Population health profile of the North East Valley Division of General Practice

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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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This publication, the maps and supporting data, together with other publications on population health, are available from the PHIDU website (www.publichealth.gov.au).

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Population health profile
of the *North East Valley Division of General Practice*

Introduction

This profile has been designed to provide a description of the population of the North East Valley 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 16.

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. Melbourne and Australia). Specific topics covered include:

- a socio-demographic profile (pages 2-5);
- GP workforce data (page 6);
- immunisation rates (page 6);
- rates of premature death (page 7); and
- estimates of the prevalence of chronic disease and selected risk factors (pages 8-12).

Key indicators

Location: Victoria

Division number: 302

Population‡:	**No.**	**%**
Total	232,366	
65+	29,056	12.5%
<25	74,426	32.0%
Indigenous	1,123	0.5%

Disadvantage score[1]: 1062

GP services per head of population:

Division‡	5.0
Australia	4.7

Population per FTE GP:

Division‡	1,307
Australia	1,403

Premature death rate[2]:

Division‡	268.3
Australia	290.4

[1] **Numbers above 1000 (the index score for Australia) indicate the Division is relatively advantaged**

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

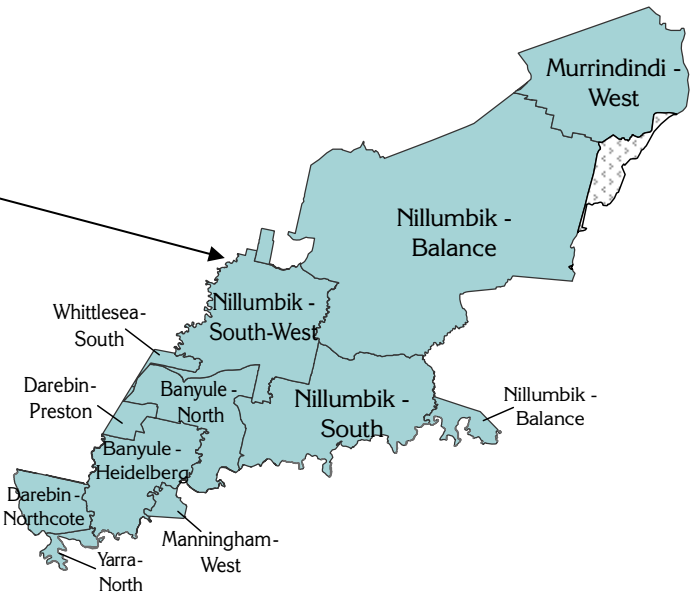
‡ **See note "Data converters and mapping" re calculation of Division Total**

North East Valley Division of General Practice

Melbourne Divisions of General Practice

Melbourne Divisions of General Practice
Melbourne Statistical Division

North East Valley DGP by SLA

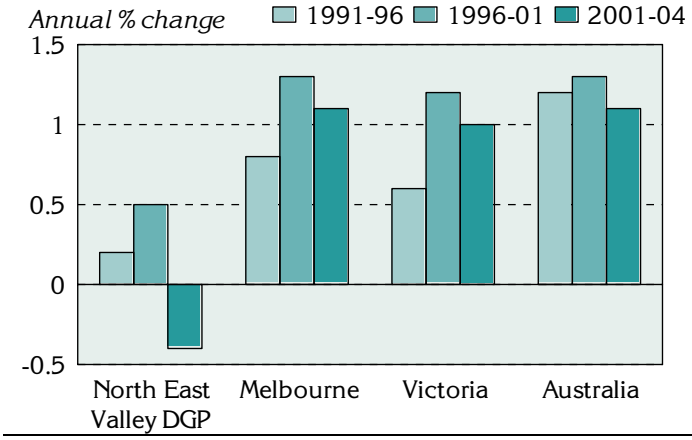


Socio-demographic profile

Population

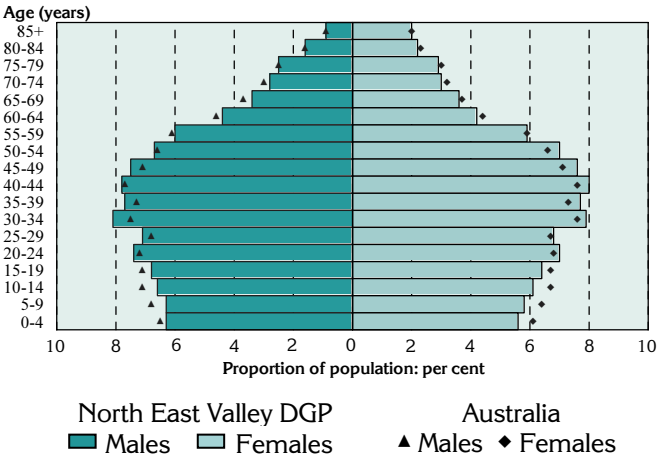
The North East Valley Division had an Estimated Resident Population of 232,366 at 30 June 2004.

Figure 1: Annual population change, North East Valley DGP‡, Melbourne, Victoria and Australia, 1991 to 1996, 1996 to 2001 and 2001 to 2004



Over the five years from 1991 to 1996, the Division's population increased by 0.2% on average each year, lower than in Melbourne (0.8%), Victoria (0.6%), and Australia as a whole (1.2%). From 1996 to 2001, the annual percentage increase was 0.5%, compared to increases of 1.3% for Melbourne, and 1.2% for Victoria. From 2001 to 2004 the Division's population decreased by 0.4%, compared to annual increases of 1.1% for Melbourne, 1.0% for Victoria, and 1.1% for Australia.

Figure 2: Population in North East Valley DGP‡ and Australia, by age and sex, 2004



The age distribution of the Division's population is similar to that for Australia overall. The most notable differences are:

- at younger ages – lower proportions of children and young people aged 0 to 19 years;
- from 20 to 54 years – slightly higher proportions of males aged 20 to 49 years and females aged 20 to 54 years; and

Table 1: Population by age, North East Valley DGP‡ and Australia, 2004

Age group (years)	North East Valley DGP		Australia	
	No.	%	No.	%
0-14	42,698	18.4	3,978,751	19.8
15-24	31,728	13.7	2,762,769	13.8
25-44	71,331	30.7	5,881,048	29.3
45-64	57,552	24.8	4,864,037	24.2
65-74	14,932	6.4	1,374,792	6.8
75-84	10,662	4.6	934,505	4.7
85+	3,462	1.5	295,602	1.5
Total	**232,366**	**100.0**	**20,091,504**	**100.0**

As shown in the age-sex pyramid above, the North East Valley DGP had relatively fewer children at ages 0 to 14 years (18.4%) compared to Australia as a whole (19.8%) (Table 1). Conversely, the proportion of the Division's population aged 25 to 44 years (30.7%) was slightly higher than for Australia (with 29.3%).

The North East Valley DGP comprised 12.6% of people born in predominantly non-English speaking countries and resident in Australia for five years or more (Table 2), less than the proportion for Melbourne (17.5%). Recent arrivals (those resident in Australia for less than five years) from non-English speaking countries comprised 1.8% of the Division's population, lower than Melbourne (3.1%).

‡ **See note under 'Data converters and mapping' re calculation of Division totals on this page**

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

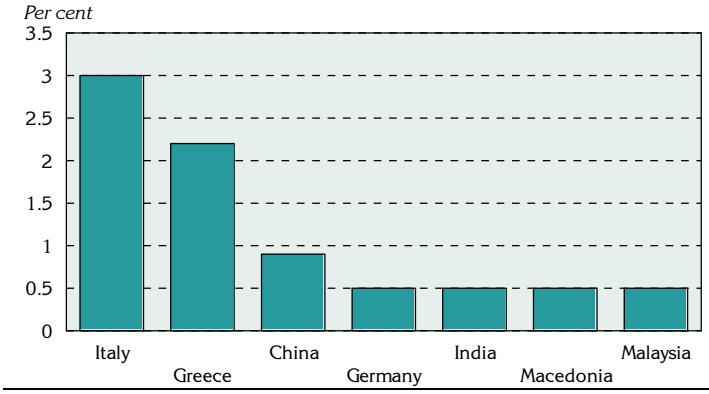
Of these residents, 3.0% had poor proficiency in English (determined when people aged five years and over born overseas in predominantly non-English speaking countries reported in the Census speaking another language and speaking English 'not well' or 'not at all'), lower than the proportions for Melbourne (4.4%) and Victoria (3.4%).

Table 2: Non-English speaking born, North East Valley DGP, Melbourne, Victoria and Australia, 2001

People born in predominantly non-English speaking countries	North East Valley DGP		Melbourne		Victoria		Australia	
	No.	%	No.	%	No.	%	No.	%
Resident in Australia for five years or more	28,687	12.6	587,954	17.5	644,806	13.8	2,019,410	10.8
Resident in Australia for less than five years	4,065	1.8	104,747	3.1	110,557	2.4	408,074	2.2
Poor proficiency in English[1]	6,414	3.0	140,109	4.4	147,394	3.4	425,399	2.4

[1] **Calculated on persons aged 5 years and over who reported speaking another language and speaking English 'not well' or 'not at all'**

Figure 3: Major non-English speaking birthplaces, North East Valley DGP, 2001



Australian-born people comprised 79.0% of the Division's population, above the Australian figure of 72.6%. Of the 5.9% of people from English speaking countries, 4.3% were from the UK and Eire. The major birthplaces of the non-English speaking population include Italy (3.0%); Greece (2.2%); China (0.9%); and Germany, India, Macedonia and Malaysia (all 0.5%).

Socioeconomic 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.

The North East Valley DGP had a lower proportion of single parent families (8.8%) compared to Melbourne as a whole (9.6%), while the proportion of Aboriginal and Torres Strait Islanders (0.5%) was above that for Melbourne (0.4%) (Figure 4, Table 3).

Full-time secondary school education participation of 16 year olds living in the Division (85.2%) was higher than that for Melbourne (81.8%).

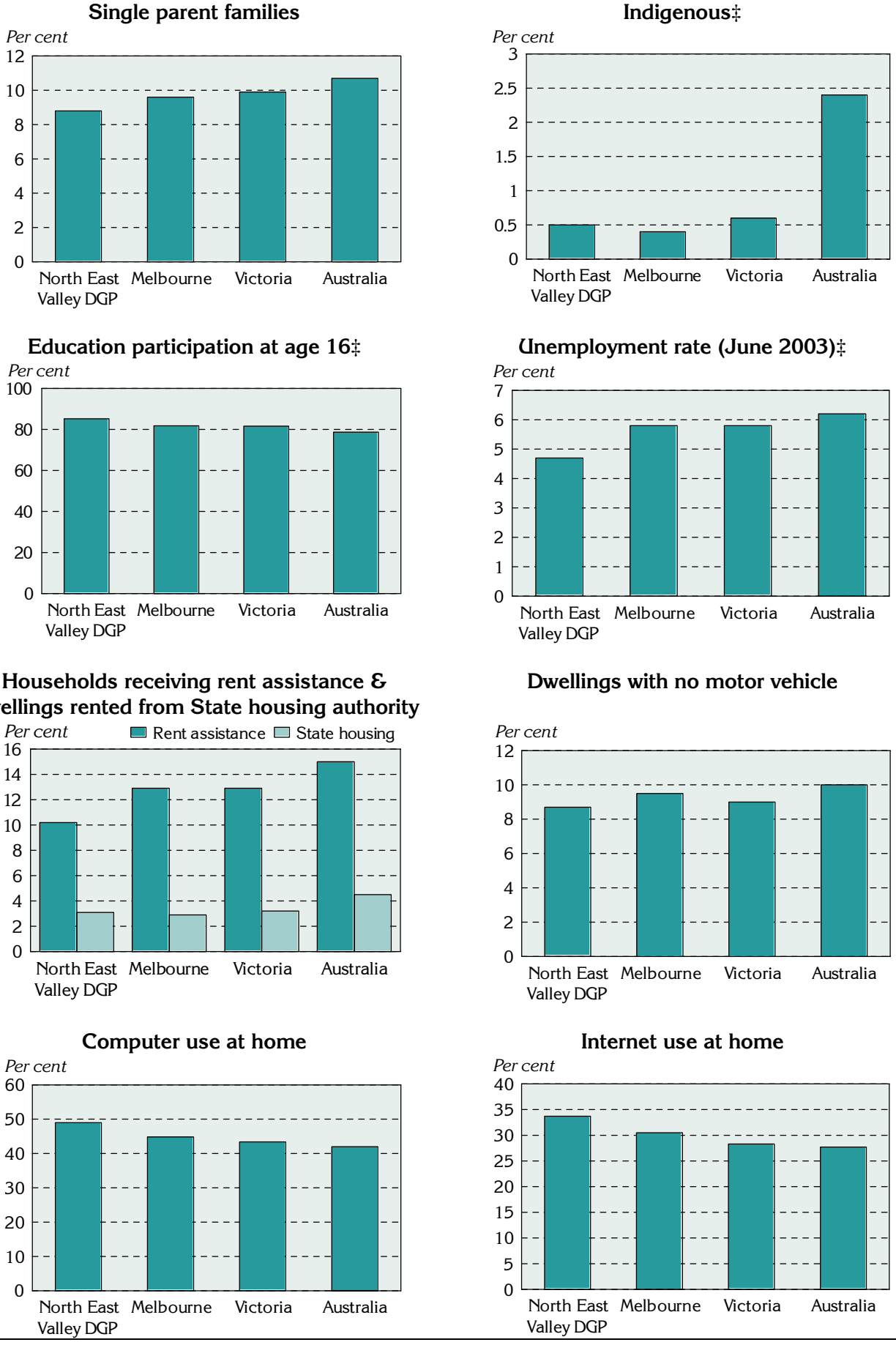
A lower proportion of the Division's households received rent assistance from Centrelink (10.2%) compared to Melbourne (12.9%), but there were marginally more dwellings rented from the State housing authority (3.1%, compared to 2.9%). The proportion of dwellings with no access to a motor vehicle (8.7%) was slightly lower than that for Melbourne (9.5%).

The Division had higher proportions of the population who reported using, at home, a computer (49.0%) and the Internet (33.7 %,) compared to Melbourne (44.8% and 30.5%).

These socioeconomic indicators show the Division to comprise a population of above average level of socioeconomic status: see also the note on page 5 (Summary of socioeconomic ranking).

Figure 4: Socio-demographic indicators, North East Valley DGP, Melbourne, Victoria and Australia, 2001

Note the different scales



‡ 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, North East Valley DGP, Melbourne, Victoria and Australia, 2001

Indicator	North East Valley		Melbourne		Victoria		Australia	
	No.	%	No.	%	No.	%	No.	%
Single parent families	5,284	8.8	84,483	9.6	120,824	9.9	529,969	10.7
Indigenous‡	1,123	0.5	12,716	0.4	27,846	0.6	458,261	2.4
Full-time secondary school education at age 16‡	2,733	85.2	38,340	81.8	54,494	81.6	130,198	78.7
Households: rent assistance	8,269	10.2	150,482	12.9	212,587	12.9	1,006,599	15.0
Dwellings rented from the State housing authority	2,590	3.1	35,953	2.9	54,805	3.2	317,171	4.5
Dwellings: no motor vehicle	7,262	8.7	118,190	9.5	155,728	9.0	708,073	10.0
Computer use at home	109,998	49.0	1,495,506	44.8	2,001,169	43.4	7,881,983	42.0
Internet use at home	76,556	33.7	587,954	30.5	644,806	28.3	2,019,410	27.7

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

The unemployment rate of 4.7% in the North East Valley DGP was lower than the rates for Melbourne and Victoria (both 5.8%) (Figure 4, Table 4). The labour force participation rate (80.5%) and the female labour force participation rate (75.6%) were both higher than the rates for Melbourne (75.3% and 71.1%) and Victoria (75.3% and 70.6%).

Table 4: Unemployment and labour force participation, North East Valley DGP, Melbourne, Victoria and Australia, 2003

Labour force indicators	North East Valley		Melbourne		Victoria		Australia	
	No.	%	No.	%	No.	%	No.	%
Unemployment rate ‡	6,214	4.7	103,501	5.8	144,584	5.8	623,791	6.2
Labour force participation‡	132,528	80.5	1,787,899	75.3	2,492,980	75.3	10,038,147	75.2
Female labour force participation (2001)	46,276	75.6	633,724	71.1	840,995	70.6	3,306,521	69.7

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

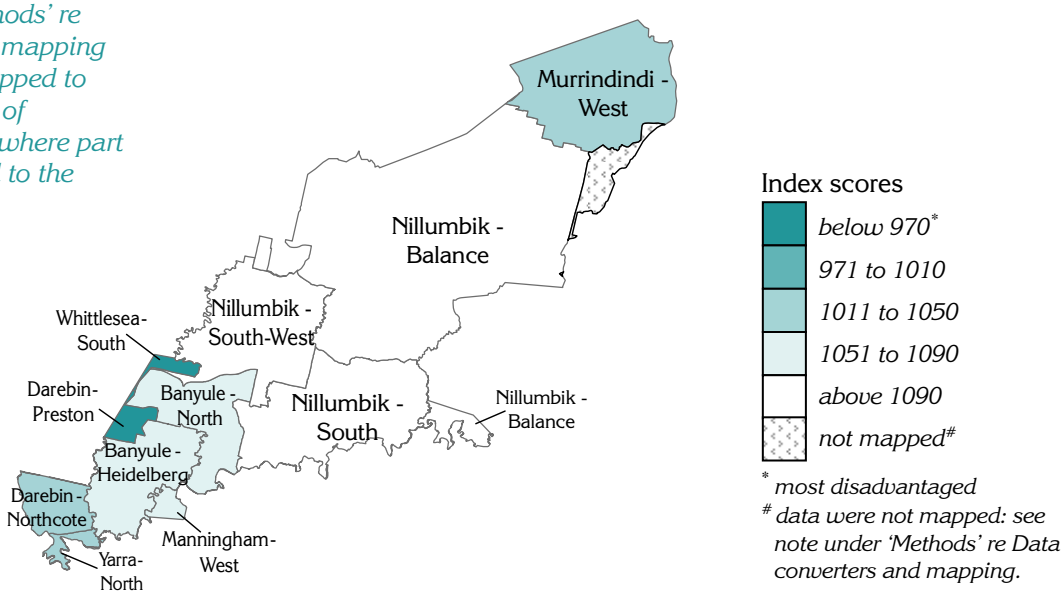
Summary of the socioeconomic ranking of the North East Valley DGP

Following the 2001 Census, the Australian Bureau of Statistics (ABS) produced four socio-economic indexes for areas (SEIFA) which describe various aspects of the socioeconomic profile of populations in areas. Scores for these indexes for each Statistical Local Area (SLA) or part SLA in North East Valley DGP are shown in the supporting information in Table 9, page 16: SLAs are described on page 17.

The North East Valley DGP area's SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) score is 1062, well above (6.2%) the score for Australia (1000), and above that for Melbourne (1021); this highlights the higher socioeconomic status profile of the Division's population. The relatively small variations in the IRSD at the SLA level are shown in Map 1.

Map 1: Index of Relative Socio-Economic Disadvantage by SLA, North East Valley DGP, 2001

See note under 'Methods' 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.



General medical practitioners (GPs): activity and supply

A total of 178.2 full-time equivalent (FTE) GPs, and 202.1 full-time workload equivalent (FWE[1]) GPs worked in the North East Valley DGP in 2003/04 (Table 5). Of the FWE GPs, 31.0% were female, and 30.7% were over 55 years of age (compared to 25.6% and 28.3%, respectively, for Victoria).

Apart from the estimated day-time population, the rates of population per FTE varied, depending on the population measure used, from a high of 1,307 people per GP (calculated on the average Estimated Residential Population (ERP) as at 30 June 2003 and 30 June 2004), to a low of 1,246 people per GP (calculated on 1 August 2001 Census count – all people counted in the Division on Census night, including visitors from Australia and overseas). The rates of population per FWE GP were lower, ranging from 1,099 (calculated on the Census count) to 1,153 (calculated on the ERP).

When calculated on the estimated day-time population, the rates were 23.2% below those calculated on the Usual Resident Population (usual residents of the Division counted in Australia on Census night), reflecting the net movement of people out of the Division during the day for employment.

Based on the ERP, the rates of population per GP in North East Valley DGP varied little from those for Victoria and Australia, indicating a similar level of provision of GP services in the Division.

Table 5: Population per GP in North East Valley DGP, Victoria and Australia, 2003/04

Population measure	Population	GPs		Population per GP	
		FTE	FWE	FTE	FWE
North East Valley DGP					
Census count (adjusted)*	222,020	178.2	202.1	1,246	1,099
Usual Resident Population (URP) (adjusted)*	224,908	..	..	1,262	1,113
Estimated Resident Population (ERP)	233,006	..	..	1,307	1,153
Day-time population (estimated on URP)* ‡	172,620	..	..	969	854
Victoria (ERP)	4,942,102	3,575	4,157	1,382	1,189
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 2003/2004, 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 95.5% of children in the Division in 2002 were fully immunised at age one, marginally higher than 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 49.9%, notably below the 70.0% for Australia, with 50.1% immunised at a local government council.

Table 6: Childhood immunisation at ages 0 to 6 by provider type, North East Valley DGP and Australia, 2003/04

Provider	North East Valley DGP	Australia
	%	%
General practitioners	49.9	70.0
Local government council	50.1	16.6
Community health centre/ worker	0.0	9.8
Public hospital	0.0	2.1
Aboriginal health service/ worker	0.0	0.9
Other*	0.0	0.6
Total: Per cent	**100.0**	**100.0**
Number	**38,897**	**3,843,610**

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

[1]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 eference 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.

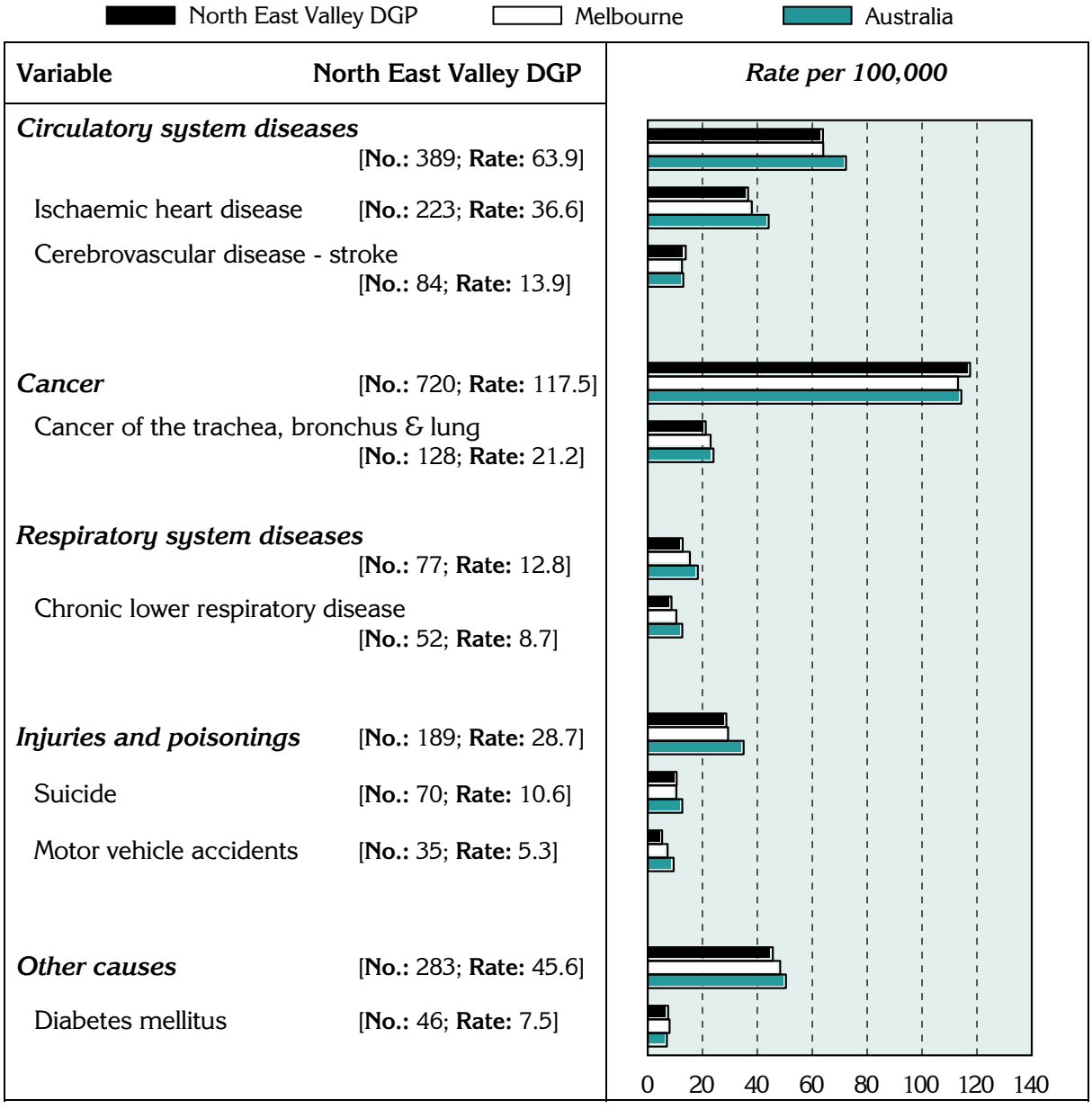
The 'all causes' death rate in the Division at ages 0 to 74 years (268.3 deaths per 100,000 population) is similar to Melbourne (269.9) but lower than for Australia (290.4): the rates have been age standardised to allow for comparisons between areas, regardless of differences in age profiles between the Division and Australia.

The major causes of premature mortality in the Division, as for Melbourne and Australia as a whole, are cancer and diseases of the circulatory system (Figure 5). Death rates in the Division for circulatory diseases, respiratory diseases, injuries and poisonings, and the other causes group were equal to or lower than for Melbourne and Australia, while the rates for cerebrovascular disease (stroke) and cancer were higher.

The data on which the following chart is based are in Table 12.

Figure 5: Deaths before 75 years of age by major condition group and selected cause, North East Valley DGP‡, Melbourne and Australia, 2000-02*

Indirectly age standardised rate per 100,000 population



* **'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

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 Division‡, and for SLAs within the Division: note that the estimates have been predicted from self-reported data, not on clinical records or physical measures. The chronic diseases and risk factors are those for which sufficiently reliable estimates can be made for the Division from national survey data. The process by which the estimates have been made, and details of their limitations, is described in the Notes section, pages 14-15. The data on which the following charts are based are in Table 13.

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 include overweight (not obese), obesity, smoking, lack of exercise and high levels of alcohol intake.

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 exception of respiratory diseases (including asthma), similar, or smaller proportions, of the population in North East Valley DGP reported having any of the selected chronic conditions than in Australia as a whole (Figure 6): that is, the prevalence rates per 1,000 population were similar or lower.

Prevalence estimates: self-reported health‡

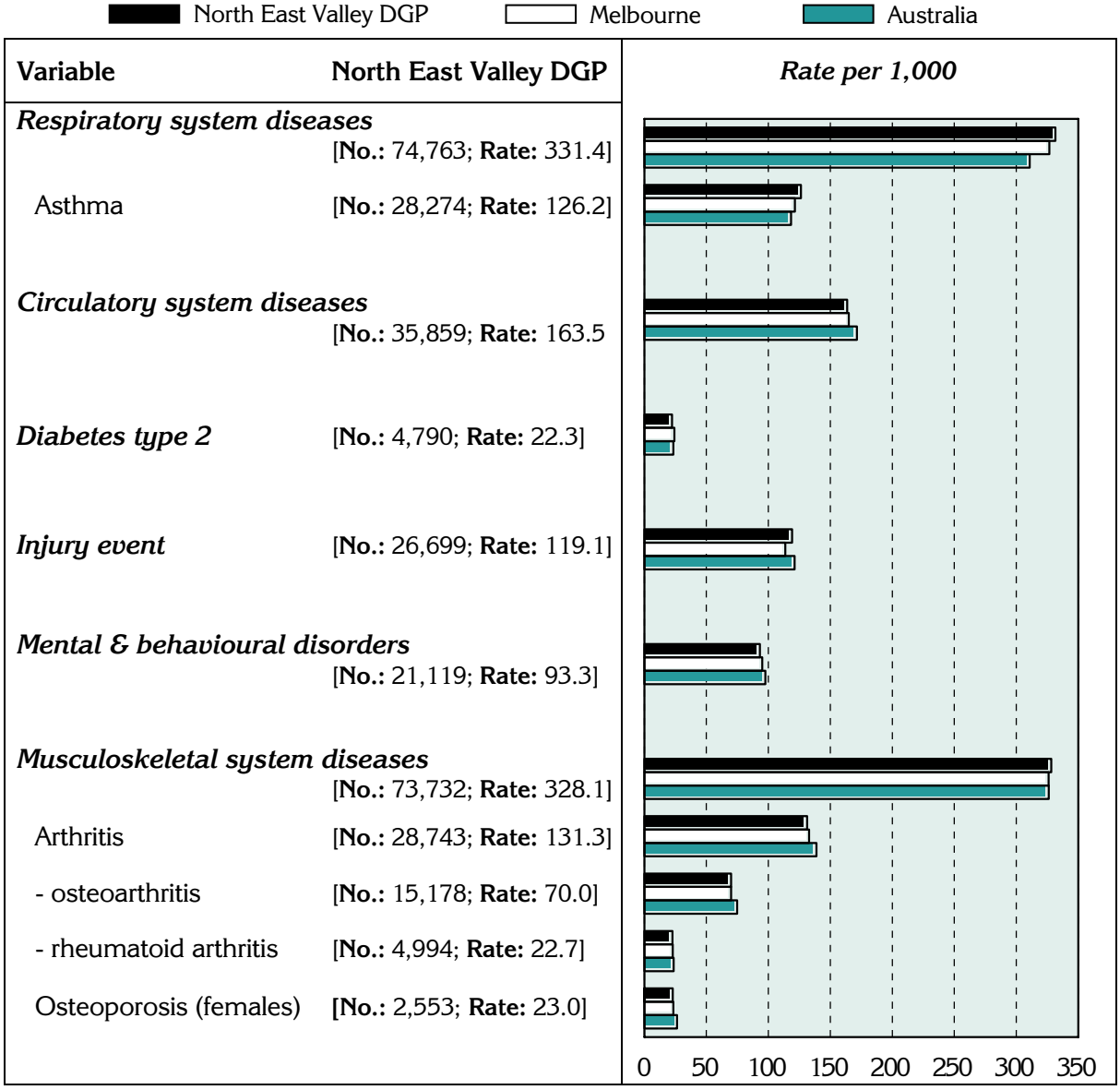
The NHS includes two measures of self-reported health. One is the Kessler Psychological Distress Scale–10 items (K–10). This is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the four weeks prior to interview, asked of respondents 18 years and 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 the Division aged 18 years and over is estimated to have fewer people with very high psychological distress levels as measured by the K–10 (Figure 7) compared to Melbourne and Australia. The proportion of the population aged 15 years and over estimated to have reported their health as 'fair' or 'poor' is also below the national average.

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

Figure 6: Estimates* of chronic disease and injury, North East Valley DGP‡, Melbourne and Australia, 2001

Indirectly age standardised rate per 1,000 population

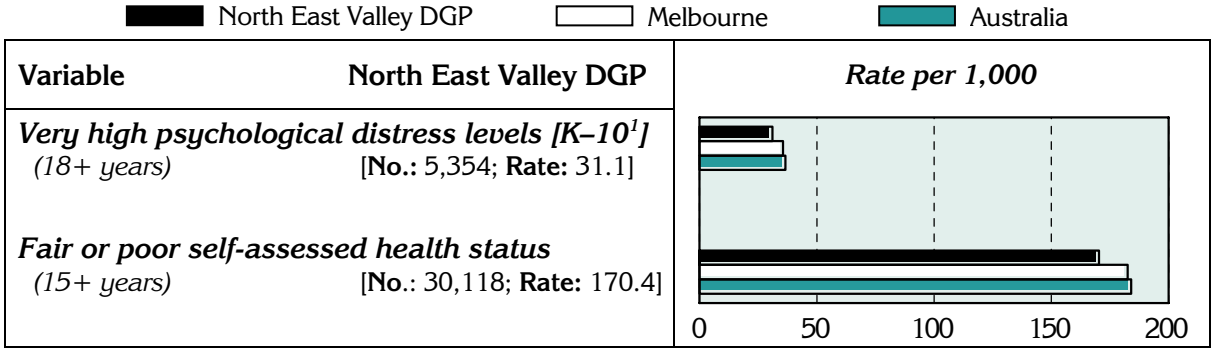


* 'No.' is a weighted estimate of the number of people in North East Valley DGP reporting each chronic condition and is derived from synthetic predictions from the 2001 NHS

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

Figure 7: Estimates* of measures of self-reported health, North East Valley DGP‡, Melbourne and Australia, 2001

Indirectly age standardised rate per 1,000 population



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

[1] Kessler 10

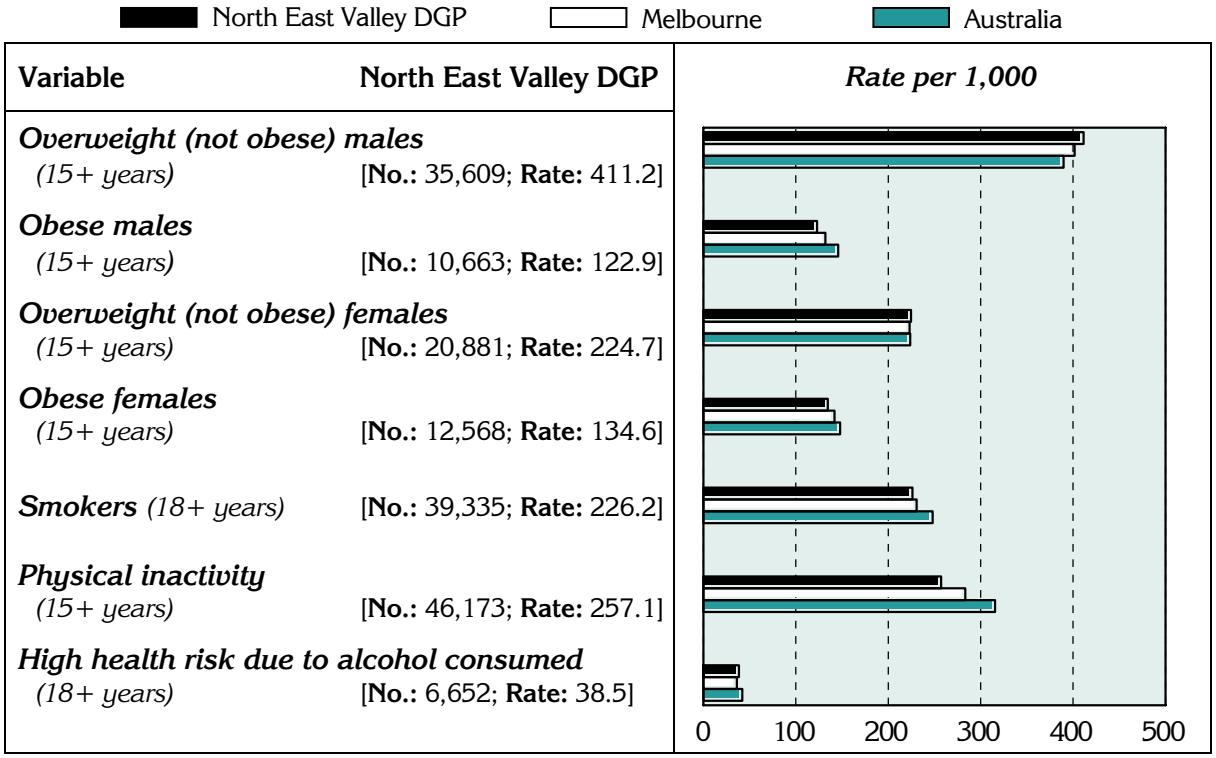
‡ See note under 'Data converters and mapping' re calculation of Division totals

Prevalence estimates: risk factors‡

The relatively lower rates (when compared with the Australian population), for all of the listed risk factors with the exception of overweight in males and females (Figure 8) are consistent with the socioeconomic status profile of the area.

Figure 8: Estimates* of selected risk factors, North East Valley DGP‡, Melbourne and Australia, 2001

Indirectly age standardised rate per 1,000 population



* 'No.' is a weighted estimate of the number of people in the North East Valley DGP 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 Division totals

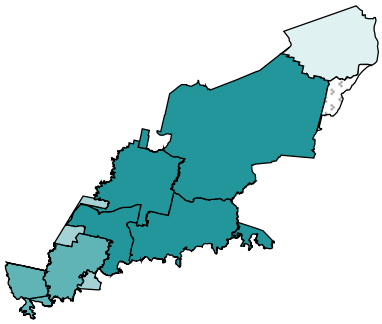
The following maps provide details of the geographic distribution, at the SLA level, of the estimated prevalence of chronic disease (Map 2), self-reported health (Map 3) and risk factors associated with chronic disease (Map 4).

In the following maps, users should note that the estimates shown for part SLAs in the Division (see Table 13, page 17 for per cent of SLA population in the Division) represent the estimates for the whole SLA, and not just the part shown. However, SLAs with only a small proportion of their population in the Division are likely to have little influence on the total estimates for the Division, which have been based on the percentage of the SLA population in the Division.

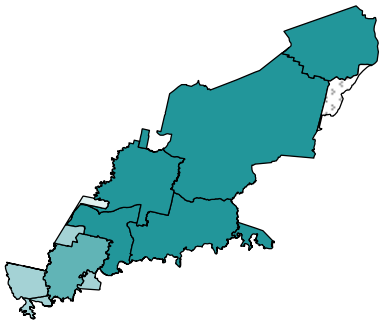
Data Sources: see 'Data sources and limitations' at end of report

Map 2: Estimates* of chronic disease and injury by SLA, North East Valley DGP, 2001

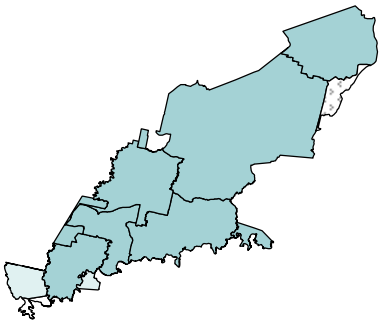
Respiratory system diseases



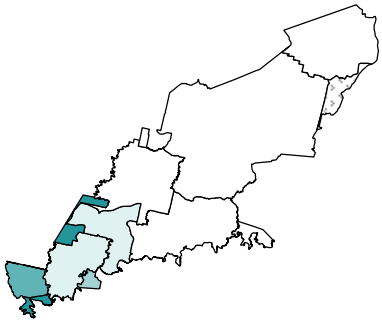
***Respiratory system diseases:* Asthma**



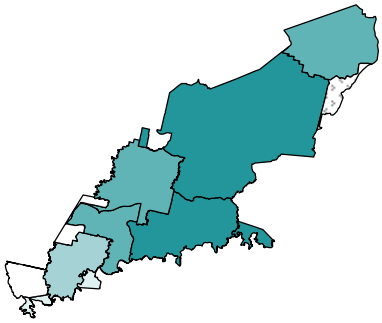
Circulatory system diseases



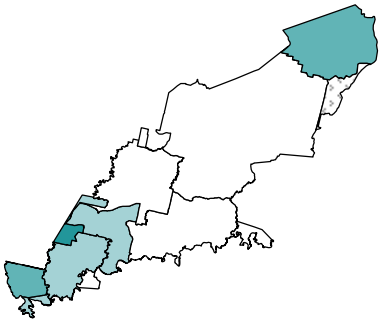
Diabetes type 2



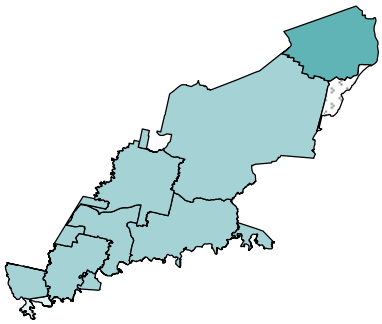
Injury event



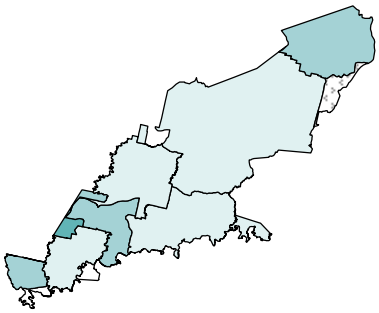
Mental & behavioural disorders



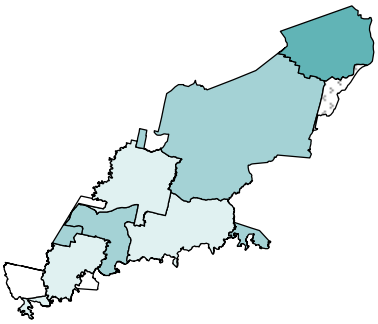
Musculoskeletal system diseases



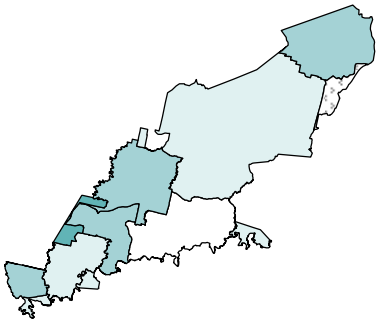
***Musculoskeletal system diseases:* Arthritis**



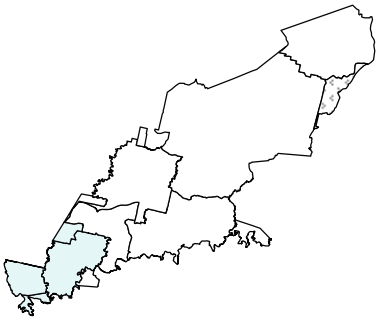
***Arthritis:* Osteoarthritis**



***Arthritis:* Rheumatoid arthritis**



Osteoporosis (females)



Per cent difference from Australian average

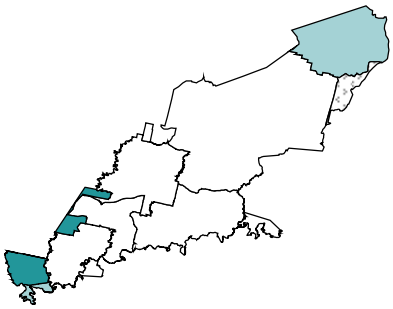
- *10% or more above*
- *5% to less than 10% above*
- *within 5% of the average*
- *5% to less than 10% below*
- *10% or more below*
- *not mapped#*

* *The estimates are synthetic predictions of the prevalence of these conditions: see Notes on the data.*

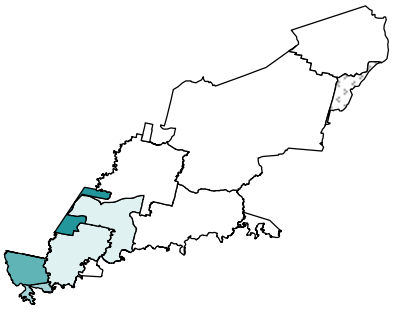
\# *Data not mapped: see Notes on the data.*

Map 3: Estimates* of measures of self-reported health by SLA, North East Valley DGP, 2001

Very high psychological distress levels [K–10[1]] (18+ years)



Fair or poor self-assessed health status (15+ years)



Per cent difference from Australian average

- *10% or more above*
- *5% to less than 10% above*
- *within 5% of the average*
- *5% to less than 10% below*
- *10% or more below*
- *not mapped#*

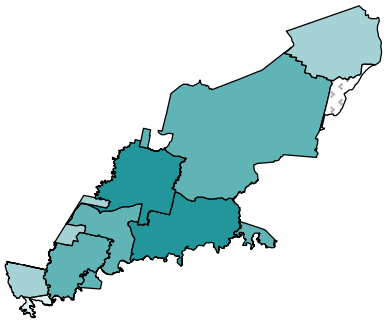
[1] **Kessler 10**

* *The estimates are synthetic predictions of the prevalence of these conditions: see Notes on the data.*

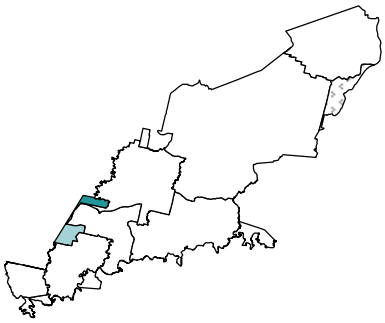
\# *Data not mapped: see Notes on the data.*

Map 4: Estimates* of selected risk factors by SLA, North East Valley DGP, 2001

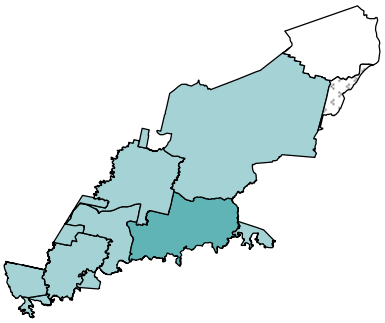
Overweight (not obese) males (15+ years)



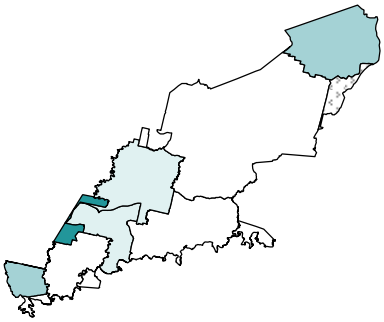
Obese males (15+ years)



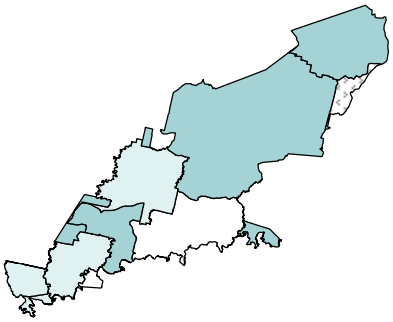
Overweight (not obese) females (15+ years)



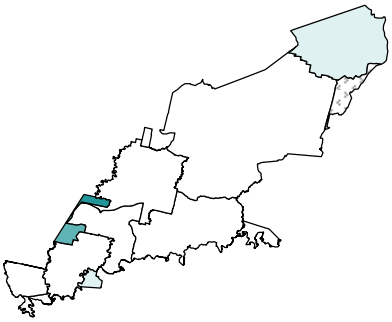
Obese females (15+ years)



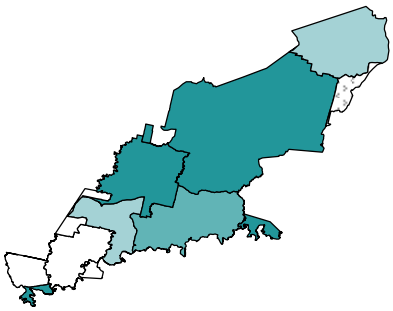
Smokers (18+ years)



Physical inactivity (15+ years)



High health risk due to alcohol consumed (18+ years)



Per cent difference from Australian average

- *10% or more above*
- *5% to less than 10% above*
- *within 5% of the average*
- *5% to less than 10% below*
- *10% or more below*
- *not mapped#*

* *The estimates are synthetic predictions of the prevalence of these conditions: see Notes on the data.*

\# *Data not mapped: see Notes on the data.*

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

Notes on the data

Data sources and limitations

General

Unless stated otherwise, references to 'Melbourne' relate to the Melbourne Statistical Division.

Data sources

Table 7 details the data sources for the material presented in this profile.

Table 7: 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; Table 1	Estimated Resident Population, ABS, 30 June for the periods shown
Tables 2, 3 and 4; Figures 3 and 4	Data were extracted by postal area from the ABS Population Census 2001[1], except for the following indicators: - *Indigenous* – Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001 (unpublished) - *Full-time secondary education participation at age 16* – Census 2001 (unpublished) - *Households receiving rent assistance* – Centrelink, December Quarter 2001 (unpublished) - *Unemployment rate / Labour force participation* – extracted from *Small Area Labour Markets Australia*, June Quarter 2003, Department of Employment and Workplace Relations
Map 1; Table 9	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[2], ABS Population Census 2001, scaled to 2003/04 - Usual Resident Population[3], 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 5; Table 12	ABS Deaths, 2000 to 2002
Chronic diseases and associated risk factors[4]	
Figures 6, 7 and 8; Maps 2, 3 and 4; Table 13	Estimated from 2001 National Health Survey (NHS), ABS (unpublished)

[1] All data extracted from Usual Residents Profile, except for data variables only released in the Basic Community Profile
[2] *Census count* - those counted in the Division on Census night, including tourists, business people and other visitors
[3] *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
[4] See notes below

Chronic diseases and associated risk factors

The data for chronic conditions and risk factors for SLAs 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 8 includes notes relevant to this data.

Table 8: Notes on estimates of chronic diseases and associated risk factors

Indicator	Notes on the data
Estimates of chronic disease and injury (Figure 6 and Map 2)	
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 7 and Map 3)	
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 8 and Map 4)	
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	- Respondent's 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 10).

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 11.

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 defined[1] 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 9) 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 North East Valley DGP are shown in Table 9.

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 9: SEIFA scores by SLA, North East Valley DGP, 2001

SLA code	SLA name (& per cent of SLA in the Division)		Index score			
			Disadvantage	Advantage	Economic Resources	Education & Occupation
20661	Banyule - Heidelberg	(100.0)	1051	1073	1053	1081
20662	Banyule - North	(91.9)	1066	1053	1049	1039
21891	Darebin - Northcote	(100.0)	1026	1064	1032	1097
21892	Darebin - Preston	(3.8)	934	947	948	958
24214	Manningham - West	(5.7)	1080	1096	1092	1092
25622	Murrindindi - West	(21.4)	1023	979	959	984
25713	Nillumbik - South	(90.6)	1118	1127	1123	1106
25715	Nillumbik - South West	(100.0)	1100	1086	1099	1051
25718	Nillumbik Balance	(86.6)	1095	1079	1059	1068
27074	Whittlesea - South	(4.4)	952	941	970	922
27351	Yarra - North	(5.1)	1030	1119	1088	1161

[*] **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 North East Valley DGP

The postcodes in the Division (as per the Department of Health and Ageing website) are shown below (Table 10).

Table 10: Postcodes in North East Valley DGP, February 2005

Postcode	Per cent of postcode population in the Division*	Postcode	Per cent of postcode population in the Division*	Postcode	Per cent of postcode population in the Division*
3070	100	3087	100	3096	100
3071	100	3088	100	3097	100
3078	100	3089	100	3099	100
3079	100	3090	100	3105	50
3081	100	3091	100	3759	100
3083	50	3093	100	3760	100
3084	100	3094	100	3761	100
3085	100	3095	100	3763	100

* Proportions are approximate

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, some Local Government Areas (LGAs) have been split into SLAs. For example, the LGA of Darebin has two SLAs, Northcote (all of which is in the Division) and Preston (a small portion of which is in the Division). These SLAs and all or parts of the other SLAs listed in Table 13 comprise the Division.

Table 11: SLAs in North East Valley 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
20661	Banyule - Heidelberg	100.0	62,080
20662	Banyule - North	91.9	50,569
21891	Darebin - Northcote	100.0	45,923
21892	Darebin - Preston	3.8	3,055
24214	Manningham - West	5.7	5,567
25622	Murrindindi - West	21.4	1,620
25713	Nillumbik - South	90.6	25,598
25715	Nillumbik - South West	100.0	22,947
25718	Nillumbik Balance	86.6	8,045
27074	Whittlesea - South	4.4	4,691
27351	Yarra - North	5.1	2,271

* 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 5 to illustrate the rates of premature mortality in the Division are shown below in Table 12.

Table 12: Deaths before 75 years of age by major condition group and selected cause, North East Valley DGP‡, Melbourne and Australia, 2000-02*

Indirectly age standardised rate per 100,000 population

Variable	North East Valley DGP‡		Melbourne		Australia	
	No.	Rate	No.	Rate	No.	Rate
Circulatory system diseases	389	63.9	5,667	64.0	38,357	72.3
Ischaemic heart disease	223	36.6	3,367	38.0	23,364	44.1
Cerebrovascular disease – stroke	84	13.9	1,109	12.5	6,920	13.0
Cancer	720	117.5	10,035	113.1	60,603	114.3
Cancer of the trachea, bronchus & lung	128	21.2	2,028	23.0	12,715	24.0
Respiratory system diseases	77	12.8	1,364	15.4	9,726	18.3
Chronic lower respiratory disease	52	8.7	931	10.5	6,657	12.6
Injuries and poisonings	189	28.7	2,752	29.3	18,573	35.0
Suicide	70	10.6	994	10.5	6,706	12.6
Motor vehicle accidents	35	5.3	685	7.3	5,014	9.5
Other causes	283	45.6	4,323	48.3	26,735	50.4
Diabetes mellitus	46	7.5	713	8.0	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 and injury (Figure 6), measures of self-reported health (Figure 7), and selected risk factors (Figure 8), are shown in Table 13 below.

Table 13: Estimates of chronic disease and associated risk factors, North East Valley DGP‡, Melbourne and Australia, 2001

Indirectly age standardised rate per 1,000 population

Variable	North East Valley DGP‡	Melbourne	Australia
Chronic disease and injury (Figure 6)			
Respiratory system diseases	331.4	326.6	310.8
Asthma	126.2	121.4	118.3
Circulatory system diseases	163.5	164.9	171.5
Diabetes type 2	22.3	24.2	23.4
Injury event	119.1	113.7	121.2
Mental & behavioural disorders	93.3	95.1	97.6
Musculoskeletal system diseases	328.1	326.0	326.2
Arthritis	131.3	132.9	138.8
- Osteoarthritis	70.0	70.0	74.9
- Rheumatoid arthritis	22.7	23.0	23.6
Osteoporosis (females)	23.0	23.5	26.4
Measures of self-reported health (Figure 7)			
Very high psychological distress levels (18+ years)	31.1	35.6	36.6
Fair or poor self-assessed health status (15+ years)	170.4	182.5	184.0
Risk factors (Figure 8)			
Overweight (not obese) males (15+ years)	411.2	401.5	389.7
Obese males (15+ years)	122.9	132.0	145.9
Overweight (not obese) females (15+ years)	224.7	223.1	223.9
Obese females (15+ years)	134.6	141.9	148.0
Smokers (18+ years)	226.2	230.8	248.0
Physical inactivity (15+ years)	257.1	283.5	315.5
High health risk due to alcohol consumed (18+ years)	38.5	36.3	42.1

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

References

Australian Bureau of Statistics (ABS) (2002). *2001 National Health Survey: summary of results.* Australia. (ABS Cat. No. 4364.0). Canberra: ABS.

National Public Health Partnership (NPHP) (2001). *Preventing Chronic Disease: A Strategic Framework.* Melbourne, Victoria.

Thacker S, Stroup D & Rothenberg R (1995). Public health surveillance for chronic conditions: a scientific basis for decisions. *Statistics in Medicine* 14: 629-641.

World Health Organization (2002). *The World Health Report 2002: Reducing Risks, Promoting Healthy Life.* Geneva: World Health Organization.

Acknowledgements

Funding for these profiles was provided by the Population Health Division of the Department of Health and Ageing (DoHA). Assistance, by way of comment on the profiles and assistance in obtaining some datasets, has also been received from the Primary Care Division of the DoHA, the ABS and the ACIR.

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

For general comments, data issues or enquiries re information on the web site, please contact PHIDU:

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