

Population health profile of the

Mid West

Division of General Practice

Population Profile Series: No. 110

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The data in this report are designed to be used for needs assessment and planning purposes: while they are based on the best available data and analytic processes, data available by postcode or Statistical Local Area, as used in this report, cannot be precisely translated to Division. Division totals in the report should, therefore, be seen as estimates. Interpretation of differences between data in this profile and similar data from other sources needs to be undertaken with care, as such differences may be due to the use of different methodology to produce the data.

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Population health profile of the *Mid West Division of General Practice*

Introduction

This profile has been designed to provide a description of the population of the Mid West Division of General Practice, and aspects of their health. Its purpose is to provide information to support a population health approach, which aims to improve the health of the entire population and to reduce health inequalities among population groups: a more detailed discussion of a population health approach is provided in the supporting information, page 19.

Contents

The profile includes a number of tables, maps and graphs to profile population health in the Division and provides comparisons with other areas (eg. country Western Australia and Australia) and Aboriginal and Torres Strait Islanders elsewhere in Australia. Specific topics covered for the Mid West Division include:

- a socio-demographic profile (pages 2-6);
- GP workforce data (page 7);
- immunisation rates (page 7);
- rates of premature death (page 8); and
- estimates of the prevalence of chronic disease and risk factors (pages 9-11).

Key indicators

Location: Western Australia

Division number: 612

Population‡:	No.	%
Indigenous:	6,677	
<25	3,735	55.9%
65+	249	3.7%
Non-Indigenous:	55,116	
<25	18,833	34.2%
65+	5,844	10.6%

Disadvantage score¹: 957

GP services per head of population:

Division‡	2.8
Australia	4.7

Population per FTE GP:

Division‡	1,799
Australia	1,403

Premature death rate²:

Division‡	251.0
Australia	290.4

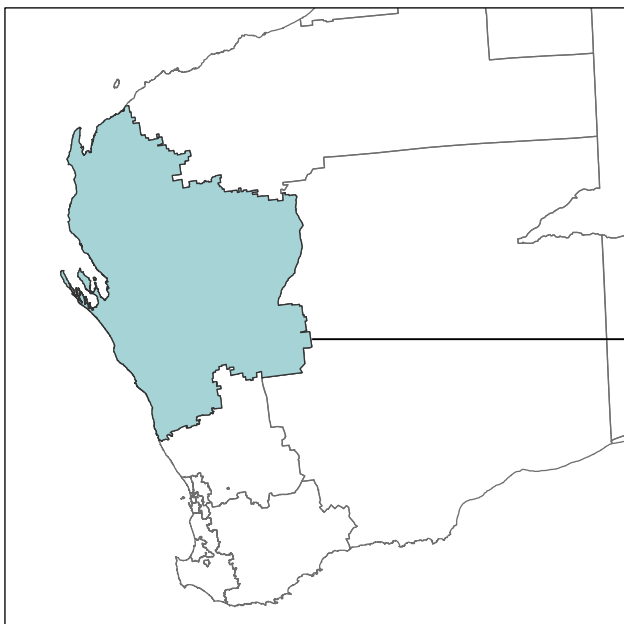
¹ Numbers below 1000 (the index score for Australia) indicate the Division is relatively disadvantaged

² Deaths at ages 0 to 74 years per 100,000 population

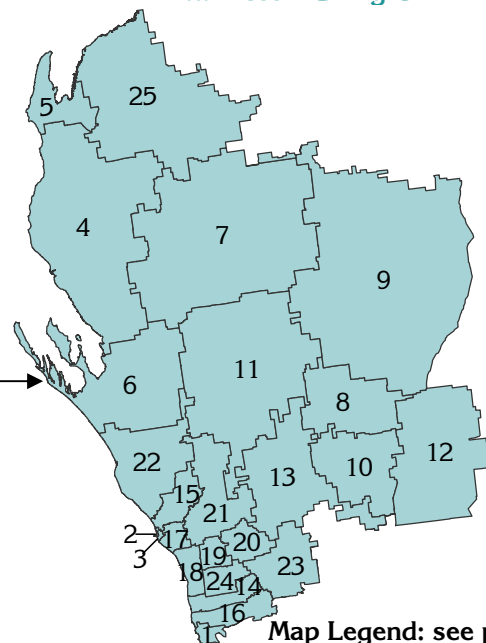
‡ See note "Data converters and mapping" re calculation of Division Total

Mid West Division of General Practice

WA Divisions of General Practice



Mid West DGP by SLA



Map Legend: see page 6

Socio-demographic profile

Population

The population figures used here have been adjusted to take account of the estimated under-counting at the 2001 Census of Aboriginal and Torres Strait Islander people.

The Mid West Division had a population of 61,793 at the 2001 Census. Aboriginal and Torres Strait Islander people comprise 10.9% of the population of the Division, and have a markedly younger age structure than for the non-Indigenous population in the Division. The bars in the chart for the 0 to 4 year age group clearly show the effect of high Indigenous birth rates in the Division; this gives the chart a triangular shape, other than at the oldest ages, where the proportions increase (Figure 1). The very marked drop in the proportion of the Indigenous population between each age group from 10 to 14 years for males, and 5 to 9 years for females suggests extremely high death rates (and perhaps out-migration) are occurring from those age groups through to 15 to 19 years of age.

The profile for the non-Indigenous population (shown by the shapes) is quite different and shows the impact of a lower birth rate and, from 15 to 24 years of age, possible out-migration for further education and employment opportunities, with smaller reductions in the population from age 40 through to the 65 to 69 year age group: the marked increase at the oldest ages (in particular for females) is suggestive of the non-Indigenous population moving into the Division from other areas to retire.

Figure 1: Population in Mid West DGP‡ by Indigenous status, age and sex, 2001

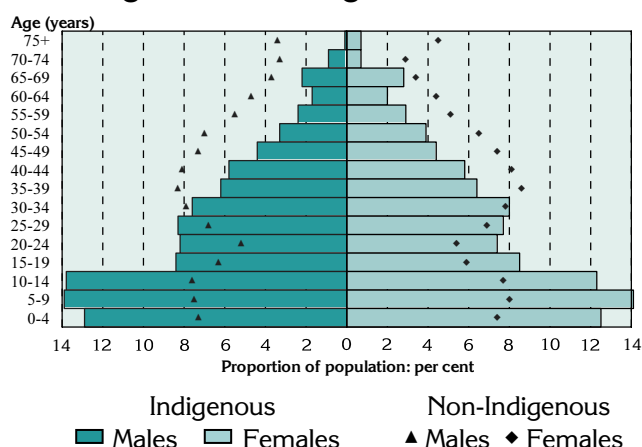
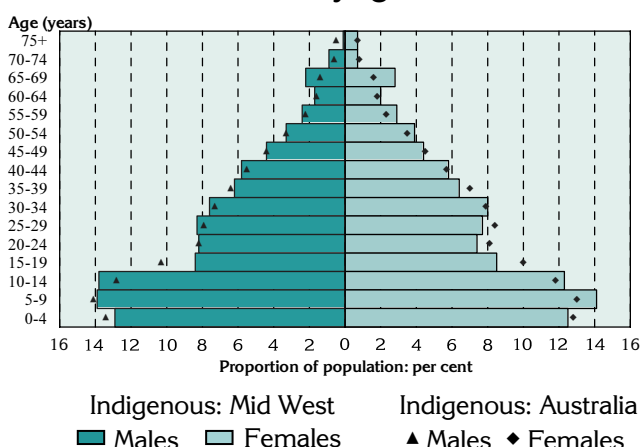


Figure 2: Indigenous population in Mid West DGP‡ and Australia, by age and sex, 2001



‡ See note under 'Data converters and mapping' re calculation of Division totals

The profile of the Indigenous population in the Division is similar to that for Indigenous people across Australia (Figure 2). The major differences are that the Division has: lower proportions of male children aged 0 to 9 years; higher proportions of female children aged 5 to 14 and males 10 to 14 years; lower proportions of males and females aged 15 to 24 years; and, at older ages, higher proportions of females aged 65 to 69 years and substantially fewer males aged 75 years and over. Table 1 provides the data on which the charts in Figures 1 and 2 are based. The data highlight the differences in the age distribution of the Indigenous and non-Indigenous populations in the Mid West DGP and Australia.

Table 1: Population by Indigenous status and age*, Mid West DGP‡ and Australia, 2001

Age group (years)	Mid West DGP				Australia			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	No.	%	No.	%	No.	%	No.	%
0-14	2,650	39.7	12,515	22.7	178,622	39.0	3,807,808	20.1
15-24	1,085	16.2	6,318	11.5	83,942	18.3	2,570,934	13.6
25-44	1,862	27.9	17,184	31.2	128,474	28.0	5,715,858	30.2
45-64	832	12.5	13,254	24.0	54,206	11.8	4,435,376	23.4
65-74	223	3.3	3,678	6.7	10,249	2.2	1,310,587	6.9
75+	26	0.4	2,167	3.9	2,768	0.6	1,111,844	5.9
Total	6,677	100.0	55,116	100.0	458,261	100.0	18,952,407	100.0

* Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001

‡ See note under 'Data converters and mapping' re calculation of Division totals

Almost one third (30.3%) of the Indigenous population in Mid West DGP lived in the Geraldton Statistical Local Area (SLA – see page 21), with one fifth in the Carnarvon SLA (20.7%) (Table 2). Greenough - Part A and Meekatharra each had just under one tenth of the Indigenous population of the Division. Mullewa, Mount Magnet, Upper Gascoyne, Northampton, Greenough - Part B, Shark Bay, Cue and remaining SLAs comprised the balance of the Indigenous population.

Table 2: Population by Indigenous status*, SLAs in Mid West DGP‡, 2001

Statistical Local Area	Indigenous		Non-Indigenous		Total	
	No.	%	No.	%	No.	%
Geraldton	2,024	30.3	18,106	32.9	20,130	32.6
Carnarvon	1,379	20.7	5,344	9.7	6,723	10.9
Greenough - Part A	617	9.2	10,678	19.4	11,295	18.3
Meekatharra	588	8.8	865	1.6	1,453	2.4
Mullewa	393	5.9	725	1.3	1,118	1.8
Mount Magnet	232	3.5	619	1.1	851	1.4
Upper Gascoyne	191	2.9	164	0.3	355	0.6
Northampton	170	2.5	3,163	5.7	3,333	5.4
Greenough - Part B	160	2.4	1,179	2.1	1,339	2.2
Shark Bay	124	1.9	798	1.4	922	1.5
Cue	123	1.8	271	0.5	394	0.6
Other	696	10.1	13,204	24.0	13,880	22.5
Total	6,677	100.0	55,116	100.0	61,793	100.0

* Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001

‡ See note under 'Data converters and mapping' re calculation of Division totals

At 30 June 2004, the Estimated Resident Population of the Division was 60,503.

Socioeconomic status and Indigenous status

The indicators presented in this section describe geographic variations in the distribution of the population for a number of key socioeconomic influences, which impact on the health and wellbeing of populations. Where data are available, comparisons are made between the Indigenous and non-Indigenous populations.

At the 2001 Census, 10.8% of the population of the Mid West DGP were estimated to be of Aboriginal or Torres Strait Islander origin, a substantially higher proportion than the Australian average of 2.4% (Figure 3 and Table 3).

The proportion of Indigenous single parent families (30.4%) in the Division was three times that of the non-Indigenous population (9.6%), but consistent with the Indigenous rate in country Western Australia¹. (27.4%).

Two fifths (39.9%) of Indigenous 16 year olds living in the Division were involved in full-time secondary school education, markedly higher than the Indigenous participation rate for country Western Australia (32.2%); the participation rate for the non-Indigenous population was substantially higher (64.7%).

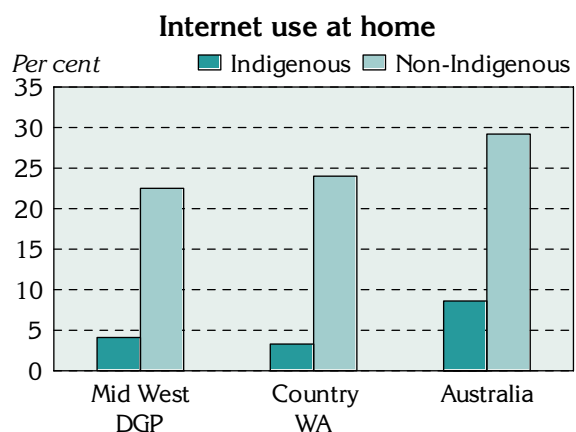
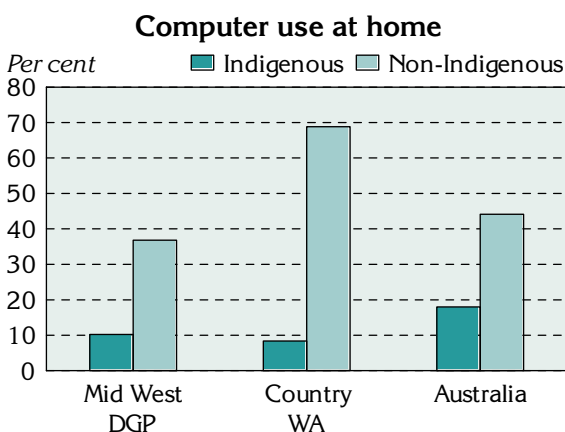
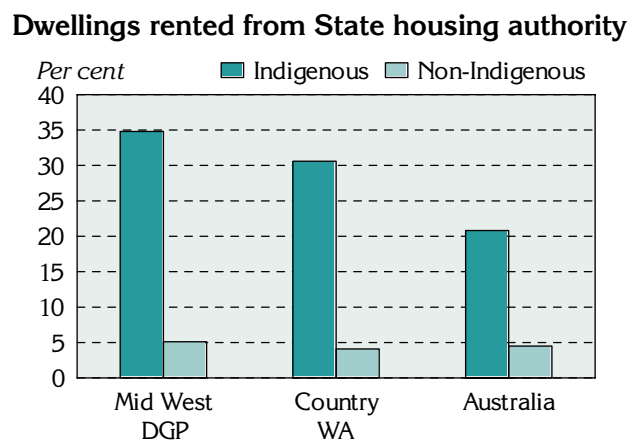
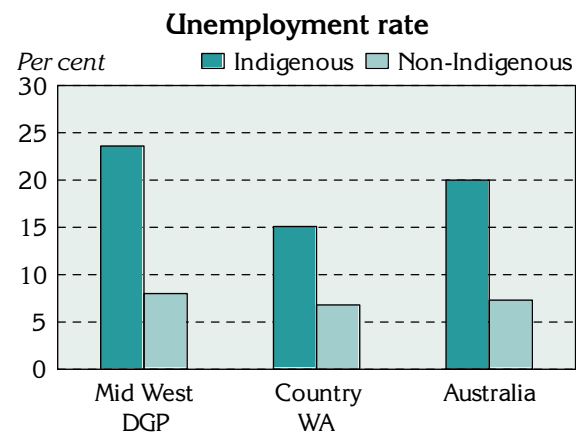
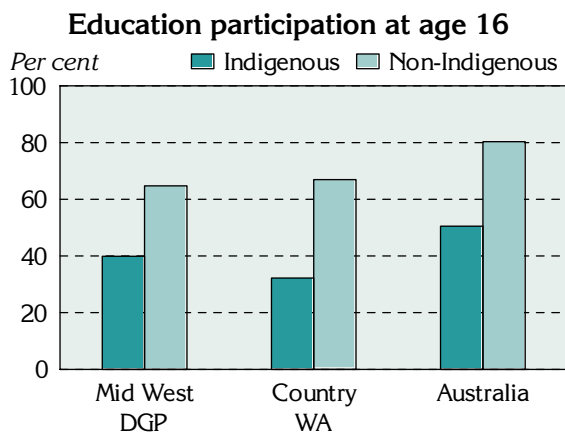
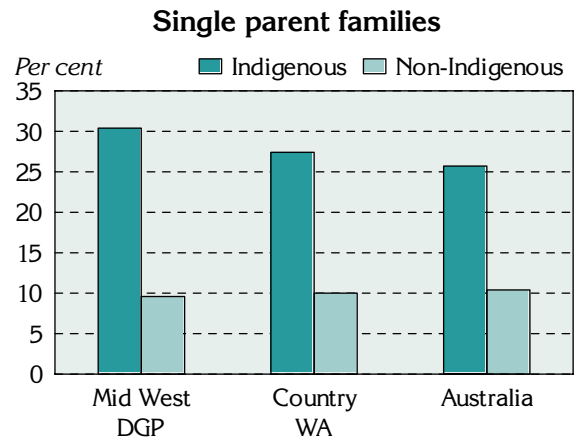
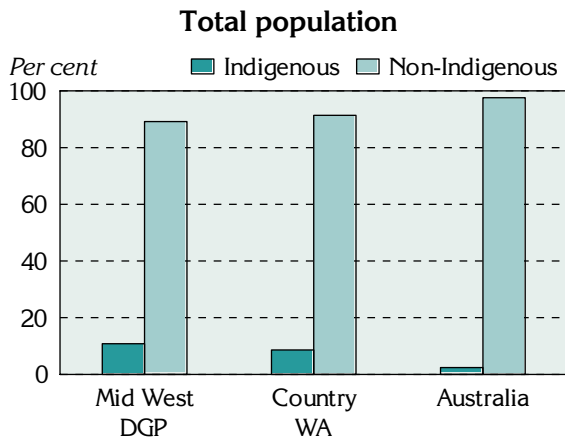
A much higher proportion of the Indigenous population were living in dwellings rented from the State housing authority (34.8%), compared to the non-Indigenous population (5.1%). The Indigenous public housing rental rate in country Western Australia was slightly lower (30.6%). The proportion of the population (Indigenous and non-Indigenous combined) in the Division receiving rent assistance from Centrelink (13.4%), was consistent with that for country Western Australia (12.8%).

The proportion of the population in Mid West DGP who reported using a computer at home (10.2%), was above that for the Indigenous population in country Western Australia (8.4%), but substantially lower than the non-Indigenous rate in the Division (36.8%). The rate of home Internet use by the Indigenous population in the Division (4.1%) was higher than the rate for the Indigenous population in country Western Australia (3.3%), but was substantially lower than the non-Indigenous rate in the Division (22.5%).

¹References to 'country Western Australia' relate to Western Australia excluding the Perth Statistical Division

Figure 3: Socio-demographic indicators by Indigenous status, Mid West DGP‡, country Western Australia and Australia, 2001

Note the different scales



Note: The 'Total population' figure is based on the experimental estimates of Aboriginal and Torres Strait Islander people; the remaining figures are based on ABS Census data

‡ See note under 'Data converters and mapping' re calculation of Division totals

Data sources: see 'Data sources and limitations' at end of report

Table 3: Socio-demographic indicators, Mid West DGP‡, country Western Australia and Australia, 2001*

Indicator	Mid West DGP‡		Country WA		Australia	
	No.	%	No.	%	No.	%
Population						
- Indigenous	6,677	10.8	11,480	8.6	458,261	2.4
- Non-Indigenous	55,116	89.2	263,033	91.4	18,952,407	97.6
Single parent families						
- Indigenous	406	30.4	2,376	27.4	26,487	25.7
- Non-Indigenous	1,336	9.6	11,626	10.0	503,382	10.4
Full-time secondary school education at age 16						
- Indigenous	41	39.9	245	32.2	5,997	50.5
- Non-Indigenous	444	64.7	4,006	66.9	327,055	80.3
Dwellings rented from State housing authority						
- Indigenous	524	34.8	2,726	30.6	23,974	20.8
- Non-Indigenous	935	5.1	6,193	4.1	284,502	4.5
People who used a computer at home						
- Indigenous	590	10.2	3,239	8.4	73,636	18.0
- Non-Indigenous	21,482	36.8	305,279	68.8	7,761,390	44.1
People who used the Internet at home						
- Indigenous	239	4.1	1,273	3.3	35,384	8.6
- Non-Indigenous	13,158	22.5	106,585	24.0	5,135,445	29.2
Households receiving rent assistance	2,746	13.4	20,984	12.8	1,006,599	15.0

‡ See note under 'Data converters and mapping' re calculation of Division totals

The unemployment rate for the Indigenous population in Mid West DGP (23.6%) was almost three times that of the non-Indigenous population (8.0%) (Table 4) and higher than the rate for the Indigenous population for country Western Australia (15.1%). However, taking into account the Indigenous population receiving payments as part of the Community Development Employment Projects (CDEP) scheme (effectively an Aboriginal work-for-the-dole scheme), the 'real' Indigenous unemployment rate of 38.8% is substantially higher, but is notably lower than the 'real' indigenous unemployment rate of 51.9% in country Western Australia.

Table 4: Unemployment and labour force participation, Mid West DGP‡, country Western Australia and Australia, 2001

Labour force indicators	Mid West DGP‡		Country WA		Australia	
	No.	%	No.	%	No.	%
Unemployment rate						
- Indigenous	380	23.6	1,815	15.1	24,930	20.0
- Non-Indigenous	2,236	8.0	15,100	6.8	624,337	7.3
Labour force participation (incl. CDEP as employed)						
- Indigenous	1,611	49.8	12,022	53.9	124,517	52.4
- Non-Indigenous	27,867	72.5	220,520	74.5	8,609,525	72.9
Female labour force participation (incl. CDEP as employed)						
- Indigenous	658	42.6	4,913	46.6	52,981	46.6
- Non-Indigenous	10,389	70.0	82,997	69.7	3,564,409	69.8
Indigenous unemployment rate						
- excluding CDEP	380	23.6	1,815	15.1	24,930	20.0
- CDEP	244	15.2	4,420	36.8	17,662	14.2
- Total (including CDEP)	624	38.8	6,235	51.9	42,592	34.2

‡ See note under 'Data converters and mapping' re calculation of Division totals

Labour force participation in the Division (in this case with those under the CDEP counted as employed) was 49.8%, slightly lower than for the Indigenous population in country Western Australia (53.9%), and two thirds the participation rate of the Division’s non-Indigenous population (72.5%) (Table 4). Similarly, the Indigenous female labour force participation rate of 42.6% was marginally below the Indigenous rate for country Western Australia (46.6%), and less than two thirds the participation rate for the Division’s non-Indigenous females (70.0%).

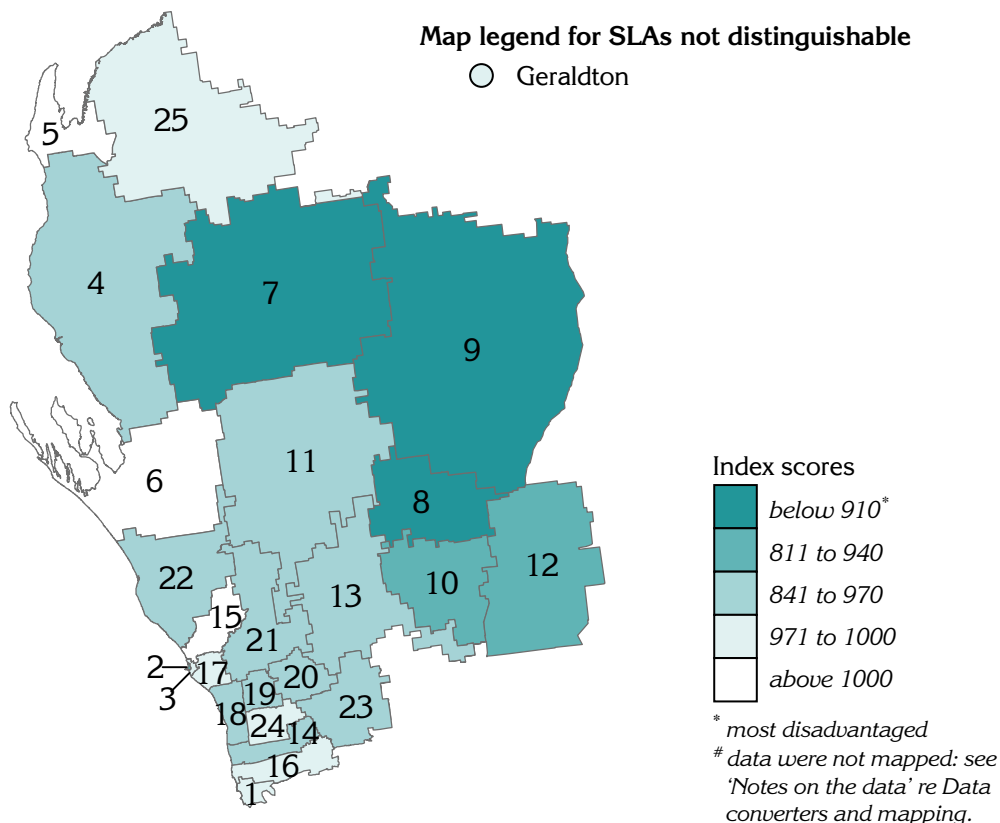
Summary of the socioeconomic ranking of the Mid West DGP

Following the 2001 Census, the Australian Bureau of Statistics (ABS) produced four socioeconomic indexes for areas (SEIFA) which describe various aspects of the socioeconomic profile of populations in areas. The scores for these indexes for each Statistical Local Area (SLA) or part SLA in Mid West DGP are shown in the supporting information, Table 13, page 20: SLAs are described on page 21.

The Mid West DGP area’s SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) score from the 2001 Census is 957, 4.3% below the average score for Australia (1000) and below that for country Western Australia (966); this highlights the relatively lower socioeconomic status profile of the Division’s population. Variations in the IRSD within the Division are shown at the SLA level (Map 1).

Map 1: Index of Relative Socio-Economic Disadvantage by SLA, Mid West DGP, 2001

See ‘Notes on the data’ re Data converters and mapping concerning SLAs mapped to the Division. This is of particular relevance where part of an SLA is mapped to the Division.



Alphabetical key to Statistical Local Areas, Mid West DGP, 2001

Ashburton	25	Mingenew	19
Carnamah	14	Morawa	20
Carnarvon	4	Mount Magnet	10
Chapman Valley	15	Mullewa	21
Coorow	16	Murchison	11
Cue	8	Northampton	22
Dandaragan	1	Perenjori	23
Exmouth	5	Sandstone	12
Geraldton	2	Shark Bay	6
Greenough - Part A	3	Three Springs	24
Greenough - Part B	17	Upper Gascoyne	7
Irwin	18	Yalgoo	13
Meekatharra	9		

General medical practitioner (GP) supply

A total of 33.8 full-time equivalent (FTE) GPs and 36.4 full-workload equivalent (FWE²) GPs worked in the Division in 2003/04 (Table 5). Of the FWE GPs, 19.8% were female, and 31.7% were over 55 years of age (compared to 26.1% and 27.8%, respectively, for Western Australia).

Apart from the day-time population, the rates of population per FTE GP varied, depending on the population measure used, from a high of 1,949 people per GP (calculated on the 1 August 2001 Census count – all people counted in the Division on Census night, including visitors from Australia and overseas), to a low of 1,721 people per GP (calculated on the 1 August 2001 Usual Resident Population (URP) – usual residents of the Division counted in Australia on Census night). The rates of population per FWE GP were lower, ranging from 1,602 (calculated on the URP) to 1,814 (calculated on the Census count). When calculated on the estimated day-time population, the rates of population in the Division differed little from those calculated on the URP.

Based on the ERP, the rates of population per GP in Mid West DGP were higher than the rates for Western Australia and Australia, indicating a lower level of provision of GP services in the Division.

Table 5: Population per GP in Mid West DGP, Western Australia and Australia, 2003/04

Population measure	Population	GPs		Population per GP	
		FTE	FWE	FTE	FWE
Mid West DGP					
Census count (adjusted)*	65,955	33.8	36.4	1,949	1,814
Usual Resident Population (URP) (adjusted)*	58,261	..	..	1,721	1,602
Estimated Resident Population (ERP)	60,880	..	..	1,799	1,674
Day-time population (estimated on URP)* ‡	58,184	..	..	1,719	1,600
Western Australia (ERP)	1,966,076	1,284	1,450	1,531	1,356
Australia (ERP)	19,989,303	14,246	16,872	1,403	1,185

* The Census count, Usual Resident Population and Day-time population were adjusted to reflect population change between 2001 and 2003/04, as measured by the ERP

‡ See note under 'Data converters and mapping' re calculation of Division totals

Immunisation

Data from the Australian Childhood Immunisation Register show that 89.6% of children in the Division in 2002 were fully immunised at age one, below the Australian proportion of 94.2%.

Immunisation by provider type for children between the ages of 0 to 6 is shown in Table 6. The proportion of children in the Division who were immunised by a general practitioner was a low 8.2% compared to 70.0% for Australia, with 82.7% immunised at a community health centre, or by a community health worker, and 5.7% at a local government council.

Table 6: Childhood immunisation at ages 0 to 6 by provider type, Mid West DGP and Australia, 2003/04

Provider	Mid West DGP	Australia
	%	%
General Practitioner	8.2	70.0
Local government council	5.7	16.6
Community health centre/ worker	82.7	9.8
Public hospital	0.0	2.1
Aboriginal health service/ worker	3.4	0.9
Other*	0.0	0.6
Total: Per cent	100.0	100.0
Number	14,256	3,843,610

* Includes immunisations in/ by State Health Departments, RFDS and private hospitals

² The FWE value is calculated for each GP location by dividing the GP's total Medicare billing (Schedule fee value of services provided during the reference period) by the mean billing of full-time doctors in that derived major speciality for the reference period. Thus, a GP earning 20% more than the mean billing of full-time doctors is shown as 1.2 FWE: this differs from full-time equivalent (FTE) counts, where the FTE value of any GP cannot exceed 1.0

Premature mortality

Deaths at ages below 75 years are used as an indicator of health status, as they largely reflect premature deaths, given the current levels of life expectancy in Australia. The 'all causes' death rate in the Division at ages 0 to 74 years (251.0 deaths per 100,000 population) is much lower than for country Western Australia (289.1), and Australia (290.4); the rates have been age standardised to allow for comparisons between areas, regardless of differences in age profiles between the Division and Australia.

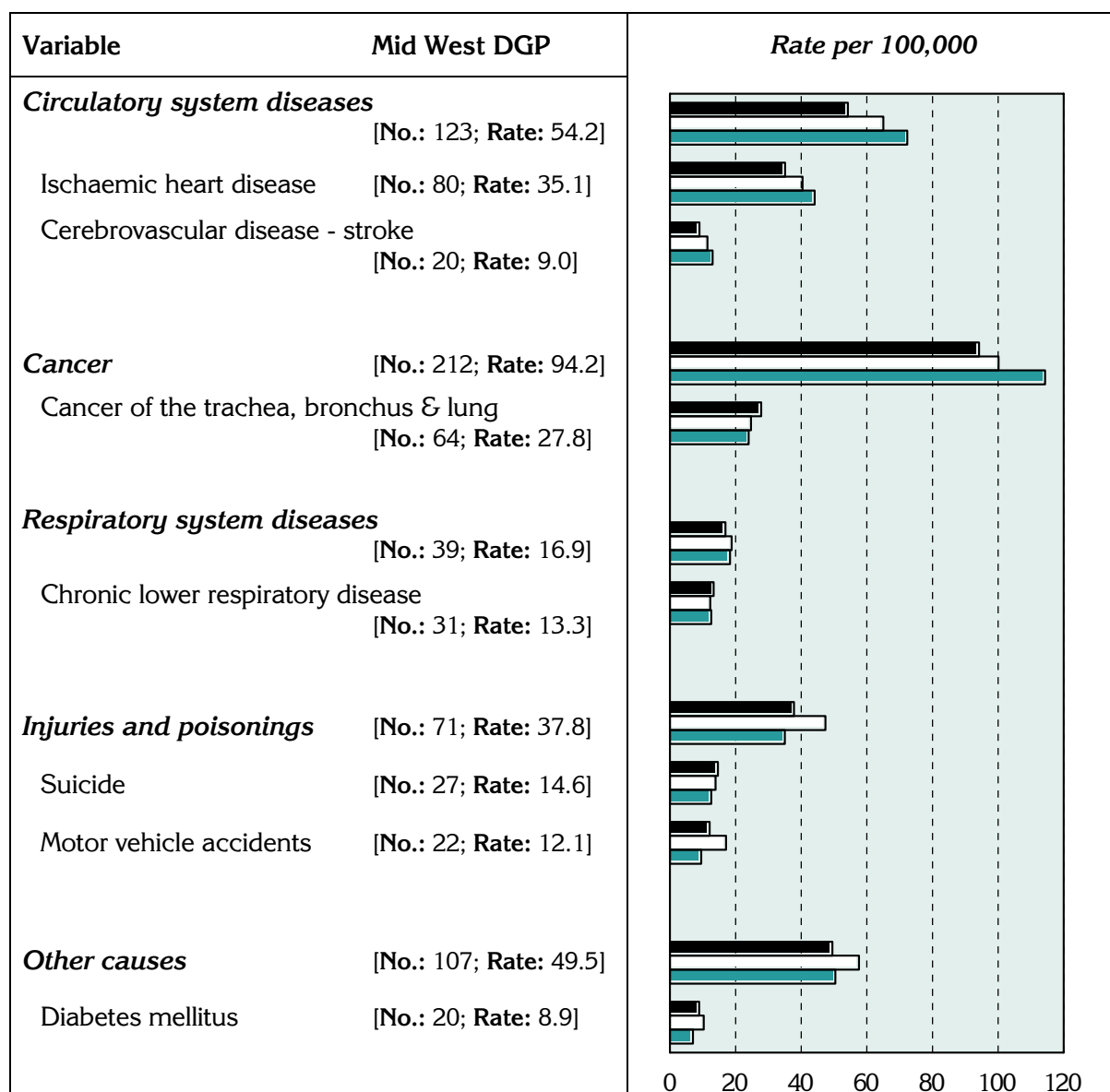
The major causes of premature mortality in the Division, as for country Western Australia and Australia, were cancer and diseases of the circulatory system (Figure 4). With the exception of cancer of the trachea, bronchus and lung respiratory system diseases and suicide, death rates in the Division for the major conditions shown were lower than, or similar to, those for Australia. The Division's rates were also generally lower than the rates for country Western Australia.

The data on which the following chart is based are in Table 16.

Figure 4: Deaths before 75 years of age, by major condition group and selected cause, Mid West DGP‡, country Western Australia and Australia, 2000-02*

Indirectly age standardised rate per 100,000 population

■ Mid West DGP □ Country WA ■ Australia



* 'No.' is the total number of deaths for the 2000-02 period; 'Rate' is an annual rate, based on the 3-year average

‡ See note under 'Data converters and mapping' re calculation of Division totals

Chronic diseases and risk factors: Geraldton (part of Mid West DGP)

The term “chronic disease” describes health problems that persist across time and require some degree of health care management (WHO 2002). Chronic diseases tend to have complex causes, are often long lasting and persistent in their effects, and can produce a range of complications (Thacker et al. 1995). They are responsible for a significant proportion of the burden of disease and illness in Australia and other westernised countries. Given the ageing of the population, this trend is likely to continue.

At different life stages, risk factors for chronic diseases and their determinants include genetic predisposition; poor diet and lack of exercise; alcohol misuse and tobacco smoking; poor intra-uterine conditions; stress, violence and traumatic experiences; and inadequate living environments that fail to promote healthy lifestyles (NPHP 2001). Risk factors are also more prevalent in areas of low socioeconomic status, and in communities characterised by low levels of educational attainment; high levels of unemployment; substantial levels of discrimination, interpersonal violence and exclusion; and poverty. There is a higher prevalence of risk factors among Indigenous communities, and other socioeconomically disadvantaged Australians (NPHP 2001).

Background

In this section, estimates of the prevalence of selected chronic diseases and risk factors, and two summary measures of health, are shown for the Geraldton SLA‡ only as it is a major area within the Mid West DGP (31.6% of the Division’s population). Over 40% of the Division’s population lived in SLAs which were not included in the 2001 Health Survey. Note that the estimates have been predicted from self-reported data, and are not based on clinical records or physical measures. The process by which the estimates have been made, and details of their limitations, are described in the Notes section, pages 17-18. The data on which the following charts are based are in Table 17.

The estimates provide information of relevance to a number of the National Health Priority Areas (NHPAs – asthma; cardiovascular health; diabetes mellitus; injury prevention and control; mental health; and arthritis and musculoskeletal conditions: estimates have not been made for cancer control, the other NHPA). The risk factors for which estimates have been made are those which are accepted as being associated with these important chronic conditions. They are overweight (not obese), obesity, smoking, lack of exercise and high risk alcohol use.

The numbers are estimates for an area, not measured events as are death statistics: they should be used as indicators of likely levels (and not actual levels) of a condition or risk factor in an area.

Prevalence estimates: chronic disease‡

It is estimated that, with the exceptions of injury, musculoskeletal system diseases and arthritis, the rates for the selected chronic conditions in Geraldton SLA were lower than the rates for Australia as a whole (Figure 5): that is, the prevalence rates per 1,000 population were lower.

Prevalence estimates: self-reported health‡

The NHS includes two measures of self-reported health. One is the Kessler Psychological Distress Scale–10 items (K–10). This is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the four weeks prior to interview, asked of respondents 18 years and over (ABS 2002). The other asks respondents aged 15 years and over to rate their health on a scale from ‘excellent’, through ‘very good’, ‘good’ and ‘fair’, to ‘poor’ health.

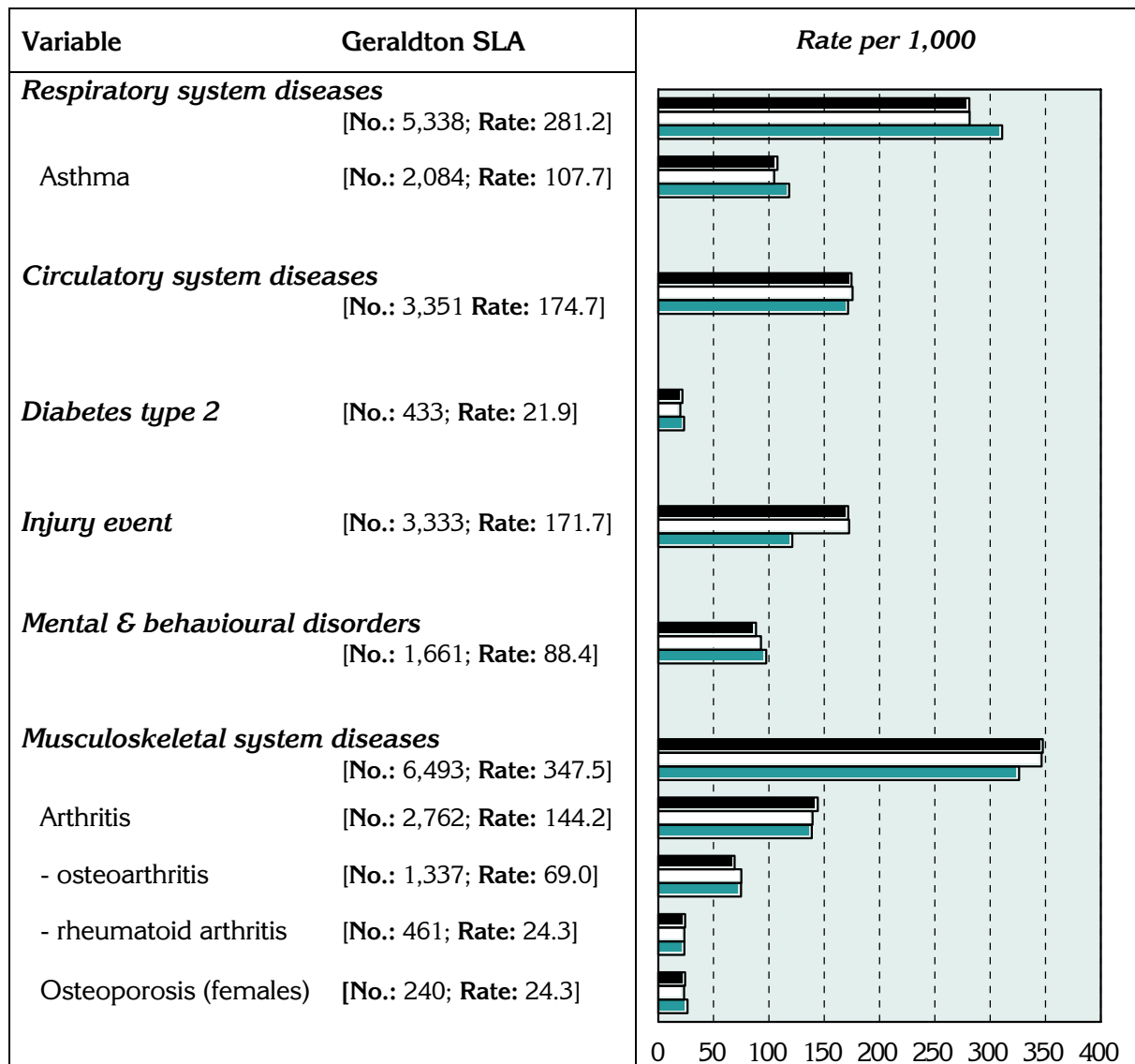
The population of Geraldton SLA aged 18 years and over is estimated to have relatively more people with very high psychological distress levels, as measured by the K–10, compared to Australia overall (Figure 6). The proportion of the population aged 15 years and over estimated to have reported their health as ‘fair’ or ‘poor’ is also above the national rate.

‡ See note under ‘Data converters and mapping’ re calculation of SLA totals

Figure 5: Estimates* of chronic disease and injury, Geraldton SLA‡, country Western Australia, and Australia, 2001

Indirectly age standardised rate per 1,000 population

■ Geraldton SLA □ Country WA ■ Australia



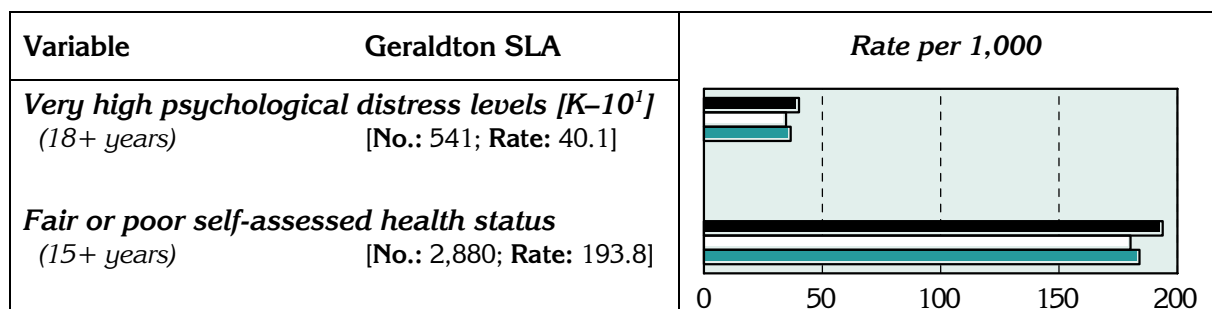
* 'No.' is a weighted estimate of the number of people in Geraldton SLA reporting each chronic condition and is derived from synthetic predictions from the 2001 NHS

‡ See note under 'Data converters and mapping' re calculation of SLA totals

Figure 6: Estimates* of measures of self-reported health, Geraldton SLA‡, country Western Australia, and Australia, 2001

Indirectly age standardised rate per 1,000 population

■ Geraldton SLA □ Country WA ■ Australia



* 'No.' is a weighted estimate of the number of people in Geraldton SLA reporting under these measures and is derived from synthetic predictions from the 2001 NHS.

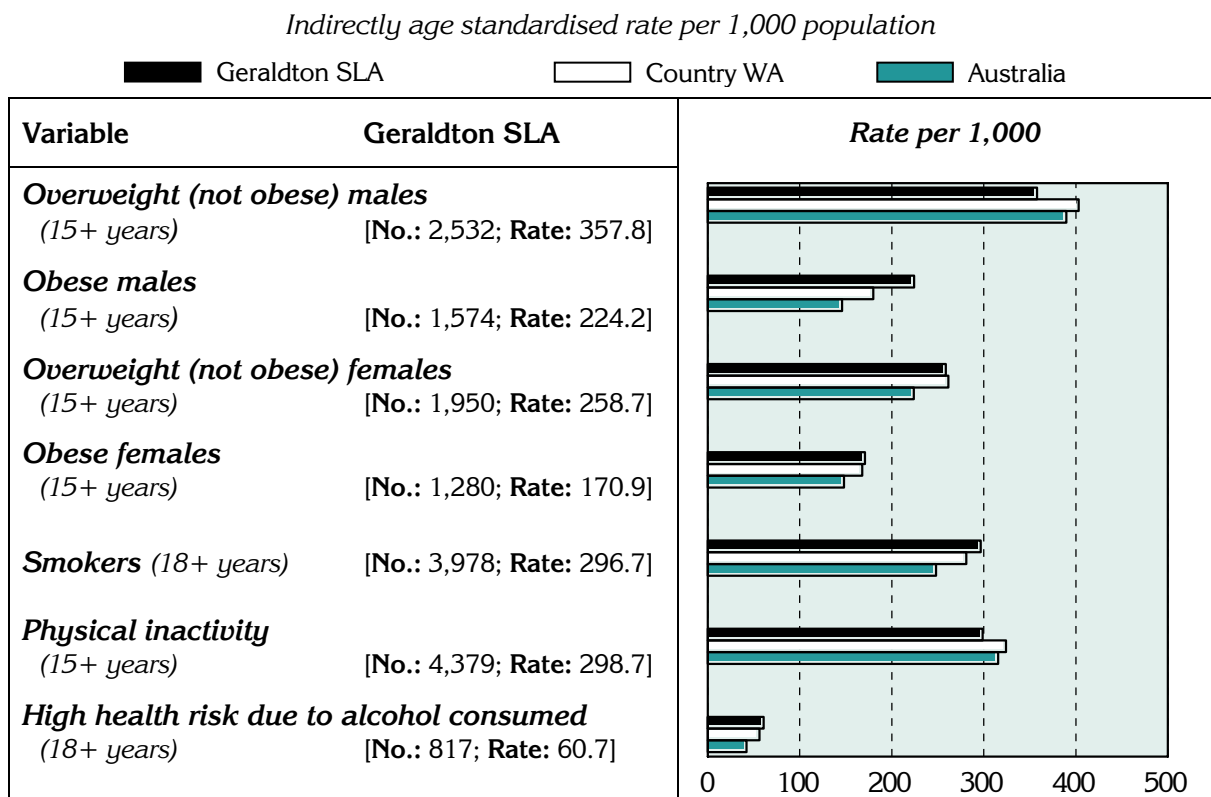
¹ Kessler 10

‡ See note under 'Data converters and mapping' re calculation of SLA totals

Prevalence estimates: risk factors‡

With the exceptions of overweight (not obese) males and physical inactivity, the reported rates in Geraldton SLA for the selected risk factors were notably higher than those for Australia (Figure 7).

Figure 7: Estimates* of selected risk factors, Geraldton SLA‡, country Western Australia, and Australia, 2001



* 'No.' is a weighted estimate of the number of people in Geraldton SLA with these risk factors and has been predicted using data from the 2001 NHS and known data for the Division

‡ See note under 'Data converters and mapping' re calculation of SLA totals

Health and wellbeing of Aboriginal and Torres Strait Islanders in remote areas

Background

Estimates of the prevalence of chronic diseases and risk factors are not available for the remote areas in this Division. However, given the relatively high proportion of Indigenous population, some data available from the 2002 National Aboriginal and Torres Strait Islander Social Survey and the 2001 National Health Survey have been included in this profile. These data provide a description of aspects of the health and wellbeing of Aboriginal and Torres Strait Islander people living in remote areas; in some cases they also allow for a comparison of aspects of the health of Indigenous and non-Indigenous populations and, in others, for a comparison of people living in remote and non-remote areas. More detailed disaggregations than those shown here (eg. for the non-Indigenous population in remote areas) were not available from these surveys.

Remote areas in this context cover 86.4% of Australia's landmass; and, while they comprise just 3.0% of the total population, a large proportion (28.0%) of the Indigenous population live in these areas. The Mid West Division is classed as partly Remote under the ARIA+ remoteness classification (see *Notes on the data*, page 16); under this classification approximately 24.0% of the Division's population lives in areas classed as Remote, with 12.5% in Very Remote locations. The majority of the population (approximately 62.0%) lives in areas classified as Moderately Accessible, including Geraldton (31.6%).

Although these data can provide a guide to average levels of health and wellbeing in the Division, they should not be read to say that Indigenous health and wellbeing in the Mid West DGP is the same as is shown by these data. Clearly, the large area of Australia covered by this term 'remote' is very diverse in nature: it includes a range of population groups, living in a variety of situations, from urban to rural to isolated communities. Other data are available from a variety of sources (including State and Territory health agencies) and those of relevance to Divisions could be included in subsequent editions of the profiles.

National Aboriginal and Torres Strait Islander Social Survey and Health Survey

The data in this section are from the ABS publications 2001 National Health Survey and National Aboriginal and Torres Strait Islander Social Survey, Australia, 2002 (or were provided by the ABS as special data extractions from data in this survey). The data are self-reported and are not based on clinical records or physical measures.

Just over half (54.2%) of the Indigenous population in the remote areas of Australia reported speaking an Indigenous language. Those in the lowest income group were almost two and a half times more likely (than those in the three highest income groups) to do so: for ease of reading, these income groups are referred to in the text below as 'low' and 'high'. The difference in this characteristic between people in remote and non-remote areas is over six times (6.3). Note that almost one quarter (23.6%) of Aboriginal and Torres Strait Islander people in the remote areas did not have an income defined in the NHS, so were not included in the comparisons by income group. For almost all of the characteristics in Table 7, the outcome for those where an income was not defined showed poorer health, or greater disadvantage, than those for whom income was available. For example, Indigenous people living in remote areas and for whom an income was not available were 37% more likely (than those reporting an income) to speak an Indigenous language (a rate ratio of 1.37).

The information in Table 7 has been restricted to show the rate (proportion) for the remote areas only, and the rate ratios between income groups and the remote and non-remote areas: the data from which the rate ratios have been calculated are available on the PHIDU web site.

Table 7: Summary characteristics of Aboriginal and Torres Strait Islander people, by remoteness and income group, Australia, 2002

Characteristic	Remote areas	Low income cf. with high income (RR*)		Remote cf. with non-remote (RR**)
	Per cent	Remote	Non-remote	
Family and culture				
Able to get support in time of crisis from outside household	86.9	0.99	0.93	0.95
At least one stressor experienced in last 12 months	85.5	1.09	1.03	1.06
Speaks an Indigenous language	54.2	2.45	1.69	6.30
Health and disability				
Self-assessed health status				
Excellent/very good	44.2	0.94	0.66	1.00
Fair/poor	20.0	1.25	2.34	0.82
Disability or long term health condition	35.4	1.30	1.64	0.96
Risk behaviour/characteristic				
Current daily smoker	50.4	1.16	1.66	1.05
Risky/high risk alcohol consumption in last 12 months	16.8	0.81	0.97	1.16
Educational attainment				
Has a post-school qualification	18.1	0.36	0.47	0.57
Does not have a post-school qualification				
Completed Year 12	9.0	0.72	0.31	0.83
Completed Year 10 or Year 11	27.8	0.97	1.34	1.01
Completed Year 9 or below, or did not attend	45.1	2.06	3.01	1.51
Total with no post-school qualification	81.9	1.35	1.44	1.20
Employment				
Employed: CDEP				
Non-CDEP	19.2	0.11	0.12	0.48
Total employed	51.7	0.39	0.17	1.17
Unemployed	5.9	4.52	3.38	0.35
Not in the labour force	42.5	3.91	4.99	1.09
Financial stress				
Unable to raise \$2,000 in a week for something important	73.0	2.02	3.55	1.54
Law and justice				
Victim of physical, threatened violence in last 12 months	22.7	0.89	1.82	0.91
Transport access				
Can easily get to the places needed	65.6	0.74	0.71	0.91
Cannot, or often has difficulty, getting to places needed	16.6	3.96	3.31	1.69
Mobility				
Moved dwellings in last 12 months	27.2	0.80	1.26	0.84
Information technology				
Used computer in last 12 months	34.4	0.45	0.63	0.54
Accessed the Internet in last 12 months	21.6	0.37	0.50	0.45

* RR is ratio of the rate for the 20% of the Indigenous population with the lowest income to the rate for the 60% with the highest income

** RR is ratio of the rate for the Indigenous population in the remote areas compared to that in the non-remote areas

Source: ABS 2002 NATSIS, 2002 (unpublished data)

The relevance of the measure of self-reported health for Aboriginal and Torres Strait Islander people has been questioned. For example, while 20% of Aboriginal and Torres Strait Islander people in the remote areas reported their health to be fair or poor, this was 18% fewer than in the non-remote areas, a finding that would not appear to be supported by other data.

Despite this result, there is a variation within the remote areas, with the low income Aboriginal and Torres Strait Islander people 25% more likely than those with a high income to report their health as fair, or poor (a rate ratio of 1.25).

In the remote areas, disability and smoking (reported by 35.4% and 50.4%, respectively) show a relationship with disadvantage (higher rates in low, compared with high, income groups), but risky/high risk levels of alcohol consumption over the previous 12 months do not. However, reported rates of alcohol consumption at high-risk levels (reported by 16.8%) are 16% higher in remote than in non-remote areas.

Similarly, there is a clear association for Aboriginal and Torres Strait Islander people between high levels of educational attainment and income. For example, Aboriginal and Torres Strait Islander people in the low income group were more likely to report having no post-school qualifications (i.e. no qualification beyond secondary school) (35% higher for low income than high income groups); and those in remote areas 20% higher compared with those in non-remote areas.

Not surprisingly, the employment rate (including CDEP) is extremely strongly related to income levels, with 61% fewer in the low income group having employment (a rate ratio of 39%) in remote areas: conversely, four and a half times the number in the low income group are unemployed, compared with the high income group. Similarly, striking differentials apply in the non-remote areas.

The impact of disadvantage among Aboriginal and Torres Strait Islander people in remote areas is evident in a number of the remaining variables, with almost three quarters (73.0%) unable to raise \$2,000 in a week for something important, two-thirds (65.6%) reporting difficulty with transport and high proportions reporting lack of access to a computer and the Internet.

Reporting by Aboriginal and Torres Strait Islander people of selected long-term conditions (Table 8) is generally higher in remote than non-remote areas; the differentials for a number of conditions are even larger between the Indigenous and non-Indigenous populations. The impacts on the Indigenous community of diabetes and circulatory problems/ diseases are examples of these differences. The situation is similar for health-related actions, with the notable exception of doctor consultations, which are 11% lower in remote areas than non-remote areas for the Indigenous population; however, the Indigenous population across Australia as a whole reported more doctor consultations than did the non-Indigenous population.

Table 8: Summary health characteristics, by Indigenous status and remoteness, Australia, 2001

Age standardised rates (as per cent)

Health characteristic	Indigenous			Non-Indigenous	RR**
	Remote	Non-remote	RR*	Total	
Selected long-term conditions					
Diabetes	16	9	1.78	3	3.67
Eye/sight problems	38	49	0.78	51	0.90
Ear/hearing problems	17	18	0.94	14	1.29
Circulatory problems/diseases	24	18	1.33 [#]	17 [#]	1.12 [#]
Asthma	15	18	0.83	12	1.42
Back problems	21	22	0.95 [#]	21 [#]	1.05
No long-term condition	29	20	1.45 [#]	22 [#]	1.00
Health-related actions¹					
Admitted to hospital	21	19	1.11	12	1.67
Visited casualty/outpatients	9	5	1.80	3	2.00
Doctor consultation (GP and/or specialist)	24	27	0.89 [#]	24 [#]	1.13
Dental consultation	7	5	1.40 [#]	6 [#]	0.83
Consultation with other health professional	27	16	1.69	13	1.38
Day(s) away from work/study	11	9	1.22 [#]	10 [#]	1.00

* RR is ratio of % in remote to % in non-remote for the Indigenous population

** RR is ratio of % Indigenous to % non-Indigenous

[#] Difference between total Indigenous and non-Indigenous data is not statistically significant

¹ Hospital admissions relate to the 12 months prior to interview. All other health-related actions relate to the two weeks prior to interview

Source: ABS 2001 NHS Cat. No. 4714.0, Table 1

Details of the immunisation status of adult Australians are not available from administrative sources (as are children's immunisations) so self-reported data again provide the only picture of the characteristics of the population groups who are immunised against various conditions (Table 9).

Aboriginal and Torres Strait Islander people living in remote areas were 67.0% more likely to have had this vaccination than those living in non-remote areas to have reported having a vaccination for influenza in last 12 months; and overall (the Indigenous population living in remote and non-remote areas) were 9.0% more likely than the non-Indigenous population. The ratio of the rates for those reporting having a vaccination for pneumonia in last 12 months were substantially stronger, being 2.53 (more than two and a half times higher for Indigenous population in remote areas) and 1.79 (79% higher for Indigenous compared with non-Indigenous).

Table 9: Immunisation status of people aged 50 years and over, by Indigenous status and remoteness, Australia, 2001

Per cent

Immunisation status	Indigenous				Non-Indigenous	
	Remote	Non-remote	Total	RR*	Total	RR**
Influenza						
Had vaccination for influenza in last 12 months	75	45	51	1.67	47	1.09
Had vaccination for influenza but not in last 12 mths	na	11	10	..	11	1.10
Never had vaccination for influenza	16 [#]	43	37	0.37	41	0.90
Pneumonia						
Had vaccination for pneumonia in last 5 years	48	19	25	2.53	14	1.79
Had vaccination for pneumonia but not in last 5 years	na	4 [#]	3 [#]	..	1	..
Never had vaccination for pneumonia	38	75	67	0.51	84	0.80

* RR is ratio of % in remote to % in non-remote for the Indigenous population

** RR is ratio of % Indigenous to % non-Indigenous

[#] estimate has a relative standard error of between 25% to 50% and should be used with caution

Source: ABS 2001 NHS Cat. No. 4714.0, Table 19

The limited range of health information available for Aboriginal and Torres Strait Islander women living in remote areas shows that they are more likely (than Indigenous women in non-remote areas) to have breastfed their child (77% and 59%, respectively) (and also more likely than the non-Indigenous population (53%)). Lower proportions also reported not having children (Table 10).

Indigenous women are more likely to have had a Pap smear test. However, Indigenous women who reported having a Pap smear test were more likely to be living in remote than in non-remote areas (17% higher).

Table 10: Summary women's health characteristics, by Indigenous status and remoteness, Australia, 2001

Age standardised rates (as per cent)

Women's health characteristics	Indigenous				Non-Indigenous	
	Remote	Non-remote	Total	RR*	Total	RR**
Mammograms (aged 40 years and over)						
Has regular mammograms	36 [#]	45	43	0.80	46	0.93
Never had a mammogram	41	20	25	2.05	25	1.00
Pap Smear test						
Has regular Pap smear tests	56	48	50	1.17	55	0.91
Never had a Pap smear test	19	8	11	2.38	12	0.92
Breastfeeding history						
Children breastfed	77	59	63	1.31	53	1.19
Children not breastfed	4 [#]	12	11	0.33	9	1.22
Has not had children	13	15	14	0.87	29	0.48

* RR is ratio of % in remote to % in non-remote for the Indigenous population

** RR is ratio of % Indigenous to % non-Indigenous

[#] estimate has a relative standard error of between 25% to 50% and should be used with caution

Source: ABS 2001 NHS Cat. No. 4714.0, Table 22

Notes on the data

Data sources and limitations

General

References to 'country Western Australia' relate to Western Australia, excluding Perth Statistical Division.

Remote areas

The Department of Health and Ageing have developed a classification of remoteness (ARIA+), subsequently amended by the ABS, which includes five area classes - Highly Accessible, Accessible, Moderately Accessible, Remote and Very Remote (a sixth category, Migratory, applies to Census data). Areas in the Remote and Very Remote classes were excluded from the 2001 National Health Survey.

Data sources

Table 11 details the data sources for the material presented in this profile.

Table 11: Data sources

Section	Source
Key indicators	
GP services per head of population	GP services data supplied by Department of Health and Ageing, 2003/04 Population data: Estimated Resident Population, ABS, mean of 30 June 2003 and 30 June 2004 populations
Socio-demographic profile	
Figures 1 and 2; Tables 1 and 2	Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001 (unpublished)
Figure 3, Tables 3 and 4	Data were extracted by postal area from the ABS Population Census 2001, except for the following indicators: - <i>Total population</i> – Experimental estimates, ABS 2001 (unpublished) - <i>Full-time secondary education participation at age 16</i> – Census 2001 (unpublished) - <i>Households receiving rent assistance</i> – Centrelink, December Quarter 2001 (unpublished)
Map 1; Table 13	ABS SEIFA package, Census 2001
General medical practitioner (GP) supply	
Table 5	GP data supplied by Department of Health and Ageing, 2003/04 Population estimates used in calculating the population per GP rates are the: - Census count ¹ , ABS Population Census 2001, scaled to 2003/04 - Usual Resident Population ² , ABS Population Census 2001, scaled to 2003/04 - Day-time population: calculated from journey to work data, ABS Population Census (URP) 2001 (unpublished); and 2001 Census URP, scaled to 2003/04 - Estimated Resident Population, ABS, June 2003/2004
Immunisation	
Text comment: 1 year olds	National Centre for Immunisation Research and Surveillance, 2002
Table 6	Australian Childhood Immunisation Register, Health Insurance Commission, 2003/04 (unpublished)
Premature mortality	
Figure 4; Table 16	ABS Deaths, 2000 to 2002
Chronic diseases and associated risk factors (see Notes Table 12)	
Figures 5, 6 and 7; Table 17	Estimated from 2001 National Health Survey (NHS), ABS (unpublished)
National Aboriginal and Torres Strait Islander Social Survey and Health Survey	
Table 7	ABS 2002 NATSIS, 2002 (unpublished)
Tables 8, 9 and 10	ABS 2001 NHS Cat. No. 4714.0 – Tables 1, 19 and 22

¹ *Census count* - those counted in the Division on Census night, including tourists, business people and other visitors

² *Usual Resident Population* - those who usually live there and who were in Australia at the time and would have provided details in the Census at the address where they were counted

Chronic diseases and associated risk factors

The data for chronic conditions and risk factors have been estimated from the 2001 National Health Survey (NHS), conducted by the ABS: see note below on synthetic estimates. The NHS sample includes the majority of people living in private households, but excludes the most remote areas of Australia. These areas cover 86.4% of Australia's land mass and comprise just 3% of the total population, however, 28% of Australia's Indigenous population live in these areas. Thus it has not been possible to produce these estimates for Divisions with relatively high proportions of their population in the most remote areas of Australia.

The data for chronic conditions and risk factors are self-reported data, reported to interviewers in the 2001 NHS. Table 12 includes notes relevant to this data.

Table 12: Notes on estimates of chronic diseases and associated risk factors

Indicator	Notes on the data
Estimates of chronic disease and injury (Figure 5)	
Long term conditions	- Respondents were asked whether they had been diagnosed with any long term health condition (a condition which has lasted or is expected to last for 6 months or more), and were also asked whether they had been told by a doctor or nurse that they had asthma, cancer, heart and circulatory conditions, and/or diabetes
Injury event	- Injuries which occurred in the four weeks prior to interview
Estimates of measures of self-reported health (Figure 6)	
Very high psychological distress levels (K10)	- Derived from the Kessler Psychological Distress Scale-10 items (K-10), which is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the 4 weeks prior to interview. 'Very high' distress is the highest level of distress category (of a total of four categories)
Fair or poor self-assessed health status	- Respondent's general assessment of their own health, against a five point scale from excellent through to poor – 'fair' or 'poor' being the two lowest in the scale
Estimates of selected risk factors (Figure 7)	
Overweight (not obese)	- Based on self-reported height and weight; BMI calculated and grouped into categories (to allow reporting against both WHO and NHMRC guidelines) - overweight: 25.0 to less than 30.0
Obese	- Based on self-reported height and weight; BMI calculated and grouped into categories (to allow reporting against both WHO and NHMRC guidelines) – obese: 30.0 and greater
Smokers	- Respondent's undertaking regular (or daily) smoking at the time of interview
Physical inactivity	- Did not exercise in the two weeks prior to interview through sport, recreation or fitness (including walking) – excludes incidental exercise undertaken for other reasons, such as for work or while engaged in domestic duties
High health risk due to alcohol consumed	- Respondents estimated average daily alcohol consumption in the seven days prior to interview (based on number of days and quantity consumed). Alcohol risk levels were grouped according to NHMRC risk levels for harm in the long term, with 'high risk' defined as a daily consumption of more than 75 ml for males and 50 ml for females

Note: For a full description, refer to *ABS 2001 National Health Survey, Cat. No. 4364.0* and *ABS 2001 Health Risk Factors, Cat. No. 4812.0*

Methods

Synthetic estimates

The estimates of the prevalence of chronic disease and associated risk factors have been predicted for a majority of SLAs across Australia, using modelled survey data collected in the 2001 ABS National Health Survey (NHS) and known characteristics of the area. A synthetic prediction can be interpreted as the likely value for a 'typical' area with those characteristics: the SLA is the area level of interest for this project (where SLAs had small populations they were grouped to larger areas). This work was undertaken by the Australian Bureau of Statistics, as they hold the NHS unit record files: the small area data were compiled by PHIDU.

The approach used is to undertake an analysis of the survey data for Australia to identify associations in the NHS data between the variables that we wish to predict at the area level (eg. prevalence of chronic conditions and risk factors) and the data we have at the area level (eg. socioeconomic status, use of health services). The relationship between these variables for which we have area level data (the predictors) and the reporting of chronic conditions in the NHS is also a part of the model that is developed by the ABS. For example, such associations might be between the number of people reporting specified chronic conditions in the NHS and:

- the number of hospital admissions (in total, to public and to private hospitals, by age, sex and diagnosis),
- socioeconomic status (as indicated by Census data, or for recipients of government pensions and benefits), and
- the number of visits to a general medical practitioner.

The results of the modelling exercise are then applied to the SLA counts of the predictors. The prediction is, effectively, the likely value for a typical area with those characteristics. The raw numbers were then age-standardised, to control for the effects of differences in the age profiles of areas.

The numbers are estimates for an area, not measured events as are death statistics: they should be used as indicators of likely levels of a condition or risk factor in an area.

Premature deaths

Details of deaths by SLA were purchased from the ABS. The raw numbers were then age-standardised, by the indirect method, to control for the effects of differences in the age profiles of areas.

Data converters and mapping

Conversion to Division of data available by postcode

The allocation of postcodes to Divisions was undertaken using information from the Department of Health and Ageing's web site, which shows the proportion of a postcode in a Division (Table 14).

Conversion to Division of data available by SLA

(marked in this profile as ‡ See note under 'Data converters and mapping' re calculation of Division total)

Where the data presented in these profiles were only available by SLA they have been converted to Division of General Practice areas using a concordance based on data at the 2001 Census. A copy of the concordance is included in the Population data: A Guide for Divisions of General Practice: it is also available from the Divisions' data area on PHIDU web site.

In brief, the concordance splits the data (eg number of deaths) for each SLA across one or more Divisions. The proportion of an SLA's data that is allocated to each Division was calculated from (a) CD level Census 2001 data that splits SLAs across approximations to postcodes (referred to as postal areas) and (b) data on the DoHA website that splits postcodes across Divisions. This concordance can be adjusted to meet any new configuration of Division boundaries based on the 2001 Collection Districts, or combinations thereof.

The estimated population of each SLA in this Division is shown in Table 15.

Mapping

In some Divisions the maps may include a very small part of an SLA which has not been allocated any population, or either has a population of less than 100 or has less than 1% of the SLA's total population: these areas are mapped with a pattern.

Supporting information

This and other information is also available at www.publichealth.gov.au.

A definition of population health

Population health, in the context of general practice, has been defined¹ as:

“The prevention of illness, injury and disability, reduction in the burden of illness and rehabilitation of those with a chronic disease. This recognises the social, cultural and political determinants of health. This is achieved through the organised and systematic responses to improve, protect and restore the health of populations and individuals. This includes both opportunistic and planned interventions in the general practice setting.”

The key determinants of health are social support networks, employment and working conditions, social environments, physical environments, geographical isolation, personal health practices, healthy child development, ageing and disability, biology and genetic endowment, health services, gender and culture.

In the Aboriginal and Torres Strait Islander context this means that a population health approach to health services will assist in ensuring “that Aboriginal and Torres Strait Islander people enjoy a healthy life equal to that of the general population, that is enshrined by a strong living culture, dignity and justice”.² This recognises the importance of achieving improvements to Aboriginal and Torres Strait Islander health and respects the particular health issues facing Indigenous people.

¹ “The role of general practice in population health – A Joint Consensus Statement of the General Practice Partnership Advisory Council and the National Public Health Partnership Group” (Joint Advisory Group on General Practice and Population Health 2001)

² As defined in the Strategic Framework for Aboriginal and Torres Strait Islander Health

SEIFA scores

Following the 2001 Census, the Australian Bureau of Statistics (ABS) produced four socioeconomic indexes for areas (SEIFA). The indexes describe various aspects of the socioeconomic make-up of populations in areas, using data collected in the 2001 Census.

The Index of Relative Socio-Economic Disadvantage (labelled ‘Disadvantage’ in Table 13) includes all variables that either reflect or measure disadvantage. The Index of Advantage/Disadvantage is used to rank areas in terms of both advantage and disadvantage: any information on advantaged persons in an area will offset information on disadvantaged persons in the area. The Index of Economic Resources and the Index of Education and Occupation were targeted towards specific aspects of advantage/disadvantage.

For further information on the composition and calculation of these indexes see the ABS Information Paper ABS Cat No. 2039.0 available on the ABS web site www.abs.gov.au. The scores for these indexes for each Statistical Local Area (SLA) or part SLA in Mid West DGP are shown in Table 13.

In using this table, users should note that the index score shown for SLAs with less than 100 per cent in the Division represents the score for the whole SLA, and not just the part shown. However, SLAs with small proportions may have little influence on the average index score for the Division which has been based on the postcodes in the Division.

Table 13: SEIFA scores by SLA, Mid West DGP, 2001

SLA code	SLA name (% per cent of SLA in the Division)	Index score			
		Disadvantage	Advantage	Economic & Resource	Education & Occupation
50250	Ashburton (9.5)	983	1031	1108	935
51470	Carnamah (100.0)	944	937	956	907
51540	Carnarvon (100.0)	961	950	961	945
51610	Chapman Valley (100.0)	1008	953	926	956
52030	Coorow (100.0)	976	955	961	929
52380	Cue (100.0)	858	883	851	904
52590	Dandaragan (47.2)	980	939	938	932
53360	Exmouth (100.0)	1010	976	976	974
53500	Geraldton (100.0)	923	927	937	930
53851	Greenough - Part A (100.0)	994	985	1008	958
53854	Greenough - Part B (100.0)	997	958	933	955
54060	Irwin (100.0)	959	932	929	925
55250	Meekatharra (100.0)	868	959	968	949
55530	Mingenew (100.0)	967	932	943	906
55670	Morawa (100.0)	967	953	900	968
55810	Mount Magnet (100.0)	917	955	990	913
56020	Mullewa (100.0)	963	961	962	959
56160	Murchison (100.0)	957	944	925	946
56790	Northampton (100.0)	970	929	910	951
57000	Perenjori (100.0)	968	947	924	933
57630	Sandstone (100.0)	918	914	900	921
57770	Shark Bay (100.0)	1019	950	941	963
58260	Three Springs (100.0)	984	949	931	942
58470	Upper Gascoyne (100.0)	810	894	930	874
59590	Yalgoo (86.5)	968	926	882	937

* Proportions are approximate and are known to be incorrect in some cases, due to errors in the concordance used to allocate CDs to form postal areas

Statistical geography of the Mid West DGP

The Mid West DGP covers 432,041 square kilometres, based on 2001 SLA data.

Postcodes in the Division (as per the Department of Health and Ageing web site) are:

Table 14: Postcodes in Mid West DGP, 2004

Postcode	Postcode	Postcode	Postcode
6514	6530	6620	6638
6515	6531	6623	6639
6516	6532	6625	6640
6517	6535	6627	6642
6518	6536	6628	6701
6519	6537	6630	6705
6522	6614	6631	6707
6525	6616	6632	6710
6528	6618	6635	

Source: Department of Health and Ageing web site (accessed online version as at February 2005):
<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-divisions-divspc.htm>

Statistical Local Areas (SLAs) are defined by the Australian Bureau of Statistics to produce areas for the presentation and analysis of data. In this Division, most SLAs are equivalent to local government areas (LGAs): the exception is the Greenough LGA, which is split into two SLAs, Greenough - Part A and Greenough - Part B. Both of these SLAs, and all or part of other SLAs listed in Table 15, comprise the Division.

Table 15: SLAs in Mid West DGP by 2001 boundaries

SLA code	SLA name	Per cent of the SLA's population in the Division*	Estimate of the SLA's 2004 population in the Division
50250	Ashburton	9.5	566
51470	Carnamah	100.0	709
51540	Carnarvon	100.0	6,327
51610	Chapman Valley	100.0	957
52030	Coorow	100.0	1,355
52380	Cue	100.0	366
52590	Dandaragan	47.9	1,394
53360	Exmouth	100.0	2,266
53500	Geraldton	100.0	19,011
53851	Greenough - Part A	100.0	11,729
53854	Greenough - Part B	100.0	1,416
54060	Irwin	100.0	3,034
55250	Meekatharra	100.0	1,529
55530	Mingenew	100.0	557
55670	Morawa	100.0	904
55810	Mount Magnet	100.0	757
56020	Mullewa	100.0	1,057
56160	Murchison	100.0	162
56790	Northampton	100.0	3,313
57000	Perenjori	100.0	584
57630	Sandstone	100.0	150
57770	Shark Bay	100.0	966
58260	Three Springs	100.0	743
58470	Upper Gascoyne	100.0	369
59590	Yalgoo	86.5	283

* Proportions are approximate and are known to be incorrect in some cases, due to errors in the concordance used to allocate CDs to form postal areas

Supporting data

The data used in Figure 4 to illustrate the rates of premature mortality in the Division are shown below in Table 16.

Table 16: Deaths before 75 years of age by major condition group and selected cause, Mid West DGP‡, country Western Australia, and Australia, 2000-02*

Indirectly age standardised rate per 100,000 population

Variable	Mid West DGP		Country WA		Australia	
	No.	Rate	No.	Rate	No.	Rate
Circulatory system diseases	123	54.2	918	65.0	38,357	72.3
Ischaemic heart disease	80	35.1	571	40.4	23,364	44.1
Cerebrovascular disease – stroke	20	9.0	160	11.4	6,920	13.0
Cancer	212	94.2	1,427	100.1	60,603	114.3
Cancer of the trachea, bronchus & lung	64	27.8	351	24.7	12,715	24.0
Respiratory system diseases	39	16.9	265	18.8	9,726	18.3
Chronic lower respiratory disease	31	13.3	173	12.3	6,657	12.6
Injuries and poisonings	71	37.8	673	47.4	18,573	35.0
Suicide	27	14.6	198	13.9	6,706	12.6
Motor vehicle accidents	22	12.1	238	17.1	5,014	9.5
Other causes	107	49.5	832	57.6	26,735	50.4
Diabetes mellitus	20	8.9	147	10.3	3,734	7.0

* 'No.' is the total number of deaths for the 2000-02 period; 'Rate' is an annual rate, based on the 3-year average

‡ See note under 'Data converters and mapping' re calculation of Division totals

The rates used to illustrate the prevalence estimates of chronic disease (Figure 5), measures of self-reported health (Figure 6), and selected risk factors (Figure 7) are shown in Table 17 below.

Table 17: Estimates of chronic disease and associated risk factors, Geraldton SLA‡, country Western Australia and Australia, 2001

Indirectly age standardised rate per 1,000 population

Variable	Geraldton	Country WA	Australia
Chronic disease and injury (Figure 5)			
Respiratory system diseases	281.2	281.5	310.8
Asthma	107.7	104.8	118.3
Circulatory system diseases	174.7	175.6	171.5
Diabetes type 2	21.9	20.0	23.4
Injury event	171.7	172.5	121.2
Mental & behavioural disorders	88.4	92.8	97.6
Musculoskeletal system diseases	347.5	346.4	326.2
Arthritis	144.2	139.4	138.8
- Osteoarthritis	69.0	75.1	74.9
- Rheumatoid arthritis	24.3	23.7	23.6
Osteoporosis (females)	24.3	23.3	26.4
Measures of self-reported health (Figure 6)			
Very high psychological distress levels (18+ years)	40.1	34.7	36.6
Fair or poor self-assessed health status (15+ years)	193.8	180.2	184.0
Risk factors (Figure 7)			
Overweight (not obese) males (15+ years)	357.8	403.0	389.7
Obese males (15+ years)	224.2	179.9	145.9
Overweight (not obese) females (15+ years)	258.7	261.6	223.9
Obese females (15+ years)	170.9	168.0	148.0
Smokers (18+ years)	296.7	280.9	248.0
Physical inactivity (15+ years)	298.7	324.2	315.5
High health risk due to alcohol consumed (18+ years)	60.7	56.2	42.1

‡ See note under 'Data converters and mapping' re calculation of SLA totals

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Further developments and updates

Subject to agreement and funding, a number of developments could be undertaken:

- Details of hospitalisations potentially avoidable through ambulatory care interventions are currently being prepared and will be forwarded to Divisions (and posted on the PHIDU web site) when they are available. Other enhancements will be considered as appropriate datasets become available.

The profiles could be updated as the data are updated. For example:

- Population estimates, avoidable hospitalisations, immunisation and GP activity and workforce data – annually;
- Chronic disease estimates – three-yearly;
- Census data – five-yearly.

Any developments would be informed by consultation, including with Divisions.

PHIDU contact details

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