

6 Australian regions: people's health and the foods eaten

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Many factors influence physical wellbeing. One such group of factors is income, education, employment and skills. But where we live also plays a part, along with how we rate our own health. So-called lifestyle factors also have an important role: obesity (particularly abdominal obesity) and cigarette smoking have been identified as risk factors for poorer health, although these risk factors are not uniform around the country. Nutrition is one of the central factors in health, and it is possible to identify particular elements of nutrition—diet variety and macronutrient intake—in different parts of Australia.

Health

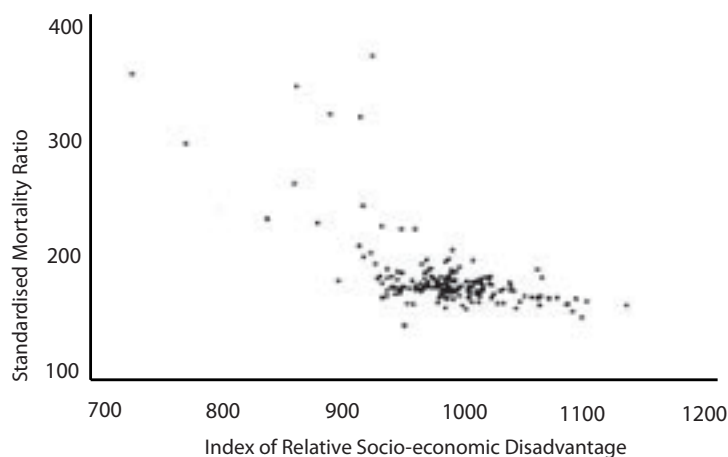
No matter what the region, most Australians greet each other with the words ‘How are you?’ since health is considered important for our general wellbeing. Good health is more than just the absence of disease: the World Health Organization defines health as ‘a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity’.

Socio-economic status appears to be an important factor in determining health and wellbeing. In a Dutch study of 2000 adults, those who came from a lower socio-economic level tended to rate their health as poorer than did those who came from a higher socio-economic level. The researchers postulated that this difference in self-rated health could in part be a result of the fact that people of lower socio-economic status tend to feel they have less control over their lives.

Another study, of the health and wellbeing of a large group of British civil servants, found that the likelihood of ill-health was higher among those who occupied a lower social position compared with those in a higher social position. This difference remained even when factors such as smoking, blood cholesterol levels and blood pressure were matched irrespective of social position. The researchers also postulated that the lack of a sense of control over one's life probably accounted for some of this difference. This sentiment, about control and health, is also expressed by the well-known Philadelphia health scientist David Kritchevsky, who believes that the most important question to ask about health is ‘Are you happy at work?’

Socio-economic status, mortality and health

In order to determine whether socio-economic factors influence the mortality and health of Australians, it is necessary to measure these factors. To this end, the Australian Bureau of Statistics has developed several 'socio-economic indexes for areas'—known as SEIFA indexes—to accommodate the different aspects of socio-economic conditions present in Australia. Each index summarises or categorises a particular geographical location according to particular socio-economic characteristics. One SEIFA index is the Index of Relative Socio-economic Disadvantage, which takes into account low income, low educational attainment, high unemployment and the percentage of workers in jobs classified as relatively unskilled; it covers all geographical areas in Australia.



Standardised mortality ratios

By comparing the death rates of Australians with socio-economic status, the Australian Bureau of Statistics has been able to show that the two factors are linked. To determine this relationship, the Bureau plotted the Index of Relative Socio-economic Disadvantage for each statistical subdivision against the standardised mortality ratio. The standardised mortality ratio is defined as the number of observed deaths divided by the number of expected deaths.

Figure 6.1 shows that the most disadvantaged areas (reflected by lower index values) were more likely to have higher death rates. A 1999 report published by the Australian Institute of Health and Welfare showed a similar relationship between socio-economic status and mortality: it suggested that the most socio-economically disadvantaged group in the Australian population lost 35 per cent more years of life than the least disadvantaged group.

The 1995 National Health Survey

The 1995 National Health Survey conducted by the Australian Bureau of Statistics examined the health of a representative sample of the Australian population from different geographical locations. We used the information gathered from the Survey to see if there are any differences in health between the following:

- SEIFA quintiles
- metropolitan and rural Australia

Figure 6.1 Mortality rates in relation to socio-economic disadvantage, 1996

Source: Australian Bureau of Statistics 1998, *1996 Census of Population and Housing: socio-economic indexes for areas*, Information paper, Cat. no. 2039.0, ABS, Canberra, p. 8.

- the regions of Gascoyne River, Margaret River, northern Queensland (the Cairns region), south-east Queensland (the Darling Downs), Hunter River – Mudgee, the Huon Valley, the Barossa Valley, Port Lincoln, Mildura (north-west Victoria), north-east Victoria (Upper Hume) and Gippsland (which was divided into two areas—fishing and dairy/vegetables).

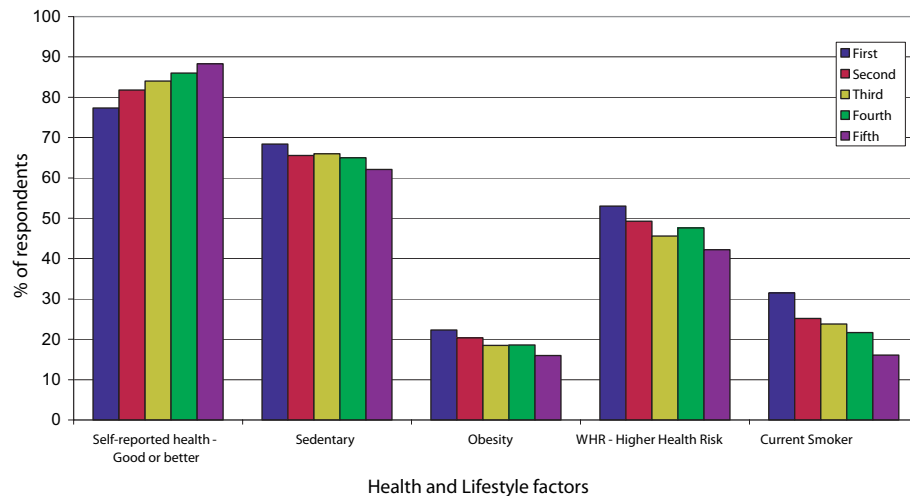
SEIFA quintiles

When the Australian population is divided into quintiles according to socio-economic status—with the first quintile representing those in the lowest socio-economic group and the fifth quintile representing those in the highest—health and lifestyle trends become apparent (see Figure 6.2). As socio-economic status improves, the percentage of people reporting better health and engaging in moderate to high levels of exercise increases. The percentage of smokers and people with excess body fat, especially around the waist, declines as socio-economic status improves.

Figure 6.2 Health and lifestyle characteristics of Australians, by SEIFA quintile

Notes: Data are for Australians aged 16 years and over. WHR denotes waist-hip ratio.

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.



Metropolitan and rural Australia

People who live in metropolitan areas usually experience better health than their rural counterparts. This is probably because city dwellers have access to a wider variety of resources in terms of housing, employment, education, medical and hospital services, and food. New technologies may, however, reduce the differential between rural and metropolitan regions in the future.

When Australians aged 16 years and over in metropolitan areas (excluding Canberra and Darwin) are compared with those living in rural regions of each state (excluding Queensland), some interesting differences in health status and lifestyle factors become evident.

Health status

There was little difference between metropolitan and rural areas in terms of self-reported health status. In both cases about 83 per cent of respondents rated their health as good or better (see Figure 6.3) and a little less than one-third said they had not taken any medication in the two weeks preceding the Survey.

Obesity increases the risk of developing conditions such as diabetes, high blood pressure and heart disease. Most obesity-related health problems occur when body fat accumulates around the abdomen, rather than on the limbs. Abdominal fat differs from the fat found on limbs: it is more metabolically active and is strongly influenced by its nerve supply and the hormones that reach it in the bloodstream; it also delivers fats known as ‘free fatty acids’ directly to the liver, which in turn affects liver metabolism. In other words, fat on the hips tends to be idle, while fat around the gut is being constantly stimulated. Although about 20 per cent of Australians are obese—with slightly more obese people living in the country (21 per cent) compared with city dwellers (18.4 per cent)—a disturbing 46 per cent of metropolitan Australians aged 16 years or over and 51.5 per cent of rural Australians of similar age are abdominally fat, as judged by waist–hip ratio.

Lifestyle

It seems that nearly two-thirds of Australians (regardless of location) are doing little or no exercise, and this is probably one of the main factors contributing to abdominal obesity. Smoking also contributes to abdominal obesity and, although smoking rates have dropped, just over 20 per cent of Australians still smoke.

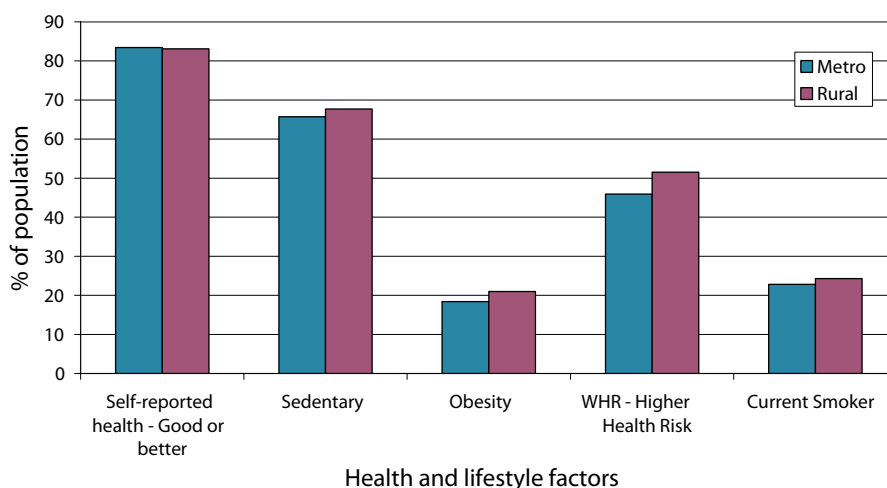


Figure 6.3 Health and lifestyle characteristics of Australians, by metropolitan and rural residence

Notes: Data are for Australians aged 16 years and over. WHR denotes waist–hip ratio.

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.

Regional Australia

The health characteristics of the populations living in the regions discussed in this book were not specifically surveyed, so the health characteristics of similarly matched respondents from the 1995 National Health Survey were used as a surrogate. Additionally, the Index of Relative Socio-economic Disadvantage was used as an indicator of the socio-economic status of each region. This approach allows general deductions to be made about the health and lifestyle characteristics of the people living in these regions, although the deductions may not be truly representative of each regional population.

Regions according to SEIFA quintile

For each region, an Index of Relative Socio-economic Disadvantage was derived from the 1996 Census of Population and Housing by aggregating the relevant postal areas for each region. (Table 6.1 shows the postcodes used.) National Health Survey respondents who were in the same state as a particular region and had a similar Index of Relative Socio-economic Disadvantage became the surrogate population for that region. For example, the Gippsland fishing region, incorporating Lakes Entrance and Port Welshpool, had an Index of Relative Socio-economic Disadvantage that fell within the first SEIFA quintile. The Victorian respondents to the Survey who fell in the first quintile were then used as a surrogate to describe the socio-economic characteristics of the Gippsland fishing region. It is important to note that all the regions studied fell within the first four quintiles: in other words, no region fell within the fifth quintile. Margaret River was the only region to come within the fourth quintile (see Figure 6.4).

Figure 6.4 Study regions, by SEIFA quintile

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.

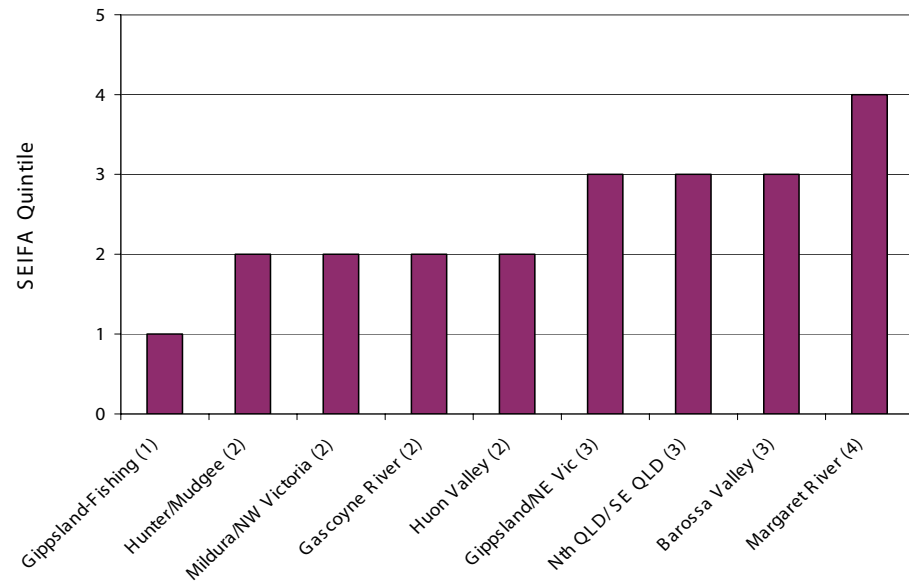


Table 6.1 Postcodes used for each region

	Postcode		Postcode
Western Australia		South Australia	
Gascoyne River		Barossa Valley	
Carnarvon	6701	Lyndoch	5351
Exmouth, Learmonth	6707	Tanunda	5352
Shark Bay, Denham	6537	Angaston	5353
Margaret River		Nuriootpa	5355
Dunsborough	6281	Port Lincoln	5605
Yallingup	6282		
Cowaramup, Gracetown	6284	Victoria	
Margaret River, Prevelly Park	6285	North-east Victoria (Upper Hume)	
Augusta	6290	Wahgunyah	3687
		Rutherglen	3685
Queensland		Chiltern	3683
North Queensland		Barnawatha	3688
Cairns	4870	Beechworth	3747
South-east Queensland (Darling Downs)		Yackandandah	3749
Gatton	4343	Corryong	3707
Toowoomba	4350	Tallangatta	3700
Mount Tyson	4356	Wodonga	3690
Greenmount	4359	North-west Victoria (Mildura)	
Warwick	4370	Mildura	3500
Bowenville	4404	Gippsland (dairy and vegetables)	
Dalby	4405	Pakenham	3810
New South Wales		Drouin, Jindivick	3818
Mudgee	2850	Warragul	3820
Hunter Valley		Darnum	3822
Maitland	2320	Yarragon	3823
Cessnock, Wollombi	2325	Maffra	3860
Kurri Kurri	2327	Korumburra	3950
Broke, Singleton	2330	Leongatha	3953
Branxton	2335	Toora	3962
		Yarram	3971
Tasmania		Neerim	3821
Huon Valley		Thorpdale	3835
Huonville, Glen Huon, Ranelagh, Lucaston, Grove, Southport, Cradoc	7109	Koo Wee Rup	3981
Cygnat	7112	Longford	3851
Franklin	7113	Meerlieu	3862
Geeveston, Surges Bay	7116	Lindenow	3865
Dover	7117	Bengworden	3875
Pelverata	7150	Gippsland (fishing)	
		Lakes Entrance	3909
		Port Welshpool	3965

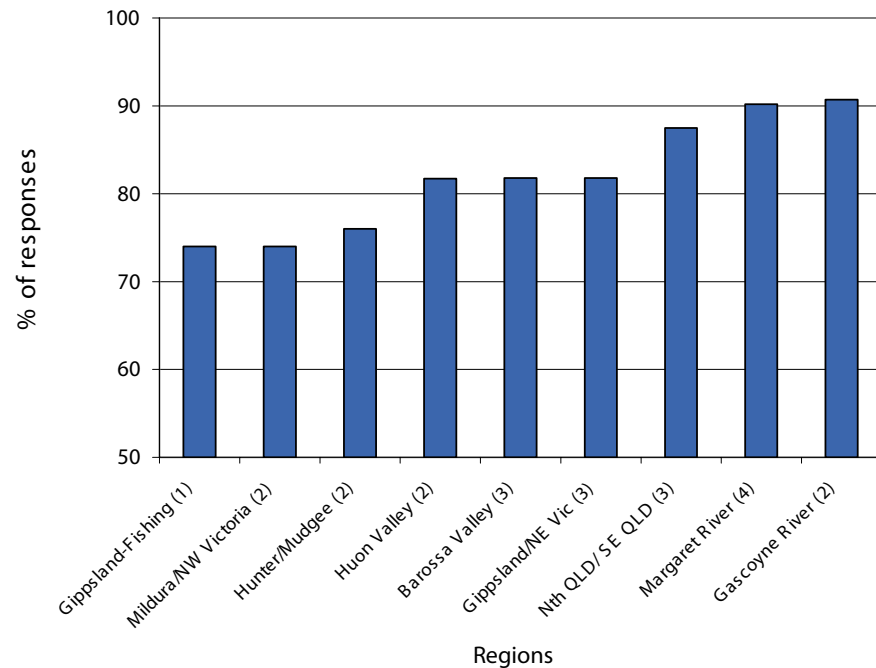
Health status

When it comes to self-reported health status, there were no clear trends across the regions. Four regions with similarly low SEIFA scores (Mildura, Hunter–Mudgee, the Huon Valley and the Gascoyne River) rated their health differently. The vast majority (91 per cent) of residents of the Gascoyne River region considered their health to be good or better, in contrast with only 74 per cent in the Mildura region. This raises some interesting questions about why it is that people report superior health, even though the region as a whole is relatively disadvantaged socio-economically (as represented by low a SEIFA score). Margaret River had the highest SEIFA score and, as might be expected, also reported superior health (see Figure 6.5).

Figure 6.5 Self-reported health—good or better—of regional Australians, by SEIFA score

Note: Data are for Australians aged 16 years and over.

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.



The level of obesity was highest in the Gippsland fishing and Mildura regions, where it was assumed to affect nearly 30 per cent of the population. Although more than 70 per cent of people living in the two regions reported that their health was good or better, these regions ranked lowest in terms of self-reported health (see Figure 6.6).

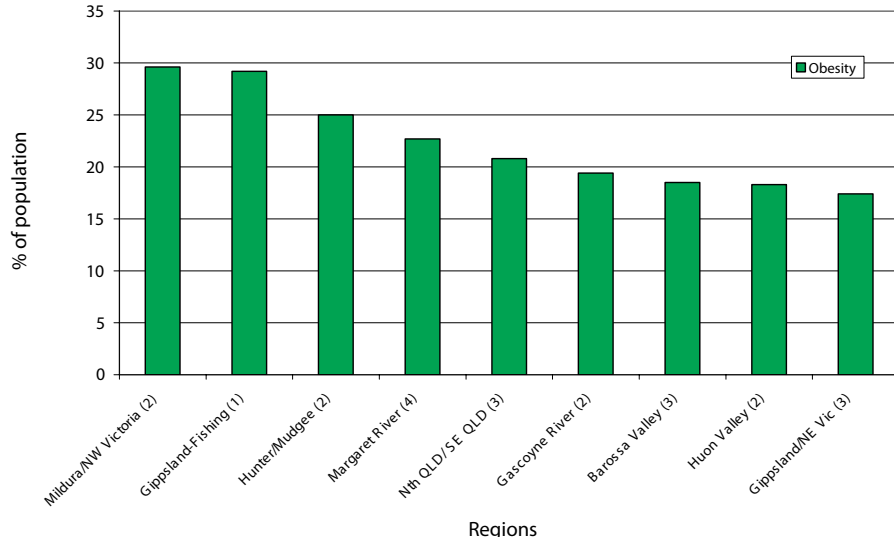


Figure 6.6 Obesity among regional Australians, by SEIFA score

Note: Data are for Australians aged 16 years and over.

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.

Waist–hip ratios associated with a higher health risk showed no particular trend across the regions. If the deductions made were correct, just over 65 per cent of the residents of the Mildura region had an unfavourable waist–hip ratio, compared with just over 45 per cent in Gippsland and north-east Victoria and northern and south-east Queensland—see Figure 6.7.

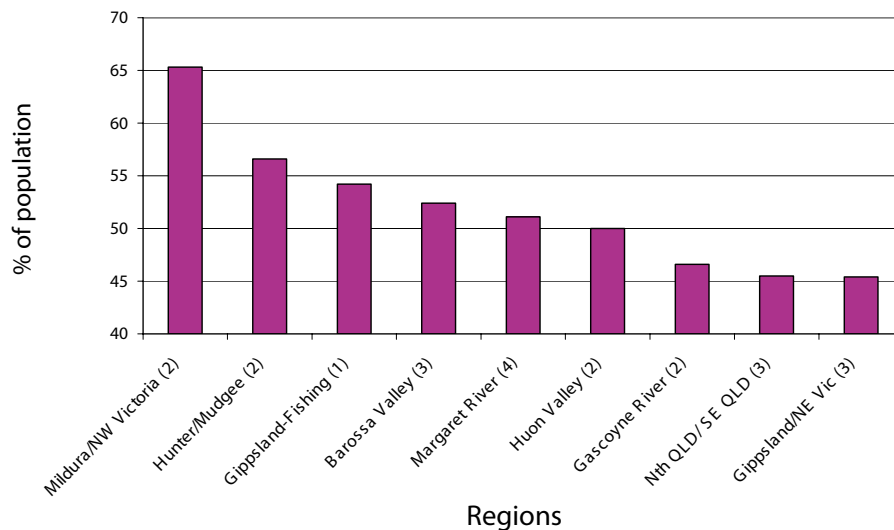


Figure 6.7 Regional Australians with an unhealthy waist–hip ratio, by SEIFA score

Note: Data are for Australians aged 16 years and over.

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.

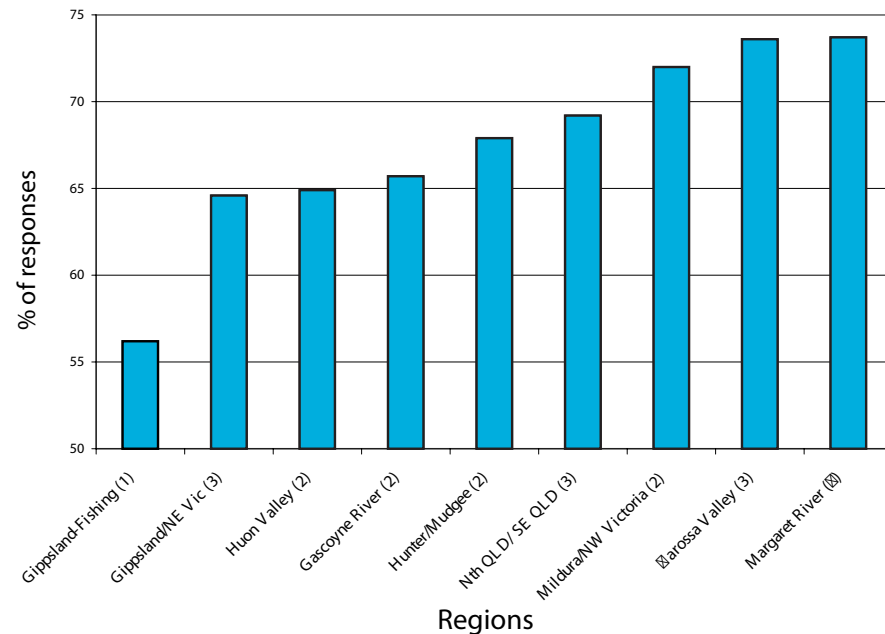
Lifestyle

As noted, a sedentary lifestyle and cigarette smoking can contribute to abdominal obesity. When these two factors are compared with the waist–hip ratios for each region, however, there appears to be little consistent evidence to support the associations. There are several possible explanations for this. First, age and gender may confound the picture. The analysis did not look at the age of the smokers or those not exercising, yet it is known that as adults age fat tends to accumulate around the waist more readily—the ‘middle-age spread’. Further, if a greater proportion of the smokers (or those who exercised) were younger this may lessen the impact of smoking and exercise on waist–hip ratios. Additionally, men are more likely to be apple-shaped and women pear-shaped. Again, we do not know the proportions of men and women who smoked and exercised. Another confounding factor is that there may not be enough difference in the percentage of smokers or those who exercise, or both, for each region; for example, more than half the population in all regions was classified as sedentary (see Figure 6.8), although some of those classified as such may have had physically demanding jobs (such as labouring jobs) and so may not have been truly sedentary.

Figure 6.8 Sedentary lifestyles of regional Australians, by SEIFA score

Note: Data are for Australians aged 16 years and over.

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.



It is interesting to note, however, that the two regions reporting the best health—Gascoyne River and Margaret River—had the lowest rates of smoking (see Figure 6.9).

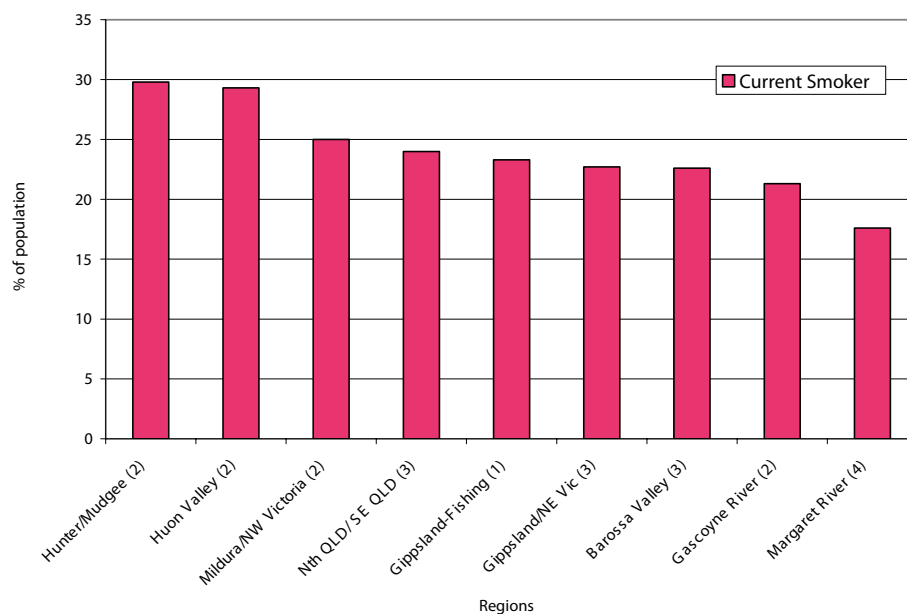


Figure 6.9 Regional Australians who are cigarette smokers, by SEIFA score

Note: Data are for Australians aged 16 years and over.

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.

What does this all mean?

Overall, we can expect that, just as regions differ socio-economically, so they will differ in mortality and disability rates. Whatever the situation for regional differences in mortality, the profile of health risk factors—unhealthy eating, excessive alcohol consumption, cigarette smoking, and insufficient exercise—will influence future standard mortality ratios, as will the availability of health services and other support networks. Nevertheless, there are undoubtedly other factors that accentuate or minimise these differences. For example, food intake patterns are determined by many factors beyond socio-economic status and have the potential to provide health advantages for an otherwise socio-economically disadvantaged community or individual.

The foods eaten

The 1995 National Nutrition Survey also examined the food and nutritional habits of its representative sample of the Australian population. The Survey respondents are used here as a surrogate population for each of the regions studied (using the method described earlier) to see if there are any differences in the food and nutritional habits of each (surrogate) regional population.

Food variety and health

Foods are a complex mixture of chemicals, the best-known being water, protein, carbohydrates, fat, dietary fibre, and vitamins and minerals. Scientists are now discovering that many of the other chemicals that occur in food—which are responsible for food's diverse range of colours, tastes, textures and smells—also seem to be good for our health. For these reasons, eating a wide variety of foods is probably the best way to achieve a healthy diet. Food variety also reduces the likelihood of eating excessive amounts of nutrients such as salt and carotene that can be detrimental to health or even toxic.

Longevity appears to be linked to cultures in which a variety of foods form the basis of the usual diet. For example, the Japanese, who eat about 30 different foods every day, have the longest life expectancy in the world. In the Australian population, people of Greek background tend to have the longest life expectancy, and food variety is characteristic of the traditional Greek way of eating. Some of this longevity might be attributable to other cultural differences and genetic backgrounds, but studies among mainstream Americans have also shown that food variety and longevity seem to be related.

In the 1995 National Nutrition Survey respondents were asked how often they ate the foods on a food-frequency questionnaire. Ninety-three different food items were listed, categorised into eight food groups; this allowed a food variety score to be calculated for the amount of variety within each food group as well as for the diet overall. One point was assigned to each food that was eaten at least once a week. The maximum achievable score was 93, with vegetable, fruit, cereal, milk and other dairy, meat, fish, beverages and other food groups receiving a maximum achievable score of 27, 8, 12, 7, 18, 4, 9 and 8 respectively.

The results showed there was little difference between metropolitan and rural Australians in terms of total food variety scores. People in both locations ate on average about 30 different foods each week. In the rural regions the average total food score, in general, increased as socio-economic status improved. The Gascoyne River had an average total food score higher than all the other regions studied here, and in north and south-east Queensland the total food score appeared to be lower (see Figure 6.10).

Increasing variety in the diet

A number of factors are important determinants of the extent of variety in the diet of a nation or region:

- environmental integrity and biodiversity
- food production
- cuisine, culture and migration
- trade
- knowledge and skill.

It is worth asking how much local food intake patterns, especially variety, might be reliant on or limited by these factors and how any shortcomings might be redressed.

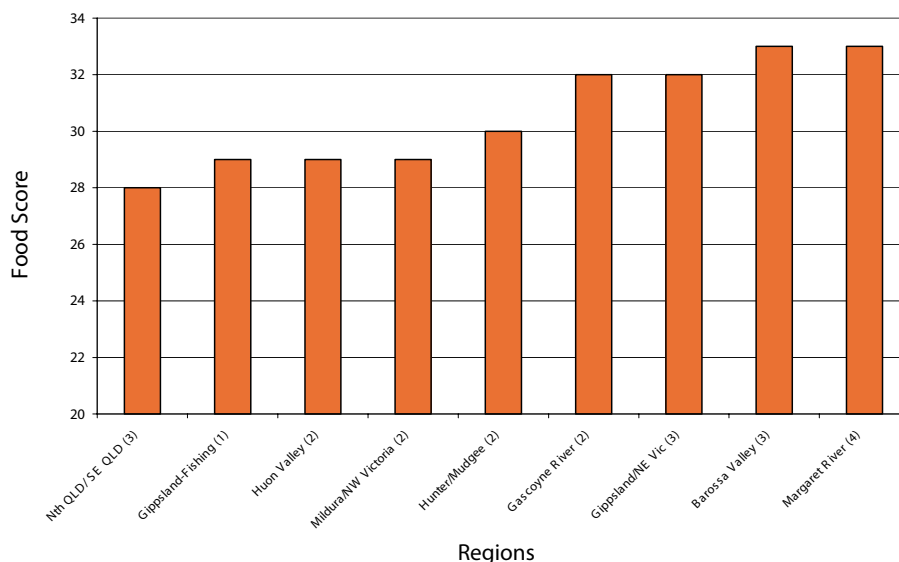


Figure 6.10
Average total food variety score, by region and SEIFA score

Notes: Data are for Australians aged 16 years and over. The average food variety score was based on the food-frequency method used by the 1995 National Nutrition Survey. One point (score) was assigned to each food that was eaten once a week. A total food variety score that is greater than 30 is considered a very good indicator of a healthy diet.

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.

Fruit and vegetables

Studies have shown that a high intake of fruit and vegetables appears to confer protection against a number of conditions, such as heart disease, stroke and cancer. One study found that eating large amounts of fruits and vegetables (around eight to 10 servings a day) combined with low-fat dairy products was as effective as some medications for lowering blood pressure.

Fruit and vegetables contain many protective substances—for example, anti-oxidants such as vitamin C, beta-carotene (and related carotenoids) and flavonoids. They are also an excellent source of dietary fibre, numerous nutrients and phytochemicals.



Legumes—such as beans—are a rich source of dietary fibre and essential nutrients.

With the exception of the Huon Valley, which scored 2, the regions studied here had an average fruit variety score of 3. In the case of vegetables, the regions falling into the third or fourth SEIFA quintile—that is, north and south-east Queensland, Gippsland (dairy/vegetables), north-east Victoria, the Barossa Valley, and Margaret River—had the highest average score.

The food variety scores calculated from the 1995 National Nutrition Survey do not provide any indication of quantities eaten. It is worth noting, though, that the Australian Institute of Health and Welfare has found an association between an inadequate intake of fruit and vegetables (defined as less than five servings of fruit or vegetables a day) and a greater risk of cancer, heart disease and stroke.

Legumes

The prevalence of heart disease and some cancers is relatively low in Asian populations that regularly consume soy products. This observation has led to numerous claims about the potential health benefits of soy, although until recently there has been little evidence to suggest that eating soy or other legumes (especially among Western populations) is beneficial to health. In 2002, however, a Monash University study of the eating habits of five culturally diverse elderly populations found that legume eaters were more likely to live longer than people who did not eat legumes. Furthermore, a US study that had followed a large group of adults for an average of 19 years recently found that those who consumed legumes at least four or more times a week had a 20 per cent lower risk of coronary heart disease compared with those who ate them less than once a week—even after the researchers had adjusted for risk factors such as age and smoking.

Legumes are a rich source of dietary fibre and a good source of nutrients such as protein, folate, thiamin, iron, magnesium, potassium and calcium. They also contain phytochemicals that have hormone-like properties: many scientists claim these phytochemicals offer health benefits.

On the whole, Australians are not regular consumers of legumes. In the 1995 National Nutrition Survey only 12 per cent of adults reported eating these foods on the day of the Survey. This contrasts with more than 80 per cent reporting that they ate meat and vegetables and more than 90 per cent eating cereals and milk. The regional consumption of legumes is unknown.

Fish

There is convincing evidence that eating fish reduces the risk of dying from coronary heart disease. A study in Western Australia found that, when adults with high blood pressure ate fish as part of a weight-reducing diet, their blood pressure (a major risk factor for heart disease) fell to a greater extent than it did with dieting alone. Fish has numerous properties that might reduce the risk of heart disease: it is a very good source of omega-3 fats, which help protect against blood clots and irregular heartbeat; it contains nutrients that might help reduce blood pressure, such as calcium, anti-oxidants

(such as coenzyme Q₁₀) to protect cholesterol from oxidising, and selenium; further, it is a source of nutrients such as vitamin D and taurine, which may also be good for the heart. Finally, there is some evidence to suggest that eating fish might be good for bone health and might lower the risk of developing depression, some cancers and diabetes.

Traditionally, Australians have not been a nation of fish eaters, although consumption has increased in recent years. In the 1995 National Nutrition Survey 20 per cent of respondents reported eating fish on the day of the Survey. There was a negligible difference in the average intake of fish between metropolitan and rural Australia, but the average fish intake score did appear to vary between the regions studied here: the average (weekly) intake of fish for the Gippsland fishing region, the Huon Valley and Mildura was nil, compared with an average score of 1 for the other regions.

Beverages

Beverages are usually consumed to quench thirst or when in the company of others. Both these factors are important for health. Different beverages also contain a range of substances that appear to be beneficial. Tap water contains a number of minerals, although the concentrations vary from place to place; minerals such as fluoride seem to be associated with stronger bones. Tea (black or green) and red wine contain anti-oxidants, which protect against heart disease, some cancers and probably bone loss.

There was little variation in the number of different beverages consumed in each region. On average, the assumed population of Margaret River consumed four different beverages a week, while the other regions consumed three. Tea appears to be the most popular drink: the 1995 National Nutrition Survey found that most adults drank tea on the day of the Survey.

Macronutrients

Macronutrients such as protein, fat, carbohydrate and alcohol contribute to overall energy intake. For example, for every gram of protein, starch or sugar eaten the body obtains 4 calories; a gram of fat contributes about 9 calories; and a gram of alcohol about 7 calories. Overall, there was little difference in the macronutrient contribution to energy intake in the regions studied. The nutrient that appeared to vary most in terms of its contribution to energy intake was alcohol. In some regions it accounted for less than 6 per cent of energy intake and in others it accounted for more than 10 per cent. In the wine-growing regions of the Barossa Valley and Margaret River it accounted for less than 10 per cent and more than 10 per cent respectively. The dominant source of alcohol—beer, wine, and so on—is also likely to vary.

The values representing each macronutrient's contribution to energy intake shown in Figure 6.11 correspond to the median point (mid-point); in other words 50 per cent of the population for each area consumed less than the value shown and 50 per cent consumed more.



Tea—the most popular beverage

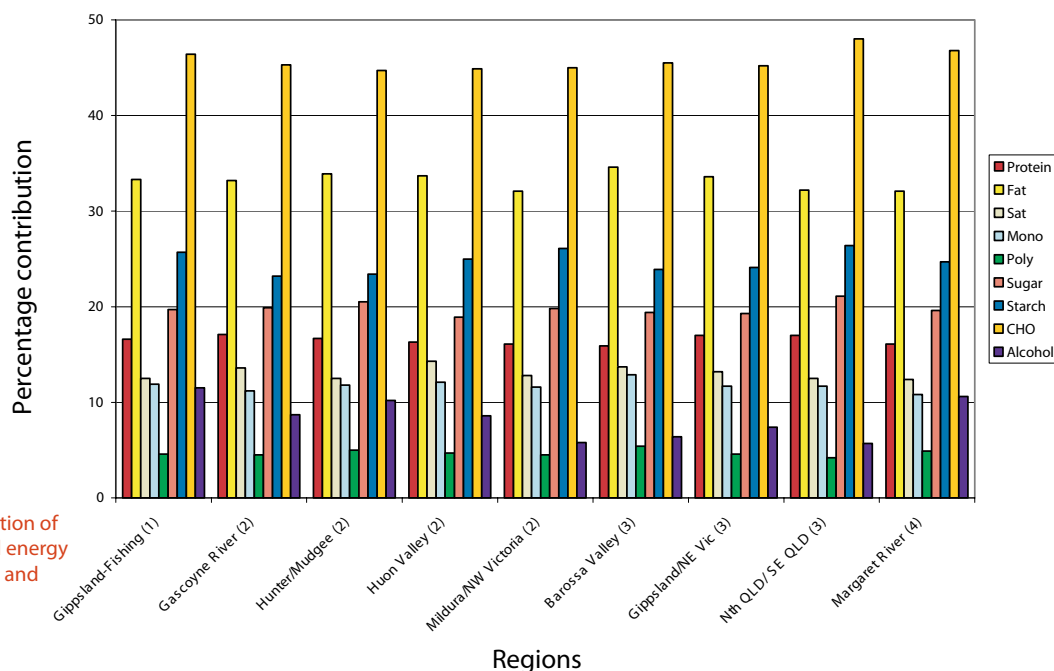


Figure 6.11
Median contribution of nutrients to total energy intake, by region and SEIFA score

Sources: Australian Bureau of Statistics 1998, *National Nutrition Survey: confidentialised unit record file*, Information paper, Cat. no. 4807.0, ABS, Canberra; Australian Bureau of Statistics 1997, *1995 National Health Survey: technical paper for sample file*, ABS, Canberra.

The National Health and Medical Research Council has made several recommendations about the intake of fat (including saturated fat). It recommends that total fat intake contribute no more than 30 per cent of total energy intake and that saturated fat contribute no more than 10 per cent. Figure 6.11 shows that at least half the population in each region exceeded these recommendations.

Food and health: bringing it together

Although, overall, the regions appear to have an adequate and varied food supply, there are some nutritional problems, particularly inadequate consumption of fruit and vegetables (including legumes) and fish, all three of which are known to confer health advantages. Even where fish are caught—in the Gippsland localities of Lakes Entrance and Port Welshpool and in the Huon Valley—fish consumption can be low.

When people are socio-economically advantaged they have the potential for a more diverse diet and thus better health and greater longevity. It would appear that regions can offset their risks to some extent—at least in terms of present health, if not longevity. These favourable non-food factors are likely to be associated with social cohesion and service delivery (for example, schools and health services), with or without socio-economic advantage.



Australian Government

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Regional Flavours

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by Rita Erlich, Ruth Riddell and Mark Wahlqvist

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