

A Social Health Atlas of Australia: Volume 3, Victoria

Errata 9 August 2000

Details of the following errors have been posted to the PHIDU web site, and the affected pages replaced in the PDF documents on the web site at <http://www.publichealth.gov.au>

Contents: Executive summary, page v-vi

Percentages incorrect for Early school leavers and Unskilled and semi-skilled workers.

Ch 3: Unemployed people, 1996

Users of the data on page 40 and (in particular) page 42 should be aware of the following additional information.

The 1996 Census unemployment figures are based on self-report information in the Census. As it is unclear how Indigenous people would record their involvement in CDEP schemes, it may be more appropriate to use the information provided for unemployment beneficiaries on pages 96 and 98.

Ch 4: Disability support pensioners, page 88-91

The data shown include details of the wife pension, thus inflating the proportions (although not the spatial patterns) shown in the tables and maps.

This data also affects:

Rates for females shown in Figure 4.2, page 82

Correlations, page 349 and 353

Table 9.1, page 377

Ch 8: Correlations, pages 349 and 353

Correlation matrices affected by Disability Support Pension data.

Ch 9: Summary, page 377

Table 9.1 and associated text for Early school leavers, Unskilled and semi-skilled workers and Disability Support Pensioners.

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Executive summary: Amended text/figures are highlighted

The information in this atlas adds to a convincing body of evidence built up over a number of years in Australia on the striking disparities in health that exist between groups in the population. People of low socioeconomic status (those who are relatively socially or economically deprived) experience worse health than those of higher socioeconomic status for almost every major cause of mortality and morbidity. The challenge for policy makers, health practitioners and governments is to find ways to address these health inequities.

The primary aims of the first edition of *A Social Health Atlas of Australia* were to illustrate the spatial distribution of the socioeconomically disadvantaged population, and to compare this with patterns of distribution of major causes of illness and death and use of health services. The maps and correlation analysis highlighted associations between social and economic factors in relation to health and illness.

A number of new variables have been included in this second edition, together with new data on many of the variables from the first edition. One of the additions is the presentation of data by the new Accessibility/Remoteness Index of Australia (ARIA). Also included is a cluster analysis, providing profiles at the Statistical Local Area (SLA) level of the socioeconomic status, health status and health service utilisation of the population.

The extent of change (between the editions) in the patterns of distribution in death rates by socioeconomic status is also highlighted.

There is clear evidence in the data of an association at the SLA level between high premature death rates (for both deaths from all causes and from most specific causes) and socioeconomic disadvantage, as measured by the IRSD. These associations are generally evident not only between the most advantaged (Quintile 1) and disadvantaged areas (Quintile 5), but also at each of the intervening levels of socioeconomic status (Quintiles 2 to 4) (**Figures 9.2 and 9.4**).

Similarly, there are associations between high rates of use of general medical practitioner (GP) services and socioeconomic disadvantage. At the SLA level in **Melbourne**, unlike the situation in other large cities (eg. **Sydney** and **Brisbane**), there were no consistent gradients between admission rates and socioeconomic disadvantage, as measured by the IRSD. There were, however, strong gradients evident with most of the variables for hospital admission by socioeconomic disadvantage of area in the non-metropolitan SLAs (**Figure 9.5**).

It is also clear that, despite the overall improvement in death rates from all causes and for a majority of the specific causes studied (**Table 9.2, Figure 9.6**), these improvements have not resulted in a reduction in the disparities in death rates evident between residents of the most well off areas and those in the poorest areas (**Figure 9.6**).

Correlation analysis

There were correlations of significance at the SLA level between the indicators of socioeconomic disadvantage drawn from the 1996 Population Census and a number of the health status variables. In **Melbourne**, the strongest of these were generally

with the variables for people reporting their health as fair or poor (as opposed to those reporting their health as being excellent, very good, or good); the Physical Component Summary (PCS, a measure of physical health); years of potential life lost; and premature death from, in particular, circulatory system diseases. (**Table 8.1**). Similarly, strong associations were also evident in the correlation analysis with the health service use variables of GP services to males and females; and of admissions for neurotic, personality and other mental disorders and ischaemic heart disease; and admissions to a public acute hospital.

There were fewer correlations of significance at the SLA level in the non-metropolitan areas of Victoria than was the case in **Melbourne**. This is, in part, a result of the number of areas with relatively small numbers of cases (population, deaths, hospital admissions, etc.) which reduces the strength of the analysis. However a number of variables are highly correlated with each other; these are the variables for low income families, unemployed people, single parent families, dwellings rented from the State housing authority and dwellings without a motor vehicle.

Various sub-sets of these are correlated with measures of health status and use of health services. The strongest correlations with the measures of socioeconomic disadvantage were with the variables for people reporting their health as fair or poor, and the PCS. There was a consistent, although weaker, pattern in the correlations between socioeconomic disadvantage and the variables for premature deaths of males and females, from respiratory and circulatory system diseases and years of potential life lost.

Changes over time in socioeconomic status

Marked variations were recorded between 1986 and 1996 for a majority of the socioeconomic status variables mapped for Victoria (**Table 9.1**). For **Melbourne**, the largest increases were for the population of Aboriginal and Torres Strait Islander people (an increase of 73.7 per cent over this ten year period); unemployed people (58.0 per cent); low income families (52.8 per cent); single parent families (44.2 per cent); the occupational grouping of managers and administrators, and professionals (33.1 per cent); people aged 65 years and over (25.6 per cent) and people born overseas in predominantly non-English speaking countries: an increase of 24.5 per cent for those resident for five years or more, and of 21.0 per cent for those resident for less than five years. **The largest decreases recorded over this ten year period were for the variables for unskilled and semi-skilled workers (down by 17.6 per cent) and early school leavers (down by 17.4 per cent).**

Variations of this order were also recorded in the non-metropolitan areas of Victoria. The major differences from the changes noted for **Melbourne** were the larger increases in the number of single parent families; smaller increases for the population of Indigenous people, unemployed people, low income families, the occupations of managers and administrators and professionals, and the population of people aged 65 years

and over; and decreases for the two variables for people born overseas in predominantly non-English speaking countries.

Changes over this period for **Geelong** were relatively consistent with those recorded for **Melbourne**, with the exception of the population aged from 0 to 4 years, female labour force participation, the Indigenous population, unemployment (all ages), people born overseas in predominantly non-English speaking countries resident in Australia for more than five years, people with poor proficiency in English and housing authority rented dwellings.

Substantial increases were recorded in income support payments to residents of **Melbourne** for all of the payment types analysed, other than the Age Pension, for which there was only a small increase (5.0 per cent). Of the other payment types, the number of unemployment beneficiaries more than doubled (an increase of 269.7 per cent), with a similar increase occurring for dependent children in families receiving an income support payment (104.2 per cent) (**Table 9.1**). Similar, although smaller, increases were recorded in the non-metropolitan areas of Victoria for all of these income support payments other than the Age Pension (showing little change, down by 0.4 per cent). The increases in **Geelong** fall between those recorded for the non-metropolitan areas of the State and **Melbourne**.

Changes over time in death rates

Death rates in Victoria have declined over the years 1985 to 1989 and 1992 to 1995 for the majority of causes studied.

In **Melbourne**, the largest decreases were recorded for the infant death rate (down by 36.6 per cent); and for deaths of people aged from 15 to 64 years from respiratory system diseases (down by 41.8 per cent), circulatory system diseases (down by 41.1 per cent), lung cancer (down by 26.5 per cent) and accidents, poisonings and violence (down by 28.1 per cent). All causes mortality was 25.8 per cent lower over this period, marginally more so for males than for females. There were reductions for every category in **Table 9.2** for **Geelong**.

There were also reductions in rates of premature death in the non-metropolitan areas of Victoria for all major causes of deaths. However the reductions were all lower than those recorded for **Melbourne**, with the exception of deaths from accidents, poisonings and violence (which recorded a slightly larger reduction). All cause mortality in non-metropolitan Victoria was just over three quarters (76.7 per cent) that in **Melbourne**.

Differences in health by socioeconomic status of area of residence

Comparisons are made of differences in the health status and health service use of the population by socioeconomic status. In the absence of any direct measure of socioeconomic status in the health status data, the socioeconomic status of the SLA of usual residence in the health status records is used. In this analysis socioeconomic status is measured by the Index of Relative Socio-Economic Disadvantage (IRSD, see page 19). The SLAs in the major urban centres of **Melbourne** and **Geelong** have been grouped into five groups (quintiles) based on the IRSD score, with Quintile 1 comprising the twenty per cent of SLAs with the highest IRSD scores, and Quintile 5 comprising the twenty per cent of SLAs with the lowest IRSD scores. This

exercise was repeated for SLAs in the non-metropolitan areas of Victoria.

Health status by socioeconomic status of area of residence

Although there is some variability across the quintiles, the pattern is generally for the highest socioeconomic status SLAs (those in Quintile 1) to have the most advantageous (ie. in the majority of cases the lowest) rates and, generally, for the most disadvantaged SLAs (those in Quintile 5) to have the highest rates. The major exception is the Physical Component Summary (PCS), for which low scores indicate poorer health (**Figure 9.4**). Despite the narrow range of these mean values, there is a clear gradient evident across the quintiles of socioeconomic disadvantage of area. The Total Fertility Rate is the same in both Quintiles 1 and 5, with higher rates in the intervening quintiles.

Years of potential life lost (YPLL) from deaths between the ages of 15 to 64 years varied from a standardised ratio (SR) in the most advantaged areas of 79 (21 per cent fewer YPLL than were expected from the Victorian State rates) to an SR of 123 in the most disadvantaged areas (indicating that there were 23 per cent more YPLL than were expected from the State rates). Large differentials were also evident for deaths of 15 to 64 year old males (from an SDR of 75 in Quintile 1 to 133 in Quintile 5) and deaths of 15 to 64 years olds from lung cancer (73 to 129), circulatory system diseases (69 to 127) and respiratory system diseases (61 to 133).

The most notable differences from the gradients evident for **Melbourne** and **Geelong** are higher overall SDRs for most variables and the higher overall Total Fertility Rates (**Figure 9.4**).

Health service utilisation by socioeconomic status of area of residence

Although there is some variability across the quintiles, the pattern evident for a number of variables is for the most advantaged SLAs (those in Quintile 1) to have the lowest rates of admission, and for the most disadvantaged SLAs (those in Quintile 5) to have the highest rates. The exceptions include the graphs for admissions to a private hospital; admissions for neurotic, personality and other mental disorders; same day admissions for a surgical procedure and admissions for the surgical procedures of myringotomy, hip replacement, lens insertion and endoscopy. Others, including the graph for total admissions (including same day admissions and surgical admissions), admissions of males and of females and for all cancers reveal a less consistent pattern. There are also strong gradients evident for the use of GP services, although there is little variation by socioeconomic status of area of residence for immunisation status at 12 months of age (**Figure 9.3**).

The main differences in the non-metropolitan areas from the data for **Melbourne** and **Geelong** are the higher overall standardised ratios and the weakening or reversal of the gradients for admissions for psychosis and for neurotic, personality and other mental disorders; for the surgical procedures of myringotomy, hip replacement, lens insertion and endoscopy; and the use of GP services. The graphs for immunisation again show little variation by socioeconomic status of area of residence (**Figure 9.5**).

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Chapter 4: The amended data in this chapter has not been highlighted as the majority of figures (other than for 1989) have been amended

cases this is also the postcode of their usual residence. The postcode data were converted to Statistical Local Areas (SLAs) for mapping using a converter produced by the Australian Bureau of Statistics (ABS). This process is described in Appendix 1.2. In some instances, the number of people in receipt of a pension or benefit in a postcode exceeds the population in that postcode: this is particularly a problem with the Age Pension data. This is the case even when the pensioner/beneficiary data are compared with the population data by five year age group, separately for males and females. As a result, the calculation of the proportion of the population in receipt of a particular pension or benefit type can produce percentages of greater than 100 per cent. Other percentages of less than 100 per cent may also be overstated.

The reason for this is not clear. It is unlikely to be the result of people claiming both a DFACS Age and a DVA Service Pension (Age), as checks are made each year to ensure that such events do not occur. While it is likely in part to be a result of faults in the process of allocating pensions data, and it would have been possible to scale all the percentages back to 100, or less than

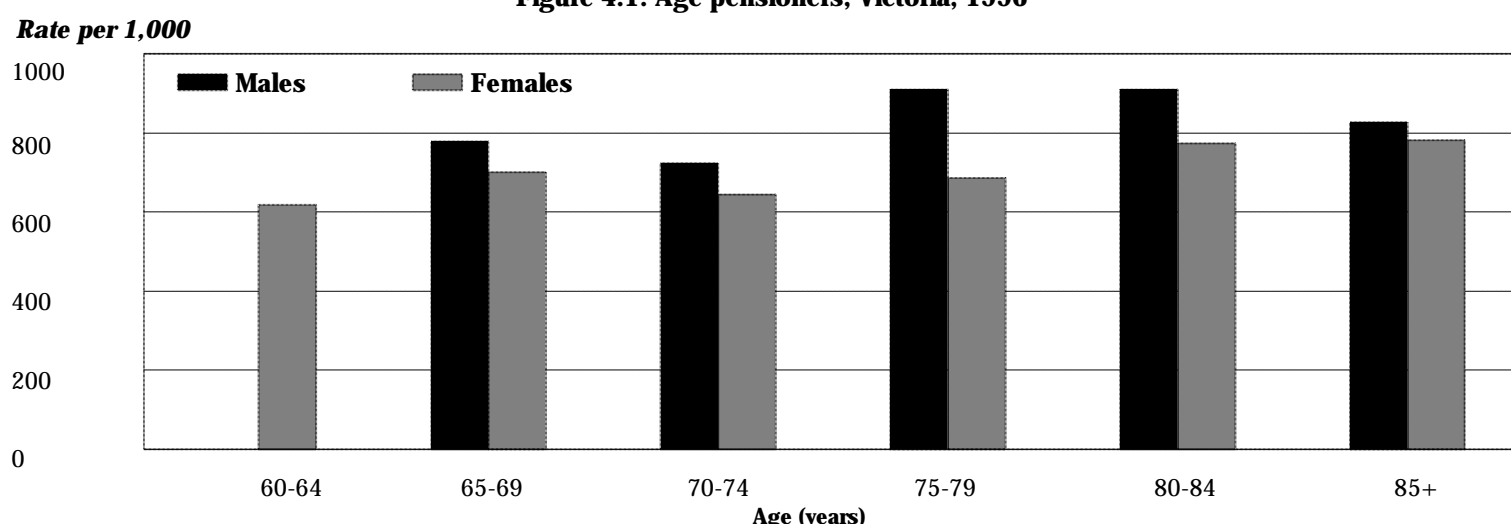
100, this would have concealed the problem and would not have represented the data for the areas as estimated. Percentages in excess of 100 per cent are noted separately in the text. Although the other pension or benefit types analysed only rarely have such high proportions, it is not possible to say to what extent they may also be overstated.

Details of age and sex of recipients

The age and sex profiles of recipients of the Age and Disability Support Pensions and unemployment benefits and the age profiles of female sole parent pensioners are shown in the following charts.

Females can receive the Age Pension from age 60 years and males from age 65 years (Figure 4.1). Although the numbers of females receiving this pension are higher from 65 years of age, their rates are lower in all age groups. Rates for both males and females follow a pattern of a decline in the 70 to 74 year age group, then increasing over the next two age groups before declining for men and slowing for women.

Figure 4.1: Age pensioners, Victoria, 1996

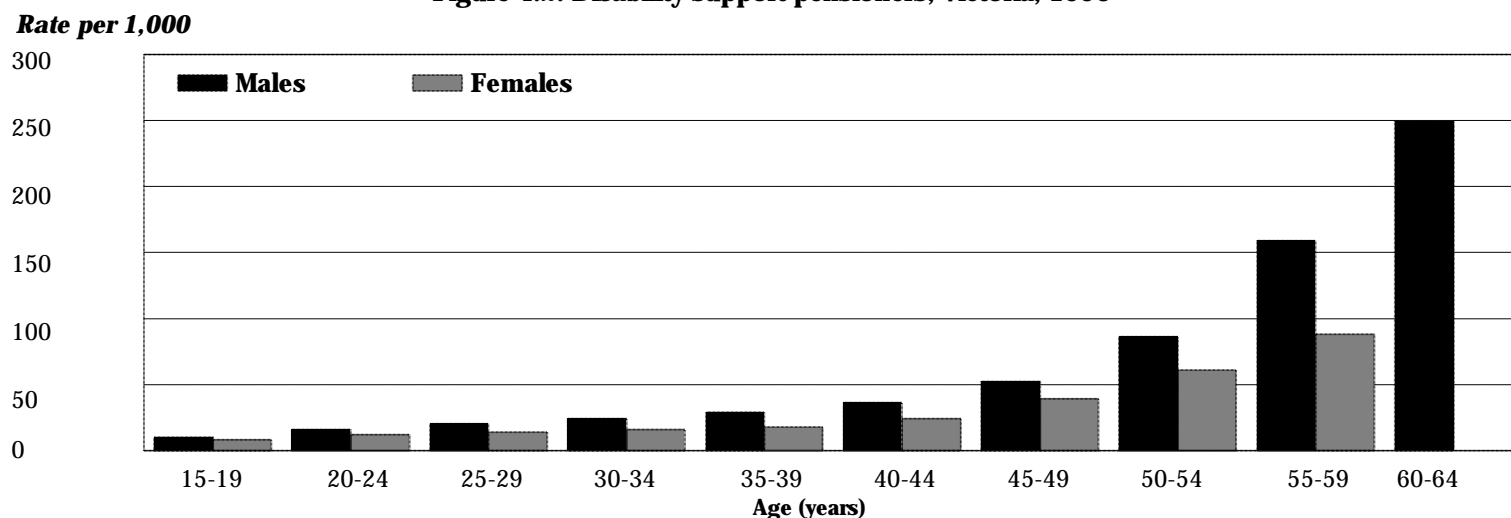


Source: Calculated on data supplied by DFACS (Age Pension) and DVA (Service Pension (Age))

Male rates are marginally higher in each age group under 40 years for those receiving the Disability Support Pension, with substantially higher rates at older ages (Figure 4.2). From age

60 years, females eligible for this pension are transferred to the Age Pension. The rates for both males and females grow steadily across the ages, most markedly from around 50 years of age.

Figure 4.2: Disability support pensioners, Victoria, 1996



Source: Calculated on data supplied by DFACS (Disability Support Pension) and DVA (Service Pension (Permanently Incapacitated))

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Disability support pensioners, 30 June 1996

Capital city comparison

People eligible for a Disability Support Pension, paid by the Department of Family and Community Services (DFACS), must be aged 16 years or over and have not reached age-pensionable age; be permanently blind or have a physical, intellectual or psychiatric impairment level of 20 per cent or more and a continuing inability to work. Details of males under 65 years of age and females under 60 years of age receiving the DVA service pension (permanently incapacitated) have been combined with the Disability Support Pension data: details on people above these ages were included in the data for age pensioners.

The proportion of the population in the capital cities in receipt of the Disability Support Pension has increased considerably since 1989, rising from 2.6 per cent in 1989 to 3.9 per cent in 1996. High levels of unemployment have impacted significantly on the increase in the number of disability support pensioners (Centrelink 1997). This increase was evident in all capital cities, with the largest increases recorded in **Hobart, Adelaide, Sydney** and **Brisbane**. In both 1989 and 1996, **Hobart** and **Adelaide** had the largest proportions of disability support pensioners, while **Canberra** and **Darwin** had the lowest.

Table 4.4: Disability support pensioners, capital cities

	<i>Per cent</i>								
	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra ¹	All Capitals
1996	3.8	3.7	4.1	5.1	3.9	5.6	3.1	2.2	3.9
1989	2.3	2.6	2.7	3.5	3.0	3.6	2.1	1.2	2.6

¹Includes Queanbeyan (C)

Source: See Data sources, Appendix 1.3

Melbourne

In 1989, 51,981 **Melbourne** residents were receiving a Disability Support Pension, 2.6 per cent of the eligible population. By 1996, the number had increased to 77,310 and the proportion to 3.7 per cent.

SLAs with the highest proportions of disability support pensioners are located immediately to the north and west of the city centre, and in Mornington Peninsula South (**Map 4.3**). Most SLAs with low proportions of disability support pensioners were located in outer northern and south-eastern suburbs, as well as in some inner and middle eastern suburbs.

The highest proportions of people receiving a Disability Support Pension were recorded in Preston (7.2 per cent), Maribyrnong and Moreland North (both 6.6 per cent), Brunswick (6.4 per cent), Northcote and Coburg (both 6.3 per cent), Broadmeadows and Mornington Peninsula South (both 6.2 per cent) and Sunshine (6.1 per cent). A further six SLAs had proportions of five per cent or greater. The highest of these were Port Phillip West (5.6 per cent) and Dandenong (5.3 per cent).

The lowest proportions of disability support pensioners were scattered throughout the eastern suburbs and the Yarra Valley. Levels of two per cent and lower prevailed in Nillumbik South (1.1 per cent), Manningham East (1.2 per cent), Nillumbik South-West (1.4 per cent), Knox South (1.5 per cent), Frankston East (1.7 per cent), Nillumbik Balance, Berwick and Camberwell North (each with 1.8 per cent) and Brighton (2.0 per cent).

There were more than 2,000 people receiving a Disability Support Pension in Preston (with 3,570 pensioners), Whittlesea South (3,192), Sunshine (3,097), Broadmeadows (2,667), Maribyrnong (2,509) and Keilor (2,102 people).

The correlation analysis revealed a positive association at the SLA level with many of the indicators of socioeconomic disadvantage, including the variables for unemployment (0.86), low income families (0.85) and poor proficiency in English (0.72).

These results, together with the inverse correlation of substantial significance with the IRSD (-0.78), indicate an association at the SLA level between high proportions of disability support pensioners and socioeconomic disadvantage.

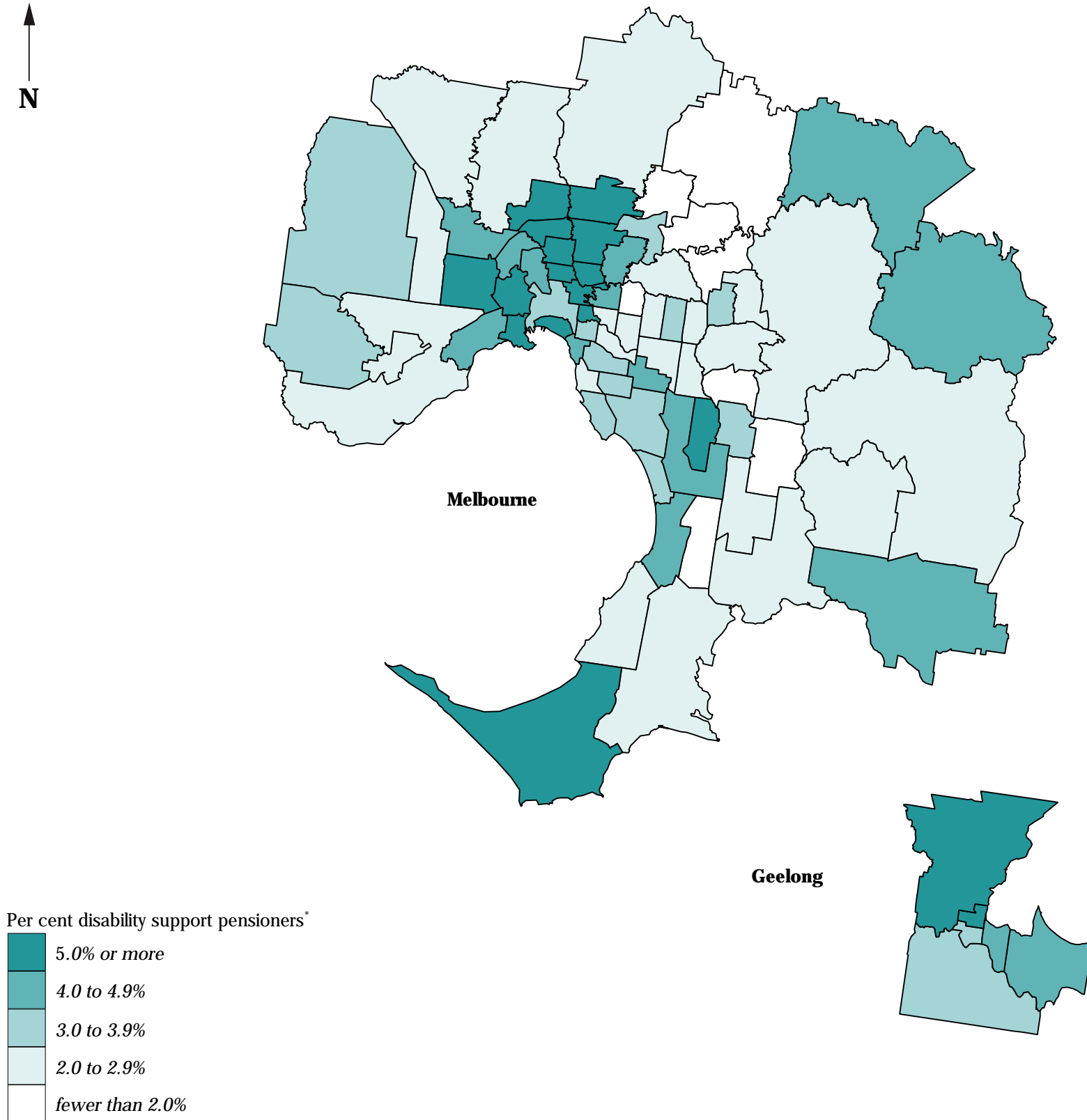
Geelong

In 1996, there were 4,333 disability support pensioners resident in **Geelong**, 4.7 per cent of the eligible population. The highest proportions of these pensioners were located in Corio Inner (5.9 per cent) and Geelong West (5.6 per cent). Proportions above four per cent were recorded in Bellarine Inner (4.3 per cent) and Geelong (4.7), while the lowest was in South Barwon Inner (3.2 per cent). There were 1,948 disability support pensioners living in Corio Inner and 807 in South Barwon Inner.

Map 4.3

Disability support pensioners*, Melbourne and Geelong, 1996

as a percentage of males ages 15 to 64 years and females aged 15 to 59 years in each Statistical Local Area



*Includes the Disability Support Pension paid by the Department of Family and Community Services and the Service Pension (Permanently Incapacitated) paid by the Department of Veterans' Affairs

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2
National Social Health Atlas Project, 1999

Disability support pensioners, 30 June 1996

State/Territory comparison

In 1996, the proportions of people in receipt of the Disability Support Pension (see previous text page for details of those included) were generally higher in the non-metropolitan areas than in the capital cities, with the exception of South Australia, Western Australia and Northern Territory. The average for the *Rest of State/Territory* areas was 5.0 per cent, with similar proportions recorded in Queensland (4.6 per cent), Victoria (4.9 per cent) and South Australia (5.0 per cent). The highest proportion was in Tasmania (6.2 per cent) and the lowest in the Northern Territory (2.7 per cent). Comparisons between 1989 and 1996 show an increase in the proportions across all States and Territories, with the largest increases evident in Tasmania, South Australia and New South Wales.

Table 4.5: Disability support pensioners, State/Territory
Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total ¹
1996									
Capital city	3.8	3.7	4.1	5.1	3.9	5.6	3.1	2.2 ²	3.9
Other major urban centres ³	6.1	4.7	3.9	5.1
Rest of State/Territory	5.7	4.9	4.6	5.0	3.7	6.2	2.7	— ⁴	5.0
Whole of State/Territory	4.5	4.0	4.2	5.1	3.8	6.0	2.8	2.1	4.3
1989									
Rest of State/Territory	3.9	3.3	3.1	3.3	3.1	3.7	2.2	— ⁴	3.4

¹Total for *Whole of State/Territory* includes 'Other Territories' (Jervis Bay, Christmas Island and Cocos Islands)

²Includes Queanbeyan (C)

³Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)

⁴Data unreliable: included with ACT total

Source: See Data sources, Appendix 1.3

Rest of State

In 1989, there were 23,118 people living in Victoria outside **Melbourne** and **Geelong** who received a Disability Support Pension, 3.3 per cent of the eligible population. By 1996, this number had increased substantially, to 32,358 people, and to 4.9 per cent of the population.

Areas with high proportions of disability support pensioners were mainly located in the Central Goldfields, Loddon and Campaspe regions (**Map 4.4**). Relatively low proportions were recorded in the State's western districts and in the eastern highlands.

Seven SLAs had more than seven per cent of their population receiving a Disability Support Pension. Apart from Colac (9.5 per cent), these SLAs were confined to the Central Goldfields and adjacent regions, where the highest proportions were recorded in Central Goldfields Balance (8.5 per cent), Maryborough (8.1 per cent), Campaspe South (7.9 per cent), Loddon South (7.8 per cent) and St Arnaud (7.5 per cent).

There were 16 SLAs with proportions of below three per cent. These stretched from Colac-Otway North through to the Surf Coast, around the outskirts of **Melbourne** and north-eastwards to Wangaratta, Towong and Alpine East. The lowest proportions of disability support pensioners were recorded in Alpine East (1.3 per cent), Surf Coast East and Greater Geelong [Part C] (both with 2.0 per cent).

Ballarat had the largest number of disability support pensioners, with 2,910 recipients. Other large numbers were recorded in the towns of Bendigo (2,188 recipients), Shepparton (1,555), Mildura [Part A] (1,418), Warrnambool (840) and Morwell (831).

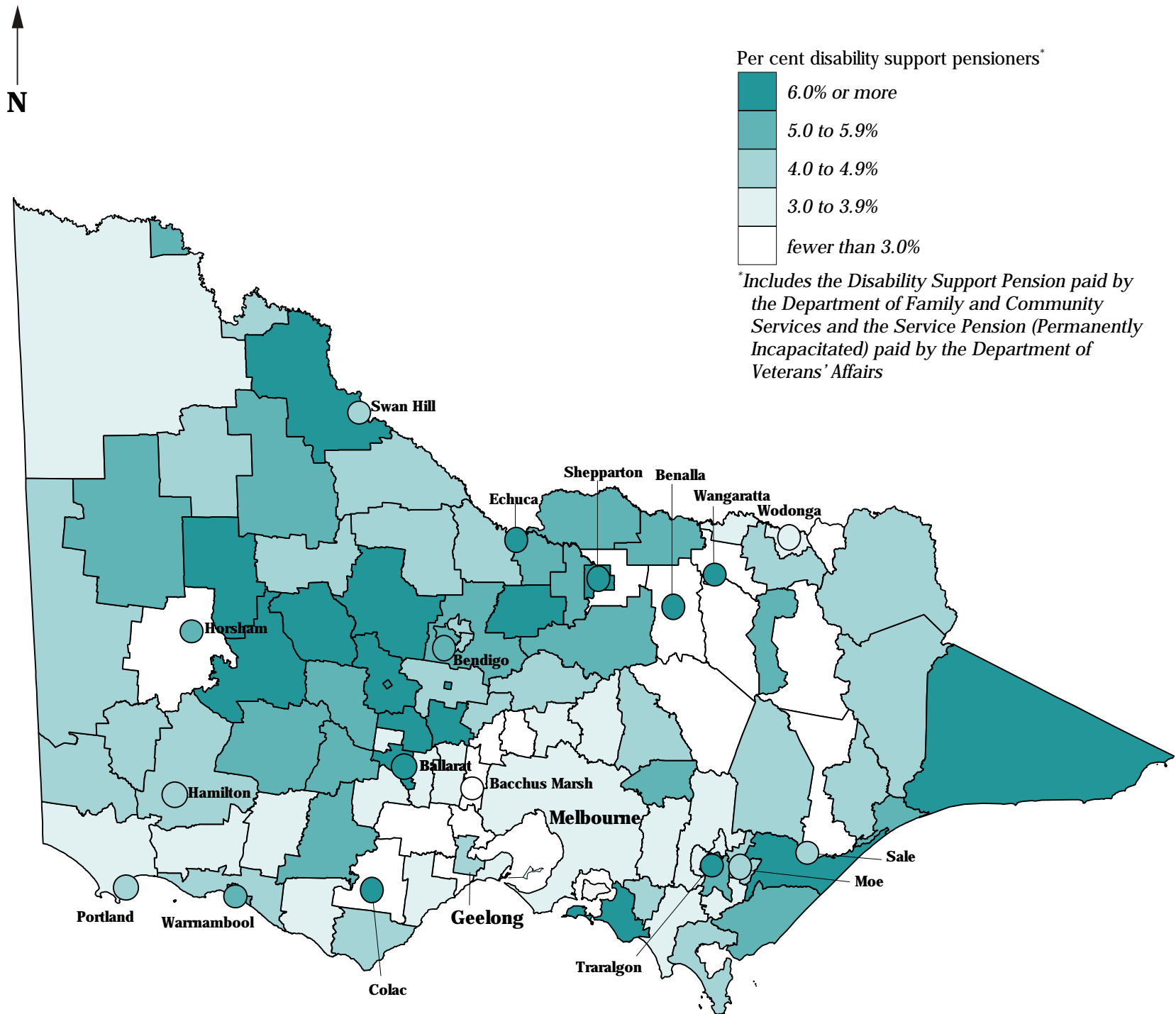
Of the towns mapped and not previously mentioned, there were 739 disability support pensioners in Wodonga, 642 in Moe and 627 in Traralgon.

The correlation analysis revealed a positive association at the SLA level with many of the indicators of socioeconomic disadvantage, including the variables for low income families (0.65) and dwellings with no motor vehicle (0.60). An inverse correlation was recorded with the variable for high income families (-0.60). These results, together with the inverse correlation of substantial significance with the IRSD (-0.74), indicate an association at the SLA level between high proportions of disability support pensioners and socioeconomic disadvantage.

Map 4.4

Disability support pensioners*, Victoria, 1996

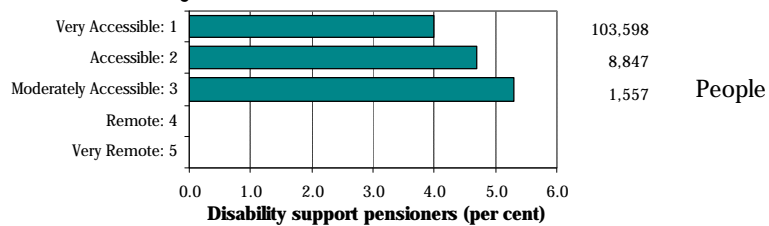
as a percentage of males aged 15 to 64 years and females aged 15 to 59 years in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The proportion of the eligible population receiving a Disability Support Pension increases across the three ARIA categories in Victoria, from 4.0 per cent in the Very Accessible areas to 4.7 per cent in the Accessible and 5.3 per cent in the Moderately Accessible areas.

Source: Calculated on ARIA classification, DHAC National Social Health Atlas Project, 1999

Note: Amended figures are in column/row V19
Table 8.1: Correlation matrix for SLAs in Melbourne, 1996 boundaries*

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26		
V1	1.00	-0.64	0.13	-0.21	-0.29	0.50	-0.63	-0.09	-0.27	0.67	0.09	-0.19	-0.48	-0.27	-0.28	-0.58	-0.15	0.58	-0.20	0.49	-0.15	0.12	0.18	0.36	0.38	0.38	V1	Children aged 0 to 4
V2	-0.64	1.00	-0.01	0.43	0.01	-0.34	0.42	0.19	0.16	-0.45	-0.08	0.10	0.32	0.19	0.15	0.51	-0.02	-0.29	0.38	-0.16	0.22	-0.02	-0.12	-0.26	-0.22	-0.49	V2	Age distribution
V3	0.13	-0.01	1.00	0.61	-0.50	0.34	-0.25	0.61	-0.43	0.32	0.44	0.04	0.26	0.26	0.59	0.46	-0.60	0.14	0.47	0.63	0.62	0.60	0.27	0.22	-0.27	-0.35	V3	Families
V4	-0.21	0.43	0.61	1.00	-0.78	0.50	-0.30	0.88	-0.60	0.37	0.42	0.43	0.45	0.62	0.48	0.58	-0.87	-0.03	0.85	0.58	0.84	0.84	0.44	0.34	-0.38	-0.37	V4	Low income families
V5	-0.29	0.01	-0.50	-0.78	1.00	-0.84	0.76	-0.71	0.81	-0.82	-0.52	-0.31	-0.06	-0.37	-0.08	-0.04	0.91	-0.17	-0.61	-0.83	-0.59	-0.88	-0.45	-0.51	0.15	-0.03	V5	High income families
V6	0.50	-0.34	0.34	0.50	-0.84	1.00	-0.89	0.61	-0.81	0.88	0.41	0.46	0.06	0.42	-0.02	-0.18	-0.82	0.24	0.44	0.69	0.41	0.72	0.58	0.64	-0.04	0.19	V6	Unskilled and semi-skilled workers
V7	-0.63	0.42	-0.25	-0.30	0.76	-0.89	1.00	-0.39	0.68	-0.89	-0.32	-0.27	0.20	-0.15	0.21	0.41	0.64	-0.26	-0.21	-0.68	-0.17	-0.53	-0.50	-0.62	-0.15	-0.28	V7	Managers and administrators and professionals
V8	-0.09	0.19	0.61	0.88	-0.71	0.61	-0.39	1.00	-0.62	0.40	0.35	0.65	0.58	0.80	0.44	0.56	-0.89	0.07	0.86	0.51	0.92	0.83	0.67	0.52	-0.38	-0.31	V8	Unemployed people
V9	-0.27	0.16	-0.43	-0.60	0.81	-0.81	0.68	-0.62	1.00	-0.72	-0.44	-0.35	-0.13	-0.35	-0.10	0.04	0.79	-0.07	-0.47	-0.72	-0.41	-0.75	-0.37	-0.43	0.19	-0.05	V9	Female labour force participation
V10	0.67	-0.45	0.32	0.37	-0.82	0.88	-0.89	0.40	-0.72	1.00	0.41	0.14	-0.29	0.12	-0.09	-0.34	-0.71	0.37	0.31	0.79	0.27	0.66	0.41	0.57	0.14	0.30	V10	Educational participation
V11	0.09	-0.08	0.44	0.42	-0.52	0.41	-0.32	0.35	-0.44	0.41	1.00	0.02	-0.03	0.11	0.17	0.08	-0.46	-0.07	0.37	0.54	0.34	0.51	0.12	0.13	-0.33	0.11	V11	Aboriginal and Torres Strait Islander people
V12	-0.19	0.10	0.04	0.43	-0.31	0.46	-0.27	0.65	-0.35	0.14	0.02	1.00	0.67	0.90	0.24	0.36	-0.55	-0.05	0.58	-0.05	0.52	0.39	0.75	0.57	-0.19	-0.26	V12	People born in predominantly non-English speaking countries
V13	-0.48	0.32	0.26	0.45	-0.06	0.06	0.20	0.58	-0.13	-0.29	-0.03	0.67	1.00	0.77	0.47	0.76	-0.33	-0.17	0.46	-0.22	0.54	0.28	0.42	0.18	-0.33	-0.52	V13	resident for less than five years
V14	-0.27	0.19	0.26	0.62	-0.37	0.42	-0.15	0.80	-0.35	0.12	0.11	0.90	0.77	1.00	0.46	0.61	-0.66	-0.04	0.72	0.05	0.73	0.54	0.71	0.51	-0.25	-0.39	V14	Proficiency in English
V15	-0.28	0.15	0.59	0.48	-0.08	-0.02	0.21	0.44	-0.10	-0.09	0.17	0.24	0.47	0.46	1.00	0.70	-0.39	-0.10	0.45	0.10	0.52	0.35	0.27	0.16	-0.31	-0.40	V15	Dwellings rented from the State housing authority
V16	-0.58	0.51	0.46	0.58	-0.04	-0.18	0.41	0.56	0.04	-0.34	0.08	0.36	0.76	0.61	0.70	1.00	-0.32	-0.20	0.60	-0.10	0.69	0.33	0.26	0.02	-0.38	-0.60	V16	Dwellings with no motor vehicle
V17	-0.15	-0.02	-0.60	-0.87	0.91	-0.82	0.64	-0.89	0.79	-0.71	-0.46	-0.55	-0.33	-0.66	-0.39	-0.32	1.00	-0.14	-0.78	-0.72	-0.78	-0.93	-0.64	-0.61	0.23	0.15	V17	Index of Relative Socio-Economic Disadvantage
V18	0.58	-0.29	0.14	-0.03	-0.17	0.24	-0.26	0.07	-0.07	0.37	-0.07	-0.05	-0.17	-0.04	-0.10	-0.20	-0.14	1.00	0.08	0.34	0.12	0.20	0.16	0.22	0.10	-0.02	V18	Income support payments
V19	-0.20	0.38	0.47	0.85	-0.61	0.44	-0.21	0.86	-0.47	0.31	0.37	0.58	0.46	0.72	0.45	0.60	-0.78	0.08	1.00	0.41	0.87	0.74	0.59	0.43	-0.39	-0.32	V19	Disability support pensioners
V20	0.49	-0.16	0.63	0.58	-0.83	0.69	-0.68	0.51	-0.72	0.79	0.54	-0.05	-0.22	0.05	0.10	-0.10	-0.72	0.34	0.41	1.00	0.46	0.77	0.29	0.45	-0.09	0.09	V20	Female sole parent pensioners
V21	-0.15	0.22	0.62	0.84	-0.59	0.41	-0.17	0.92	-0.41	0.27	0.34	0.52	0.54	0.73	0.52	0.69	-0.78	0.12	0.87	0.46	1.00	0.81	0.62	0.48	-0.41	-0.31	V21	People receiving an unemployment benefit
V22	0.12	-0.02	0.60	0.84	-0.88	0.72	-0.53	0.83	-0.75	0.66	0.51	0.39	0.28	0.54	0.35	0.33	-0.93	0.20	0.74	0.77	0.81	1.00	0.56	0.56	-0.28	-0.09	V22	Dependent children of selected pensioners and beneficiaries
V23	0.18	-0.12	0.27	0.44	-0.45	0.58	-0.50	0.67	-0.37	0.41	0.12	0.75	0.42	0.71	0.27	0.26	-0.64	0.16	0.59	0.29	0.62	0.56	1.00	0.93	-0.08	-0.12	V23	Males
V24	0.36	-0.26	0.22	0.34	-0.51	0.64	-0.62	0.52	-0.43	0.57	0.13	0.57	0.18	0.51	0.16	0.02	-0.61	0.22	0.43	0.45	0.48	0.56	0.93	1.00	0.06	0.06	V24	Females
V25	0.38	-0.22	-0.27	-0.38	0.15	-0.04	-0.15	-0.38	0.19	0.14	-0.33	-0.19	-0.33	-0.25	-0.31	-0.38	0.23	0.10	-0.39	-0.09	-0.41	-0.28	-0.08	0.06	1.00	0.18	V25	Immunisation
V26	0.38	-0.49	-0.35	-0.37	-0.03	0.19	-0.28	-0.31	-0.05	0.30	0.11	-0.28	-0.52	-0.39	-0.40	-0.60	0.15	-0.02	-0.32	0.09	-0.31	-0.09	-0.12	0.06	0.18	1.00	V26	Population per general medical practitioner
V1		V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26		
<p>Figures highlighted thus indicate correlations of meaningful significance between the appropriate variables in the matrix those highlighted thus indicate correlations of substantial significance</p> <p>*Topics in Chapter 3, Chapter 4, Chapter 6, Chapter 7 (general medical practitioner services and immunisation) and Chapter 7 (population per general medical practitioner only)</p> <p>Source: Calculated from project data</p>																												

Table 8.4: Correlation matrix for SLAs in non-metropolitan areas of Victoria, 1996 boundaries*
Note: Amended figures are in column/row V18

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25												
V1	1.00	-0.42	0.25	-0.36	0.36	-0.17	0.08	-0.19	0.33	0.12	0.10	0.01	0.13	0.25	-0.01	0.00	0.14	-0.13	0.22	0.06	0.00	0.11	0.08	0.05	-0.07	V1	Children aged 0 to 4										
V2	-0.42	1.00	0.06	0.59	-0.55	0.07	0.03	-0.02	0.02	0.00	-0.34	0.02	-0.05	0.19	0.53	-0.39	-0.05	0.54	0.19	0.15	0.43	0.25	0.19	-0.06	-0.41	V2	Age distribution										
V3	0.25	0.06	1.00	0.20	-0.07	-0.82	0.60	-0.33	0.16	0.22	0.27	0.26	0.18	0.73	0.74	-0.58	0.43	0.41	0.84	0.61	0.34	0.36	0.27	-0.21	-0.41	V3	Families										
V4	-0.36	0.59	0.20	1.00	-0.87	-0.03	0.49	-0.45	0.33	0.10	-0.07	-0.05	-0.04	0.13	0.39	-0.76	0.15	0.65	0.38	0.55	0.65	0.18	0.15	-0.19	-0.25	V4	Single parent families										
V5	0.36	-0.55	-0.07	1.00	-0.08	-0.08	-0.25	0.35	-0.33	-0.15	0.20	0.18	0.05	-0.11	-0.31	0.67	-0.09	-0.60	-0.25	-0.36	-0.63	-0.07	-0.04	0.16	0.20	V5	Low income families										
V6	-0.17	0.07	-0.82	-0.03	-0.08	1.00	-0.54	0.29	-0.12	-0.13	-0.34	-0.19	-0.16	-0.62	-0.56	0.44	-0.42	-0.29	-0.66	-0.47	-0.12	-0.32	0.24	0.12	0.24	V6	High income families										
V7	0.08	0.03	0.60	0.49	-0.25	-0.54	1.00	-0.60	0.31	0.09	0.28	0.14	0.06	0.29	0.39	-0.64	0.33	0.43	0.62	0.87	0.44	0.26	0.21	-0.15	-0.10	V7	Managers and administrators, and professionals										
V8	-0.19	-0.02	-0.33	-0.45	0.35	0.29	-0.60	1.00	-0.33	-0.10	-0.18	-0.15	-0.03	-0.11	-0.11	0.58	-0.35	-0.43	-0.43	-0.55	-0.42	-0.30	-0.29	0.19	0.08	V8	Unemployed people										
V9	0.33	0.02	0.16	0.33	-0.33	-0.12	0.31	-0.33	1.00	0.27	-0.05	-0.12	0.13	0.31	0.22	-0.63	0.14	0.47	0.34	0.36	0.58	0.16	0.12	0.15	-0.04	V9	Female labour force participation										
V10	0.12	0.00	0.22	0.10	-0.15	-0.13	0.09	-0.10	0.27	1.00	0.25	0.31	0.51	0.35	0.27	-0.33	-0.05	0.15	0.26	0.18	0.27	0.00	-0.02	-0.06	-0.12	V10	Left school aged 15 or less, or did not go to school										
V11	0.10	-0.34	0.27	-0.07	0.20	-0.34	0.28	-0.18	-0.05	0.25	1.00	0.39	0.73	0.13	0.06	-0.13	0.17	-0.07	0.26	0.24	-0.10	0.13	0.15	-0.23	-0.07	V11	Aboriginal and Torres Strait Islander people										
V12	0.01	0.02	0.26	-0.05	0.18	-0.19	0.14	-0.15	-0.12	0.31	0.39	1.00	0.51	0.26	0.28	-0.10	0.10	0.02	0.20	0.20	-0.05	0.17	0.16	-0.24	-0.17	V12	Aboriginal and Torres Strait Islander people resident for five years or more										
V13	0.13	-0.05	0.18	-0.04	0.05	-0.16	0.06	-0.03	0.13	0.51	0.73	0.51	1.00	0.26	0.23	-0.21	0.08	0.10	0.24	0.17	0.08	0.08	0.06	-0.16	-0.11	V13	People born in predominantly non-English speaking countries										
V14	0.25	0.19	0.73	0.13	-0.11	-0.62	0.29	-0.11	0.31	0.35	0.13	0.26	0.26	1.00	0.80	-0.57	0.25	0.46	0.63	0.35	0.37	0.29	0.20	0.07	-0.42	V14	Resident for less than five years										
V15	-0.01	0.53	0.74	0.39	-0.31	-0.56	0.39	-0.11	0.22	0.27	0.06	0.28	0.23	0.80	1.00	-0.66	0.21	0.60	0.66	0.47	0.48	0.32	0.22	-0.08	-0.54	V15	Proficiency in English										
V16	0.00	-0.39	-0.58	-0.76	0.67	0.44	-0.64	0.58	-0.63	-0.33	-0.13	-0.10	-0.21	-0.57	-0.66	1.00	-0.28	-0.74	-0.68	-0.68	-0.73	-0.33	-0.26	0.12	0.34	V16	Housing										
V17	0.14	-0.05	0.43	0.15	-0.09	-0.42	0.33	-0.35	0.14	-0.05	0.17	0.10	0.08	0.25	0.21	-0.28	1.00	0.50	0.65	0.55	0.36	0.44	0.47	-0.16	-0.40	V17	Income support payments										
V18	-0.13	0.54	0.41	0.65	-0.60	-0.29	0.43	-0.43	0.47	0.15	-0.07	0.02	0.10	0.46	0.60	-0.74	0.50	1.00	0.66	0.63	0.82	0.48	0.41	-0.06	-0.38	V18	ABS SEIFA										
V19	0.22	0.19	0.84	0.38	-0.25	-0.66	0.62	-0.43	0.34	0.26	0.26	0.20	0.24	0.63	0.66	-0.68	0.65	0.66	1.00	0.77	0.64	0.51	0.45	-0.19	-0.45	V19	Disability support pensioners										
V20	0.06	0.15	0.61	0.55	-0.36	-0.47	0.87	-0.55	0.36	0.18	0.24	0.20	0.17	0.35	0.47	-0.68	0.55	0.63	0.77	1.00	0.66	0.34	0.31	-0.16	-0.25	V20	Female sole parent pensioners										
V21	0.00	0.43	0.34	0.65	-0.63	-0.12	0.44	-0.42	0.58	0.27	-0.10	-0.05	0.08	0.37	0.48	-0.73	0.36	0.82	0.64	0.66	1.00	0.38	0.31	0.00	-0.28	V21	People receiving an unemployment benefit										
V22	0.11	0.25	0.36	0.18	-0.07	-0.32	0.26	-0.30	0.16	0.00	0.13	0.17	0.08	0.29	0.32	-0.33	0.44	0.48	0.51	0.34	0.38	1.00	0.97	-0.11	-0.61	V22	Dependent children of selected pensioners and beneficiaries										
V23	0.08	0.19	0.27	0.15	-0.04	-0.24	0.21	-0.29	0.12	-0.02	0.15	0.16	0.06	0.20	0.22	-0.26	0.47	0.41	0.45	0.31	0.31	0.97	1.00	-0.11	-0.60	V23	Males										
V24	0.05	-0.06	-0.21	-0.19	0.16	0.12	-0.15	0.19	0.15	-0.06	-0.23	-0.24	-0.16	0.07	-0.08	0.12	-0.16	-0.06	-0.19	-0.16	0.00	-0.11	-0.11	1.00	0.09	V24	Females										
V25	-0.07	-0.41	-0.41	-0.25	0.20	0.24	-0.10	0.08	-0.04	-0.12	-0.07	-0.17	-0.11	-0.42	-0.54	0.34	-0.40	-0.38	-0.45	-0.25	-0.28	-0.61	-0.60	0.09	1.00	V25	Immunisation										
V1		V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25												
Figures highlighted thus indicate correlations of meaningful significance between the appropriate variables in the matrix; those highlighted thus indicate correlations of substantial significance																																					
*Topics in Chapter 3, Chapter 4, Chapter 6 (general medical practitioner services and immunisation) and Chapter 7 (population per general medical practitioner only)																																					
Source: Calculated from project data																																					

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9 Summary: *The variables highlighted in table 9.1 have been amended: references to these variables in the text have also been changed but have not been highlighted*

Introduction

This chapter presents details of the major changes noted in the data between this and the first edition, as well as some summary measures of the health differentials calculated from the health status and health service utilisation data mapped in Chapters 5 and 6.

Changes in data rates between editions

The reference period for the data in the first and this second edition varies according to the dataset. In general, the Census data in this edition are ten years on from the first edition (Chapter 3: 1986 Census and 1996 Census); and the income support (Chapter 4: 1989 and 1996) and health status (Chapter 5: 1985-89 and 1992-95) datasets are seven years later. The data for hospital admissions (see *Differences in data treatment between editions*, Chapter 6) and services and facilities are not discussed in this chapter because of difficulties in comparing the available series over time.

Readers should note that some variables are not discussed below because the data were available only for the latest period.

Changes in socioeconomic status variables

Marked variations were recorded between 1986 and 1996 for a majority of the socioeconomic status variables mapped for Victoria (Table 9.1). For **Melbourne**, the largest increases were for the population of Aboriginal and Torres Strait Islander people (an increase of 73.7 per cent over this ten year period); unemployed people (58.0 per cent); low income families (52.8 per cent); single parent families (44.2 per cent); the occupational

grouping of managers and administrators, and professionals (33.1 per cent); people aged 65 years and over (25.6 per cent) and people born overseas in predominantly non-English speaking countries: an increase of 24.5 per cent for those resident for five years or more, and of 21.0 per cent for those resident for less than five years. The largest decreases recorded over this ten year period were for the variables for unskilled and semi-skilled workers (down by 17.6 per cent) and early school leavers (down by 17.4 per cent).

Changes over this period for **Geelong** were relatively consistent with those recorded for **Melbourne**, with the exception of the population aged from 0 to 4 years, female labour force participation, the Indigenous population, unemployment (all ages), people born overseas in predominantly non-English speaking countries resident in Australia for more than five years, people with poor proficiency in English and housing authority rented dwellings.

Variations of this order were also recorded in the non-metropolitan areas of Victoria. The major differences from the changes noted for **Melbourne** were the larger increases in the number of single parent families; smaller increases for the population of Indigenous people, unemployed people, low income families, the occupations of managers and administrators and professionals, and the population of people aged 65 years and over; and decreases for the two variables for people born overseas in predominantly non-English speaking countries.

Table 9.1: Changes in demographic and socioeconomic status variables, by Section of State, Victoria
Per cent change

Variable	Melbourne	Geelong	Rest of State	Whole State
1986 to 1996				
0 to 4 year olds	8.3	0.0	-5.2	4.0
65 years & over	25.6	28.5	23.2	25.1
Single parent families	44.2	45.3	46.4	44.8
Low income families	52.8	43.6	36.2	46.8
Unemployed people	58.0	53.2	33.1	50.8
Unemployed people aged 15 to 19 years	-7.3	-7.8	-15.7	-9.8
Female labour force participation (20 to 54 years)	7.8	17.0	10.7	8.9
Early school leavers	-17.4	-18.2	-16.8	-17.2
Unskilled & semi-skilled workers	-17.6	-20.8	-18.3	-17.9
Managers & administrators, & Professionals	33.1	24.3	0.7	23.1
Aboriginal & Torres Strait Islander people	73.7	104.6	64.5	70.3
People ¹ born overseas & resident for less than 5 years	21.0	16.1	-21.6	18.9
People ¹ born overseas & resident for 5 years or more	24.5	-3.2	-0.6	21.6
People ¹ born overseas: speaks English not well/not at all	15.3	-10.8	-21.7	13.1
Housing authority rented dwellings	18.8	2.4	-0.7	11.2
Dwellings without a motor vehicle	4.6	10.4	11.4	6.1
1989 to 1996				
Age pensioners	5.0	4.9	-0.4	3.4
Disability support pensioners	53.1	35.3	34.5	46.6
Female sole parent pensioners	53.1	35.3	34.5	46.6
Unemployment beneficiaries	269.7	176.6	130.4	216.4
Dependent children of selected pensioners & beneficiaries	104.2	68.7	63.4	87.2

¹Includes people who were born in a predominantly non-English speaking country

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