as calculated on the original basis, by percentages varying from 6 in 1955 to 8 in 1966.

As formerly, some understatement is present in the index owing to the non-inclusion of births which occur overseas to Australian marriages. Furthermore the results do not take account of the previous reproductive history of a marriage or of age at marriage.

Masculinity of live births

The masculinity of live births, i.e. the number of males born for every 100 female births, has remained fairly stable for Australia at about 105. But when the number of births for which masculinity is being calculated is small (for example, totals for smaller States) considerable variation is shown. The averages for the ten years 1951-60 were as follows: New South Wales, 105.38; Victoria, 105.50; Queensland, 105.80; South Australia, 104.89; Western Australia, 105.25; Tasmania, 104.96; Northern Territory, 107.16; Australian Capital Territory, 108.77; Australia, 105.43. The following table shows the figures for Australia for each ten-year period from 1901 to 1960 and for each of the years 1965 to 1967.

MASCULINITY(a) OF LIVE BIRTHS REGISTERED: AUSTRALIA, 1901 TO 1967

	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60	1965	1966	1967(b)
Total births	105.22	105.27	105.55	105.12	105.38	105.43	105.61	105.95	105.43
Ex-nuptial births	104.08	105.25	105.16	105.36	105.34	103.99	107.47	103.91	106.16

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

Ex-nuptial live births

The variations in the proportions of ex-nuptial live births as between the individual States and Territories for 1966 and for Australia at intervals from 1901 to 1966 are shown in the following table.

**EX-NUPTIAL LIVE BIRTHS
NUMBER AND PROPORTION, STATES AND TERRITORIES, 1966(a)**

	<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>
Number	6,024	3,578	3,227	1,372	1,607	524	135	74	16,541
Proportion of total births %	7.75	5.59	9.83	6.75	9.45	7.08	13.89	3.19	7.43

(a) Excludes full-blood Aborigines.

**EX-NUPTIAL LIVE BIRTHS: NUMBER AND PROPORTION
AUSTRALIA, 1901 TO 1966(a)**

	<i>Annual average</i>						1962	1963	1964	1965	1966
	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60					
Number	6,498	6,836	6,238	5,133	6,780	9,013	12,813	13,454	14,925	15,531	16,541
Proportion of total births %	6.05	5.22	4.66	4.40	4.13	4.25	5.40	5.71	6.51	6.97	7.43

(a) Excludes full-blood Aborigines.

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

**CRUDE EX-NUPTIAL, NUPTIAL, AND TOTAL BIRTH RATES(a)
AUSTRALIA, 1901 TO 1966(b)**

<i>Birth rate</i>	<i>Annual average</i>						1964	1965	1966
	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60			
Ex-nuptial	1.60	1.39	1.04	0.76	0.90	0.97	1.34	1.37	1.43
Nuptial	24.91	25.18	21.40	16.47	20.99	21.75	19.26	18.28	17.84
Total	26.51	26.57	22.44	17.23	21.89	22.72	20.60	19.65	19.27

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

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 legitimation takes place whether or not there was a legal impediment to the marriage of the parents at the time of the child's birth and

whether or not the child was still living at the time of the marriage, or in the case of a child born before 1 September 1963, at that date. Prior to the introduction of this Act, legitimations took place under Acts passed in the several States to 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 1966 was 2,927.

Multiple births

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

Multiple births recorded on this basis during 1966 comprised 2,310 cases of twins, 19 cases of triplets and one case of quadruplets, the resultant numbers of live-born and still-born children being respectively 4,553 and 67 for twins, 55 and 2 for triplets and 4 live-born children for quadruplets. This represents an average of 10.48 recorded cases of twins and 0.09 recorded cases of triplets per 1,000 confinements or, alternatively, mothers of twins represented 1 in every 95 mothers and mothers of triplets 1 in every 11,597. Total cases of multiple births represented 10.57 per 1,000 confinements or 1 in every 95 mothers. The proportion of mothers of multiple births to total mothers does not vary greatly from year to year.

Confinements—ages of parents

The relative ages of the parents of children whose births were registered in 1966 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. 84. In the following table the relative ages of parents are shown in five-year groups.

CONFINEMENTS, BY RELATIVE AGES OF PARENTS: AUSTRALIA, 1966(a)

Age of father (years) and type of birth	Total	Age of mother (years)								Not stated
		Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 and over	
Under 20	4,090	..	3,444	640	5	1	..	..	..	..
20-24	39,346	4	11,773	25,162	2,280	110	16	..	..	..
25-29	66,046	..	2,578	31,520	29,247	2,441	233	27	..	..
30-34	47,070	..	472	7,397	23,220	14,117	1,733	130	1	..
35-39	29,366	..	84	1,640	6,837	12,156	7,986	648	15	..
40-44	12,525	..	16	280	1,313	3,271	5,300	2,275	70	..
45-49	3,879	..	3	80	245	638	1,481	1,290	142	..
50-54	1,182	..	1	32	71	212	400	402	64	..
55-59	332	..	2	14	26	58	103	108	21	..
60-64	80	..	2	3	7	15	23	21	9	..
65 and over(b)	45	..	..	2	7	10	10	13	1	2
Mothers of nuptial children										
{ Single	201,793	4	18,269	66,199	62,529	32,600	17,007	4,861	322	2
{ Twins	2,148	..	106	570	722	424	271	54	1	..
{ Triplets	20	..	1	7	5	(c)7	..	..	..	..
{ Total	203,961	4	18,375	66,770	63,258	33,029	17,285	4,915	323	2
Mothers of ex-nuptial children										
{ Single	16,221	107	6,375	4,728	2,297	1,379	932	364	23	16
{ Twins	162	..	46	39	24	24	21	8	..	..
{ Total	16,383	107	6,421	4,767	2,321	1,403	953	372	23	16
Total mothers										
{ Single	218,014	111	24,644	70,927	64,826	33,979	17,939	5,225	345	18
{ Twins	2,310	..	152	609	746	448	292	62	1	..
{ Triplets	20	..	..	1	7	5	(c)7	..	..	..
{ Total	220,344	111	24,796	71,537	65,579	34,432	18,238	5,287	346	18

(a) Excludes full-blood Aborigines.
quadruplets.

(b) Includes six fathers, age 'Not stated'.

(c) Includes one case of

Confinements—countries of birth of parents

The following table shows the countries of birth of parents of children whose births from nuptial confinements were registered during 1966.

NUPTIAL CONFINEMENTS, BY RELATIVE COUNTRIES OF BIRTH OF PARENTS
AUSTRALIA, 1966(a)

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	137,847	542	5,506	748	131	289	246	884	62	602	983	147,840
New Zealand	595	200	61	4	2	3	1	8	..	7	21	902
United Kingdom and Ireland	7,036	85	7,504	136	9	32	37	107	12	135	264	15,357
Germany	1,011	15	162	1,071	12	15	11	68	30	151	41	2,587
Greece	366	4	24	20	7,015	18	5	8	7	33	102	7,602
Italy	1,780	13	140	73	42	9,065	39	73	63	99	111	11,498
Malta	474	..	70	14	1	12	1,764	19	4	12	30	2,400
Netherlands	1,454	11	193	74	4	9	15	1,730	2	30	87	3,609
Yugoslavia	519	4	83	131	74	137	17	37	1,701	119	29	2,851
Other European	1,607	18	257	331	80	66	14	71	98	2,032	167	4,741
Other and unspecified	1,597	25	290	57	185	45	22	97	10	79	2,167	4,574
Total mothers	154,286	917	14,290	2,659	7,555	9,691	2,171	3,102	1,989	3,299	4,002	203,961

(a) Excludes full-blood Aborigines.

Confinements—occupations of fathers

In the 203,961 cases where nuptial confinements resulted in one or more live births, the classes of occupations of the fathers were distributed as follows: craftsmen, 66,938; rural and mining workers, 24,546; administrative and clerical workers, 27,039; labourers, 21,966; workers in transport and communication, 17,683; professional and technical workers, 20,197; sales workers, 12,613; service, sport and other workers, 12,308; persons not in the work force, 671.

Confinements—age, duration of marriage and issue of mothers

The total number of nuptial confinements resulting in live births in 1966 was 203,961, comprising 201,793 single births, 2,148 cases of twins, 19 cases of triplets and one case of quadruplets. The following tables relating to previous issue exclude the issue of former marriages and still-born children. On the other hand, they include in some States children by the same father who were born to the mother prior to the marriage. Children born at the present confinement are included in the total issue shown.

The following table shows that in 1966 the duration of marriage of mothers of nuptial children ranged from less than one year to over 25 years and that the average family increased fairly regularly with the duration of marriage. The average issue of married mothers who bore children in 1966 was 2.42, compared with 2.48 in 1965, 2.56 in 1964, 2.60 in 1963 and 2.61 in 1962.

NUPTIAL CONFINEMENTS, BY DURATION OF MARRIAGE AND ISSUE OF MOTHERS
AUSTRALIA, 1966(a)

Duration of marriage	Total married mothers	Total issue	Average issue	Duration of marriage	Total married mothers	Total issue	Average issue
Under 1 year	31,519	32,278	1.02	15 years	2,427	12,084	4.98
1 year	24,444	30,798	1.26	16 "	2,010	10,755	5.35
2 years	24,587	40,547	1.65	17 "	1,455	8,028	5.52
3 "	22,234	43,697	1.97	18 "	1,206	6,778	5.62
4 "	17,922	40,750	2.27	19 "	962	5,685	5.91
5 "	14,928	39,335	2.63	20 "	669	4,184	6.25
6 "	12,499	36,379	2.91	21 "	402	2,580	6.42
7 "	10,181	32,441	3.19	22 "	268	1,672	6.24
8 "	8,211	28,047	3.42	23 "	197	1,364	6.92
9 "	7,058	25,781	3.65	24 "	127	929	7.31
10 "	5,857	22,870	3.90	25 years and over	144	1,159	8.05
11 "	4,781	19,711	4.12				
12 "	3,934	17,162	4.36				
13 "	3,200	14,924	4.66				
14 "	2,739	13,199	4.82				
				Total	203,961	493,137	2.42

(a) Excludes full-blood Aborigines.

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

**NUPTIAL CONFINEMENTS: AVERAGE ISSUE OF MOTHERS, BY AGE
AUSTRALIA, 1911 TO 1966(a)**

Period	Average issue of mothers aged—							All ages
	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45 years and over	
1911-20.	1.21	1.75	2.61	3.74	5.11	6.69	8.16	3.25
1921-30.	1.20	1.71	2.46	3.48	4.80	6.27	7.74	3.04
1931-40.	1.20	1.68	2.30	3.19	4.41	5.89	7.40	2.71
1941-50.	1.17	1.56	2.15	2.85	3.67	4.79	6.19	2.37
1951-60.	1.23	1.71	2.42	3.12	3.84	4.63	5.57	2.51
1966 . . .	1.21	1.67	2.42	3.31	4.10	4.84	5.62	2.42

(a) Excludes full-blood Aborigines.

A classification of mothers by age and previous issue is given for 1966 in the following table.

**NUPTIAL CONFINEMENTS, BY AGE OF MOTHER AND PREVIOUS ISSUE
AUSTRALIA, 1966(a)**

Previous issue	Age of mother (years)							Total married mothers
	Under 20	20-24	25-29	30-34	35-39	40-44	45 and over	
0	14,975	35,002	16,585	4,589	1,826	455	30	73,462
1	3,078	22,090	20,689	7,126	2,520	535	19	56,057
2	302	7,331	15,301	8,372	3,385	688 (b)	29	35,408
3	20	1,839	6,790	6,165	3,276	821	45	18,956
4	4	403	2,519	3,420	2,402	747 (b)	48	9,543
5 . . . . .	..	88	906	1,685	1,571	517	46	4,813
6 . . . . .	..	16	314	849	943	392	30	2,544
7 . . . . .	..	1	121	451	602	275	26	1,476
8 . . . . .	..	..	26	223	339	191	16	795
9 . . . . .	..	..	3	96	193	113	11	416
10 and over . . . . .	..	..	4	53	228	181	25	491
Total married mothers	18,379	66,770	63,258	33,029	17,285	4,915 (c)	325	203,961

(a) Excludes full-blood Aborigines. (b) Includes 1, age not stated. (c) Includes 2, age not stated.

Multiple births—previous issue of mothers

Of married mothers of twins in 1966, 624 had no previous issue either living or dead, 542 had one child previously, 432 had two previous issue, 257 three, 134 four, 67 five, 39 six, 22 seven, 11 eight, 7 nine, 9 ten, 2 eleven, 1 twelve, and 1 thirteen. Of the 20 cases of nuptial triplets and one case of quadruplets registered during 1966, 3 mothers had no previous issue, 4 had one, 5 had two, 3 had three, 2 had four, 2 had six, and 1 had eight previous issue.

Nuptial first births

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

NUPTIAL FIRST BIRTHS, BY DURATION OF MARRIAGE: AUSTRALIA, 1911 TO 1966(a)

Duration of marriage	Annual average					1965	1966
	1911-20	1921-30	1931-40	1941-50	1951-60		
NUMBER OF NUPTIAL FIRST BIRTHS							
Under 8 months	9,312	10,351	10,677	8,822	11,796	19,358	20,038
8 months	1,562	1,530	1,417	2,104	2,144	1,875	1,882
9 "	3,517	3,253	2,668	4,298	4,673	3,856	3,546
10 "	2,877	2,907	2,202	3,447	3,947	3,060	3,092
11 "	2,018	2,152	1,836	2,896	3,287	2,634	2,518
<i>Total under 1 year</i>	<i>19,286</i>	<i>20,193</i>	<i>18,800</i>	<i>21,567</i>	<i>25,847</i>	<i>30,783</i>	<i>31,076</i>
1 year and under 2 years	8,563	10,133	10,595	17,762	18,463	17,567	18,574
2 years " " 3 "	2,626	3,369	4,319	8,028	7,937	9,161	10,077
3 " " " 4 "	1,230	1,743	2,214	4,361	4,373	4,809	5,619
4 " " " 5 "	700	941	1,205	2,569	2,632	2,739	2,988
5 " " " 10 "	980	1,446	1,766	3,936	4,262	4,177	4,237
10 " " " 15 "	168	240	289	501	721	766	710
15 years and over	42	55	55	94	144	195	181
Total	33,595	38,120	39,243	58,818	64,379	70,197	73,462

PROPORTION OF TOTAL NUPTIAL FIRST BIRTHS
(Per cent)

Under 8 months	27.72	27.15	27.21	15.00	18.32	27.58	27.28
8 months	4.65	4.01	3.61	3.58	3.33	2.67	2.56
9 "	10.47	8.53	6.80	7.31	7.26	5.49	4.82
10 "	8.56	7.63	5.61	5.86	6.13	4.36	4.21
11 "	6.01	5.65	4.68	4.92	5.11	3.75	3.43
<i>Total under 1 year</i>	<i>57.41</i>	<i>52.97</i>	<i>47.91</i>	<i>36.67</i>	<i>40.15</i>	<i>43.85</i>	<i>42.30</i>
1 year and under 2 years	25.49	26.58	27.00	30.20	28.68	25.03	25.28
2 years " " 3 "	7.82	8.84	11.01	13.65	12.33	13.05	13.72
3 " " " 4 "	3.66	4.57	5.64	7.41	6.79	6.85	7.65
4 " " " 5 "	2.08	2.47	3.07	4.37	4.09	3.90	4.07
5 " " " 10 "	2.92	3.79	4.50	6.69	6.62	5.95	5.77
10 " " " 15 "	0.50	0.63	0.73	0.85	1.12	1.09	0.97
15 years and over	0.12	0.15	0.14	0.16	0.22	0.28	0.24
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

(a) Excludes full-blood Aborigines.

In 1966 the masculinity of nuptial first births was 105.92 and of total births 105.95.

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

**NUPTIAL FIRST BIRTHS, BY AGE OF MOTHER AND DURATION OF MARRIAGE
AUSTRALIA, 1966(a)**

Duration of marriage	Age of mother (years)							Not stated	Total
	Under 20	20-24	25-29	30-34	35-39	40-44	45 and over		
NUMBER OF NUPTIAL FIRST BIRTHS									
Under 8 months	10,890	7,538	1,103	312	148	43	4	..	20,038
8 months	412	1,024	315	92	36	3	..	..	1,882
9 " " " "	591	2,000	666	194	78	17	..	..	3,546
10 " " " "	491	1,746	589	191	68	7	..	..	3,092
11 " " " "	433	1,415	456	144	60	10	..	..	2,518
<i>Total under 1 year</i>	<i>12,817</i>	<i>13,723</i>	<i>3,129</i>	<i>933</i>	<i>390</i>	<i>80</i>	<i>4</i>	..	<i>31,076</i>
1 year and under 2 years	1,834	11,397	3,869	978	390	101	5	..	18,574
2 years " " " 3 "	262	5,944	3,028	578	205	57	3	..	10,077
3 " " " " 4 "	45	2,676	2,326	389	144	38	1	..	5,619
4 " " " " 5 "	13	904	1,647	305	89	28	2	..	2,988
5 " " " " 10 "	4	358	2,514	1,006	284	62	9	..	4,237
10 " " " " 15 "	..	..	72	388	216	32	2	..	710
15 years and over . . . . .	..	..	..	12	108	57	4	..	181
Total	14,975	35,002	16,585	4,589	1,826	455	30	..	73,462

(a) Excludes full-blood Aborigines.

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

**NUPTIAL FIRST BIRTHS AND SUBSEQUENT BIRTHS
AUSTRALIA, 1911 TO 1966(a)**

Period	Nuptial confinements			Proportion of first to total nuptial confinements (per cent)
	First births	Other births	Total	
<i>Annual average—</i>				
1911-20	33,595	88,997	122,592	27.40
1921-30	38,120	88,086	126,206	30.20
1931-40	39,243	71,136	110,379	35.55
1941-50	58,818	96,994	155,812	37.75
1951-60	64,379	136,264	200,643	32.09
<i>Annual total—</i>				
1962	68,310	153,547	221,857	30.79
1963	69,130	150,713	219,843	31.45
1964	68,586	143,437	212,023	32.35
1965	70,197	134,941	205,138	34.22
1966	73,462	130,499	203,961	36.02

(a) Excludes full-blood Aborigines.

Still-births

Interstate comparisons of the figures and rates in the following tables are affected by the differences in the definitions of still-births adopted by the various States, and only the trends in the rates for the States should be compared. For various reasons, the registration of still-births is not as complete as for live births and deaths; particulars for the Territories and the smaller States are more affected by this than are those for the larger States. Still-birth registration was not compulsory in Tasmania until 1967. The figures shown in the tables represent those still-births voluntarily registered during the year.

STILL-BIRTHS: STATES AND TERRITORIES, 1936 TO 1966(a)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
1936-40	1,409	854	n.a.	(b)274	234	144	n.a.	5	n.a.
1941-45	1,478	966	(c)657	324	248	143	n.a.	9	cd3,825
1946-50	1,405	949	626	368	274	161	n.a.	12	(d)3,795
1951-55	1,239	849	581	290	271	139	8	16	3,393
1956-60	1,253	839	558	274	235	109	6	19	3,293
1961-65	1,104	794	468	264	194	87	17	18	2,946
Annual total—									
1962	1,099	775	520	278	203	102	9	20	3,006
1963	1,163	792	476	262	178	63	30	14	2,978
1964	1,003	771	402	252	170	69	13	15	2,695
1965	947	747	391	256	181	89	15	23	2,649
1966	964	762	397	237	168	111	11	31	2,681

(a) Excludes full-blood Aborigines. (b) Three years 1938-40. (c) Figures for Queensland are not available for 1941. (d) Excludes Northern Territory.

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

PROPORTION OF STILL-BIRTHS(a): STATES AND TERRITORIES, 1936 TO 1966(b)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average annual rate—									
1936-40	28.7	27.4	n.a.	(c)27.5	25.7	28.7	n.a.	22.2	n.a.
1941-45	25.5	24.8	(d)26.8	25.2	23.3	25.7	n.a.	22.9	de 25.25
1946-50	20.0	19.6	21.9	22.1	20.5	22.3	n.a.	16.3	e 20.46
1951-55	16.5	15.5	18.4	15.8	17.0	17.5	17.2	17.1	16.57
1956-60	15.5	13.5	16.1	13.5	13.7	12.6	8.6	14.3	14.59
1961-65	13.1	12.0	13.1	12.2	11.4	10.2	18.4	9.3	12.49
Annual rate—									
1962	12.7	11.6	14.4	12.8	11.8	11.3	(f)	10.9	12.52
1963	13.6	11.9	13.1	12.1	10.2	7.3	33.7	(f)	12.48
1964	12.3	11.7	11.4	11.9	10.1	8.3	(f)	(f)	11.62
1965	12.0	11.6	11.5	12.1	11.1	11.7	(f)	10.5	11.75
1966	12.25	11.76	11.94	11.53	9.78	14.78	(f)	13.2	11.90

(a) Numbers of still-births per 1,000 of all births (live and still). (b) Excludes full-blood Aborigines. (c) Three years 1938-40. (d) Figures for Queensland are not available for 1941. (e) Excludes Northern Territory. (f) Less than twenty events; rates not calculated.

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

Mortality

Number of deaths

The following tables show the number of deaths, male and female, registered in each State and Territory during 1967. Still-births, although registered as both births and deaths in some States, are excluded from the death statistics published herein.

From the beginning of 1967 deaths of Aborigines are included. Prior to 1967 deaths of full-blood Aborigines were excluded. Death rates (number per 1,000 of mean population) for 1966 including deaths of Aborigines are shown in footnote (d) to the table of rates shown on the following page.

DEATHS, SEXES: STATES AND TERRITORIES, 1967(a)

Sex	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Males	21,947	15,659	8,580	5,031	3,956	1,789	312	234	57,508
Females	17,666	12,714	6,156	4,040	2,823	1,439	215	142	45,195
Persons	39,613	28,373	14,736	9,071	6,779	3,228	527	376	102,703

(a) Includes Aborigines. See text above.

A summary of the number of deaths in each State and Territory from 1941 to 1967 is given in the following table. Annual averages for each five-year period from 1861 to 1950 were published in Year Book No. 39, page 597.

DEATHS: STATES AND TERRITORIES, 1941 TO 1967

<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—									
1941-45(a)	27,807	20,964	9,715	6,303	4,724	2,488	64	71	72,136
1946-50(a)	29,552	21,827	10,357	6,507	4,802	2,459	76	103	75,683
1951-55	32,135	22,900	11,187	7,182	5,263	2,576	109	131	81,483
1956-60	34,002	24,254	12,008	7,732	5,523	2,668	117	184	86,488
1961-65	37,514	26,569	13,570	8,388	6,043	2,939	152	290	95,465
Annual total—									
1963	37,226	26,920	13,275	8,201	5,976	2,818	161	317	94,894
1964	39,487	27,548	14,523	8,906	6,429	3,174	164	363	100,594
1965	38,949	28,031	14,114	8,788	6,274	3,043	161	355	99,715
1966	40,546	28,673	14,861	9,323	6,772	3,159	154	441	103,929
1967(b)	39,613	28,373	14,736	9,071	6,779	3,228	527	376	102,703

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

A graph on page 177 shows the number of deaths in each year from 1870 to 1967.

Crude death rates

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

CRUDE DEATH RATES(a): STATES AND TERRITORIES, 1941 TO 1967

<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—									
1941-45(b)	9.73	10.63	9.24	10.26	9.86	10.21	6.4	5.0	9.96
1946-50(b)	9.70	10.37	9.13	9.76	9.23	9.30	6.3	5.3	9.74
1951-55	9.49	9.55	8.71	9.25	8.49	8.48	6.9	4.58	9.25
1956-60	9.20	8.91	8.36	8.62	7.90	7.97	5.32	4.31	8.78
1961-65(c)	9.27	8.73	8.63	8.28	7.78	8.15	4.95	3.94	8.75
Annual rate—									
1963(c)	9.20	8.85	8.46	8.14	7.68	7.82	5.3	4.3	8.70
1964(c)	9.61	8.87	9.07	8.61	8.06	8.71	5.0	4.5	9.04
1965(c)	9.33	8.86	8.64	8.26	7.70	8.27	4.6	4.0	8.79
1966(c)	9.57	8.90	8.93	8.54	8.09	8.50	4.1	4.6	8.99
1967(d)—									
Males	10.15	9.53	9.94	9.01	8.85	9.42	9.5	4.4	9.66
Females	8.23	7.78	7.33	7.30	6.56	7.71	8.0	2.8	7.70
Persons	9.19	8.66	8.65	8.16	7.73	8.57	8.9	3.6	8.69

(a) Number of deaths per 1,000 of mean population. (b) Excludes deaths of defence personnel, etc., from September 1939 to June 1947. (c) Recalculated from population figures revised in accordance with the results of the census of 30 June 1966. (d) Number of deaths (including deaths of Aborigines) per 1,000 of mean population (including Aborigines). For 1966 corresponding rates (i.e. including deaths of Aborigines) for persons are: New South Wales, 9.57; Victoria, 8.90; Queensland, 8.90; South Australia, 8.54; Western Australia, 8.13; Tasmania, 8.50; Northern Territory, 9.5; Australian Capital Territory, 4.6; Australia, 9.01.

Note. Crude death rates (i.e. the number of deaths per thousand of mean population) are affected by the particular age and sex composition of the population. In the Australian Capital Territory and the Northern Territory the population at risk in the higher ages is lower proportionately than in other States, largely as a result of the rapid increases of the population in the lower ages. In some instances rates are based on too few deaths to warrant calculation to the second decimal place.

A graph showing the crude death rate for each year from 1870 to 1967 will be found on page 183.

Standardised death rates

The death rates quoted on page 196 are crude rates, i.e. they simply show the number of deaths per thousand of mean population without taking into consideration differences in the sex and age composition of the population. Other conditions being equal, however, the crude death rate of a community will be low if it contains a large proportion of young people (not infants), and conversely it will be relatively high if the population includes a large proportion of elderly people. The foregoing table of crude death rates, therefore, does not indicate comparative incidence of mortality either as between States in the same year or in any one State over a period of years. In order to obtain a comparison of mortality rates on a uniform basis as far as sex and age constitution are concerned, 'standardised' death rates may be computed. This is done by selecting a particular distribution of age and sex as a standard, and then calculating what would have been the general death rate if the death rates for each sex and in each age group had been as recorded, but the age and sex distribution had been the same as in the standard population. For the standardised rates which follow, the standard population compiled by the International Institute of Statistics has been used. This standard is based upon the age distribution according to sex of nineteen European countries at their censuses nearest to the year 1900. An examination of the age distribution of deaths and the resultant age-specific death rates is made on pages 201-2.

Comparison of crude and standardised death rates

The relative incidence of mortality as between individual States and as between the years 1921, 1933, 1947, 1954, 1961, and 1966 is illustrated in the following statement of crude and 'standardised' death rates. These years have been chosen for comparison because the census data give essential information as to sexes and ages of the State populations. Crude death rates are shown to indicate the degree to which they disguise the true position.

CRUDE AND STANDARDISED DEATH RATES: STATES, 1921 TO 1966

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
Crude death rate(a)—							
1921	9.50	10.52	9.37	10.02	10.42	10.30	9.91
1933	8.58	9.59	8.84	8.44	8.64	9.60	8.92
1947	9.53	10.44	9.15	9.61	9.39	9.17	9.69
1954	9.46	9.20	8.63	9.01	8.38	8.67	9.10
1961	8.95	8.37	8.41	8.06	7.77	7.89	8.47
1966	9.57	8.90	8.93	8.54	8.09	8.50	8.99
Standardised death rate(b)—							
1921	10.35	10.79	10.24	10.38	11.88	10.83	10.58
1933	8.52	8.74	9.10	7.66	8.74	8.86	8.62
1947	7.44	7.31	7.47	6.77	7.28	7.21	7.34
1954	7.24	6.63	6.80	6.52	6.71	7.02	6.90
1961	6.56	6.12	6.26	5.90	6.02	6.19	6.27
1966	6.84	6.42	6.34	6.18	6.25	6.47	6.53

(a) Total deaths per 1,000 of mean population. Excludes full-blood Aborigines.
 (b) See explanation of standardised death rates above.

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

True death rates

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

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

**COMPLETE EXPECTATION OF LIFE AT BIRTH, AND TRUE
DEATH RATES: AUSTRALIA, 1881-90 TO 1966(d)**

Period	Complete expectation of life at birth (years)		True death rate	
	Males	Females	Males(b)	Females(c)
1881-90 . . .	47.20	50.84	21.19	19.67
1891-1900 . . .	51.06	54.76	19.58	18.26
1901-10 . . .	55.20	58.84	18.12	17.00
1920-22 . . .	59.15	63.31	16.91	15.80
1932-34 . . .	63.48	67.14	15.75	14.89
1946-48 . . .	66.07	70.63	15.14	14.16
1953-55 . . .	67.14	72.75	14.89	13.75
1960-62 . . .	67.92	74.18	14.72	13.48
1964(d) . . .	67.40	73.81	14.84	13.55
1965(d) . . .	67.69	74.19	14.77	13.48
1966(d) . . .	67.58	74.01	14.80	13.51

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

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

Australian Life Tables

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

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

AUSTRALIAN COMPARATIVE LIFE TABLES
RATES OF MORTALITY (q_x) AT REPRESENTATIVE AGES

Age (x)	1901-10	1920-22	1932-34	1946-48	1953-55	1960-62
MALES						
0	.09510	.07132	.04543	.03199	.02521	.02239
10	.00179	.00156	.00119	.00072	.00056	.00041
20	.00370	.00284	.00219	.00169	.00186	.00173
30	.00519	.00390	.00271	.00186	.00170	.00157
40	.00816	.00617	.00460	.00337	.00297	.00300
50	.01395	.01158	.00966	.00919	.00819	.00804
60	.02584	.02407	.02216	.00278	.02221	.02176
70	.06162	.05290	.05082	.05256	.05315	.05177
80	.13795	.13340	.12659	.12011	.11958	.11617
FEMALES						
0	.07953	.05568	.03642	.02519	.01989	.01757
10	.00159	.00127	.00087	.00050	.00035	.00028
20	.00329	.00252	.00183	.00091	.00064	.00060
30	.00519	.00387	.00279	.00165	.00096	.00082
40	.00718	.00524	.00402	.00284	.00217	.00187
50	.00956	.00808	.00744	.00641	.00530	.00464
60	.01920	.01571	.01466	.01360	.01203	.01074
70	.04777	.04090	.03802	.03607	.03250	.02933
80	.11333	.11230	.10106	.10027	.09314	.08507

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

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

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

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

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

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

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

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

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

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

As indicated in the foregoing tables, the progress towards lower mortality rates for both males and females has continued over the past sixty years or more. For example, the probability of a child born in 1961 dying in one year is less than one-quarter of the probability of death in one year attached to the child who was born sixty years ago. Even at advanced ages, the reductions which have occurred in mortality rates as compared with sixty years ago are very substantial. With the exception of males of ages forty to forty-seven and ages sixty-two to sixty-six lower mortality rates were experienced by males and females during 1960 to 1962 than for the period 1953 to 1955.

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

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

Age distribution at death

Age at death is recorded for statistical purposes in days for the first week of life, in weeks for the first four weeks, in months for the first year and in completed years of life thereafter. These ages are usually combined in groups for publication, the most common being weeks for the first four weeks, months or groups of months for the first year, single years of age for the first five years, and thereafter the five-year group 5-9 years, 10-14 years, etc. A summary in this form for the year 1966 is given for Australia in the following table.

DEATHS, BY AGE AT DEATH AND SEX: AUSTRALIA, 1966(a)

Age at death				Age at death			
	Males	Fe- males	Per- sons		Males	Fe- males	Per- sons
Under 1 week	1,513	1,105	2,618	5-9 years	277	204	481
1 week and under 2 weeks	92	73	165	10-14 "	256	137	393
2 weeks and under 3 weeks	46	31	77	15-19 "	733	286	1,019
3 weeks and under 4 weeks	35	32	67	20-24 "	731	268	999
				25-29 "	544	250	794
<i>Total under 4 weeks</i>	<i>1,686</i>	<i>1,241</i>	<i>2,927</i>	30-34 "	572	341	913
				35-39 "	991	599	1,590
4 weeks and under 3 months	215	147	362	40-44 "	1,497	831	2,328
3 months and under 6 months	220	174	394	45-49 "	2,040	1,257	3,297
6 months and under 12 months	207	155	362	50-54 "	3,362	1,906	5,268
				55-59 "	4,652	2,356	7,008
<i>Total under 1 year</i>	<i>2,328</i>	<i>1,717</i>	<i>4,045</i>	60-64 "	5,990	2,964	8,954
				65-69 "	7,115	4,397	11,512
1 year	211	136	347	70-74 "	7,775	6,198	13,973
2 years	126	75	201	75-79 "	8,100	7,510	15,610
3 "	103	64	167	80-84 "	5,829	7,046	12,875
4 "	79	53	132	85 years and over	4,469	7,536	12,005
				Age not stated	15	3	18
<i>Total under 5 years</i>	<i>2,847</i>	<i>2,045</i>	<i>4,892</i>	<i>Total all ages</i>	<i>57,795</i>	<i>46,134</i>	<i>103,929</i>

(a) Excludes full-blood Aborigines.

There are different mortality rates at various stages of life, and the actual number of deaths in any period is related to the numbers living at the respective stages. Changes in the number of deaths from one period to another are associated with changes in the rate of mortality in the various age groups and by the changed proportions of persons living in the different groups. The combined effect of various influences, i.e. the steady decline in the rate of mortality, the long term decline in the birth-rate, and the effects of past and present migration on the age distribution of the population, is shown in the following table, which shows the proportion of deaths in various age groups in ten-year periods from 1901 to 1960 and for the year 1966.

PROPORTION OF DEATHS IN EACH AGE GROUP: AUSTRALIA, 1901 TO 1966(a)

(Per cent)

Age at death (years)							1966		
	1901-10	1911-20	1921-30	1931-40	1941-50	1951-60	Males	Females	Persons
Under 1 year	20.51	16.66	13.09	7.40	6.79	5.59	4.03	3.72	3.89
1-4	6.45	6.09	4.51	2.56	1.71	1.33	0.90	0.71	0.82
5-14	3.71	3.47	3.00	2.29	1.34	1.04	0.92	0.74	0.84
15-24	6.22	5.10	4.33	3.61	2.09	1.71	2.53	1.20	1.94
25-34	7.31	7.40	5.92	4.49	2.87	2.30	1.93	1.28	1.64
35-44	8.39	8.02	7.72	6.25	4.52	4.00	4.31	3.10	3.77
45-54	9.29	10.34	9.99	10.34	9.15	8.29	9.35	6.86	8.24
55-64	9.74	12.12	14.82	15.11	16.67	15.81	18.41	11.53	15.36
65-74	13.39	13.51	17.85	22.53	23.09	25.47	25.76	22.97	24.52
75 and over	14.99	17.29	18.77	25.42	31.77	34.46	31.86	47.89	38.98
<i>Total</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>	<i>100.00</i>

(a) Excludes full-blood Aborigines.

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

Age-specific death rates

In previous issues of the Year Book, average annual age-specific death rates were given for each State and Australia for the periods 1932-1934, 1946-1948, 1953-1955, and 1960-1962 (see Year Books, No. 37, pp. 778-9, No. 39, pp. 615-6, No. 44, pp. 640-1, and No. 52, p. 253). These rates were based on the age distribution of the population at the relevant censuses.

Intercensal estimates of the age distribution of the population are available for Australia and for the larger States. The following table shows age-specific death rates, i.e. the average number of deaths per 1,000 of population in each age group, for Australia for the year 1966, for males and females.

AGE-SPECIFIC DEATH RATES(a): AUSTRALIA, 1966(b)

Age group (years)	Males	Females	Age group (years)	Males	Females
Under 1(c)	20.3	15.9	45-49	6.0	3.8
1-4	1.1	0.7	50-54	10.4	6.0
5-9	0.5	0.4	55-59	16.9	8.8
10-14	0.5	0.3	60-64	27.8	13.6
15-19	1.4	0.6	65-69	44.1	22.7
20-24	1.7	0.6	70-74	67.7	38.3
25-29	1.4	0.7	75-79	102.5	64.5
30-34	1.6	1.0	80-84	151.8	110.6
35-39	2.5	1.6	85 and over	250.5	204.3
40-44	3.8	2.2			

(a) Average number of deaths per 1,000 of mid-year population in each age group as recorded at the Census of 30 June 1966 and adjusted for mis-statement of age. (b) Excludes full-blood Aborigines. (c) Infant deaths per 1,000 live births registered.

Infant deaths and death rates—States and Territories

Compared with other countries, Australia occupies a favourable position in respect of infant mortality. In 1966 only a few countries recorded a lower rate than Australia. Rates for Australia and the more populous countries of the world for the latest available year are shown in the table International Vital Statistics, pages 217-18. The next table shows for each State and Territory for the period 1941 to 1967, the number of deaths under one year of age and the rates of infant mortality under one year.

INFANT MORTALITY UNDER ONE YEAR: STATES AND TERRITORIES, 1941 TO 1967

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Annual average—									
1941-45	2,034	1,311	804	413	347	213	7	7	5,136
1946-50	1,990	1,129	770	431	370	187	11	14	4,902
1951-55	1,852	1,113	730	407	384	184	17	14	4,701
1956-60	1,770	1,205	717	410	362	176	25	18	4,683
1961-65	1,685	1,168	696	407	350	156	28	34	4,524
Annual total—									
1963	1,673	1,242	722	399	353	153	27	38	4,607
1964	1,634	1,098	673	397	328	166	30	41	4,367
1965	1,492	1,109	598	385	351	125	23	34	4,117
1966	1,490	1,116	581	356	329	108	19	46	4,045
1967(a)	1,452	1,101	678	346	313	130	122	44	4,186
Annual average rate(b)—									
1941-45	35.9	34.5	34.3	32.9	33.3	39.3	61.7	18.7	34.97
1946-50	28.9	23.8	27.5	26.5	28.1	26.5	37.4	19.9	26.98
1951-55	25.1	20.7	23.6	22.6	24.4	23.7	36.3	15.4	23.34
1956-60	22.2	19.7	21.0	20.5	21.4	20.6	36.0	13.7	21.05
1961-65	20.3	17.9	19.7	19.0	20.8	18.5	31.2	17.6	19.42
Annual rate(b)—									
1963	19.9	18.9	20.1	18.7	20.4	17.9	31.4	19.0	19.55
1964	20.3	16.9	19.2	19.0	19.7	20.1	32.9	21.0	19.06
1965	19.1	17.5	17.8	18.4	21.7	16.6	25.2	15.8	18.47
1966	19.2	17.4	17.7	17.5	19.3	14.6	(c)	19.8	18.17
1967(d)	18.4	16.8	19.5	17.0	17.4	17.2	63.5	18.3	18.26

(a) Includes Aborigines. (b) Number of deaths of children aged under one year per 1,000 live births registered. (c) Less than twenty events; rates not calculated. (d) Number of deaths (including deaths of Aborigines) per 1,000 of mean population (including Aborigines). For 1966 the corresponding rates (i.e. including deaths of Aborigines) are: New South Wales, 19.2; Victoria, 17.4; Queensland, 17.8; South Australia, 17.9; Western Australia, 19.9; Tasmania, 14.6; Northern Territory, 75.7; Australian Capital Territory, 19.8; Australia, 18.7.

AGE-SPECIFIC DEATH RATES

AUSTRALIA, 1911 TO 1960-62

NUMBER OF DEATHS PER 1,000 MALES OR FEMALES IN EACH AGE GROUP

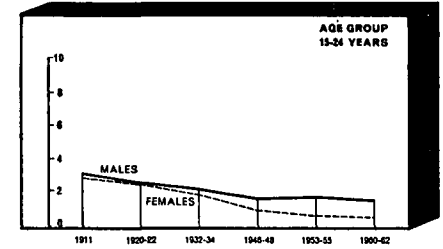
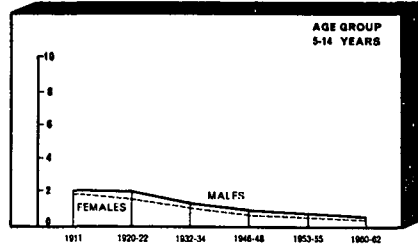
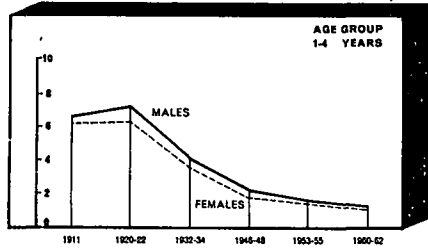
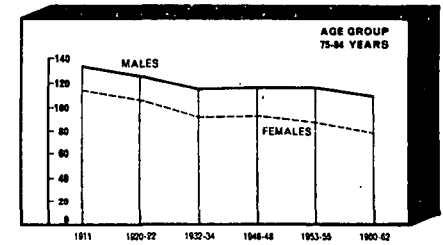
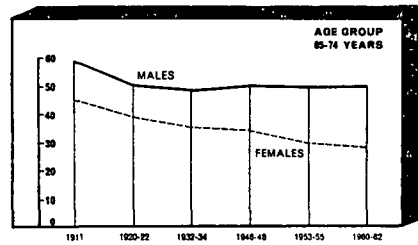
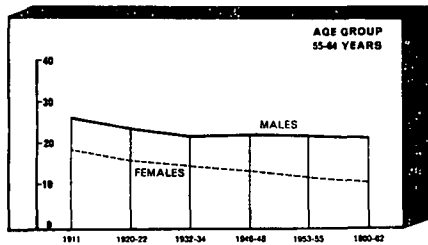
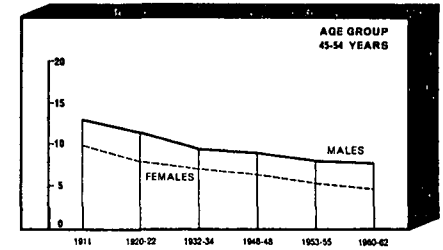
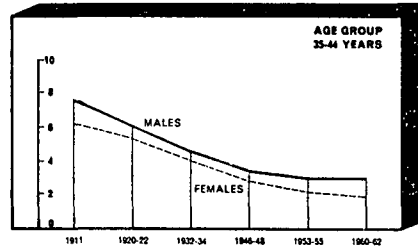
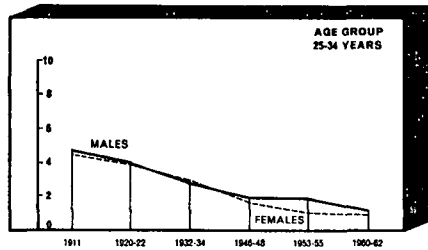


PLATE 28



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 590,304 male infants born from 1962 to 1966, 12,619 (21.38 per 1,000) died during the first year of life, while of 557,095 female infants only 9,357 (16.80 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. Still-births, for which masculinity is also higher, are not included in any of the tables relating to deaths.

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

INFANT DEATHS AND MORTALITY RATES, BY SEX: AUSTRALIA, 1936 TO 1966(a)

Period	Number of deaths						Rates(b)					
	Neonatal— under four weeks		Post- neonatal— four weeks and under one year		Total under one year		Neonatal— under four weeks		Post- neonatal— four weeks and under one year		Total under one year	
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males
	ANNUAL AVERAGES						AVERAGE ANNUAL RATES					
1936-40	1,816	1,353	863	663	2,679	2,016	29.30	22.93	13.93	11.23	43.23	34.16
1941-45	2,007	1,495	914	720	2,921	2,215	26.66	20.88	12.14	10.05	38.80	30.93
1946-50	2,024	1,490	784	604	2,808	2,094	21.68	16.86	8.40	6.84	30.08	23.70
1951-55	1,907	1,406	776	612	2,683	2,018	18.47	14.32	7.52	6.24	25.99	20.56
1956-60	1,921	1,432	741	589	2,662	2,021	16.81	13.24	6.48	5.45	23.29	18.69
1961-65	1,887	1,373	709	555	2,596	1,928	15.75	12.13	5.92	4.90	21.67	17.03
	ANNUAL TOTALS						ANNUAL RATES					
1962	2,038	1,451	752	599	2,790	2,050	16.69	12.62	6.16	5.21	22.85	17.83
1963	1,946	1,429	690	542	2,636	1,971	16.06	12.48	5.70	4.73	21.76	17.21
1964	1,795	1,331	713	528	2,508	1,859	15.20	11.98	6.04	4.75	21.24	16.73
1965	1,704	1,243	653	517	2,357	1,760	14.89	11.47	5.70	4.77	20.59	16.24
1966	1,686	1,241	642	476	2,328	1,717	14.72	11.48	5.61	4.40	20.33	15.88

(a) Excludes full-blood Aborigines. (b) Number of deaths per 1,000 male or female live births registered.

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

INFANT DEATHS AND MORTALITY RATES—UNDER FOUR WEEKS, BY SEX
AUSTRALIA, 1936 TO 1966(a)

Period	Number of deaths						Rates(b)					
	Early neonatal		One day and under one week		Late neonatal— one week and under four weeks		Early neonatal		One day and under one week		Late neonatal— one week and under four weeks	
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males
	ANNUAL AVERAGES						AVERAGE ANNUAL RATES					
1936-40	n.a.	n.a.	c1,496	c1,120	320	233	n.a.	n.a.	c24.13	c18.99	5.17	3.94
1941-45	906	674	728	541	373	280	12.03	9.42	9.67	7.55	4.96	3.91
1946-50	986	731	758	539	280	220	10.56	8.28	8.12	6.09	3.00	2.49
1951-55	918	713	742	508	247	185	8.88	7.26	7.19	5.17	2.40	1.89
1956-60	972	765	705	490	244	177	8.50	7.07	6.17	4.53	2.13	1.64
1961-65	986	723	691	496	210	154	8.23	6.39	5.77	4.38	1.75	1.36
	ANNUAL TOTALS						ANNUAL RATES					
1962	1,080	733	719	548	239	170	8.84	6.38	5.89	4.76	1.96	1.48
1963	1,043	765	691	509	212	155	8.61	6.68	5.70	4.44	1.75	1.36
1964	940	719	691	479	164	133	7.96	6.47	5.85	4.31	1.39	1.20
1965	889	655	615	452	200	136	7.77	6.04	5.37	4.17	1.75	1.25
1966	853	658	660	447	173	136	7.45	6.09	5.76	4.14	1.51	1.26

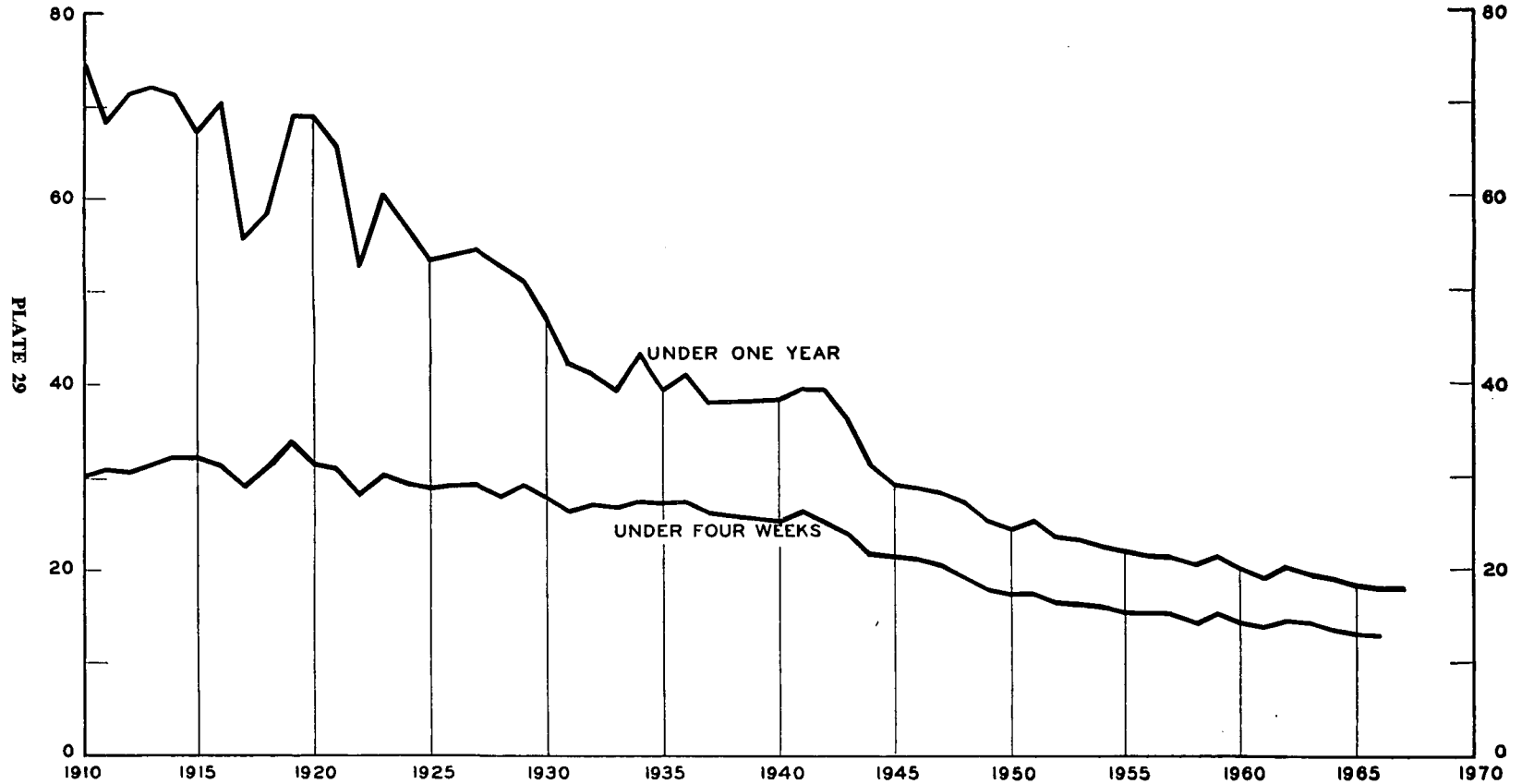
(a) Excludes full-blood Aborigines. (b) Number of deaths per 1,000 male or female live births registered. (c) Includes under one day.

The graph opposite shows infant mortality rates for each year from 1910 to 1967.

INFANT MORTALITY RATES: AUSTRALIA

1910 TO 1967

(INFANT DEATHS PER 1,000 LIVE BIRTHS)



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 1966 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, 1966(a)

Inter- national Classi- fication of Diseases number	Cause of death	Age at death										Total under one year	
		Days		Total under one week	Weeks			Months					
		Under 1	1-6		1	2	3	1-2 (b)	3-5	6-8	9-11		
	Causes mainly of prenatal and natal origin—												
750-759	Congenital malformations	151	178	329	58	35	27	109	69	43	28	698	
760, 761	Birth injury	298	192	490	13	2	1	1	..	..	..	507
762	Postnatal asphyxia and atelec- tasis	267	204	471	9	2	1	2	3	4	3	495	
769	Attributed to certain diseases of the mother	49	25	74	2	..	1	..	2	..	..	79
770	Erythroblastosis	62	33	95	1	2	..	..	..	..	..	98
771	Haemorrhagic disease of new- born	10	41	51	2	..	1	..	..	..	..	54
773	Ill-defined diseases peculiar to early infancy	125	122	247	10	1	3	12	10	1	1	285	
774, 776	Immaturity alone, or with men- tion of any other subsidiary condition	501	209	710	19	5	3	5	..	..	..	742
	<i>Total</i>	1,463	1,004	2,467	114	47	37	129	84	48	32	2,958	
	Causes mainly of postnatal origin—												
571, 764	Gastro-enteritis (including diar- rhea of newborn) . . . . .	..	4	4	..	..	4	18	20	26	20	92
(c)	Pneumonia and bronchitis	13	43	56	21	10	6	98	128	50	35	404	
(d)	Septicaemia, skin and sub- cutaneous tissue infections, sepsis of newborn	1	9	10	13	10	4	7	7	5	..	56	
057, 340	Meningococcal infections and non-meningococcal meningitis . . . . .	..	4	4	7	..	3	3	12	13	4	46
(e)	Causes classified as infective or mainly infective in origin not specified above	1	6	7	1	2	1	17	33	21	9	91	
E921-E925	Accidental mechanical suffoca- tion from vomit, food, foreign body or in bed and cradle . . . . .	..	..	..	2	1	3	32	33	12	5	88
E926, E980-E985	Lack of care, neglect, infant- icide	6	1	7	..	..	..	..	3	..	..	10
(f)	Other accidents, poisonings and violence	1	1	2	1	..	..	10	10	9	17	49
	<i>Total</i>	22	68	90	45	23	21	185	246	136	90	836	
140-239	Neoplasms . . . . .	..	7	7	..	..	1	3	4	2	5	22
Residual	Other causes remaining	26	28	54	6	7	8	45	60	27	22	229	
	<i>All causes</i>	1,511	1,107	2,618	165	77	67	362	394	213	149	4,045	

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

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

**DEATHS OF CHILDREN UNDER ONE YEAR OF AGE, BY CAUSE OF DEATH
NUMBERS AND PROPORTIONS, AUSTRALIA, 1966(a)**

International Classification of Diseases number	Cause of death	Age at death							
		Under one week		One week and under one month		One month and under one year		Total under one year	
		Num- ber	Per cent	Num- ber	Per cent	Num- ber	Per cent	Num- ber	Per cent
	Causes mainly of prenatal and natal origin—								
750-759	Congenital malformations	329	12.6	120	38.8	249	22.3	698	17.3
760, 761	Birth injury	490	18.7	16	5.2	1	0.1	507	12.5
762	Postnatal asphyxia and atelec- tasis	471	18.0	12	3.9	12	1.1	495	12.2
769	Attributed to certain diseases of the mother	74	2.8	3	1.0	2	0.2	79	2.0
770	Erythroblastosis	95	3.6	3	1.0	..	..	98	2.4
771	Haemorrhagic disease of new- born	51	1.9	3	1.0	..	..	54	1.3
773	Ill-defined diseases peculiar to early infancy	247	9.4	14	4.5	24	2.1	285	7.0
774, 776	Immaturity alone, or with men- tion of any subsidiary condi- tion	710	27.1	27	8.7	5	0.4	742	18.3
	<i>Total</i>	2,467	94.2	198	64.1	293	26.2	2,958	73.1
	Causes mainly of postnatal origin—								
571, 764	Gastro-enteritis (including diarrhoea of newborn)	4	0.2	4	1.3	84	7.5	92	2.3
(b)	Pneumonia and bronchitis	56	2.1	37	12.0	311	27.8	404	10.0
	Other	30	1.1	48	15.5	262	23.4	340	8.4
	<i>Total</i>	90	3.4	89	28.8	657	58.8	836	20.7
140-239, residual	Neoplasms and other causes remaining	61	2.3	22	7.1	168	15.0	251	6.2
	<i>All causes</i>	2,618	100.0	309	100.0	1,118	100.0	4,045	100.0

(a) Excludes full-blood Aborigines. (b) 490-493, 500-502, 763.

Causes of death

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

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

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

In order to facilitate the concise presentation of cause of death statistics, the present International Classification provides two special lists of causes for tabulation—the Intermediate List of 150 causes and the Abbreviated List of 50 causes. The latter has been used as the base of the cause of death tabulations for 1966 which follow. Some categories have been sub-divided to show additional particulars of interest in Australian statistics. Tables A and B show deaths of males and females, respectively, in age groups, and Table C shows the total numbers of males and females who died, the death rates per million of mean population, and the percentage of total deaths.

A. DEATHS OF MALES, BY CAUSE OF DEATH AND AGE GROUP: AUSTRALIA, 1966

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

Cause of death(a)	Detailed list numbers	Age group (years)									Total	
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 and over		
B 1 Tuberculosis of respiratory system	001-008	..	..	..	..	..	13	27	77	137	254
B 2 Tuberculosis, other forms	010-019	..	..	..	1	..	1	1	1	6	10
B 3 Syphilis and its sequelae	020-029	3	..	..	..	..	3	3	19	23	51
B 4 Typhoid fever	040	1	..	..	..	..	..	..	..	1	1
B 6 Dysentery, all forms	045-048	1	1	1	..	1	..	..	..	1	5
B 7 Scarlet fever and streptococcal sore throat	050, 051	..	..	..	..	1	1	..	..	..	2
B 9 Whooping cough	056	2	..	..	..	..	..	..	..	..	2
B10 Meningococcal infections	057	7	4	3	1	1	..	1	..	4	21	
B14 Measles	085	1	2	1	..	..	..	..	..	..	4
B15 Typhus and other rickettsial diseases	100-108	..	..	..	..	1	..	..	..	..	1
B17 All other diseases classified as infective and parasitic	(b)	27	12	11	5	7	4	11	13	31	121	
B18 Malignant neoplasms of—	Digestive organs and peritoneum	150-159	..	2	1	4	24	112	287	675	1,818	2,923
	Lung	162, 163	1	7	63	265	756	1,167	2,259
	Breast	170	1	1	2	3	8	15
	Genital organs	171-179	11	11	12	19	94	759	906
	Urinary organs	180, 181	2	2	5	..	4	16	49	102	305	485
	Leukaemia and aleuk-aemia	204	4	18	48	32	16	26	36	72	134	386
B19 Other malignant and lymphatic neoplasms	(c)	2	24	38	55	62	148	292	400	694	1,715	
B19 Benign neoplasms and neoplasms of unspecified nature	210-239	2	1	2	5	1	7	10	23	26	77	
B20 Diabetes mellitus	260	..	..	..	4	9	18	45	120	475	671
B21 Anaemias	290-293	1	4	2	..	2	2	9	14	81	115	
B22 Vascular lesions affecting central nervous system	330-334	5	..	2	15	28	145	345	870	4,434	5,844	
B23 Non-meningococcal meningitis	340	19	19	3	..	..	1	4	5	4	55
B24 Rheumatic fever	400-402	..	..	2	2	..	1	3	..	..	8
B25 Chronic rheumatic heart disease	410-416	..	..	..	4	12	32	62	86	124	320
B26 Arteriosclerotic heart disease	420	..	..	..	4	43	549	2,083	4,390(d)	11,166	18,235
B26 Degenerative heart disease	421, 422	3	1	2	5	7	36	75	207	1,524	1,860	
B27 Other diseases of heart	430-434	4	1	6	7	12	40	52	194	1,361	1,677	
B28 Hypertension with heart disease	440-443	..	..	..	..	..	10	41	96	399	546
B29 Hypertension without mention of heart	444-447	..	..	1	1	5	19	60	70	229	385
B30 Influenza	480-483	8	5	2	3	2	3	6	15	85	129	
B31 Pneumonia	490-493	158	48	21	16	17	46	113	237	(e)1,492	2,148	
B32 Bronchitis	500-502	15	12	2	4	4	17	78	400	(e)1,664	2,196	
B33 Ulcer of stomach and duodenum	540, 541	2	..	..	1	5	14	45	99	249	415
B34 Appendicitis	550-553	1	1	4	3	4	4	6	5	10	38	
B35 Intestinal obstruction and hernia	560, 561, 570	34	1	2	..	3	5	14	32	152	243	
B36 Gastritis, duodenitis, enteritis, and colitis except diarrhoea of the newborn	543, 571, 572	48	43	1	7	3	6	12	22	71	213	
B37 Cirrhosis of liver	581	1	1	2	4	6	41	103	122	117	397	
B38 Nephritis and nephrosis	590-594	1	2	7	21	24	30	72	90	243	490	
B39 Hyperplasia of prostate	610	..	..	..	..	..	1	11	291	303	
B41 Congenital malformations	750-759	395	49	32	23	16	12	11	14	18	570	
B42 Birth injuries, postnatal asphyxia and atelectasis	760-762	589	..	..	..	..	..	..	..	..	589
B43 Infections of the newborn	763-768	81	..	..	..	..	..	..	..	..	81

For footnotes see next page.

A. DEATHS OF MALES, BY CAUSE OF DEATH AND AGE GROUP
AUSTRALIA, 1966—continued

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

Cause of death(a)	Detailed list numbers	Age group (years)									Total
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 and over	
B44 Other diseases peculiar to early infancy, and immaturity unqualified	769-776	718	..	..	..	..	..	..	..	..	718
B45 Senility without mention of psychosis, ill-defined and unknown causes	780-795	6	2	2	8	2	18	16	12	184	250
General arteriosclerosis	450	..	..	..	..	..	..	6	39	982	1,027
Other diseases of circulatory system	451-468	1	1	3	6	9	15	69	146	508	758
B46 Other diseases of respiratory system	470-475	37	19	4	3	5	11	43	113	395	630
All other diseases	510-527	63	53	63	66	79	180	273	391 (f)	1,086	2,254
BE47 Motor vehicle accidents	Residual	13	67	134	777	347	309	250	224	273	2,394
BE48 All other accidents	E810-E835	72	123	120	260	174	275	261	208	(d)383	1,876
BE49 Suicide and self-inflicted injury	E800-E802	..	..	2	89	142	218	222	168	(g)176	1,017
BE50 Homicide and operations of war	E840-E962	1	1	4	16	19	24	19	7	14	105
E963, E970-E979	..	..	..	..	..	..	..	..	..	..	..
E964, E965, E980-E999	..	..	..	..	..	..	..	..	..	..	..
All causes	..	2,328	519	533	1,464	1,116	2,488	5,402	10,642(h)	33,303	57,795

(a) No male deaths were recorded in the following categories in 1966: B5, Cholera (043); B8, Diphtheria (055); B11, Plague (058); B12, Acute poliomyelitis (080); B13, Smallpox (084); B16, Malaria (110-117). (b) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138. (c) All causes, 140-205 not shown above. (d) Includes 3, age 'not stated'. (e) Includes 1, age 'not stated'. (f) Includes 2, age 'not stated'. (g) Includes 5, age 'not stated'. (h) Includes 15, age 'not stated'.

NOTE. Table excludes deaths of full-blood Aborigines.

B. DEATHS OF FEMALES, BY CAUSE OF DEATH AND AGE GROUP: AUSTRALIA, 1966

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

Cause of death(a)	Detailed list numbers	Age group (years)									Total
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 and over	
B 1 Tuberculosis of respiratory system	001-008	..	..	..	1	..	6	12	9	21	49
B 2 Tuberculosis, other forms	010-019	..	1	1	..	1	1	2	..	2	8
B 3 Syphilis and its sequelae	020-029	..	..	..	..	..	2	1	2	15	20
B 6 Dysentery, all forms	045-048	..	..	..	..	..	..	..	..	1	1
B 7 Scarlet fever and streptococcal sore throat	050, 051	..	..	1	..	..	..	..	..	2	3
B 9 Whooping cough	056	2	..	..	..	..	..	..	..	..	2
B10 Meningococcal infections	057	2	1	3	1	..	..	..	3	3	13
B14 Measles	085	2	8	2	1	..	..	..	..	..	13
B17 All other diseases classified as infective and parasitic	(b)	12	10	9	3	10	7	11	13	48	123
Malignant neoplasms of—											
Digestive organs and peritoneum	150-159	..	2	..	5	11	85	227	466	1,887	2,683
Lung	162, 163	..	..	..	2	1	22	61	78	153	317
Breast	170	..	..	..	..	18	109	283	310	622	1,342
B18 Genital organs	171-179	..	..	1	6	18	84	226	255	458	1,048
Urinary organs	180, 181	..	9	3	1	1	6	16	46	164	246
Leukaemia and aleuk- aemia	204	1	16	37	12	16	27	37	31	122	299
Other malignant and lymphatic neoplasms	(c)	3	11	25	43	39	83	182	237	540	1,163
B19 Benign neoplasms and neoplasms of unspecified nature	210-239	8	1	4	3	5	11	22	21	46	121
B20 Diabetes mellitus	260	..	1	..	2	6	10	26	137	785	967
B21 Anaemias	290-293	..	4	4	4	2	5	6	12	143	180

For footnotes see next page.

B. DEATHS OF FEMALES, BY CAUSE OF DEATH AND AGE GROUP
AUSTRALIA, 1966—continued

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

Cause of death(a)	Detailed list numbers	Age group (years)									Total
		0	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 and over	
B22 Vascular lesions affecting central nervous system	330-334	1	2	4	11	34	146	390	735	6,753	8,076
B23 Non-meningococcal meningitis	340	18	4	6	1	1	1	2	1	6	40
B24 Rheumatic fever	400-402	..	..	..	..	1	..	3	..	1	5
B25 Chronic rheumatic heart disease	410-416	..	..	1	6	14	36	77	104	240	478
B26 { Arteriosclerotic heart disease	420	..	..	..	1	6	104	488	1,458	9,029	11,086
{ Degenerative heart disease		..	..	..	..	..	..	..	..	..	..
B27 Other diseases of heart	421, 422	2	..	..	2	7	19	43	101	2,145	2,319
B28 Hypertension with heart disease	430-434	3	4	2	2	7	18	38	107	1,586	1,767
B29 Hypertension without mention of heart	440-443	..	..	..	..	2	8	20	82	702	814
B30 Influenza	444-447	..	..	..	1	9	12	43	55	276	396
B31 Pneumonia	480-483	5	1	..	1	..	1	4	12	96	120
B32 Bronchitis	490-493	132	30	18	11	19	21	72	84	(d)1,415	1,802
B33 Ulcer of stomach and duodenum	500-502	7	9	2	..	2	14	20	44	292	(d)390
B34 Appendicitis	540, 541	..	..	..	1	2	10	19	28	107	167
B35 Intestinal obstruction and hernia	550-553	1	..	3	2	2	3	4	1	15	31
B36 Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the newborn	560,561,570	24	..	..	3	2	4	15	28	190	266
B37 Cirrhosis of liver	543,571,572	36	24	..	1	4	5	8	15	129	222
B38 Nephritis and nephrosis	581	..	2	1	2	4	16	51	54	71	201
B40 Complications of pregnancy, childbirth and the puerperium	590-594	2	2	4	11	9	35	62	62	226	413
B41 Congenital malformations	{ 640-652, 670-689 }	..	..	1	15	30	18	2	..	..	66
B42 Birth injuries, post-natal asphyxia and atelectasis	750-759	303	34	38	19	9	10	20	15	17	465
B43 Infections of the newborn	760-762	413	..	..	..	..	..	..	..	..	413
B44 Other diseases peculiar to early infancy, and immaturity unqualified	763-768	57	..	..	..	..	..	..	..	..	57
B45 Senility without mention of psychosis, ill-defined and unknown causes	769-776	544	..	..	..	..	..	..	..	..	544
B46 { General arteriosclerosis	780-795	2	2	..	4	9	6	9	6	263	301
{ Other diseases of circulatory system	450	..	..	..	..	..	..	4	16	1,286	1,306
{ Other diseases of respiratory system	451-468	..	1	1	8	14	24	47	68	352	515
{ All other diseases	{ 470-475, 510-527 }	32	11	4	3	2	14	19	25	170	280
BE47 Motor vehicle accidents	Residual	44	33	39	62	76	176	258	314	1,356	2,358
BE48 All other accidents	E810-E835	9	37	74	197	60	75	101	108	211	872
BE49 Suicide and self-inflicted injury	E800-E802	49	67	45	39	36	55	74	78	(d)652	1,095
BE50 Homicide and operations of war	E840-E962	..	..	..	58	92	130	146	93	88	607
	E963, E970-E979	..	..	..	..	..	..	..	..	..	..
	E964, E965, E980-E999	3	1	8	9	10	11	12	6	4	64
All causes	..	1,717	328	341	554	591	1,430	3,163	5,320	(e)32,690	46,134

(a) No female deaths were recorded in the following categories in 1966: B4, Typhoid fever (040); B5, Cholera (043); B8, Diphtheria (055); B11, Plague (058); B12, Acute poliomyelitis (080); B13, Smallpox (084); B15, Typhus and other rickettsial diseases (100-108); B16, Malaria (110-117). (b) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138. (c) All causes, 140-205 not shown above. (d) Includes 1, age 'not stated'. (e) Includes 3, age 'not stated'.

NOTE. Table excludes deaths of full-blood Aborigines

**C. DEATHS, BY CAUSE OF DEATH AND SEX: NUMBERS AND RATES
AUSTRALIA, 1966**

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

Cause of death	Detailed list numbers	Number of deaths			Rate per 1,000,000 of mean population	Percentage of total deaths
		Males	Females	Persons		
B 1 Tuberculosis of respiratory system	001-008	254	49	303	26	0.29
B 2 Tuberculosis, other forms	010-019	10	8	18	2	0.02
B 3 Syphilis and its sequelae	020-029	51	20	71	6	0.07
B 4 Typhoid fever	040	1	..	1	(a)	0.00
B 5 Cholera	043	..	..	..	..	..
B 6 Dysentery, all forms	045-048	5	1	6	1	0.01
B 7 Scarlet fever and streptococcal sore throat	050, 051	2	3	5	(a)	0.00
B 8 Diphtheria	055	..	..	..	..	..
B 9 Whooping cough	056	2	2	4	(a)	0.00
B10 Meningococcal infections	057	21	13	34	3	0.03
B11 Plague	058	..	..	..	..	..
B12 Acute poliomyelitis	080	..	..	..	..	..
B13 Smallpox	084	..	..	..	..	..
B14 Measles	085	4	13	17	1	0.02
B15 Typhus and other rickettsial diseases	100-108	1	..	1	(a)	0.00
B16 Malaria	110-117	..	..	..	..	..
B17 All other diseases classified as infective and parasitic	(b)	121	123	244	21	0.23
Malignant neoplasms of—						
Digestive organs and peritoneum	150-159	2,923	2,683	5,606	485	5.39
Lung	162, 163	2,259	317	2,576	223	2.48
Breast	170	15	1,342	1,357	117	1.31
Genital organs	171-179	906	1,048	1,954	169	1.88
Urinary organs	180, 181	485	246	731	63	0.70
Leukaemia and aleukaemia	204	386	299	685	59	0.66
Other malignant and lymphatic neoplasms	(c)	1,715	1,163	2,878	249	2.77
B18 Benign and unspecified neoplasms	210-239	77	121	198	17	0.19
B20 Diabetes mellitus	260	671	967	1,638	142	1.58
B21 Anaemias	290-293	115	180	295	26	0.28
B22 Vascular lesions affecting central nervous system	330-334	5,844	8,076	13,920	1,205	13.39
B23 Non-meningococcal meningitis	340	55	40	95	8	0.09
B24 Rheumatic fever	400-402	8	5	13	1	0.01
B25 Chronic rheumatic heart disease	410-416	320	478	798	69	0.77
B26 Arteriosclerotic heart disease	420	18,235	11,086	29,321	2,537	28.21
B27 Degenerative heart disease	421, 422	1,860	2,319	4,179	362	4.02
B28 Other diseases of heart	430-434	1,677	1,767	3,444	298	3.31
B29 Hypertension with heart disease	440-443	546	814	1,360	118	1.31
B30 Hypertension without mention of heart	444-447	385	396	781	68	0.75
B31 Influenza	480-483	129	120	249	22	0.24
B32 Pneumonia	490-493	2,148	1,802	3,950	342	3.80
B33 Bronchitis	500-502	2,196	390	2,586	224	2.49
B34 Ulcer of stomach and duodenum	540, 541	415	167	582	50	0.56
B35 Appendicitis	550-553	38	31	69	6	0.07
B36 Intestinal obstruction and hernia	560, 561, 570	243	266	509	44	0.49
B36 Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the newborn	543, 571, 572	213	222	435	38	0.42
B37 Cirrhosis of liver	581	397	201	598	52	0.58
B38 Nephritis and nephrosis	590-594	490	413	903	78	0.87
B39 Hyperplasia of prostate	610	303	..	303	26	0.29
B40 Complications of pregnancy, childbirth and the puerperium	{ 640-652 670-689 }	..	66	66	6	0.06
B41 Congenital malformations	750-759	570	465	1,035	90	1.00
B42 Birth injuries, post-natal asphyxia and atelectasis	760-762	589	413	1,002	87	0.96
B43 Infections of the newborn	763-768	81	57	138	12	0.13
B44 Other diseases peculiar to early infancy, and immaturity unqualified	769-776	718	544	1,262	109	1.21
B45 Senility without mention of psychosis, ill-defined and unknown causes	780-795	250	301	551	48	0.53
B46 General arteriosclerosis	450	1,027	1,306	2,333	202	2.24
Other diseases of circulatory system	{ 451-468 470-475 }	758	515	1,273	110	1.22
Other diseases of respiratory system	{ 510-527 }	630	280	910	79	0.88
All other diseases	Residual	2,254	2,358	4,612	399	4.44
BE47 Motor vehicle accidents	E810-E835	2,394	872	3,266	283	3.14
BE48 All other accidents	{ E800-E802 E840-E962 }	1,876	1,095	2,971	257	2.86
BE49 Suicide and self-inflicted injury	{ E963 E970-E979 }	1,017	607	1,624	141	1.56
BE50 Homicide and operations of war	{ E964, E965 E980-E999 }	105	64	169	15	0.16
All causes	..	57,795	46,134	103,929	8,994	100.00

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

NOTE. Table excludes deaths of full-blood Aborigines.

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 Seventh Revision of the International List. Certain important causes are treated in detail hereunder. The Abbreviated Classification numbers used in tables A to C (pages 208-11) are indicated in parentheses for each cause or group of causes.

All forms of tuberculosis (B1, B2). In comparing any of the figures for 1950 and subsequent years with those for 1949 and earlier years, consideration should be given to the effect of the change in basis from the Fifth to the Sixth Revision of the International List. This was discussed in Year Book No. 39, page 626. The following table shows the age groups of males and females who were classified as dying from tuberculosis in 1966, together with figures for 1931, 1941, 1951 and 1961.

**DEATHS FROM TUBERCULOSIS (ALL FORMS), BY AGE GROUP AND SEX
AUSTRALIA, 1931 TO 1966^(a)**

Age group (years)	Males					Females				
	1931	1941	1951	1961	1966	1931	1941	1951	1961	1966
0-14	90	63	23	5	..	81	54	35	1	2
15-29	294	162	46	2	1	487	275	68	..	2
30-44	585	428	135	25	14	422	319	142	20	7
45-64	674	793	570	128	106	252	251	126	41	23
65 and over	193	279	306	175	143	89	110	86	50	23
Not stated . . . . .	..	..	..	..	..	..	..	1	..	..
Total	1,836	1,725	1,080	335	264	1,331	1,009	458	112	57

(a) Excludes full-blood Aborigines.

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 3 in 1966. The reductions in the younger age groups are much greater, as can be seen from the table above. In making these comparisons, consideration of the effect of the change in basis from the Fifth to the Sixth Revision of the International List (*see above*) is particularly important.

Of the more developed countries, those with the lowest death rates from tuberculosis per 100,000 of population are: Netherlands, 1.9; Denmark, 2.4; Australia, 2.8; Canada, 3.5; Israel, 3.6; New Zealand, 3.7; and United States of America, 4.3. Rates for selected countries in each continent are:

Africa—South Africa (white population), 6.0; United Arab Republic, 14.7.

North America—Dominican Republic, 7.7; Mexico, 24.0; Guatemala, 29.1.

South America—Argentina, 19.9; Peru, 54.1; Brazil, 82.3.

Asia—Japan, 23.6; India, 82.7; Philippines, 81.7.

Europe—England and Wales, 5.3; Scotland, 7.2; Italy, 13.3; France, 15.6; Poland, 40.1.

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

A summary regarding seat of disease for 1966 is given on the next page.

DEATHS FROM MALIGNANT NEOPLASMS AND NEOPLASMS OF LYMPHATIC AND HAEMATOPOIETIC TISSUES, BY SEAT OF DISEASE AND SEX: AUSTRALIA, 1966(a)

<i>Seat of disease</i>	<i>Males</i>	<i>Females</i>	<i>Persons</i>
Malignant neoplasms—			
Buccal cavity and pharynx	218	74	292
Digestive organs and peritoneum—			
Oesophagus	200	127	327
Stomach	956	645	1,601
Small intestine	23	17	40
Large intestine	756	1,012	1,768
Other	988	882	1,870
Respiratory system	2,418	350	2,768
Breast	15	1,342	1,357
Uterus . . . . .	..	571	571
Other female genital organs . . . . .	..	477	477
Male genital organs	906	..	906
Urinary organs	485	246	731
Skin	286	192	478
Other and unspecified organs	640	550	1,190
<i>Total, malignant neoplasms</i>	<i>7,891</i>	<i>6,485</i>	<i>14,376</i>
Neoplasms of lymphatic and haematopoietic tissues—			
Lymphosarcoma and reticulosarcoma	213	143	356
Hodgkin's disease	85	60	145
Other forms of lymphoma (reticulosis)	31	32	63
Multiple myeloma (plasmocytoma)	81	77	158
Leukaemia and aleukaemia	386	299	685
Mycosis fungoides	2	2	4
<i>Total, neoplasms of lymphatic and haematopoietic tissues</i>	<i>798</i>	<i>613</i>	<i>1,411</i>
Grand total	8,689	7,098	15,787

(a) Excludes full-blood Aborigines.

The ages of males and females who died from malignant neoplasms in 1966 are given below, together with figures for 1931, 1941, 1951, and 1961. The increase in the number of deaths from malignant neoplasms in the years since 1931 is due principally to the increase in the number of people in the higher age groups, at which ages the risks of cancer are much greater. While the total population increased by about 77 per cent between 1931 and 1966, the number of people aged 55 years and over increased by about 124 per cent. The increase in the number of deaths in the lower age groups from 1951 is due partly to the inclusion of neoplasms of lymphatic and haematopoietic tissues, and it is probable also that part of the increased number of deaths from cancer recorded in recent years has been due to improved diagnosis and certification on the part of the medical profession.

**DEATHS FROM MALIGNANT NEOPLASMS(a), BY AGE GROUP AND SEX
AUSTRALIA, 1931 TO 1966(b)**

<i>Age group (years)</i>	<i>Males</i>					<i>Females</i>				
	<i>1931</i>	<i>1941</i>	<i>1951(a)</i>	<i>1961(a)</i>	<i>1966(a)</i>	<i>1931</i>	<i>1941</i>	<i>1951(a)</i>	<i>1961(a)</i>	<i>1966(a)</i>
Under 15	25	21	91	130	146	23	25	71	114	108
15-29	43	49	103	109	149	38	45	76	84	113
30-44	196	176	275	380	457	326	344	387	481	476
45-54	410	465	584	823	950	548	685	692	847	1,032
55-64	868	983	1,334	1,699	2,102	744	926	1,180	1,207	1,423
65 and over	1,942	2,561	3,128	4,239	4,885	1,426	2,198	2,698	3,575	3,946
Not stated . . . . .	..	..	..	..	..	..	..	..	1	..
Total	3,484	4,255	5,515	7,380	8,689	3,105	4,223	5,104	6,309	7,098

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

The death rates from malignant neoplasms have continued to rise over recent years. The rates are crude death rates representing the number of deaths from malignant neoplasms per 100,000 of mean population and do not take account of changes in the age constitution of the population, and to a substantial extent they reflect the increasing age of the population rather than the true change in mortality from malignant neoplasms (see previous paragraph). In 1931 the rate for Australia

was 101 (males, 105; females, 97); in 1941 it was 119 (males, 119; females, 120); and in 1951 it had risen to 126 (males, 130; females, 122). Figures for 1961 gave a rate of 130 (males, 139; females, 121), and for 1966 a rate of 136 (males, 149; females, 124).

Death rates from malignant neoplasms per 100,000 of mean population for Australia and for various other countries are as follows: Brazil, 94; Japan, 108; Israel, 112; Poland, 119; Canada, 133; South Africa (white population), 134; Australia, 136; United States of America, 151; Italy, 159; Netherlands, 183; France, 204; England and Wales, 223; Scotland, 229. The rates are for the latest available year in each case.

Diseases of the heart (B25 to B28). The number of deaths classified to diseases of the heart in 1966 was 39,102 (22,638 males and 16,464 females). This class is the largest among causes of death, the rate having increased from 112 per 100,000 of mean population in 1911-15 to 338 in 1966. The increase in the number of deaths recorded from heart diseases has been particularly pronounced during the past twenty years. The rapid increase in mortality is partly a reflection of the ageing of the population, but the figures have been influenced mainly by improved diagnosis and certification by medical practitioners.

The death rates from heart diseases per 100,000 of mean population for various years from 1931 were as follows: 1931, 159 (males, 178; females, 142); 1941, 269 (males, 306; females, 231); 1951, 314 (males, 367; females, 259); 1961, 304 (males, 356; females, 250); and 1966, 338 (males, 389; females, 287). Deaths from heart diseases in 1966 represented 38 per cent of the total deaths.

Puerperal causes (B40). It was shown in Year Book No. 39, page 634, that the changes introduced with the Sixth Revision of the International List did not significantly affect the comparability of the total number of deaths from puerperal causes. The Seventh Revision, introduced in 1958, did not affect comparability. The death rate from these causes has fallen rapidly during recent years and in 1966 the rate was 0.3 per 1,000 live births, compared with a rate of 6 per 1,000 in 1936. The 66 deaths in 1966 are equivalent to a death rate of 1.15 per 100,000 females. The death rate may be expressed in other terms by stating that for every 3,373 babies born alive in 1966 one woman died from puerperal causes. The death rate per 1,000 live births from puerperal causes in various countries for the latest available year is as follows: Denmark, Norway and Sweden, 0.2; Australia, Canada, France, Netherlands, New Zealand, United Kingdom and United States, 0.3; Finland, 0.4; Switzerland, 0.5; Italy, 0.8; Japan, 0.9.

Causes of infant mortality. See paragraphs devoted to causes of infant deaths on pages 206-7.

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

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

ACCIDENTS, POISONINGS, AND VIOLENCE: DEATH RATES(a), BY SEX
AUSTRALIA, 1936 TO 1966(b)

Period	Death rate from—												All violence, proportion per 10,000 deaths		
	Accidents(c)			Suicide			Homicide(d)			Total violence					
	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.
1936-40	86	28	58	17	5	11	2	1	1	105	34	70	979	399	724
1941-45	67	26	46	11	4	8	1	1	1	79	31	55	730	348	558
1946-50	76	27	51	14	5	10	1	1	1	91	33	62	844	383	640
1951-55	82	31	57	15	5	10	2	1	1	99	37	68	964	453	740
1956-60	75	32	53	16	6	11	2	1	2	93	39	66	957	495	754
1961-65	72	32	52	19	9	14	2	1	1	93	43	68	954	550	777
1962	71	33	52	19	9	14	2	1	2	92	43	68	952	559	780
1963	69	29	49	21	11	16	2	1	1	92	41	66	944	529	762
1964	73	34	53	19	10	15	2	1	2	94	45	70	939	561	772
1965	74	33	54	19	11	15	1	1	1	95	46	70	970	584	800
1966	73	34	54	17	11	14	2	1	1	93	46	69	933	572	773

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

In 1966 the total number of deaths from *accidental causes* (BE47, BE48) was 6,237 (4,270 males and 1,967 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, 3,203 (51.35 per cent); motor vehicle non-traffic accidents, 63 (1.01 per cent); other road vehicle accidents, 38 (0.61 per cent); railway accidents, 92 (1.48 per cent); water transport accidents, 83 (1.33 per cent); aircraft accidents, 61 (0.98 per cent); a total of 3,540 (56.76 per cent). Other important causes were accidental falls, 1,011 (16.21 per cent); accidental drowning, 370 (5.93 per cent); and accidents caused by fire and explosion of combustible material, 210 (3.37 per cent).

Deaths from *suicide* (BE49) in 1966 numbered 1,624 (males, 1,017; females, 607). Poisoning, other than by gases, was used in 735 cases (45.26 per cent of total deaths by suicide). Other important modes adopted, together with the numbers and relevant percentages, were as follows: firearms and explosives, 340 (20.94 per cent); poisoning by gases, 230 (14.16 per cent); hanging or strangulation, 167 (10.28 per cent); submersion (drowning), 58 (3.57 per cent); other and unspecified modes, 94 (5.79 per cent). Of the 1,017 males who committed suicide, 311 (30.58 per cent) used firearms or explosives. For females the most common mode was poisoning (other than by gases). This was used in 407 cases (67.05 per cent). The following table shows the age of persons who committed suicide in 1966.

PERSONS WHO COMMITTED SUICIDE, BY AGE GROUP AND SEX
AUSTRALIA, 1966(a)

Age group (years)	Males	Females	Persons	Age group (years)	Males	Females	Persons
10-14	2	..	2	60-64	66	39	105
15-19	32	19	51	65-69	71	31	102
20-24	57	39	96	70-74	42	32	74
25-29	70	44	114	75-79	34	13	47
30-34	72	48	120	80-84	18	8	26
35-39	99	66	165	85 and over	6	4	10
40-44	119	64	183	Not stated	5	..	5
45-49	101	85	186				
50-54	121	61	182				
55-59	102	54	156				
				Total deaths	1,017	607	1,624

(a) Excludes full-blood Aborigines.

Of the 169 deaths recorded in 1966 from *homicide and operations of war* (BE50) there were 154 deaths from homicide and injury purposely inflicted by other persons (not in war), of which assault by firearms and explosives caused 63, assault by cutting and piercing instruments 19, and assault by other means 72. Deaths from injury resulting from the operations of war numbered 15, 14 of which were deaths from late effects of such injuries.

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

Demography, Bulletin No. 84, contains a number of tables showing, in combination with the issue, the age at marriage, age at death and occupation of married (including widowed or divorced) persons who died in Australia in 1966. Deaths of married males in 1966 numbered 45,446, and those of married females, 37,836. The tables which follow deal, however, with only 44,781 males and 37,531 females, the information regarding issue in the remaining 970 cases being incomplete. The total number of children in the families of the 44,781 males was 127,752 and of the 37,531 females, 113,688. The average number of children is shown for various age groups in the following table.

**AVERAGE ISSUE: DECEASED MARRIED(a) MALES AND FEMALES, BY AGE
AT DEATH, AUSTRALIA, 1931 TO 1966(b)**

Age at death (years)	Average issue									
	Males					Females				
	1931	1941	1951	1961	1966	1931	1941	1951	1961	1966
Under 20	0.75	..	0.43	0.33	0.67	0.66	0.79	0.83	0.75	0.43
20-24	0.81	0.73	0.96	0.93	0.91	1.13	0.95	0.86	1.12	0.98
25-29	1.33	1.12	1.29	1.56	1.75	1.81	1.45	1.61	2.00	1.96
30-34	1.79	1.76	1.79	2.23	2.36	2.34	1.91	1.98	2.37	2.61
35-39	2.13	2.11	2.12	2.37	2.67	2.89	2.30	2.49	2.47	2.67
40-44	2.77	2.49	2.30	2.44	2.79	3.29	2.77	2.39	2.44	2.60
45-49	3.10	2.68	2.51	2.49	2.59	3.55	2.93	2.59	2.38	2.43
50-54	3.46	2.96	2.56	2.46	2.55	3.60	3.29	2.76	2.43	2.44
55-59	3.69	3.28	2.71	2.45	2.56	4.01	3.55	3.03	2.50	2.44
60-64	4.02	3.55	3.07	2.58	2.53	4.21	3.79	3.29	2.69	2.53
65-69	4.41	3.73	3.25	2.77	2.59	4.82	4.01	3.63	3.04	2.76
70-74	5.06	4.17	3.58	3.00	2.77	5.41	4.29	3.64	3.30	2.93
75-79	5.65	4.56	3.83	3.31	3.11	6.02	4.85	3.96	3.44	3.14
80-84	6.17	4.93	4.30	3.62	3.28	6.26	5.39	4.19	3.58	3.41
85-89	6.59	5.70	4.63	3.94	3.55	6.57	5.85	4.68	3.78	3.61
90-94	6.94	6.57	5.06	4.39	3.94	6.73	6.11	5.08	3.99	3.63
95-99	6.69	7.04	5.78	4.76	4.07	7.10	6.34	5.76	4.51	3.90
100 and over	7.00	8.69	5.71	5.38	4.56	8.20	6.73	7.72	4.63	5.02
Age not stated	5.00	..	8.00	..	..	5.00	..	5.50	5.00	..
All ages	4.44	3.91	3.39	2.98	2.85	4.72	4.22	3.68	3.22	3.03

(a) Includes widowed or divorced.

(b) Excludes full-blood Aborigines.

Age at marriage of deceased males and females, and issue

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

**AVERAGE ISSUE: DECEASED MALES AND FEMALES, BY AGE AT MARRIAGE
AUSTRALIA, 1931 TO 1966(a)**

Age at marriage (years)(b)	Average issue									
	Males					Females				
	1931	1941	1951	1961	1966	1931	1941	1951	1961	1966
Under 15	..	..	..	..	..	6.36	7.80	4.88	4.45	8.11
15-19	6.15	5.40	4.63	4.11	4.20	6.79	6.10	5.41	4.74	4.38
20-24	5.56	4.89	4.23	3.65	3.47	5.23	4.80	4.28	3.77	3.50
25-29	4.70	4.21	3.65	3.16	3.03	3.79	3.51	3.14	2.85	2.70
30-34	3.96	3.41	3.00	2.64	2.46	2.42	2.35	2.23	1.98	1.88
35-39	3.14	2.80	2.45	2.11	1.97	1.40	1.26	1.16	1.14	1.11
40-44	2.36	2.01	1.69	1.49	1.40	0.39	0.35	0.36	0.31	0.25
45-49	1.96	1.52	1.33	1.11	0.97	0.12	0.01	0.07	0.06	0.12
50-54	1.60	1.05	0.80	0.71	0.57	..	..	..	..	..
55-59	0.95	0.79	0.49	0.25	0.33	..	..	..	..	..
60-64	0.63	0.29	0.24	0.25	0.16	..	..	..	..	..
65 and over	0.18	0.01	0.29	0.24	0.11	..	..	..	..	..
Age not stated	3.64	2.95	2.81	2.40	2.28	3.96	2.45	3.17	2.44	2.40
All ages	4.44	3.91	3.39	2.98	2.85	4.72	4.22	3.68	3.22	3.03

(a) Excludes full-blood Aborigines.

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

Vital statistics of External Territories

The following table shows, for the year 1966, the number of marriages, births and deaths registered in the External Territories under the control of Australia. More detailed information will be found in a series of tables in *Demography*, Bulletin No. 84.

EXTERNAL TERRITORIES: VITAL STATISTICS, 1966

<i>Territory</i>	<i>Marriages</i>	<i>Births</i>	<i>Deaths</i>
Christmas Island(a)	1	59	5
Cocos (Keeling) Islands(a)	6	12	3
Norfolk Island(a)	4	17	17
Territory of Papua and New Guinea(b)	278	970	109
Trust Territory of Nauru(a)(c)	27	236	48

(a) Total population. (b) Non-indigenous population only. (c) Independent State from 31 January 1968.

International vital statistics

In the following table vital statistics rates for selected countries are shown. Crude marriage, birth, and death rates represent the number of 'events' reported for the year stated per 1,000 of the population. Infant mortality rates are the number of deaths which occurred under one year of age per 1,000 live births. The true death rates (reciprocals of the expectation of life at birth) have been computed from the life tables for the respective countries as published in the United Nations *Demographic Yearbook*, 1966 (see explanation of true death rates, pages 197-8).

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*, 1966 (see particularly Technical Notes on Statistical Tables and footnotes to the tables). The countries are arranged in the same order as in the table on pages 173-4 of the Population chapter.

VITAL STATISTICS RATES: SELECTED COUNTRIES—LATEST AVAILABLE YEAR

(Source: United Nations *Demographic Yearbook*, 1966)

<i>Country</i>	<i>Year</i>	<i>Rates(a)</i>				<i>Infant mortality</i>	<i>Year</i>	<i>True death rates(b)</i>	
		<i>Marriage</i>	<i>Birth</i>	<i>Death</i>	<i>Year</i>			<i>Male</i>	<i>Female</i>
Africa—									
South Africa—									
Asian population	1966	(c)7.5	33.9	7.4	(c)56.1	1950-52	17.9	18.3	
Coloured population	1966	(c)6.1	45.6	14.9	(c)136.1	1950-52	22.3	20.9	
White population	1966	(c)9.7	22.8	8.7	(c)29.2	1950-52	15.5	14.3	
Congo, Democratic Republic of(d)(e)	1955-58	n.a.	43	20	104	1950-52	26.6	25.0	
Morocco(e)	1962	n.a.	46.1	18.7	149	1960		20.2	
Upper Volta(e)	1960-61	n.a.	53	35	182	1960-61	31.2	32.2	
Southern Rhodesia(d)(e)	1962	n.a.	48.1	14.0	(f)122	1962		20.0	
Ivory Coast(e)	1961	n.a.	56.1	33.3	n.a.	n.a.	n.a.	n.a.	
Zambia(d)(e)	1963	n.a.	51.4	19.6	(g)259	1963		25.0	
Guinea(d)(e)	1955	n.a.	62	40	216	1955	38.5	35.7	
Senegal(e)	1960-61	n.a.	43.3	16.7	92.9	1957		27.0	
Dahomey(d)(e)	1961	n.a.	54.0	26.0	110.5	1961		26.8	
Central African Republic(d)(e)	1959-60	n.a.	48	30	190	1959-60	30.3	27.8	
North America—									
United States of America	1966	9.4	18.5	9.5	23.4	1965	15.0	13.6	
Mexico	1960-65	6.8	(e)44-45	(e)10-11	60.7	1956	18.1	17.3	
Canada	1966	7.8	19.6	7.5	(c)23.6	1960-62	14.6	13.5	
Haiti(e)	1960-65	n.a.	45-50	20-24	n.a.	1950		30.7	
Guatemala	1960-65	(h)3.5	(e)46-48	(e)18-20	(h)91.5	1949-51	22.8	23.0	
El Salvador	1960-65	(h)3.2	(e)47-49	(e)14-16	(h)61.7	1960-61	17.7	16.6	
Puerto Rico	1965	10.2	30.2	6.7	42.8	1959-61	14.9	13.9	
Jamaica	1960-65	(h)4.1	(e)39-40	(e)8-9	(h)35.4	1959-61	16.0	15.0	
Costa Rica	1960-65	(c)6.0	(e)44-46	(e)8-9	(c)75.1	1962-64	16.2	15.4	

For footnotes see next page.

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

Country	Year	Rates(a)				Year	True death rates(b)	
		Marriage	Birth	Death	Infant mortality		Male	Female
South America—								
Brazil(e)	1960-65	n.a.	41-43	10-12	n.a.	1940-50	25.4	22.0
Argentina	1960-65	(j)6.6	(e)22-23	(e)8-9	(e)(c)60.7	1960-65	15.7	14.4
Columbia(e)	1960-65	(f)4.8	41-44	12-14	(c)82.4	1950-52	22.6	21.8
Peru(e)	1960-65	(h)4.1	44-45	12-14	(c)90.7	1961	19.3	18.6
Venezuela(e)	1960-65	(c)5.7	46-48	9-10	(c)47.7	n.a.	n.a.	n.a.
Chile	1960-65	(c)7.6	(e)34-36	(e)11-12	(c)107.1	1952	20.1	18.6
Bolivia(e)	1960-65	(c)5.5	43-45	20-22	(j)86.0	1949-51	20.1	20.1
Asia—								
China (mainland)(e)	1957	n.a.	34	11	n.a.	n.a.	n.a.	n.a.
India(e)	1963-64	n.a.	38.4	12.9	(k)139	1951-60	23.9	24.7
Indonesia	1962	10.6	(e)43.0	(e)21.4	(e)125	n.a.	n.a.	n.a.
Pakistan(e)	1963	n.a.	43.4	15.4	145.6	1962	18.6	20.5
Japan	1966	9.5	13.7	6.8	(c)18.5	1965	14.8	13.7
Thailand	1964	(c)3.7	(e)46.0	(e)12.9	37.8	1960	18.7	17.0
Korea, Republic of(e)	1955-60	n.a.	44.7	16.0	n.a.	1955-60	19.6	18.6
Burma(e)	1955	n.a.	50	35	(l)195-300	n.a.	n.a.	n.a.
China, Republic of (Formosa)	1966	7.5	32.5	5.5	(c)(m)22.2	1959-60	16.3	15.2
West Malaysia (Malaya)	1965	(f)1.1	36.7	7.9	50.0	1956-58	17.9	17.2
Cambodia(e)	1959	n.a.	41.4	19.7	127.0	1958-59	22.6	23.1
Hong Kong	1966	n.a.	24.9	5.0	24.9	1961	15.7	14.2
Israel(n)	1965	8.0	22.6	6.4	22.7	1965	14.2	13.7
Europe—								
Germany, Federal Republic of	1966	8.0	17.8	11.3	(e)23.8	1964-65	14.8	13.6
United Kingdom of Great Britain and Northern Ireland	1966	8.0	17.9	11.8	19.6	1963-65	14.7	13.5
Ireland	1966	8.0	17.7	11.7	19.0	1963-65	14.6	13.4
England and Wales	1966	7.2	22.5	11.1	25.6	1963-65	14.7	13.7
Northern Ireland	1966	8.1	18.6	12.3	23.1	1963-65	15.1	13.8
Scotland	1966	7.4	18.9	9.5	(c)35.6	1960-62	14.9	13.8
Italy	1966	6.9	17.5	10.7	21.7	1964	14.7	13.3
France	1966	7.2	20.9	8.6	34.6	1960	14.9	13.9
Spain	1966	7.2	16.7	7.3	38.8	1960-61	15.4	14.2
Poland	1966	8.5	20.2	8.0	(c)71.5	1961-62	16.0	15.2
Yugoslavia	1966	8.9	14.3	8.2	46.5	1963	15.3	14.2
Romania	1966	8.1	15.6	10.0	23.7	1964	14.8	13.6
Czechoslovakia	1966	9.0	19.2	8.1	(c)14.4	1961-65	14.1	13.2
Netherlands	1966	9.1	13.6	10.0	(c)38.8	1964	14.9	13.9
Hungary	1966	7.2	15.8	12.0	(c)24.1	1959-63	14.8	13.6
Belgium	1966	8.4	22.3	10.9	65.0	1959-62	16.5	15.1
Portugal	1966	8.2	14.9	8.3	32.2	1960-62	14.7	14.0
Bulgaria	1966	7.8	15.8	10.0	(c)13.3	1961-65	14.0	13.2
Sweden	1966	7.6	17.6	12.5	28.1	1959-61	15.2	13.9
Austria	1966	7.3	18.1	9.3	(c)17.8	1959-61	14.4	13.4
Switzerland	1966	(c)8.8	18.4	10.3	(c)18.7	1963-64	14.2	13.4
Denmark	1966	8.2	16.7	9.4	17.6	1956-60	15.4	14.0
Finland	1965	6.8	17.5	9.1	(f)16.4	1956-60	14.0	13.2
Norway	1966	5.8	21.6	12.1	24.9	1960-62	14.7	13.9
Ireland	1966	5.8	21.6	12.1	24.9	1960-62	14.7	13.9
Oceania—								
Australia	1967	8.5	19.4	8.7	18.3	1960-62	14.7	13.5
New Zealand	1966	8.6	22.5	8.9	17.7	1960-62	14.6	13.6
U.S.S.R.—								
Union of Soviet Socialist Republics	1966	8.9	18.2	7.3	26.5	1964-65	15.2	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 pp. 197-8). (c) 1965. (d) African population only. (e) Estimated. (f) 1954. (g) 1950. (h) 1966. (i) 1964. (j) 1958. (k) 1951-61. (l) 1952. (m) Excludes live born infants dying before registration of birth. (n) Jewish population.