

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS, CANBERRA,
AUSTRALIA

CENSUS OF THE
COMMONWEALTH
OF AUSTRALIA,
30TH JUNE, 1961

AUSTRALIAN LIFE TABLES,
1960-1962

PREPARED BY
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REPORT ON THE AUSTRALIAN LIFE TABLES, 1960-1962
BY THE COMMONWEALTH ACTUARY

In accordance with a request by the Commonwealth Statistician I have compiled Life Tables for Males and Females, derived from the results of the Census of the Commonwealth of Australia, taken as at 30th June, 1961. The Tables contained in this Report are the eighth in the series of Life Tables for Australia and are entitled Australian Life Tables, 1960-1962.

2. For Censuses up to and including the 1911 Census, the practice was to prepare Tables on the basis of two Censuses and the deaths in the intervening decennial period. In more recent times, with the growth in the population, it has been customary to seek a more up-to-date mortality experience by limiting the basis for the calculations to the population returned at a Census and the deaths in the three years surrounding the date upon which the Census was taken. Such a procedure has the further advantage, when population changes are significant, of facilitating a more accurate calculation of the numbers of persons exposed to the risk of death at successive ages.

I have, therefore, prepared the present Tables on the basis of the population as returned at the Census held on 30th June, 1961, together with the numbers of deaths which occurred in the years 1960, 1961 and 1962.

Statistics

3. The Commonwealth Statistician has supplied me with the following information—

- (a) The numbers of males and females living at each age last birthday, as shown by the 1961 Census;
- (b) the numbers of male and female deaths at each age last birthday, in the years 1960, 1961 and 1962;
- (c) the numbers of births during the years 1954 to 1962;
- (d) analyses of the numbers of deaths under six years of age during the years 1955 to 1962; and
- (e) analyses of the movement of males and females into and out of Australia during 1960 to 1962.

Information relating to the age distribution of the population at the Census and the deaths during 1960 to 1962 is set out in Appendix F.

4. The summary of the Australian population as shown by the last five Censuses is—

Population

Year	Males	Females	Total
1921	2,762,870	2,672,864	5,435,734
1933	3,367,111	3,262,728	6,629,839
1947	3,797,370	3,781,988	7,579,358
1954	4,546,118	4,440,412	8,986,530
1961	5,312,252	5,195,934	10,508,186

It has been a feature of recent Censuses that only a relatively small number of males and females fail to state their ages. For this Census, the data supplied by the Commonwealth Statistician already included a distribution of such persons to individual ages.

5. The deaths which occurred during the three years 1960 to 1962 were as follows—

Deaths

Year	Males	Females	Total
1960	49,629	38,835	88,464
1961	50,248	38,713	88,961
1962	52,378	40,785	93,163
Total	152,255	118,333	270,588

During the three years under consideration, there were 62 male deaths and 17 female deaths for which ages were not stated. These few deaths were allocated to individual ages by a proportionate method.

Movement of the Population

6. In the course of the preparation of the last two Australian Life Tables special consideration has been given to the effect which the movement of persons into and out of Australia during the period under review has had upon the numbers of each sex, determined as exposed to the risk of death at different ages, in order that correct rates of mortality may be derived from the data.

The net movement into Australia during the years 1960 to 1962 has been—

Net Movement—(All Ages)

Period	Males	Females
1960—First 6 months	24,826	16,904
Second 6 months	27,896	20,509
1961—First 6 months	20,603	16,182
Second 6 months	8,452	16,286
1962—First 6 months	10,221	13,451
Second 6 months	18,399	20,451
Total	110,397	103,783

The numbers shown in the above Table are not evenly distributed age by age and include temporary movements, as well as permanent arrivals to and departures from, Australia. At some ages, a net outgo has occurred. As explained in my Report on the Australian Life Tables, 1953-55, adjustments are required in relation to the period during which such persons are considered for the purposes of the Life Tables, to allow for the actual period during which these persons were at risk of death, i.e.—

- (a) departures from Australia during 1960 to 1962 were subject to the risk of death from the beginning of 1960 to the date of their departure and should be included in the experience for this period; and
- (b) arrivals in Australia were subject to the risk of death from the date of their arrival to the end of 1962 and the experience should be adjusted accordingly.

7. An investigation was made into the methods which might be adopted to make allowance for this movement, bearing in mind that it cannot be assumed that the effect upon the numbers exposed to risk at one age will be similar to the effect at another age. After consideration of the results of this investigation, I have decided that the method previously used, when applied to successive ages, provides a satisfactory means of allowing for migratory movements in the population at other than very young ages, viz.,

For Net Movement into Australia during—	Deduct	Add
1960—First 6 months	$\frac{1}{4}$ of net movement ..	..
Second 6 months	$\frac{2}{3}$ of net movement ..	..
1961—First 6 months	$1\frac{1}{4}$ of net movement ..	..
Second 6 months .. .. .	..	$1\frac{1}{2}$ of net movement
1962—First 6 months .. .. .	..	$\frac{2}{3}$ of net movement
Second 6 months .. .. .	..	$\frac{2}{3}$ of net movement

Calculation of Mortality Rates

8. *Ages 0-4.* The formulae adopted for the calculation of the mortality rates for these ages are contained in Appendix G. These formulae do not allow for the effect of migration and, before the final mortality rates were obtained, the exposed to risk at each age was adjusted for this feature.

9. *Ages 5-30.* The examination of the unadjusted mortality rates (m_x , representing the rate of mortality amongst persons aged x to $x + 1$) derived from the data showed that a pronounced peak occurred in male mortality rates about age 21 and that there was evidence of a similar, but much smaller, peak in female mortality rates about the same age. An examination of the results obtained from the application of a number of graduation formulae to the unadjusted mortality rates at these ages showed that, unless great care was exercised, these peaks which are a definite feature of the experience could be varied or even eliminated. Such a result could not be supported.

The unadjusted mortality rates at these ages are very small and in the main show a regular progression from age to age. The rates adopted for these ages were, therefore, obtained from an examination of all of the data without recourse to a graduation formula.

10. *Ages 31 to End of Table.* It was considered that it would not be advisable to accept, as calculated from the data, the unadjusted mortality rates for high ages, as doubts existed as to the accuracy at these ages of the method of determining the exposed to risk, in view of possible age mis-statements and the small numbers of surviving population. Some doubts were also held as to the accuracy of the reported ages at death. The unadjusted mortality rates for males from age 90 onwards and for females from age 89 onwards were, therefore, replaced by a series of values derived from mathematical formulae which were calculated to provide a satisfactory representation of the rates of mortality at ages from 80 years onwards, having regard to the total deaths over age 80 and their general trend from one age to the next. The formulae used were—

$$\begin{aligned} \text{Males: } m_x &= .013220 (1.04111)^x - .21234 \\ \text{Females: } m_x &= .009515 (1.04345)^x - .20063 \end{aligned}$$

The resulting series of mortality rates were then graduated in order to produce a series of mortality rates which would properly represent the experience of the population during the period under review. For the graduation of mortality rates from age 31 onwards, I have used the same summation graduation method as was used for the purposes of the Australian Life Tables, 1953-55. This method involves a formula developed by the late John Spencer, F.I.A., and is as follows—

$$u_x^1 = \frac{[5]^2 [7]}{350} \{ [1] + [3] + [5] - [7] \} u_x,$$

where u_x^1 = the graduated value of m_x ,
 u_x = the ungraduated value of m_x , and
 $[5] u_x = (u_{x-2} + u_{x-1} + u_x + u_{x+1} + u_{x+2})$, etc.

Examination of Graduation

11. The graduated mortality rates have been examined for reliability and adherence to the original experience. The data under examination is substantial and the unadjusted mortality rates do not show fluctuations of a size which would suggest that a satisfactory graduation is unlikely to be achieved.

I have considered whether the criteria for acceptance of the graduation should be the application of standard statistical tests customarily used in the determination of the reliability of results obtained from other types of statistical data. In my view, it is not possible to accept conclusions drawn from such statistical tests as being of prime importance in determining the suitability of a graduation of population mortality data because of the possibility of age errors affecting the distribution of the data. In addition, the purpose of such a graduation is to produce a series of mortality rates which satisfactorily represent the disclosed experience of the period being examined. Practical problems arise in the fulfillment of this task, the solutions to which are frequently bound to impair the validity of applying many standard statistical tests.

12. The numbers of deaths expected at each age according to the graduated mortality rates have been calculated and are compared in Appendix C, age by age, with the numbers of deaths which actually occurred. It will be seen that the deviations between actual and expected deaths change sign frequently and tend to counter-balance over short ranges of age. I have concluded, therefore, that the graduated rates of mortality (q_x) shown in Appendices A and B satisfactorily represent the mortality experienced by the Australian population during the years 1960 to 1962.

The Life Tables

13. In Appendices A and B, I have tabulated the Life Tables for male and female lives, showing the following functions:—

- l_x = the number of persons surviving at exact age x ;
- d_x = the number of deaths in the year of age x to $x + 1$ among the l_x persons who enter on that year;
- p_x = the probability of a person aged x living a year;
- q_x = the probability of a person aged x dying within a year;
- μ_x = the nominal annual rate of mortality based on the assumption that the intensity of mortality during the moment following the attainment of age x continues throughout the year of age x to $x + 1$;
- \dot{e}_x = the complete expectation of life or the average number of years lived after age x by each of a group of persons aged exactly x .

The formulae adopted for the calculation of the various functions were as follows:—

$$q_x = \frac{m_x \left(1 - \frac{1}{12} \frac{q_{x-1}}{p_{x-1}}\right)}{1 + \frac{5}{12} m_x}$$

$$\mu_x = \frac{1}{12l_x} \left[7(d_{x-1} + d_x) - (d_{x-2} + d_{x+1}) \right],$$

$$\dot{e}_x = \frac{1}{l_x} \sum_{t=1}^{\omega} l_{x+t} + \frac{1}{2} - \frac{1}{12} \mu_x.$$

Main Features of the Mortality Rates

14. In the following Table, I compare the new mortality rates with the rates derived from earlier Australian experience.

Rates of Mortality at Representative Ages

Age	1960-62	1953-55	1946-48	1932-34	1901-10
MALES					
0 .. .. .	.02239	.02521	.03199	.04543	.09510
10 .. .. .	.00041	.00056	.00072	.00119	.00179
20 .. .. .	.00173	.00186	.00169	.00219	.00370
30 .. .. .	.00157	.00170	.00186	.00271	.00519
40 .. .. .	.00300	.00297	.00337	.00460	.00816
50 .. .. .	.00804	.00819	.00919	.00966	.01395
60 .. .. .	.02176	.02221	.02278	.02216	.02584
70 .. .. .	.05177	.05315	.05256	.05082	.06162
80 .. .. .	.11617	.11958	.12011	.12659	.13795
FEMALES					
0 .. .. .	.01757	.01989	.02519	.03642	.07953
10 .. .. .	.00028	.00035	.00050	.00087	.00159
20 .. .. .	.00060	.00064	.00091	.00183	.00329
30 .. .. .	.00082	.00096	.00165	.00279	.00519
40 .. .. .	.00187	.00217	.00284	.00402	.00718
50 .. .. .	.00464	.00530	.00641	.00744	.00956
60 .. .. .	.01074	.01203	.01360	.01466	.01920
70 .. .. .	.02933	.03250	.03607	.03802	.04777
80 .. .. .	.08507	.09314	.10027	.10106	.11333

15. The Table shows the continuation of the progress which has occurred over the past 60 years or more towards lower mortality rates for both males and females. With the exception of males of ages 40 to 47 and ages 62 to 66, lower mortality rates were experienced during 1960 to 1962, than for the period 1953 to 1955.

16. To enable further comparisons with earlier Australian mortality, I have had prepared the tabulations appearing in Appendix D, relating to successive Australian Life Tables. The tabulations are—

- (a) the ratio of the mortality rate for one period to the rate for the preceding period and to the rate for the years 1901-1910;
- (b) the number of survivors (l_x) at representative ages; and
- (c) the complete expectation of life (\dot{e}_x) at representative ages.

These analyses show clearly the reductions which have occurred in Australian mortality since the commencement of the century and which have become more evident in each successive Table. It is no surprise to find that 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 which attached to the child who was born 60 years ago. Even at advanced ages, the reductions which have occurred in mortality rates, as compared with 60 years ago, are very substantial.

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

An improvement has occurred in male mortality from accidents of all types as the following summary shows. There is some indication that, for females, the accident mortality rate has deteriorated slightly. The rates are, however, still substantially below the corresponding rates for males.

Mortality from Accidents of All Types

Age Group	Males		Females	
	1960-62	1953-55	1960-62	1953-55
15-19 .. ..	.00084	.00099	.00020	.00015
20-24 .. ..	.00100	.00115	.00013	.00013
25-29 .. ..	.00071	.00089	.00008	.00010
30-34 .. ..	.00062	.00071	.00009	.00008
35-39 .. ..	.00066	.00064	.00012	.00011
40-44 .. ..	.00059	.00068	.00014	.00012

17. Appendix E contains the results of an investigation into the changes which have occurred since the previous Census in the mortality attributable to various causes of death, for the first four years of life by single ages and thereafter in decennial age-groups.

The comparisons contained in Appendix E show that the reductions in mortality rates which has occurred since 1953 to 1955 are due to a lower mortality for most causes of death, rather than to an outstanding reduction in relation to one or two causes. The exception is Deaths due to Infective and Parasitic Diseases (Class I.). The reduction for both sexes for all age-groups under this heading is relatively substantial and shows a consistency which is not evident in other causes of death.

S. W. CAFFIN,
Commonwealth Actuary.

7th May, 1965.

APPENDIX A

AUSTRALIAN LIFE TABLE, 1960-1962

Males

A^{M61}A^{M61}

Age _x	<i>l_x</i>	<i>d_x</i>	<i>p_x</i>	<i>q_x</i>	<i>μ_x</i>	<i>e_x</i>	Age _x	<i>l_x</i>	<i>d_x</i>	<i>p_x</i>	<i>q_x</i>	<i>μ_x</i>	<i>e_x</i>
0	100,000	2,239	.97761	.02239	..	67.92	55	84,142	1,127	.98661	.01339	.01283	19.18
1	97,761	177	.99819	.00181	..	68.46	56	83,015	1,225	.98524	.01476	.01415	18.43
2	97,584	117	.99880	.00120	..	67.59	57	81,790	1,331	.98373	.01627	.01561	17.70
3	97,467	88	.99910	.00090	.00102	66.67	58	80,459	1,442	.98208	.01792	.01722	16.99
4	97,379	64	.99934	.00066	.00076	65.73	59	79,017	1,561	.98025	.01975	.01898	16.29
5	97,315	56	.99942	.00058	.00060	64.77	60	77,456	1,685	.97824	.02176	.02094	15.60
6	97,259	53	.99945	.00055	.00056	63.81	61	75,771	1,817	.97602	.02398	.02310	14.94
7	97,206	52	.99947	.00053	.00054	62.84	62	73,954	1,952	.97360	.02640	.02548	14.29
8	97,154	49	.99950	.00050	.00052	61.87	63	72,002	2,087	.97101	.02899	.02806	13.67
9	97,105	43	.99956	.00044	.00047	60.91	64	69,915	2,216	.96830	.03170	.03079	13.06
10	97,062	40	.99959	.00041	.00042	59.93	65	67,699	2,338	.96546	.03454	.03366	12.47
11	97,022	41	.99958	.00042	.00041	58.96	66	65,361	2,451	.96250	.03750	.03666	11.90
12	96,981	45	.99954	.00046	.00044	57.98	67	62,910	2,557	.95936	.04064	.03982	11.34
13	96,936	51	.99947	.00053	.00049	57.01	68	60,353	2,657	.95598	.04402	.04320	10.80
14	96,885	60	.99938	.00062	.00057	56.04	69	57,696	2,752	.95230	.04770	.04688	10.28
15	96,825	73	.99925	.00075	.00068	55.07	70	54,944	2,844	.94823	.05177	.05094	9.77
16	96,752	92	.99905	.00095	.00084	54.11	71	52,100	2,932	.94372	.05628	.05546	9.27
17	96,660	119	.99877	.00123	.00107	53.16	72	49,168	3,008	.93882	.06118	.06046	8.80
18	96,541	157	.99837	.00163	.00144	52.23	73	46,160	3,068	.93354	.06646	.06588	8.34
19	96,384	169	.99825	.00175	.00173	51.31	74	43,092	3,108	.92788	.07212	.07174	7.90
20	96,215	166	.99827	.00173	.00175	50.40	75	39,984	3,124	.92186	.07814	.07804	7.47
21	96,049	163	.99830	.00170	.00172	49.49	76	36,860	3,115	.91549	.08451	.08474	7.06
22	95,886	158	.99835	.00165	.00168	48.57	77	33,745	3,084	.90860	.09140	.09196	6.67
23	95,728	151	.99842	.00158	.00162	47.65	78	30,661	3,032	.90112	.09888	.09985	6.29
24	95,577	145	.99848	.00152	.00155	46.73	79	27,629	2,960	.89287	.10713	.10856	5.92
25	95,432	140	.99853	.00147	.00149	45.80	80	24,669	2,866	.88383	.11617	.11823	5.57
26	95,292	138	.99855	.00145	.00146	44.86	81	21,803	2,749	.87393	.12607	.12894	5.24
27	95,154	140	.99853	.00147	.00146	43.93	82	19,054	2,606	.86321	.13679	.14074	4.92
28	95,014	143	.99850	.00150	.00149	42.99	83	16,448	2,440	.85164	.14836	.15366	4.63
29	94,871	145	.99847	.00153	.00152	42.06	84	14,008	2,250	.83938	.16062	.16766	4.35
30	94,726	149	.99843	.00157	.00155	41.12	85	11,758	2,042	.82637	.17363	.18272	4.08
31	94,577	152	.99839	.00161	.00159	40.18	86	9,716	1,819	.81274	.18726	.19886	3.84
32	94,425	158	.99833	.00167	.00164	39.25	87	7,897	1,591	.79849	.20151	.21602	3.61
33	94,267	164	.99826	.00174	.00170	38.31	88	6,306	1,363	.78380	.21620	.23417	3.40
34	94,103	172	.99817	.00183	.00178	37.38	89	4,943	1,143	.76867	.23133	.25321	3.20
35	93,931	182	.99806	.00194	.00188	36.45	90	3,800	938	.75325	.24675	.27312	3.02
36	93,749	195	.99792	.00208	.00201	35.51	91	2,862	751	.73759	.26241	.29377	2.85
37	93,554	211	.99774	.00226	.00217	34.59	92	2,111	587	.72179	.27821	.31512	2.70
38	93,343	231	.99753	.00247	.00236	33.67	93	1,524	448	.70585	.29415	.33711	2.55
39	93,112	253	.99728	.00272	.00259	32.75	94	1,076	334	.68977	.31023	.35979	2.42
40	92,859	279	.99700	.00300	.00286	31.84	95	742	242	.67351	.32649	.38322	2.29
41	92,580	306	.99670	.00330	.00315	30.93	96	500	171	.65706	.34294	.40748	2.17
42	92,274	336	.99636	.00364	.00347	30.03	97	329	118	.64037	.35963	.43267	2.06
43	91,938	369	.99599	.00401	.00383	29.14	98	211	79	.62346	.37654	.45887	1.96
44	91,569	404	.99559	.00441	.00421	28.25	99	132	52	.60636	.39364	.48610	1.86
45	91,165	442	.99515	.00485	.00463	27.38	100	80	33	.58913	.41087	..	..
46	90,723	485	.99465	.00535	.00510	26.51	101	47	20	.57178	.42822	..	..
47	90,238	533	.99409	.00591	.00564	25.65	102	27	12	.55435	.44565	..	..
48	89,705	587	.99346	.00654	.00623	24.80	103	15	7	.53690	.46310	..	..
49	89,118	645	.99276	.00724	.00690	23.96	104	8	4	.51943	.48057	..	..
50	88,473	711	.99196	.00804	.00765	23.13	105	4	2	.50201	.49799	..	..
51	87,762	783	.99108	.00892	.00850	22.31	106	2	1	.48467	.51533	..	..
52	86,979	860	.99011	.00989	.00943	21.51	107	1	1	.46747	.53253	..	..
53	86,119	944	.98904	.01096	.01046	20.72	108	..	..	.45047	.54953	..	..
54	85,175	1,033	.98787	.01213	.01160	19.94	109	..	..	.43370	.56630	..	..

APPENDIX B

AUSTRALIAN LIFE TABLES, 1960-1962

A^{F61}A^{F61}

Females

Age _x	l_x	d_x	p_x	q_x	μ_x	\dot{e}_x	Age _x	l_x	d_x	p_x	q_x	μ_x	\dot{e}_x
0 ..	100,000	1,757	.98243	.01757	..	74.18	55 ..	90,191	625	.99307	.00693	.00669	23.63
1 ..	98,243	169	.99828	.00172	..	74.49	56 ..	89,566	671	.99251	.00749	.00723	22.79
2 ..	98,074	100	.99898	.00102	..	73.62	57 ..	88,895	724	.99186	.00814	.00783	21.96
3 ..	97,974	63	.99936	.00064	.00078	72.70	58 ..	88,171	783	.99112	.00888	.00853	21.13
4 ..	97,911	57	.99942	.00058	.00059	71.74	59 ..	87,388	851	.99026	.00974	.00933	20.32
5 ..	97,854	49	.99950	.00050	.00054	70.78	60 ..	86,537	929	.98926	.01074	.01027	19.51
6 ..	97,805	43	.99956	.00044	.00047	69.82	61 ..	85,608	1,017	.98812	.01188	.01135	18.72
7 ..	97,762	37	.99962	.00038	.00041	68.85	62 ..	84,591	1,112	.98686	.01314	.01257	17.94
8 ..	97,725	32	.99967	.00033	.00035	67.88	63 ..	83,479	1,214	.98546	.01454	.01391	17.17
9 ..	97,693	29	.99970	.00030	.00031	66.90	64 ..	82,265	1,321	.98394	.01606	.01540	16.42
10 ..	97,664	27	.99972	.00028	.00029	65.92	65 ..	80,944	1,432	.98231	.01769	.01699	15.68
11 ..	97,637	26	.99973	.00027	.00027	64.94	66 ..	79,512	1,550	.98050	.01950	.01874	14.95
12 ..	97,611	27	.99972	.00028	.00027	63.95	67 ..	77,962	1,677	.97849	.02151	.02068	14.24
13 ..	97,584	28	.99971	.00029	.00028	62.97	68 ..	76,285	1,815	.97621	.02379	.02286	13.54
14 ..	97,556	31	.99968	.00032	.00030	61.99	69 ..	74,470	1,965	.97362	.02638	.02535	12.86
15 ..	97,525	37	.99962	.00038	.00035	61.01	70 ..	72,505	2,127	.97067	.02933	.02819	12.19
16 ..	97,488	45	.99954	.00046	.00042	60.03	71 ..	70,378	2,299	.96734	.03266	.03142	11.54
17 ..	97,443	52	.99947	.00053	.00050	59.06	72 ..	68,079	2,479	.96359	.03641	.03507	10.92
18 ..	97,391	56	.99943	.00057	.00055	58.09	73 ..	65,600	2,661	.95943	.04057	.03918	10.31
19 ..	97,335	57	.99941	.00059	.00058	57.12	74 ..	62,939	2,843	.95483	.04517	.04374	9.72
20 ..	97,278	58	.99940	.00060	.00060	56.16	75 ..	60,096	3,019	.94976	.05024	.04879	9.16
21 ..	97,220	59	.99939	.00061	.00061	55.19	76 ..	57,077	3,189	.94413	.05587	.05441	8.62
22 ..	97,161	60	.99938	.00062	.00062	54.22	77 ..	53,888	3,345	.93793	.06207	.06067	8.10
23 ..	97,101	59	.99939	.00061	.00062	53.26	78 ..	50,543	3,485	.93105	.06895	.06762	7.60
24 ..	97,042	58	.99940	.00060	.00060	52.29	79 ..	47,058	3,605	.92340	.07660	.07541	7.13
25 ..	96,984	60	.99938	.00062	.00061	51.32	80 ..	43,453	3,697	.91493	.08507	.08414	6.68
26 ..	96,924	63	.99935	.00065	.00063	50.35	81 ..	39,756	3,750	.90568	.09432	.09382	6.25
27 ..	96,861	67	.99931	.00069	.00067	49.38	82 ..	36,006	3,759	.89560	.10440	.10449	5.85
28 ..	96,794	71	.99927	.00073	.00071	48.42	83 ..	32,247	3,717	.88474	.11526	.11619	5.47
29 ..	96,723	74	.99923	.00077	.00075	47.45	84 ..	28,530	3,621	.87308	.12692	.12892	5.12
30 ..	96,649	79	.99918	.00082	.00079	46.49	85 ..	24,909	3,469	.86073	.13927	.14268	4.79
31 ..	96,570	85	.99912	.00088	.00085	45.53	86 ..	21,440	3,266	.84769	.15231	.15743	4.49
32 ..	96,485	93	.99904	.00096	.00092	44.57	87 ..	18,174	3,016	.83403	.16597	.17320	4.20
33 ..	96,392	100	.99896	.00104	.00100	43.61	88 ..	15,158	2,731	.81980	.18020	.18993	3.94
34 ..	96,292	109	.99887	.00113	.00108	42.65	89 ..	12,427	2,422	.80514	.19486	.20758	3.70
35 ..	96,183	118	.99877	.00123	.00118	41.70	90 ..	10,005	2,100	.79010	.20990	.22604	3.48
36 ..	96,065	129	.99866	.00134	.00128	40.75	91 ..	7,905	1,780	.77479	.22521	.24527	3.27
37 ..	95,936	139	.99855	.00145	.00139	39.81	92 ..	6,125	1,475	.75921	.24079	.26521	3.08
38 ..	95,797	151	.99842	.00158	.00151	38.86	93 ..	4,650	1,193	.74344	.25656	.28588	2.91
39 ..	95,646	165	.99828	.00172	.00165	37.92	94 ..	3,457	942	.72745	.27255	.30724	2.74
40 ..	95,481	179	.99813	.00187	.00179	36.99	95 ..	2,515	726	.71125	.28875	.32937	2.59
41 ..	95,302	195	.99795	.00205	.00196	36.06	96 ..	1,789	546	.69477	.30523	.35233	2.45
42 ..	95,107	214	.99775	.00225	.00215	35.13	97 ..	1,243	400	.67803	.32197	.37624	2.32
43 ..	94,893	235	.99752	.00248	.00236	34.21	98 ..	843	286	.66101	.33899	.40113	2.19
44 ..	94,658	258	.99727	.00273	.00261	33.29	99 ..	557	198	.64374	.35626	.42705	2.08
45 ..	94,400	283	.99700	.00300	.00287	32.38	100 ..	359	134	.62620	.37380	..	..
46 ..	94,117	308	.99673	.00327	.00314	31.48	101 ..	225	88	.60848	.39152	..	..
47 ..	93,809	335	.99643	.00357	.00342	30.58	102 ..	137	56	.59058	.40942	..	..
48 ..	93,474	365	.99610	.00390	.00374	29.69	103 ..	81	35	.57256	.42744	..	..
49 ..	93,109	396	.99575	.00425	.00408	28.80	104 ..	46	20	.55443	.44557	..	..
50 ..	92,713	430	.99536	.00464	.00445	27.92	105 ..	26	12	.53626	.46374	..	..
51 ..	92,283	466	.99495	.00505	.00485	27.05	106 ..	14	7	.51805	.48195	..	..
52 ..	91,817	503	.99452	.00548	.00528	26.18	107 ..	7	4	.49990	.50010	..	..
53 ..	91,314	541	.99407	.00593	.00572	25.32	108 ..	3	2	.48184	.51816	..	..
54 ..	90,773	582	.99359	.00641	.00618	24.47	109 ..	1	1	.46392	.53608	..	..
							110 ..	..	..	.44621	.55379	..	..

APPENDIX C

Comparison of Actual and Expected Deaths in Three Years, 1960-1962—Australia

Age	Actual Deaths	Expected Deaths	Deviation		Accumulation	
			+	-	+	-
Males						
4	220	219	1	..	1	..
5	175	191	..	16	..	15
6	186	177	9	..	..	6
7	174	168	6	..	..	..
8	162	161	1	..	1	..
9	145	139	6	..	7	..
10	124	129	..	5	2	..
11	132	130	2	..	4	..
12	161	140	21	..	25	..
13	171	162	9	..	34	..
14	169	204	..	35	..	1
15	203	201	2	..	1	..
16	255	250	5	..	6	..
17	305	310	..	5	1	..
18	368	369	..	1	..	..
19	403	402	1	..	1	..
20	380	379	1	..	2	..
21	371	374	..	3	..	1
22	343	351	..	8	..	9
23	337	334	3	..	..	6
24	319	319	..	..	..	6
25	261	303	..	42	..	48
26	325	291	34	..	..	14
27	301	294	7	..	..	7
28	319	309	10	..	3	..
29	320	318	2	..	5	..
30	355	361	..	6	..	1
31	336	363	..	27	..	28
32	378	386	..	8	..	36
33	424	409	15	..	..	21
34	467	429	38	..	17	..
35	474	471	3	..	20	..
36	478	498	..	20	..	..
37	500	522	..	22	..	22
38	589	586	3	..	..	19
39	635	636	..	1	..	20
40	690	718	..	28	..	48
41	667	691	..	24	..	72
42	803	717	86	..	14	..
43	795	781	14	..	28	..
44	837	852	..	15	13	..
45	977	985	..	8	5	..
46	1,064	1,100	..	36	..	31
47	1,222	1,216	6	..	..	25
48	1,325	1,329	..	4	..	29
49	1,414	1,398	16	..	..	13
50	1,584	1,585	..	1	..	14
51	1,624	1,583	41	..	27	..
52	1,734	1,737	..	3	24	..
53	1,773	1,864	..	91	..	67
54	2,061	1,983	78	..	11	..
55	2,046	2,075	..	29	..	18
56	2,256	2,260	..	4	..	22
57	2,370	2,318	52	..	30	..
58	2,489	2,481	8	..	38	..
59	2,665	2,603	62	..	100	..
60	2,895	2,977	..	82	18	..
61	2,860	3,095	..	235	..	217
62	3,051	2,884	167	..	..	50
63	3,002	3,022	..	20	..	70
64	3,269	3,216	53	..	..	17
65	3,474	3,447	27	..	10	..
66	3,383	3,413	..	30	..	20
67	3,792	3,704	88	..	68	..
68	3,919	3,942	..	23	45	..
69	4,109	4,095	14	..	59	..
70	4,317	4,317	..	..	59	..

Comparison of Actual and Expected Deaths in Three Years, 1960-1962—Australia—continued

Age	Actual Deaths	Expected Deaths	Deviation		Accumulation	
			+	-	+	-
<i>Males—continued</i>						
71	4,067	4,228	..	161	..	102
72	4,517	4,572	..	55	..	157
73	4,610	4,519	91	..	..	66
74	4,627	4,412	215	..	149	..
75	4,201	4,326	..	125	24	..
76	4,249	4,233	16	..	40	..
77	3,836	3,856	..	20	20	..
78	3,784	3,728	56	..	76	..
79	3,487	3,459	28	..	104	..
80	3,341	3,431	..	90	14	..
81	2,890	2,971	..	81	..	67
82	2,929	2,797	132	..	65	..
83	2,521	2,655	..	134	..	69
84	2,494	2,399	95	..	26	..
85	2,067	2,067	..	..	26	..
86	1,895	1,886	9	..	35	..
87	1,542	1,549	..	52	..	17
88	1,341	1,334	7	..	..	10
89	1,090	1,080	10	..	..	..
90	913	934	..	21	..	21
91	693	720	..	27	..	48
92	573	494	79	..	31	..
93	436	419	17	..	48	..
94	310	321	..	11	37	..
95	202	237	..	35	2	..
96	175	136	39	..	41	..
97	89	79	10	..	51	..
98	69	67	2	..	53	..
99	43	49	..	6	47	..
100 plus ..	56	69	..	13	34	..
Totals	142,779	142,745	1,697	1,663	34	..

<i>Females</i>						
4	191	183	8	..	8	..
5	143	155	..	12	..	4
6	143	136	7	..	3	..
7	116	115	1	..	4	..
8	93	102	..	9	..	5
9	89	90	..	1	..	6
10	75	84	..	9	..	15
11	93	80	13	..	..	2
12	82	81	1	..	..	1
13	96	84	12	..	11	..
14	88	100	..	12	..	1
15	100	96	4	..	3	..
16	116	116	..	..	3	..
17	130	128	2	..	5	..
18	119	123	..	4	1	..
19	127	129	..	2	..	1
20	113	124	..	11	..	12
21	128	124	4	..	..	8
22	126	125	1	..	..	7
23	124	121	3	..	..	4
24	111	118	..	7	..	11
25	118	120	..	2	..	13
26	107	122	..	15	..	28
27	142	126	16	..	..	12
28	149	137	12	..	..	..
29	148	145	3	..	3	..
30	166	174	..	8	..	5
31	171	180	..	9	..	14
32	176	201	..	25	..	39
33	237	222	15	..	..	24
34	253	242	11	..	..	13
35	282	277	5	..	..	8
36	312	303	9	..	1	..
37	337	315	22	..	23	..
38	341	360	..	19	4	..
39	366	381	..	15	..	11
40	411	438	..	27	..	38

Comparison of Actual and Expected Deaths in Three Years, 1960-1962—Australia—continued

Age	Actual Deaths	Expected Deaths	Deviation		Accumulation	
			+	-	+	-
<i>Females—continued</i>						
41	415	401	14	..	..	24
42	466	438	28	..	4	..
43	459	472	..	13	..	9
44	514	516	..	2	..	11
45	573	589	..	16	..	27
46	664	658	6	..	..	21
47	694	703	..	9	..	30
48	798	752	46	..	16	..
49	810	769	41	..	57	..
50	794	888	..	94	..	37
51	792	810	..	18	..	55
52	916	898	18	..	..	37
53	956	940	16	..	..	21
54	1,071	985	86	..	65	..
55	939	995	..	56	9	..
56	1,106	1,068	38	..	47	..
57	1,048	1,079	..	31	16	..
58	1,179	1,185	..	6	10	..
59	1,269	1,244	25	..	35	..
60	1,511	1,577	..	66	..	31
61	1,476	1,574	..	98	..	129
62	1,743	1,564	179	..	50	..
63	1,716	1,748	..	32	18	..
64	1,881	1,878	3	..	21	..
65	2,145	2,178	..	33	..	12
66	2,189	2,181	8	..	..	4
67	2,457	2,386	71	..	67	..
68	2,663	2,653	10	..	77	..
69	2,790	2,721	69	..	146	..
70	2,938	3,153	..	215	..	69
71	2,864	2,876	..	12	..	81
72	3,382	3,332	50	..	..	31
73	3,548	3,531	17	..	..	14
74	3,704	3,547	157	..	143	..
75	3,597	3,645	..	48	95	..
76	3,707	3,781	..	74	21	..
77	3,490	3,520	..	30	..	9
78	3,722	3,704	18	..	9	..
79	3,627	3,489	138	..	147	..
80	3,736	3,865	..	129	18	..
81	3,307	3,414	..	107	..	89
82	3,386	3,347	39	..	..	50
83	3,278	3,168	110	..	60	..
84	3,164	3,203	..	39	21	..
85	2,817	2,881	..	64	..	43
86	2,615	2,636	..	21	..	64
87	2,292	2,184	108	..	44	..
88	1,880	1,972	..	92	..	48
89	1,639	1,737	..	98	..	146
90	1,503	1,464	39	..	..	107
91	1,180	1,197	..	17	..	124
92	975	872	103	..	..	21
93	753	727	26	..	5	..
94	564	567	..	3	2	..
95	437	410	27	..	29	..
96	313	324	..	11	18	..
97	244	235	9	..	27	..
98	160	163	..	3	24	..
99	84	89	..	5	19	..
100 plus	124	137	..	13	6	..
Totals	111,183	111,177	1,648	1,642	6	..

APPENDIX D

1. Rates of Mortality for One Period as a Proportion of the Rates for the Preceding Period

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

2. Rates of Mortality as a Proportion of the Rates for the Period 1901-10

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

3. Number of Survivors (l_x) at Selected Ages out of 100,000 Births

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

4. Complete Expectation of Life (e_x) at Selected Ages

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

APPENDIX E

Class Number	Cause of Death
I.	Infective and Parasitic Diseases
II.	Neoplasms
III.	Allergic, Endocrine System, Metabolic and Nutritional Diseases.
IV.	Diseases of the Blood and Blood-forming Organs.
V.	Mental, Psychoneurotic and Personality Disorders.
VI.	Diseases of the Nervous System and Sense Organs.
VII.	Diseases of the Circulatory System.
VIII.	Diseases of the Respiratory System.
IX.	Diseases of the Digestive System.
X.	Diseases of the Genito-Urinary System.
XI.	Deliveries and Complications of Pregnancy, Childbirth and the Puerperium.
XII.	Diseases of the Skin and Cellular Tissue.
XIII.	Diseases of the Bones and Organs of Movement.
XIV.	Congenital Malformations.
XV.	Certain Diseases of Early Infancy.
XVI.	Symptoms, Senility and Ill-defined Conditions.
XVII.	Accidents, Poisonings and Violence.

The following tables show for each age, or age-group, the numbers of deaths in the appropriate period and the resulting crude mortality rate.

Male Mortality Rates By Cause of Death

Class of Cause of Death	Age															
	0			1			2			3			4			
	1953-55	1960-62		1953-55	1960-62		1953-55	1960-62		1953-55	1960-62		1953-55	1960-62		
No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	
I.	187	59.7	125	34.4	91	30.3	56	16.1	31	9.1	48	16.7	11	3.3	7	2.1
II.	26	8.3	40	11.0	34	11.3	36	10.3	30	8.8	43	15.0	53	15.7	41	12.3
III.	48	15.3	21	5.8	11	3.7	12	3.4	5	1.5	7	2.4	2	.6	1	.3
IV.	20	6.4	17	4.7	8	2.7	4	1.1	2	.6	4	1.3	6	1.8	4	1.2
V.	48	15.3	27	7.5	19	6.3	5	1.4	8	2.3	5	1.7	4	1.2	2	.6
VI.	156	49.8	167	46.0	68	22.6	34	9.8	27	7.9	26	9.1	22	6.5	15	4.5
VII.	28	8.9	31	8.5	11	3.7	7	2.0	9	2.6	10	3.5	6	1.8	2	.6
VIII.	652	208.2	708	195.0	154	51.3	142	40.8	72	21.0	61	21.3	40	11.8	24	7.2
IX.	349	111.5	347	95.6	78	26.0	65	18.7	26	7.6	43	8.0	15	4.4	15	4.5
X.	26	8.3	27	7.5	9	3.0	2	.6	5	1.5	7	2.4	4	1.2	4	1.2
XI.	26	8.3	15	4.1	4	1.3	1	.3	1	.3	4	1.4	1	.3	1	.3
XII.	19	6.1	15	4.1	3	1.0	1	.3	2	.6	2	..	1	.3	4	1.2
XIII.	1,302	415.8	1,501	413.4	106	35.3	70	20.1	38	11.1	28	9.8	24	7.1	20	6.0
XIV.	4,763	1,521.2	4,817	1,326.7	3	1.0	1	.3	1	.3	1	..	..	..	..	..
XV.	38	12.1	24	6.6	7	2.3	6	1.7	3	..	2	..	1	..	1	..
XVI.	206	65.8	249	68.6	224	74.5	189	54.3	150	43.9	172	58.2	115	34.1	79	23.7
XVII.																
Total	7,894	2,521.0	8,131	2,239.5	830	276.3	631	181.2	409	119.6	529	179.3	305	90.4	220	66.0

Male Mortality Rates By Cause of Death

Class of Cause of Death	Age-Group														
	5-14			15-24			25-34			35-44					
	1953-55	1960-62		1953-55	1960-62		1953-55	1960-62		1953-55	1960-62				
No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000		
I.	167	6.8	61	1.9	92	5.0	1.7	161	7.3	67	3.1	264	13.5	124	5.6
II.	211	8.6	255	8.0	210	11.3	8.3	363	16.4	378	17.4	836	42.9	925	41.8
III.	22	.9	25	.8	27	1.5	1.9	63	2.8	51	2.4	101	5.2	123	5.6
IV.	10	.4	16	.5	17	.9	.6	3	.1	12	.6	10	.5	15	.7
V.	18	.7	17	.5	17	.9	.8	46	2.1	27	1.2	102	5.2	74	3.3
VI.	92	3.7	114	3.6	110	5.9	5.1	200	9.1	190	8.7	513	26.3	501	22.6
VII.	66	2.7	53	1.7	127	6.9	4.5	346	15.7	325	14.9	1,391	71.3	1,791	80.8
VIII.	117	4.8	86	2.7	74	4.0	2.7	105	4.8	90	4.1	230	11.8	223	10.1
IX.	70	2.9	46	1.4	64	3.5	2.1	122	5.5	94	4.3	336	17.2	293	13.2
X.	36	1.5	26	.8	80	4.3	2.8	173	7.8	94	4.3	272	13.9	205	9.2
XI.	2	.1	3	.1	2	.1	.1	6	.3	3	.1	7	.4	6	.3
XII.	13	.5	15	.5	11	.6	.6	6	.3	3	.1	12	.6	14	.6
XIII.	74	3.0	95	3.0	52	2.8	2.8	47	2.1	25	1.2	39	2.0	48	2.2
XIV.	6	.2	5	.2	15	.8	.6	15	.7	22	1.0	26	1.3	32	1.4
XV.	690	28.2	782	24.7	2,176	117.7	107.4	2,154	97.6	2,104	96.7	1,725	88.4	2,091	94.4
Total	1,594	65.0	1,599	50.4	3,074	166.2	142.0	3,810	172.6	3,485	160.1	5,864	300.5	6,465	291.8

Male Mortality Rates By Cause of Death

Class of Cause of Death	Age-Group															
	45-54				55-64				65-74				75-84			
	1953-55		1960-62		1953-55		1960-62		1953-55		1960-62		1953-55		1960-62	
	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000
I.	491	30.7	243	12.9	738	66.0	379	29.4	756	105.7	483	60.4	300	120.3	273	88.9
II.	2,080	129.9	2,618	138.7	4,251	380.1	5,201	403.7	5,872	820.7	7,140	892.9	3,823	1,533.2	4,520	1,472.2
III.	257	16.1	215	11.4	506	45.3	505	39.2	765	106.9	788	98.6	456	182.9	539	175.6
IV.	26	1.6	27	1.4	66	5.9	65	5.1	125	17.5	112	14.0	135	54.1	118	38.4
V.	157	9.8	126	6.7	171	15.3	151	11.7	116	16.2	98	12.3	63	25.3	58	18.9
VI.	1,324	82.7	1,219	64.6	2,905	259.8	2,747	213.2	4,939	690.3	5,308	663.8	4,151	1,664.7	5,183	1,688.2
VII.	4,868	304.1	6,503	344.5	10,978	981.7	12,863	998.5	17,180	2,401.3	19,927	2,492.1	13,701	5,494.7	16,556	5,392.5
VIII.	540	33.7	584	30.9	1,349	120.6	1,568	121.7	2,204	308.1	3,088	386.2	2,191	878.7	2,978	970.0
IX.	698	43.6	673	35.7	1,116	99.8	977	75.8	1,261	176.3	1,232	154.1	818	328.1	934	304.2
X.	454	28.4	335	17.8	694	62.1	619	48.1	1,341	187.4	1,034	129.3	1,350	541.4	1,196	389.6
XI.	13	.8	21	1.1	22	2.0	23	1.8	53	7.4	33	4.1	46	18.4	39	12.7
XII.	19	1.2	29	1.5	53	4.7	57	4.4	95	13.3	134	16.8	72	28.9	106	34.5
XIII.	49	3.1	51	2.7	31	2.8	45	3.5	21	2.9	23	2.9	4	1.6	7	2.3
XIV.	37	2.3	42	2.2	82	7.3	40	3.1	230	32.2	91	11.4	646	259.1	376	122.5
XV.	1,633	102.0	2,085	110.5	1,584	141.6	1,651	128.2	1,311	183.2	1,306	163.3	807	323.6	834	271.6
Total	12,646	790.0	14,771	782.6	24,546	2,195.0	26,891	2,087.4	36,269	5,069.4	40,797	5,102.2	28,563	11,455.0	33,717	10,982.1

Female Mortality Rates By Cause of Death

Class of Cause of Death	Age																	
	0			1			2			3			4					
	1953-55	1960-62		1953-55	1960-62		1953-55	1960-62		1953-55	1960-62		1953-55	1960-62				
I.	146	94	27.3	77	39	11.7	45	16.0	16	4.9	29	10.6	10	3.1	23	8.7	11	3.5
II.	28	20	5.8	39	32	9.6	29	10.3	35	10.7	54	19.7	29	9.0	40	15.1	43	13.6
III.	35	19	5.5	21	18	5.4	7	2.5	4	1.2	4	1.5	2	.6	7	2.6	2	.6
IV.	8	17	4.9	9	2	.6	3	1.1	5	1.5	..	..	2	.6	2	.8	2	.6
V.	36	26	7.6	8	6	1.8	7	2.5	1	.3	2	.7	4	1.2	..	..	..	..
VI.	114	114	33.2	48	31	9.3	28	9.9	32	9.8	15	5.5	7	2.2	21	7.9	10	3.1
VII.	15	24	7.0	13	9	2.7	7	2.5	2	.6	3	1.1	2	.6	9	3.4	3	1.0
VIII.	536	575	167.3	155	129	38.8	62	21.9	62	19.1	36	13.1	36	11.2	29	11.0	17	5.4
IX.	282	234	68.1	94	52	15.7	25	8.9	15	4.6	13	4.7	11	3.4	7	2.6	5	1.6
X.	15	7	2.0	8	4	1.2	9	3.2	5	1.5	6	2.2	4	1.2	6	2.3	3	1.0
XI.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XII.	10	14	4.1	2	1	.3	1	.4	..	..	..	..	..	..	..	..	..	..
XIII.	9	18	5.2	4	4	1.2	1	.4	..	..	..	..	1	.3	..	..	4	1.3
XIV.	1,051	1,203	350.0	76	83	25.0	41	14.6	34	10.4	27	9.9	19	5.9	16	6.0	15	4.8
XV.	3,477	3,468	1,008.9	..	1	.3	..	..	..	..	..	..	..	..	..	..	..	..
XVI.	26	23	6.7	4	8	2.4	3	1.1	4	1.2	2	.7	..	..	1	.4	1	.3
XVII.	149	185	53.8	150	152	45.8	100	35.3	118	36.3	58	21.2	78	24.4	61	23.1	75	23.7
Total	5,937	6,041	1,757.4	708	571	171.9	368	130.6	333	102.1	249	90.9	205	63.7	222	83.9	191	60.5

Female Mortality Rates By Cause of Death

Class of Cause of Death	Age-Group											
	5-14			15-24			25-34			35-44		
	1953-55	1960-62		1953-55	1960-62		1953-55	1960-62		1953-55	1960-62	
I.	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000
II.	118	5.0	51	4.7	39	1.8	158	7.7	50	2.5	89	4.2
III.	153	6.5	216	6.5	144	6.6	424	20.8	384	19.2	1,251	59.0
IV.	23	1.0	29	2.8	46	2.1	88	4.3	78	3.9	137	6.5
V.	14	.6	17	1.0	13	.6	18	.9	13	.7	21	1.0
VI.	9	.4	11	.8	8	.4	24	1.2	21	1.0	37	1.7
VII.	85	3.6	61	5.0	79	3.6	174	8.5	132	6.6	463	21.8
VIII.	69	2.9	36	5.6	101	4.6	199	9.7	180	9.0	613	28.9
IX.	94	4.0	82	4.6	47	2.1	86	4.2	70	3.5	124	5.8
X.	72	3.1	40	3.3	54	2.5	104	5.1	69	3.5	175	8.3
XI.	51	2.2	28	3.8	33	1.5	149	7.3	105	5.3	246	11.6
XII.	5	.2	6	4.9	79	3.6	174	8.5	125	6.3	105	5.0
XIII.	6	.3	9	.2	4	.2	7	.3	7	.4	11	.5
XIV.	57	2.4	85	2.2	41	1.9	22	1.1	31	1.6	30	1.4
XV.	4	.2	3	.4	4	.2	12	.6	13	.7	15	.7
XVI.	278	11.9	344	16.2	500	22.8	333	16.3	386	19.3	576	27.2
XVII.												
Total	1,038	44.3	1,018	62.3	1,194	54.6	1,975	96.7	1,667	83.6	3,977	212.7
											3,902	184.0

Female Mortality Rates By Cause of Death

Class of Cause of Death	Age-Group															
	45-54				55-64				65-74				75-84			
	1953-55		1960-62		1953-55		1960-62		1953-55		1960-62		1953-55		1960-62	
	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000
I.	170	11.5	110	6.2	180	14.9	109	8.3	182	22.0	148	14.8	135	39.7	123	27.6
II.	2,331	157.2	2,635	147.0	3,713	306.7	3,684	281.6	4,705	568.3	5,292	529.7	3,524	1,037.5	4,149	932.2
III.	216	14.6	221	12.3	595	49.1	467	35.7	1,120	135.3	1,086	108.7	784	230.8	922	207.1
IV.	33	2.2	36	2.0	95	7.8	55	4.2	164	19.8	135	13.5	229	67.4	202	45.4
V.	69	4.7	60	3.4	71	5.9	63	4.8	83	10.0	63	6.3	77	22.7	77	17.3
VI.	1,543	104.1	1,249	69.7	2,939	242.7	2,305	176.2	5,626	679.6	5,674	567.9	6,375	1,876.8	7,995	1,796.2
VII.	1,705	115.0	1,924	107.4	4,964	410.0	5,050	386.0	10,659	1,287.6	12,788	1,280.0	13,493	3,972.4	16,658	3,742.6
VIII.	205	13.8	222	12.4	409	33.8	401	30.7	879	106.2	920	92.1	1,627	479.0	1,669	375.0
IX.	369	24.9	359	20.0	621	51.3	485	37.1	783	94.6	827	82.8	705	207.6	926	208.0
X.	375	25.3	418	23.3	411	33.9	465	35.6	543	65.6	631	63.1	516	151.9	539	121.1
XI.	7	.5	5	.2	..	..	..	..	..	..	..	..	..	..	..	..
XII.	23	1.5	16	.9	29	2.4	29	2.2	33	4.0	45	4.5	43	12.7	44	9.9
XIII.	24	1.6	23	1.3	66	5.5	54	4.1	131	15.8	145	14.5	145	42.7	219	49.2
XIV.	35	2.4	65	3.6	23	1.9	25	1.9	15	1.8	27	2.7	9	2.7	15	3.4
XV.	26	1.7	20	1.1	32	2.6	18	1.4	168	20.3	82	8.2	797	234.6	470	105.6
XVII.	489	33.0	704	39.3	469	38.7	656	50.1	574	69.3	812	81.3	955	281.2	1,001	224.9
Total	7,620	514.0	8,067	450.1	14,617	1,207.2	13,866	1,059.9	25,665	3,100.2	28,675	2,870.1	29,414	8,659.7	35,009	7,865.5

APPENDIX F

1. POPULATION AT CENSUS, 30TH JUNE, 1961 AND DEATHS IN THREE YEARS, 1960-1962—AUSTRALIA

Males

Age Last Birthday.			Population	Deaths	Age Last Birthday			Population	Deaths
			(1)	(2)			(3)	(4)	
0	..	..	116,736	8,131	55	..	51,289	2,046
1	..	..	112,262	631	56	..	50,583	2,256
2	..	..	114,988	409	57	..	47,029	2,370
3	..	..	112,964	305	58	..	45,699	2,489
4	..	..	110,792	220	59	..	43,451	2,665
5	..	..	110,153	175	60	..	45,097	2,895
6	..	..	107,560	186	61	..	42,415	2,860
7	..	..	105,820	174	62	..	35,870	3,051
8	..	..	107,441	162	63	..	34,185	3,002
9	..	..	105,072	145	64	..	33,238	3,269
10	..	..	105,177	124	65	..	32,641	3,474
11	..	..	103,709	132	66	..	29,705	3,383
12	..	..	101,525	161	67	..	29,728	3,792
13	..	..	101,962	171	68	..	29,152	3,919
14	..	..	110,034	169	69	..	27,904	4,109
15	..	..	89,575	203	70	..	27,017	4,317
16	..	..	87,878	255	71	..	24,291	4,067
17	..	..	84,179	305	72	..	24,130	4,517
18	..	..	75,801	368	73	..	21,874	4,610
19	..	..	77,355	403	74	..	19,627	4,627
20	..	..	74,022	380	75	..	17,723	4,201
21	..	..	74,204	371	76	..	15,971	4,249
22	..	..	71,691	343	77	..	13,407	3,836
23	..	..	71,079	337	78	..	11,949	3,784
24	..	..	70,535	319	79	..	10,173	3,487
25	..	..	69,234	261	80	..	9,279	3,341
26	..	..	67,430	325	81	..	7,359	2,890
27	..	..	67,175	301	82	..	6,344	2,929
28	..	..	69,111	319	83	..	5,519	2,521
29	..	..	69,493	320	84	..	4,568	2,494
30	..	..	76,844	355	85	..	3,622	2,067
31	..	..	75,304	336	86	..	3,032	1,895
32	..	..	77,195	378	87	..	2,364	1,542
33	..	..	78,517	424	88	..	1,828	1,341
34	..	..	78,315	467	89	..	1,370	1,090
35	..	..	81,081	474	90	..	1,102	913
36	..	..	79,847	478	91	..	789	693
37	..	..	77,061	500	92	..	505	573
38	..	..	79,199	589	93	..	402	436
39	..	..	78,059	635	94	..	289	310
40	..	..	79,779	690	95	..	200	202
41	..	..	69,623	667	96	..	108	175
42	..	..	65,501	803	97	..	59	89
43	..	..	64,792	795	98	..	47	69
44	..	..	64,278	837	99	..	32	43
45	..	..	67,518	977	100 and over	..	40	56
46	..	..	68,428	1,064				
47	..	..	68,344	1,222				
48	..	..	67,536	1,325				
49	..	..	64,064	1,414	Total	..	5,312,252	152,255
50	..	..	65,434	1,584				
51	..	..	58,877	1,624				
52	..	..	58,223	1,734				
53	..	..	56,328	1,773				
54	..	..	54,142	2,061				

2. POPULATION AT CENSUS, 30TH JUNE, 1961 AND DEATHS IN THREE YEARS, 1960-62—AUSTRALIA

Females

Age Last Birthday			Population	Deaths	Age Last Birthday			Population	Deaths
			(1)	(2)			(3)	(4)	
0	..	..	111,755	6,041	55	..	47,669	939
1	..	..	106,214	571	56	..	47,261	1,106
2	..	..	110,424	333	57	..	43,900	1,048
3	..	..	108,076	205	58	..	44,196	1,179
4	..	..	105,282	191	59	..	42,304	1,269
5	..	..	103,763	143	60	..	48,610	1,511
6	..	..	103,457	143	61	..	43,845	1,476
7	..	..	101,152	116	62	..	39,342	1,743
8	..	..	103,284	93	63	..	39,661	1,716
9	..	..	99,819	89	64	..	38,590	1,881
10	..	..	100,466	75	65	..	40,603	2,145
11	..	..	98,818	93	66	..	36,866	2,189
12	..	..	97,003	82	67	..	36,576	2,457
13	..	..	97,018	96	68	..	36,718	2,663
14	..	..	104,272	88	69	..	33,891	2,790
15	..	..	84,616	100	70	..	35,283	2,938
16	..	..	84,211	116	71	..	28,833	2,864
17	..	..	80,284	130	72	..	29,931	3,382
18	..	..	72,174	119	73	..	28,429	3,548
19	..	..	72,860	127	74	..	25,572	3,704
20	..	..	69,135	113	75	..	23,580	3,597
21	..	..	67,872	128	76	..	21,929	3,707
22	..	..	67,139	126	77	..	18,302	3,490
23	..	..	65,993	124	78	..	17,305	3,722
24	..	..	65,768	111	79	..	14,608	3,627
25	..	..	64,333	118	80	..	14,490	3,736
26	..	..	62,694	107	81	..	11,501	3,307
27	..	..	61,094	142	82	..	10,127	3,386
28	..	..	62,787	149	83	..	8,631	3,278
29	..	..	62,720	148	84	..	7,878	3,164
30	..	..	70,790	166	85	..	6,409	2,817
31	..	..	68,362	171	86	..	5,327	2,615
32	..	..	70,031	176	87	..	4,017	2,292
33	..	..	71,301	237	88	..	3,312	1,880
34	..	..	71,309	253	89	..	2,671	1,639
35	..	..	75,046	282	90	..	2,074	1,503
36	..	..	75,407	312	91	..	1,566	1,180
37	..	..	72,465	337	92	..	1,058	975
38	..	..	75,906	341	93	..	820	753
39	..	..	73,845	366	94	..	596	564
40	..	..	77,950	411	95	..	402	437
41	..	..	65,142	415	96	..	296	313
42	..	..	64,918	466	97	..	201	244
43	..	..	63,457	459	98	..	132	160
44	..	..	63,087	514	99	..	68	84
45	..	..	65,396	573	100 and over	..	91	124
46	..	..	66,826	664				
47	..	..	65,470	694				
48	..	..	64,116	798				
49	..	..	60,133	810	Total	..	5,195,934	118,333
50	..	..	63,599	794				
51	..	..	53,324	792				
52	..	..	54,496	916				
53	..	..	52,595	956				
54	..	..	51,009	1,071				

APPENDIX G

FORMULAE USED FOR CALCULATION OF MORTALITY RATES AT AGES 0 TO 4

Age 0.—If the rate of mortality at age 0 is q_0 and the probability of dying in the first three months after birth is $q_0^{(0-3 \text{ months})}$, — $q_0 = q_0^{(0-3 \text{ months})} + q_0^{(3-6 \text{ months})} + q_0^{(6-9 \text{ months})} + q_0^{(9-12 \text{ months})}$

The formula used for $q_0^{(0-3 \text{ months})}$ is,—

$$q_0^{(0-3 \text{ months})} = \frac{\text{Deaths in 1960, 1961 and 1962 at age 0-3 months}}{\frac{1}{8} \beta^4_{1959} + \beta_{1960} + \beta_{1961} + \beta^1_{1962} + \beta^2_{1962} + \beta^3_{1962} + \frac{7}{8} \beta^4_{1962}}$$

$$q_0^{(3-6 \text{ months})} = \frac{\text{Deaths in 1960, 1961 and 1962 at age 3-6 months}}{\frac{1}{2} \beta^3_{1959} + \beta^4_{1959} + \beta_{1960} + \beta_{1961} + \beta^1_{1962} + \beta^2_{1962} + \frac{1}{2} \beta^3_{1962}}$$

In the above formula β_{1960} is the number of births in the year 1960, β^1_{1962} is the number of births in the first quarter of 1962, &c.,

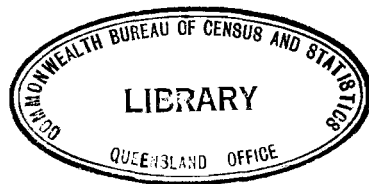
Ages 1-4.—

$$q_1 = \frac{\text{Deaths in 1960, 1961 and 1962 at age 1}}{\frac{1}{8} \beta^1_{1958} + \frac{3}{8} \beta^2_{1958} + \frac{5}{8} \beta^3_{1958} + \frac{7}{8} \beta^4_{1958} + \beta_{1959} + \beta_{1960} + \frac{1}{8} \beta^1_{1961} + \frac{3}{8} \beta^2_{1961} + \frac{5}{8} \beta^3_{1961} + \frac{7}{8} \beta^4_{1961}}$$

—(deaths at age 0-1 in 1959, 1960 and 1961).

For the formula for other ages *see* Report on English Life Table No. 10 Decennial Supplement of the Registrar-General (U.K.), 1931.

NOTE.—The above formulae do not include any adjustment for migration.



LIST OF 1961 CENSUS PUBLICATIONS

ISSUED BY THE

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS*

PUBLICATION	DATE OF ISSUE	PRICE		
		EXCLUDING POSTAGE	INCLUDING POSTAGE	
			AUSTRALIA	FOREIGN COUNTRIES
		\$	\$	\$
FIELD COUNT STATEMENTS††—				
Nos. 1-16. Population in Local Government Areas, etc., States and Territories	Sept., 1961 to Nov., 1961	..	..	..
CENSUS BULLETINS†—				
Nos. 1, 3-18, 20, 21, 24. Summary of Population and Dwellings, States and Territories	Jan., 1962 to Jan., 1963	..	..	..
No. 2. Population and Dwellings in Local Government Areas	Mar., 1962	..	..	..
No. 19. Occupied Dwellings according to Class in Local Government Areas and Non-municipal Towns	Sept., 1962	..	..	..
No. 22. Summary of Dwellings for Australia	Oct., 1962	..	..	..
No. 23. Summary of Population for Australia	Nov., 1962	..	..	..
No. 25. Ages of the Population	Apr., 1963	..	..	..
No. 26. Density of the Population and Occupied Dwellings	Apr., 1963	..	..	..
No. 27. Nationality (i.e., Allegiance) of the Population	June, 1963	..	..	..
No. 28. Birthplaces of the Population	July, 1963	..	..	..
No. 29. Industry of the Population	Aug., 1963	..	..	..
No. 30. Summary of Population and Dwellings for Tropical Australia	Sept., 1963	..	..	..
No. 31. Conjugal Condition of the Population in conjunction with Age	Oct., 1963	..	..	..
No. 32. Occupations of the Population	Dec., 1963	..	..	..
No. 33. Occupational Status of the Population in conjunction with Age and Conjugal Condition	Jan., 1964	..	..	..
No. 34. Males and Females in the Work Force classified according to Industry in conjunction with Occupational Status: Australia	Feb., 1964	..	..	..
Supplement Nos 1-8. States and Territories	Apr., 1964	..	..	..
No. 35. Occupied Private Dwellings according to Facilities: Local Government Areas and Non-municipal Towns	Sept., 1964	..	..	..
No. 36. Race of the Population	Sept., 1964	..	..	..
CENSUS VOLUMES§—				
I.—New South Wales:				
Part I.—Analysis of Population in Local Government Areas, etc.	Mar., 1964	0.50	0.67	0.75
Part II.—Cross-classification of the Characteristics of the Population	Dec., 1967	1.00	1.25, 1.25, 1.30, 1.40††	1.49
Part III.—Analysis of Dwellings in Local Government Areas, etc.	Dec., 1964	0.50	0.67	0.75
Part IV.—Cross-classifications of the Characteristics of Dwellings, etc.	Aug., 1965	0.40	0.53	0.57
Part V.—Population and Dwellings in Localities	Dec., 1963	0.25	0.38	0.42
Bound Volume (all parts)	1968	4.00	4.40, 4.50, 4.75, 5.00††	* *
II.—Victoria:				
Part I.—Analysis of Population in Local Government Areas, etc.	Feb., 1964	0.50	0.67	0.71
Part II.—Cross-classification of the Characteristics of the Population	June, 1967	1.00	1.25, 1.25, 1.30, 1.40††	1.49
Part III.—Analysis of Dwellings in Local Government Areas, etc.	Sept., 1963	0.50	0.67	0.71
Part IV.—Cross-classifications of the Characteristics of Dwellings, etc.	May, 1965	0.40	0.53	0.57
Part V.—Population and Dwellings in Localities	July, 1963	0.25	0.38	0.42
Bound Volume (all parts)	1968	4.00	4.40, 4.50, 4.75, 5.00††	* *
III.—Queensland:				
Part I.—Analysis of Population in Local Government Areas, etc.	Jan., 1964	0.50	0.67	0.71
Part II.—Cross-classification of the Characteristics of the Population	Mar., 1966	1.00	1.25, 1.25, 1.30, 1.40††	1.37
Part III.—Analysis of Dwellings in Local Government Areas, etc.	Apr., 1963	0.50	0.67	0.78
Part IV.—Cross-classifications of the Characteristics of Dwellings, etc.	May, 1965	0.40	0.53	0.57
Part V.—Population and Dwellings in Localities	Sept., 1963	0.25	0.38	0.42
Bound Volume (all parts)	1968	4.00	4.40, 4.50, 4.75, 5.00††	* *
IV.—South Australia:				
Part I.—Analysis of Population in Local Government Areas, etc.	Dec., 1963	0.50	0.63	0.67
Part II.—Cross-classification of the Characteristics of the Population	Mar., 1966	1.00	1.25, 1.25, 1.30, 1.40††	1.37
Part III.—Analysis of Dwellings in Local Government Areas, etc.	June, 1963	0.50	0.63	0.67
Part IV.—Cross-classifications of the Characteristics of Dwellings, etc.	Feb., 1965	0.40	0.53	0.57
Part V.—Population and Dwellings in Localities	Jan., 1963	0.25	0.34	0.34
Bound Volume (all parts)	1968	3.00	3.25, 3.30, 3.40, 3.60††	* *
V.—Western Australia:				
Part I.—Analysis of Population in Local Government Areas, etc.	May, 1963	0.50	0.63	0.67
Part II.—Cross-classification of the Characteristics of the Population	Mar., 1966	1.00	1.25, 1.25, 1.30, 1.40††	1.37
Part III.—Analysis of Dwellings in Local Government Areas, etc.	Jan., 1963	0.50	0.63	0.67
Part IV.—Cross-classifications of the Characteristics of Dwellings, etc.	May, 1965	0.40	0.53	0.57
Part V.—Population and Dwellings in Localities	Jan., 1963	0.25	0.34	0.34
Bound Volume (all parts)	1968	3.00	3.25, 3.30, 3.40, 3.60††	* *

PUBLICATION	DATE OF ISSUE	PRICE		
		EXCLUDING POSTAGE	INCLUDING POSTAGE	
			AUSTRALIA	FOREIGN COUNTRIES
		\$	\$	\$
VI.—Tasmania:				
Part I.—Analysis of Population in Local Government Areas, etc.	Apr., 1963	0.25	0.38	0.42
Part II.—Cross-classification of the Characteristics of the Population	Aug., 1965	1.00	1.21	1.33
Part III.—Analysis of Dwellings in Local Government Areas, etc.	Oct., 1962	0.25	0.38	0.42
Part IV.—Cross-classifications of the Characteristics of Dwellings, etc.	Sept., 1964	0.40	0.53	0.57
Part V.—Population and Dwellings in Localities	Oct., 1962	0.25	0.34	0.34
Bound Volume (all parts)	1968	3.00	3.25, 3.30, 3.40, 3.60††	* *
VII.—Territories:				
Part I.—N.T.: Population	Mar., 1965	0.50	0.71	0.83
Part II.—N.T.: Dwellings and Householders	Oct., 1964	0.25	0.38	0.42
Part III.—A.C.T.: Population	Mar., 1965	0.50	0.71	0.79
Part IV.—A.C.T.: Dwellings and Householders	Oct., 1964	0.25	0.38	0.42
Part V.—External Territories (Papua, New Guinea, Nauru, Norfolk Island, Christmas Island and Cocos (Keeling) Islands): Population and Dwellings	Mar., 1965	0.25	0.38	0.42
Bound Volume (all parts)	1968	3.00	3.40, 3.50, 3.75, 4.00††	* *
VIII.—Australia:				
Part I.—Cross-classifications of the Characteristics of the Population	Feb., 1968	1.00	1.25, 1.25, 1.30, 1.40††	1.45
Part II.—Cross-classifications of the Characteristics of Dwellings, etc.	Mar., 1966	0.50	0.63	0.67
Part III.—Population and Dwellings in Localities (with Geographical Co-ordinates)	Feb., 1965	1.00	1.21	1.33
Australian Life Tables, 1960-1962	Mar., 1966	0.25	0.34	0.34
Statistician's Report	Mar., 1968	4.00	4.40, 4.50, 4.75, 5.00††	5.17
Bound Volume (all parts, etc.)	1968	6.00	6.40, 6.50, 6.75, 7.00††	* *

* For complete list of printed publications issued by the Commonwealth Bureau of Census and Statistics, see inside back covers of other Bureau publications. Apply to Commonwealth Statistician, Canberra, for information on printed and mimeographed publications. † Mimeographed publications available only from Commonwealth Statistician. ‡ Superseded by Census Bulletin No. 2. § Obtainable by purchase from The Director of Publications, Commonwealth Government Printing Office, Canberra, A.C.T. 2600. They may also be purchased either from the Office of the Deputy Commonwealth Statistician or the Commonwealth Sub-Treasury in each State capital or through the New South Wales Government Information and Sales Centre, Sydney, or from booksellers. When ordering publications through the post, the price including postage should be forwarded. †† Rates respectively as follows: (i) within 30 miles, (ii) elsewhere within State, (iii) adjoining States, and (iv) elsewhere within Australia including Papua and New Guinea. ** Available on application