

# Summary

This summary is intended to give an overview only: it merely skims the surface of the information to be found in the body of the report. More detailed summaries can be found at the beginning of each indicator throughout the report.

This summary briefly outlines the major findings for each indicator, and is organised sequentially by the three Framework tiers and in the order that indicators are described in the report.

## Tier 1 Health status

### Chronic diseases

There was a degree of consistency in the apparent prevalence of a range of chronic diseases. However, because the data are from a survey, differences were often not statistically significant.

The chronic health conditions are self-reported. Inter-regional differences may reflect different levels of awareness as well as different levels of disease prevalence.

- Overall there was no significant difference between the prevalence of self-reported 'all chronic diseases' in regional areas and Major Cities. However, the prevalence among 15–64-year-old regional females was about 1.1 times as high as for their counterparts in Major Cities.
- The prevalence of self-reported diabetes in regional areas was 0.9 times that (i.e. lower than) in Major Cities. This is influenced by regional prevalences that were 0.7 times as high for males and indistinguishable for females, as for their counterparts in Major Cities. This pattern of self-reported diabetes prevalence is at odds with higher rates of diabetes-related mortality in regional areas.

In 2001, people in Major Cities were 1.25 times as likely, respectively, to self-report diabetes as in 1995. Males in regional areas were about as likely to self-report diabetes as in 1995, whereas females in regional areas were 1.44 times as likely to self-report diabetes as in 1995.

- For males, the prevalence of self-reported asthma in 1995 was 1.1 times as high in regional areas as in Major Cities, but in 2001 it was 0.9 times as high. For females, the patterns in both years were similar (i.e. a significant 1.06 times as high in regional areas in 1995, and an apparent 1.06 times as high in regional areas in 2001). In 2001, people in Major Cities were 1.1 times as likely to self-report asthma as in 1995, and in regional areas, males and females were, respectively, 0.85 and 1.1 times as likely to self-report asthma as in 1995.
- There was no significant difference between the prevalence of self-reported bronchitis and emphysema in Major Cities and regional areas as a whole, although prevalence tended to be lower in regional areas (significantly lower for females in Outer Regional areas). In 1995, regional prevalence was 0.92 times that in Major Cities (0.78 times as high in Outer Regional areas). In 2001, people in all areas were about 0.85 times as likely

to self-report bronchitis or emphysema as they had been in 1995. The inter-regional pattern for self-reported prevalence conflicts with death rates from this condition, which were about 1.2-1.4 times as high for males in regional areas, and about 1.05-1.1 times as high for females in regional areas, as those in Major Cities.

- There were about as many males and females in regional areas as expected who self-reported ischaemic heart disease (IHD) (although there were half as many 45-64-year-old regional males as expected). This is at odds with regional death rates for males and females, which were, respectively, about 1.10 and 1.05 times as high as in Major Cities. However, interpretation of this apparent contradiction is hampered by relatively wide confidence intervals for the prevalence data.

## **Injury**

Compared with their counterparts in Major Cities:

- people from regional areas were 1.2 times as likely to self-report a recent injury
- males and females from regional areas were 1.24 and 1.12 times as likely, respectively, to self-report a long-term condition due to injury.

## **Mental health**

People in regional areas were about as likely to report psychological distress, and affective, anxiety or substance abuse disorders as those in Major Cities. The data suggest, however, that compared with counterparts in Major Cities:

- depression was 1.4 times as prevalent for 45-64-year-olds from Inner Regional areas, and 0.4 times as prevalent among those 65 years and over from Outer Regional areas
- males in Outer Regional areas were 0.73 times as likely to report anxiety
- substance abuse disorder in 18-24-year-old women from regional areas was twice as prevalent, but 0.35 times as prevalent among men aged 65 years and over from regional areas.

## **Dental health**

Children aged 6 years and 12 years in regional/remote areas had, respectively, about 1.3 and 1.2 times as many decayed, missing or filled teeth as their counterparts in Major Cities. This could be partly explained by the lower proportion of adequately fluoridated reticulated water systems in regional and remote areas than in Major Cities (see page 120). It may also be linked to fewer dentists in these areas (see page 267).

## **Communicable diseases**

Rates of communicable disease notification tended to increase with remoteness.

Compared with Major Cities in 2001, rates of notification for the following diseases in Inner Regional, Outer Regional and remote areas respectively were:

- salmonellosis – 1.3, 2.1 and 4.3 times as high
- campylobacteriosis – the same in all areas

- Ross River virus – 3.1, 4.9 and 8.7 times as high
- pertussis – 1.3, 1.9 and 1.9 times as high
- syphilis – 0.5, 1.4 and 12.5 times as high
- chlamydia – 0.9, 1.7 and 4.1 times as high.

High rates of notification for syphilis, chlamydia and salmonella in regional and especially remote areas probably reflect high average rates in the Indigenous population, and the greater representation of Indigenous people in the populations of those areas.

High rates of Ross River virus in these regional and remote areas probably reflect higher overall rates of exposure to disease vectors such as mosquitoes. Ross River virus notifications were less common for Indigenous people than they were for non-Indigenous people.

Rates of pertussis are high in regional and remote areas even though they tend to be low overall for Indigenous people. Whatever the reason for higher rates of pertussis notification outside Major Cities, it is unlikely to be due to high rates in regional and remote area Indigenous populations (as appears to be the case for some of the other communicable diseases described here).

## **Birthweight**

Compared with their counterparts in Major Cities:

- very low birthweight babies were about as prevalent in regional areas (1.2–1.4% of births) and slightly more prevalent in remote areas (1.5–1.8% of births); 2.2% of Indigenous newborns were of very low birthweight, probably influencing percentages in remote areas
- non-Indigenous newborns from regional and remote areas were about as likely to be of very low birthweight and tended to be slightly heavier on average.

## **Disability**

Compared with their counterparts in Major Cities:

- males in regional areas were 1.2–1.3 times as likely to have a disability, and 1.2–1.4 times as likely to have a severe/profound disability
- females in regional areas were 1.05 times as likely to have a disability, and 1.05–1.09 times as likely to have a severe/profound disability.

## **Reduced activity because of illness**

The average number of days of reduced activity was greater in regional areas (3–4% higher in Inner Regional areas, and 10% higher for males in Outer Regional areas) than for their counterparts from Major Cities. The difference was slightly greater for non-Indigenous people in Outer Regional areas.

Statistical significance was not calculated, so the results should be interpreted with caution.

## Life expectancy

Life expectancies were highest in Major Cities and lowest in Very Remote areas, dropping from 78 years to 72 years for males, and from 84 years to 79 years for females.

These comparisons are likely to be strongly affected by much lower Indigenous life expectancy and by the potential migration of the frail aged to less remote areas.

Indigenous males and females had life expectancies of 56 and 63 years, respectively, compared with 77 and 82 years, respectively, for all Australian males and females.

Life expectancies for non-Indigenous people in regional areas were similar to those for the total population, but were greater in remote areas than in Major Cities (potentially affected by migration of the frail aged to less remote areas).

The probability of non-Indigenous people living to 65 years of age was slightly greater in Major Cities than in the other four areas (dropping from 85% to 82% for males and from 91% to 89% for females).

## Self-assessed health status

Compared with their counterparts in Major Cities:

- males in regional areas (particularly those aged 25–44 years) were less likely to self-report good health; females were about as likely to self-report good health
- people in regional areas were about as likely to report poor health (except for those aged 25–44 years in regional areas who were about 1.3 times as likely to self-report poor health as their Major Cities counterparts).

In 2001, people in Major Cities and regional areas were about 0.95 times as likely to self-report good health, and about 1.07 times as likely to report poor health as in 1995.

Indigenous people were less likely to self-report good health (34%) and more likely to self-report poor health (34%) than their non-Indigenous counterparts (52% and 18%, respectively).

## ‘Happiness’

Although some results are unclear, it appears that people in regional areas were as likely or less likely to feel delighted about life as those in Major Cities, and more likely to feel that life was terrible. To place this in context, about 12% of Australians felt delighted, and about 1% felt terrible about life.

The inter-regional pattern for non-Indigenous people was similar to that described above for the total population. Comparable data for Indigenous versus non-Indigenous people is not available.

## Overall mortality

Compared with their counterparts in Major Cities:

- males and females from regional, and especially remote, areas had higher rates of death
- death rates rose with increasing remoteness. For males, they rose from 1.1 times the Major Cities rates in regional areas to 1.5 times in Very Remote areas. For females, they rose from 1.05 times to 1.5 times.

High rates in remote areas, especially, were influenced by high overall death rates for Indigenous people – rates were 3 times those for their non-Indigenous counterparts from Major Cities.

Rates for non-Indigenous people were roughly similar in all areas but tended to be lower in remote areas – potentially a consequence of the migration of the frail aged.

Rates for non-Indigenous people younger than 65 years in regional and remote areas were 1.1 to 1.2 times those in Major Cities.

## **Perinatal mortality**

Compared with their counterparts in Major Cities:

- rates of foetal and neonatal death were higher in regional and especially remote areas
- foetal death rates were 1.1, 1.2, 1.4 and 2.2 times as high in the four areas outside Major Cities (Inner and Outer Regional, Remote and Very Remote areas)
- neonatal death rates were 1.2, 1.3, 1.5 and 2.9 times as high in the four areas.

Compared with non-Indigenous babies, Indigenous babies were 1.9 times as likely to be stillborn and 2.6 times as likely to die within 28 days of birth.

Data accuracy issues prevent disentanglement of Indigenous and regional/remote effects. It is clear, however, that overall high rates of Indigenous perinatal mortality have a substantial effect in remote areas.

## **Causes of death**

The leading causes of the higher death rates experienced in regional and remote areas are mainly circulatory diseases (42% of the 'excess' deaths) and injury (24%), with respiratory disease and cancers contributing about 10% of the 'excess' each.

Coronary heart disease (23%), 'other' cardiovascular disease (16%), chronic obstructive pulmonary disease (11%), motor vehicle accidents (11%), diabetes (6%), suicide (6%) and 'other' injuries (6%) were the main contributors to the 'excess' deaths that elevate regional and remote area mortality above levels experienced in Major Cities. Prostate, colorectal and lung cancers together contributed another 10% of the 'excess' deaths.

## **Tier 2 Determinants of health**

### **Fluoridated water**

Over 80% of localities in Major Cities had reticulated water supplies that were adequately fluoridated, compared with 30–40% of those in regional and Remote areas, and 25% of those in Very Remote areas.

These findings are indicative only.

## **Educational status**

### **Secondary education**

Adults living in regional and remote areas were less likely to have completed secondary school than those from Major Cities. About 48% of adults living in Major Cities had finished school at Year 12 or equivalent, compared with about 30–32% of adults in regional and Remote areas, and 26% of adults from Very Remote areas.

These figures are influenced by rates for Indigenous adults who were less likely than non-Indigenous people to have finished Year 12 or equivalent:

- 27%, 20%, 14% and 9% of Indigenous adults in Major Cities, regional, Remote and Very Remote areas had finished Year 12 or equivalent
- 48%, 32%, 31%, 33% and 36% of non-Indigenous adults from Major Cities, Inner Regional, Outer Regional, Remote and Very Remote areas had finished Year 12 or equivalent.

### **Tertiary qualifications**

Adults from regional and especially remote areas were less likely to have tertiary qualifications (including TAFE qualifications) than adults from Major Cities. Indigenous adults in all areas were less likely than non-Indigenous adults to have tertiary qualifications.

- 19%, 11%, 9%, 9% and 8% of all adults from the five areas (Major Cities, Inner and Outer Regional, Remote and Very Remote areas) had a bachelor's degree or higher
- 71%, 76%, 82%, 86% and 94% of Indigenous adults in the five areas had no tertiary qualifications
- 55%, 61%, 65%, 64% and 61% of non-Indigenous adults in the five areas had no tertiary qualifications (the inter-regional difference is less than for the total population).

### **High school retention**

High school retention decreased with increasing remoteness, and Indigenous 17-year-olds were less likely to be still attending high school than non-Indigenous 17-year-olds.

Compared with their 17-year-old counterparts in Major Cities:

- 17-year-olds living in the four areas were 0.84, 0.72, 0.44 and 0.23 times as likely to be attending high school
- non-Indigenous 17-year-olds living in the four areas were 0.85, 0.73, 0.45 and 0.33 times as likely to still be attending high school.

Indigenous 17-year-olds living in the five areas were, respectively, 0.72, 0.65, 0.54, 0.33 and 0.18 times as likely to still be attending high school as non-Indigenous 17-year-olds living in Major Cities.

### **Progression to university**

Young people from regional and remote areas were substantially less likely to commence tertiary (university or TAFE) studies than were their counterparts from Major Cities.

Compared with their counterparts from Major Cities:

- young people from the four areas were 0.68, 0.60, 0.38 and 0.25 times as likely to commence tertiary education
- young non-Indigenous people from the four areas were, 0.69, 0.61, 0.33 and 0.53 times as likely to commence tertiary education.
- young Indigenous people were 0.3 times as likely to commence tertiary education as young non-Indigenous people.

## Employment

In 2001:

- 7% of the adult population in Major Cities were unemployed, compared with 8–9% in regional areas and 5–6% in remote areas.
- 73% of the adult population in Major Cities were working or looking for work (i.e. participating in the labour force), compared with 71–72% in regional areas, 75% in Remote areas and 68% in Very Remote areas.

Unemployment rates for Indigenous people were 17%, 22%, 21%, 18% and 8% in the five areas.

Unemployment rates for non-Indigenous people were 7%, 8%, 8%, 5% and 4% in the five areas.

Participation rates for Indigenous people were 58%, 53%, 52%, 52% and 48% in the five areas.

Participation rates for non-Indigenous people were 74%, 72%, 73%, 78% and 82% in the five areas.

## Income inequity

Equivalised after-tax household incomes ('income') in regional areas were about 80% those in Major Cities (i.e. they were less).

In 1999, 'income' inequality was greater in Major Cities than in regional areas.

Between 1996 and 1999, 'income' inequality became about 8% greater in the Major Cities and Inner Regional areas, but 7% lower in Outer Regional areas.

## Main sources of employment

Agriculture, forestry and fishing industries combined employed 0.4%, 4%, 10%, 15% and 11% of the adult population in the five areas respectively.

Mining employed another 0.3%, 0.5%, 1%, 5% and 5% of adults in these areas.

Manufacturing employed about 8%, 6% and less than 3% of adults in Major Cities, regional and remote areas.

Retail employed 7–9% in all areas except Very Remote areas where it employed 5%.

Education employed 4–5% in each area.

Health and community services employed between 4% and 6% in each area.

Construction employed 3–4% in each area.

## **Socioeconomic status**

For the three indexes of relative socioeconomic disadvantage, economic resources, and education and occupation, outcomes were better in Major Cities than in regional and remote areas. For example:

- 34%, 14%, 8%, 10% and 2% of people in the five areas respectively lived in Australia's least disadvantaged Statistical Local Areas.
- 20%, 28%, 23%, 26% and 53% of people in the five areas lived in Australia's most disadvantaged Statistical Local Areas.

## **Demography**

In 2001, 66%, 21%, 10%, 2% and 1% of the population lived in Major Cities, Inner Regional, Outer Regional, Remote and Very Remote areas, respectively.

The percentages of these populations that were Indigenous were, respectively, 1%, 2%, 5%, 13% and 44%.

Females slightly outnumbered males in Major Cities; males outnumbered females in the other areas, substantially so in some age groups in remote areas.

There were substantial differences in the age structure of the populations in each area. Children were proportionally more numerous in regional and especially remote areas; people aged 25–44 years were less numerous in regional areas, but proportionally more numerous in remote areas; and people aged 65 years and over were slightly more numerous in regional areas and substantially less numerous in remote areas.

Between 1996 and 2001, the populations of Major Cities and Inner Regional areas grew by 7%, while the populations in the other areas grew by less than 5%.

## **Dependency ratios**

The childhood dependency ratio was higher in regional and especially remote areas than it was in Major Cities.

The aged dependency ratio was higher in Inner Regional areas than in any of the other areas, and lower in Remote and especially Very Remote areas than it was in Major Cities.

Between 1991 and 2001, childhood dependency ratios decreased in all areas. This decrease was substantially steeper in regional and remote areas than in Major Cities.

In the same period, aged dependency ratios increased in all areas – faster in regional and Remote areas and similar in Very Remote areas compared with Major Cities.

Between 1991 and 2001, total dependency ratios for all areas decreased slightly in Major Cities and regional areas, but there was a larger decrease in remote areas.

## **Internal migration**

Migration has a substantial influence on some populations, especially those from Very Remote areas, the young and the elderly.

Migration between remoteness areas caused adult populations in Major Cities and Inner Regional areas to increase, respectively, by 0.1% and 0.2% each year, and those in Outer

Regional, Remote and Very Remote areas to decrease, respectively, by 0.6%, 0.8% and 2.1% each year.

A lower percentage of the Indigenous populations in each area migrate than was the case for non-Indigenous people. The overall or net trend appears to be for migration towards less remote areas.

There was a very strong trend for non-Indigenous people aged 15–24 years to migrate towards Major Cities.

Net migration of non-Indigenous people in the other age groups tended to be from all other areas (including Major Cities) towards Inner Regional areas. The percentage of the population in each age group moving out of Very Remote areas each year was between 3% and 5%.

## **Fertility**

Birth rates were higher for women in regional and remote areas than for those in Major Cities, and increased with increasing remoteness.

Birth rates for 15–19-year olds were up to twice as high in regional areas, and 3 and 7 times as high in Remote and Very Remote areas as in Major Cities. Particularly high rates in regional and especially remote areas are likely to be influenced by high fertility among young Indigenous women.

Birth rates for 20–29-year-old women in regional and remote areas were about 1.5 times those in Major Cities, and rates for women older than this in these areas were less than those in Major Cities.

## **Community safety**

Homicide death rates have been used as an indicator of the general level of violence in each area.

Homicide death rates were substantially higher in Remote and Very Remote areas than in Major Cities and regional areas (although the actual numbers of deaths were relatively small).

Homicide death rates for Indigenous males and females were, respectively, about 6 and 11 times those for their non-Indigenous counterparts.

Homicide death rates for non-Indigenous people in regional and remote areas were similar to, or lower than, those in Major Cities.

## **Risk-taking behaviour**

Compared with their counterparts in Major Cities:

- Males in regional and remote areas were more likely to engage in personally risky behaviour. The inter-regional differences for females were less consistent, but suggested slightly higher rates in more remote areas.
- Males and females in regional and remote areas appeared to be 1.2–1.4 times as likely to engage in socially risky behaviour.

## **Tenure over dwellings**

About 40% of households in Major Cities, regional and Remote areas were owned by their occupants, compared with about 30% in Very Remote areas.

Just under 30% of dwellings in Major Cities and Inner Regional areas were in the process of being purchased by their occupants, compared with about 20% in Outer Regional and Remote areas and 15% in Very Remote areas.

Between 25% and 30% of households in Major Cities and regional areas were renting, compared with 34% in Remote and 44% in Very Remote areas.

Indigenous households were less likely to own or be purchasing their dwelling and more likely to be renting than non-Indigenous households.

About 40% of non-Indigenous households in each remoteness area owned their own dwelling; the percentage purchasing decreased with remoteness outside Inner Regional areas, and the percentage renting correspondingly increased slightly.

## **Crowding in households**

Households in Very Remote areas were much more likely to be crowded (14%) than those in less remote areas (2-3%).

Indigenous households were much more likely to be crowded, especially in Very Remote areas (40%). There was little difference across the five areas for non-Indigenous households (2-3% in all areas).

## **Access to motor vehicles**

In non-Indigenous households, personal access to motor vehicles was greater for those outside Major Cities than for those inside Major Cities.

In Indigenous households, access to motor vehicles was lower than for non-Indigenous households, and was much lower in remote areas.

## **Cost of living**

Food prices increased with remoteness. Food prices in Very Remote areas were between 14% and 19% higher than in the Australian capital cities.

Fuel prices also increased with remoteness. On average in Very Remote areas, unleaded petrol prices were between 9 and 11 cents per litre higher than in the Australian capital cities, and diesel prices were between 5 and 7 cents per litre higher.

The cost of housing decreased with remoteness. In 2001, rents were 0.75, 0.7 and 0.6 times as high in regional, Remote and Very Remote areas as in Major Cities, and mortgages were 0.8 times as high in regional and Remote areas, and 0.7 times as high in Very Remote areas as in Major Cities in 2001.

## **Smoking**

In 2001, people in regional areas were more likely to smoke than those in Major Cities.

Compared with counterparts in Major Cities:

- males in Inner and Outer Regional areas were 1.0 and 1.2 times as likely to smoke
- females in Inner and Outer Regional areas were 1.15 and 1.25 times as likely to smoke
- younger males in Outer Regional areas and younger females in regional areas were 1.3 times as likely to smoke.

In 2001, people in Major Cities were 0.94 times as likely (i.e. less likely) to smoke as in 1995. However, in regional areas, there was no significant difference between the proportions who smoked in 1995 and 2001 (although there was a possible increase in the proportion of females from regional areas who smoked). The upshot is that the relative difference between Major Cities and regional areas appears to have become greater, particularly for females.

Overall, 51% of Indigenous people smoked in 2001, compared with 24% for all Australians.

## **Hazardous alcohol consumption**

Compared with their counterparts in Major Cities:

- males in regional areas were about 1.3 times as likely to engage in risky alcohol consumption
- females were either about as likely to engage in risky alcohol consumption (ABS National Health Survey), or about 1.25 and 1.15 times as likely (AIHW National Drug Strategy Household Survey).

Males and females in Major Cities and regional areas were substantially (about 30%) more likely to engage in risky alcohol consumption in 2001 than they were in 1995.

Overall, Indigenous people were equally as likely as non-Indigenous people to engage in risky alcohol consumption, but Indigenous males aged between 25 and 55 years appeared to be more likely than their non-Indigenous counterparts to do so. Indigenous people were also more likely than non-Indigenous people to abstain from drinking alcohol.

## **Illicit drug use**

Compared with their counterparts in Major Cities:

- people in Inner and Outer Regional areas appeared to be 1.00 and 1.08 times as likely to have recently used cannabis. The situation for people in remote areas is less clear.
- males in Inner and Outer Regional and remote areas were 0.75, 0.98 and 0.78 times as likely to have recently used other illicit drugs and females were 0.76, 0.90 and 0.85 times as likely.

## **Physical inactivity**

Compared with their counterparts in Major Cities, people in Inner and Outer Regional areas were, respectively, as likely and 1.13 times as likely to be sedentary.

Sedentary is defined here as doing no physical activity for exercise, recreation or fitness. This definition excludes other physical activity (e.g. work or active transport).

This pattern is broadly reflective of the pattern in 1995. The percentage of the Major Cities population who were sedentary decreased from 33% in 1995 to 30% in 2001. This difference was apparent for males in regional areas, but less apparent for females.

Of Indigenous people in non-remote areas, 43% were sedentary, compared with 30% of non-Indigenous people.

## **Nutrition**

Compared with their counterparts in Major Cities:

- males and females in Inner and Outer Regional areas were 1.6 times as likely to eat four or more serves of vegetables per day
- people in Inner Regional areas were about as likely to eat two or more serves of fruit per day, and those in Outer Regional areas were slightly less likely.

Indigenous people overall were slightly less likely than non-Indigenous people to have a medium to high fruit intake, but slightly more likely to have a medium to high vegetable intake.

## **Overweight**

Compared with their counterparts in Major Cities, males and females in regional areas were, respectively, 1.05 and 1.10 times as likely to be overweight or obese.

People in all areas were more likely to be overweight or obese in 2001 than in 1995.

About 60% of Indigenous people were overweight, compared with about 50% of non-Indigenous people.

## **Tier 3 Health system performance**

### **Immunisation**

In the five areas in 2002:

- 91%, 92%, 90%, 89% and 90% of 12–15-month-old children were fully immunised
- 88%, 90%, 90%, 88% and 85% of 24–27-month-old children were fully immunised.

### **Breast cancer and cervical screening**

Compared with their counterparts in Major Cities:

- women in regional areas were 1.10 times as likely to have had a mammogram in the previous 2 years; and
- women in Inner and Outer Regional areas were 1.10 times as likely, and equally as likely, respectively, to have had a Pap smear test within the previous 2 years.

Indigenous women in non-sparsely settled areas were about 0.9 times as likely as other women to have had a mammogram or a Pap smear test. Data were not available for sparsely settled areas.

## Female GPs

In 2001, the ratio of female GPs to females in the population was greater in Major Cities (86 per 100,000 females) than in regional (56–58), Remote (54) and Very Remote (73) areas.

Inter-regional comparison of female GP full-time equivalents (FTEs) to females in the population showed a similar pattern, but with higher rates of female GP 'supply' in Very Remote areas because of the longer hours worked by GPs generally in those areas.

## Hospital procedures

For all of the hospital procedures reviewed, inter-regional differences in the rate of separation were evident, but the trends were not consistent from procedure to procedure.

Rates of coronary artery bypass graft (CABG) and coronary angioplasty were lower among people from regional and especially remote areas (and at odds with the pattern of death rates due to coronary heart disease).

Compared with residents of Major Cities, rates of:

- diagnostic gastrointestinal endoscopy and myringotomy were also lower for residents of regional and especially remote areas
- appendectomy and lens insertion were higher for residents of regional and remote areas
- cholecystectomy, hip replacement, revision of hip replacement, knee replacement, hysterectomy, tonsillectomy and arthroscopic procedures were typically higher for residents of regional areas and lower for residents of remote areas.

## Supply of health workers

Overall, health professionals were less prevalent in regional and especially remote areas than in Major Cities. Prevalence has been calculated variously using the number of professionals and of FTEs as the numerator, and the number of people and the 'expected number of consultations' in each population as the denominator. The range in the value of calculated prevalences reflects this.

Inter-regional comparisons make no allowance for differences in underlying need, fragmentation of populations or other potentially important issues affecting comparisons.

GPs were 0.75–0.85 times as prevalent in regional areas as in Major Cities, 0.65–0.75 times in Remote areas, and 0.7–0.95 times as prevalent in Very Remote areas.

Specialists (as a whole) were substantially less prevalent outside Major Cities, but there was substantial variation between specialties.

Enrolled nurses were substantially more prevalent, and registered nurses less prevalent outside Major Cities.

The prevalence of pharmacists, podiatrists, physiotherapists and occupational therapists decreased sharply with increasing remoteness.

## Dental consultations

Males from regional areas consulted a dentist as often, or slightly more often, and females from regional areas consulted a dentist less often than their counterparts in Major Cities.

From the data provided, it is unclear whether these differences are statistically significant.

## **Students commencing university health courses**

With some exceptions, young people from regional and remote areas were generally less likely, or much less likely to commence a health-related degree than young people from Major Cities.

In 1997, young people aged 17–20 years from regional and remote areas were much less likely to commence a degree in medicine as those from Major Cities. By 2002, those from Outer Regional and Remote areas were as likely as those from Major Cities, and those from Inner Regional and Very Remote areas remained much less likely to commence a medical degree.

In general, young people from areas outside Major Cities were much less likely to commence any health degree course (although those from Inner Regional areas were slightly more likely to commence a nursing degree). For example, compared with those from Major Cities, young people from the four areas were:

- 0.7, 0.6, 0.3 and 0.1 times as likely to commence an allied health degree
- 0.1, 0.1, 0.0 and 0.0 times as likely to commence a dentistry degree
- 0.5, 0.6, 0.4 and 0.3 times as likely to commence a pharmacy degree.

## **Hours worked and age of health workers**

### **Hours worked**

It was characteristic of all health workers, broadly, to work longer hours outside Major Cities, especially in remote areas.

- On average, GPs worked 10% longer in regional areas and 26% longer in Very Remote areas than those in Major Cities. Whereas 14% of Major Cities GPs worked 60 hours or more per week, 22–25% of regional GPs and 27–40% of remote area GPs worked these hours.
- Hospital non-specialists worked similar hours in Major Cities and Inner Regional areas, but 4% longer in Outer Regional and Remote areas, and 17% longer in Very Remote areas. The proportions working 60 hours or more were very similar to those for GPs.
- Specialists worked 4% longer in regional areas, and 7–9% longer in remote areas than in Major Cities. Whereas 55% of Major Cities specialists worked 50 hours or more each week, about 60% worked these hours in regional areas, rising to about 70% in remote areas.
- Specialists-in-training in regional and Remote areas worked 10% longer than those in Major Cities, and the very small number in Very Remote areas all worked 60 hours per week or longer.
- Enrolled nurses worked slightly fewer hours per week in regional and Remote areas than those in Major Cities, but slightly more in Very Remote areas.
- Registered nurses, pharmacists, podiatrists and physiotherapists tended to work longer hours in remote areas but occupational therapists worked fewer hours in remote areas than those in Major Cities and regional areas.

## **Age**

The average age of specialists and specialists-in-training did not vary significantly with remoteness, whereas that of GPs decreased with remoteness, and that of hospital non-specialists increased.

The age of enrolled and registered nurses did not vary substantially between areas.

Pharmacists in regional and remote areas were, on average, slightly older than those in Major Cities.

The average age of podiatrists and physiotherapists decreased with increasing remoteness.

Compared with those in Major Cities and Inner Regional areas, the average ages of occupational therapists in Outer Regional and Remote areas were low, and the age of those in Very Remote areas was relatively high.