Indicator 3.06 Influenza vaccinations

Indicator definition

Description: Percentage of adults 65 years and over who received an influenza vaccination for the previous winter.

Numerator: Number of adults aged 65 years and over sampled through the national Computer Aided Telephone Interview survey who self-report having received an influenza vaccine for the previous winter.

Denominator: Number of adults aged 65 years and over sampled in the national Computer Aided Telephone Interview survey.

Presentation: Proportion of adults aged 65 years and over who have received an influenza vaccine.

Rationale and evidence

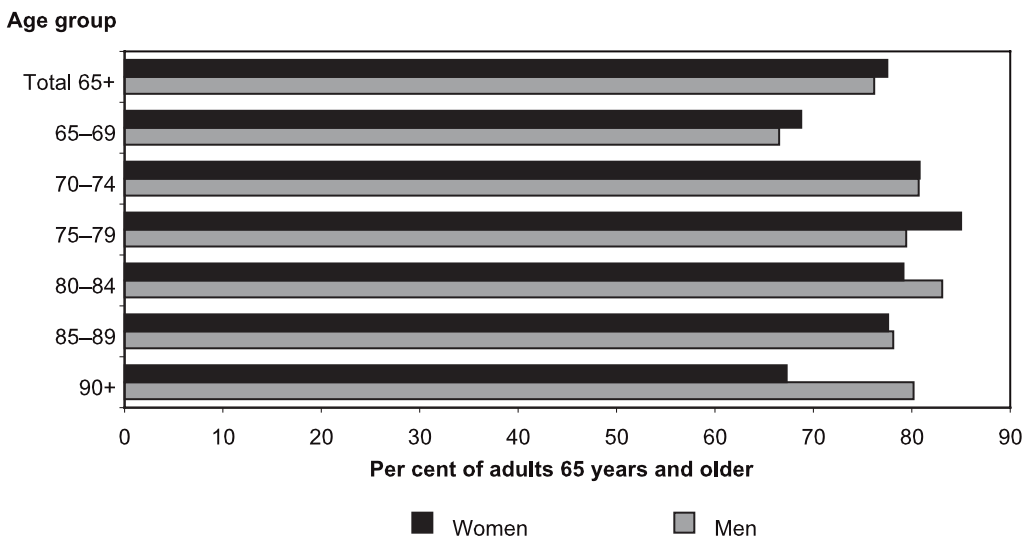
The Australian Standard Vaccination Schedule (NHMRC 2002), endorsed by the NHMRC, recommends yearly influenza vaccination for those aged 65 years and over.

Each year, influenza and its consequences account for many deaths in the elderly population and also place significant burdens on the health system. In 2001 in Australia, influenza and pneumonia accounted for 2,702 deaths and 62,917 (1.0%) of hospital separations for the whole population.

Influenza vaccination has been demonstrated to reduce deaths and hospitalisations amongst older people.

What the data show

- National monitoring of influenza vaccination of people aged 65 years and older has only recently begun, so data on trends are not available.
- Data presented in this report are for the 2002 winter only. An estimated 77% of adults aged 65 years and over received an influenza vaccine for the 2002 winter. Rates are higher for people aged 70 years and over.
- In 2001–02, influenza and pneumonia were an underlying cause of death for 2,700 deaths over all age groups and for 2,250 deaths of people aged 75 years and over.
- The Australian vaccination rate for adults aged 65 years and over compares favourably with that of the United Kingdom, where the rate was 66% in 2001 (United Kingdom Department of Health 2002) and the United States of America where the rate was 65% in 2000 (National Center for Health Statistics 2002).



Source: AIHW (2003a).

Figure 3.06: Influenza vaccination of adults aged 65 years and over, by age and sex, Australia, 2002

Indicator related to:

3.07 Potentially preventable hospitalisations

Indicator 3.07 Potentially preventable hospitalisations

Indicator definition

Description: Admissions to hospital that could have potentially been prevented through the provision of appropriate non-hospital health services.

Numerator: Potentially preventable hospital separations (see Appendix 3 for ICD-10-AM codes). **Vaccine-preventable conditions** include influenza, bacterial pneumonia, tetanus, measles, mumps, rubella, pertussis and polio. **Potentially preventable acute conditions** include dehydration/gastroenteritis; kidney infection; perforated ulcer; cellulitis; pelvic inflammatory disease; ear, nose and throat infections and dental conditions. **Potentially preventable chronic conditions** include diabetes, asthma, angina, hypertension, congestive heart failure and chronic obstructive pulmonary disease.

Denominator: Total population.

Presentation: Age-standardised rate per 1,000 population, standardised to the June 2001 Australian population by geographical remoteness regions.

Rationale and evidence

Potentially preventable hospitalisation (PPH) rates measure the effectiveness, timeliness and adequacy of non-hospital care, including population health, primary care and outpatient services, in preventing hospitalisations for particular conditions. The definitions adopted in this report are based on the *Victorian Ambulatory Care Sensitive Conditions Study* (Victorian Government Department of Human Services 2002). This study built on a large number of previous studies into ambulatory care sensitive conditions (for example: Billings et al. 1993; Bindman et al. 1995; Weissman et al. 1992), which were recently the subject of systematic review and empirical analysis (UCSF-Stanford University Evidence-based Practice Center 2001).

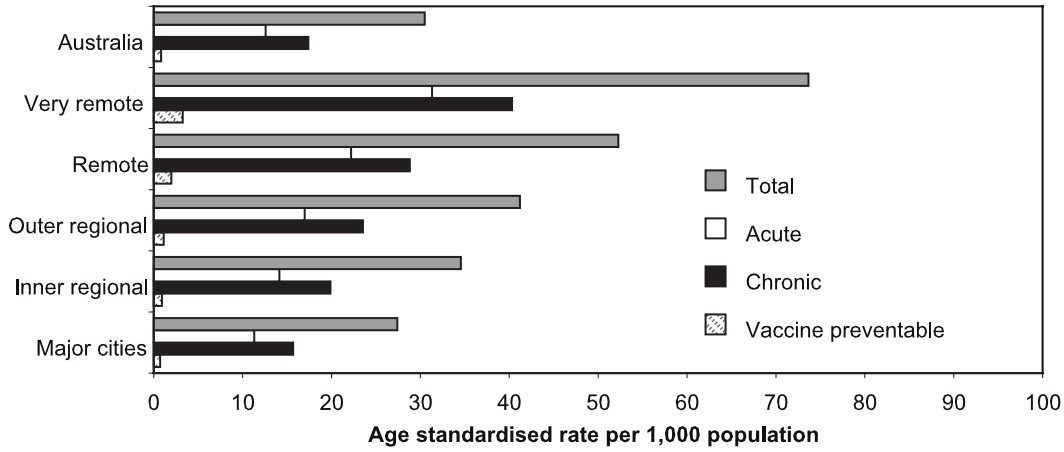
These studies show that the availability of non-hospital care explains a significant proportion of the variation between geographic areas in hospitalisation rates for the specified conditions. Other explanations for this variation include variations in the underlying prevalence of the conditions, in clinical coding standards, and in the likelihood that patients will be treated on an outpatient rather than admitted patient basis. Potentially preventable hospitalisations will never be entirely eliminated, but the variation between geographic areas demonstrates considerable potential for strengthening the impact of non-hospital care.

What the data show

- There were 600,759 hospital separations in 2001–02 that were identified as potentially preventable. These included 16,545 separations for vaccine-preventable conditions (predominantly influenza and pneumonia) and 247,732 separations for acute conditions (with the largest numbers for dental, dehydration and gastroenteritis conditions). Chronic conditions accounted for 343,649 separations, with diabetes complications

(142,992) and chronic obstructive pulmonary disease (54,856) the conditions with the largest numbers of separations.

- Hospitalisation rates for PPHs were highest in very remote regions, with rates more that 2.42 times the national average. Rates in other regional and remote areas were also much higher than rates in major cities. These patterns are consistent with the lower per person provision of general practice care, other primary care and specialist services in rural and remote Australia.
- Rates also varied between categories of socioeconomic status. Rates in the most disadvantaged regions were 50% higher than those of the most advantaged regions.
- Comparing States and Territories, rates for PPHs were lowest in the Australian Capital Territory and New South Wales (30% and 9%, respectively, below the national average) and highest in the Northern Territory (40% higher than the national average). Rates for other States were between 4% and 8% higher than the national average.



Source: AIHW analysis of AIHW hospital morbidity data base.

Notes

1. Rates per 1,000 population were age-standardised to the June 2001 Australian population.
2. As patients can have more than one individual condition within a category, the sum of the individual conditions will not necessarily equal the total for the broad category.
3. Australia excludes 'Unknown' state of residence and non-Australian residents. See map in Appendix 4 for Remoteness categories.

Figure 3.07: Separation rates[1] for potentially preventable hospitalisations by broad categories[2], by Remoteness Area of usual residence, Australia[(3)], 2001–02

Indicator related to:

3.05 Childhood immunisation

3.06 Influenza vaccination

3.11 Management of diabetes

3.18 Availability of GP services

3.22 Enhanced Primary Care services

Indicator 3.08 Survival following acute coronary heart disease event

Indicator definition

Description: Deaths occurring after acute CHD events ('heart attacks').

Numerator: Deaths of people aged 40–90 years, due to CHD.

Denominator: All incident cases of acute CHD events (including both the number of non-fatal hospital separations due to acute CHD and the number of deaths).

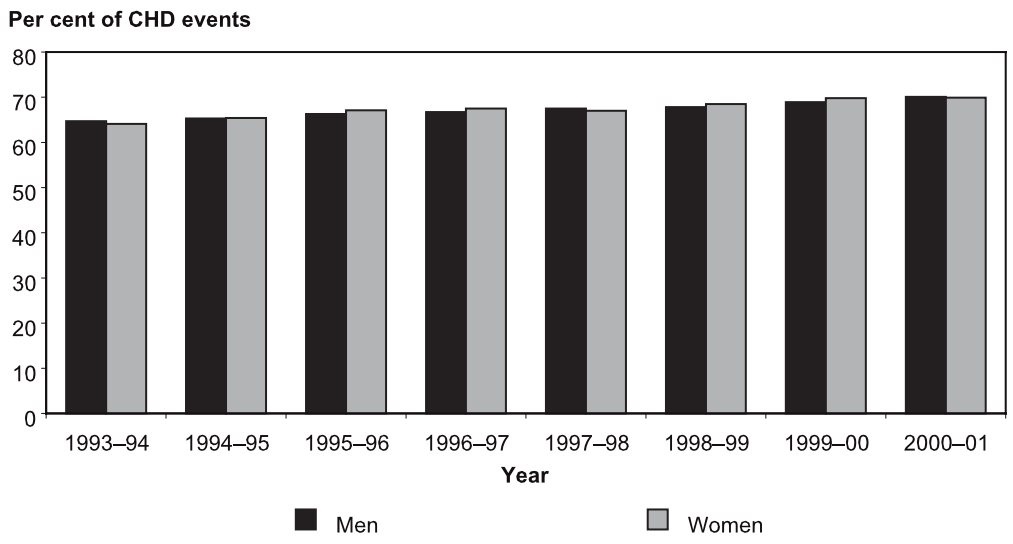
Presentation: Age-standardised proportion, standardised to the June 2001 Australian population.

Rationale and evidence

Survival following an acute CHD event provides an indication of the effectiveness of health systems in getting patients to hospital quickly and initiating treatment, such as thrombolytic therapy or primary angioplasty, as early as possible. It also indicates how effective interventions (such as coronary bypass grafts and treatments of risk factors such as hypertension and hypercholesterolemia) are in preventing severe heart attacks which kill people before they can reach hospital.

What the data show

- In 1993–94, 35% of males and 36% of females suffering heart attacks died. This reduced to 30% of males and females in 2000–01. For men this represented a decline of 15% in the proportion suffering heart attacks who died, and for females it was a decline of 16%.
- In survival terms, the proportion surviving a heart attack increased from 65% to 70%.
- Heart attacks here refer to those heart attacks serious enough to require hospital admission. If more people with mild heart attacks are being admitted to hospital, this data will overestimate the improvement in survival.
- This data is not a measure of the survival of individuals following heart attacks, but is a population-wide measure which estimates survival following heart attack whether that is a first, second or subsequent heart attack for the individual.



Sources: AIHW National Hospital Morbidity Database; AIHW National Mortality Database.

Note: Age-standardised to the 2001 Australian population aged 40–90 years.

Figure 3.08: Survival following CHD events, 1993–94 to 2000–01

Indicator related to:

1.01 Incidence of heart attacks

3.19 Access to elective surgery

Indicator 3.09 Cancer survival

Indicator definition

Description: Five-year relative survival proportions for people diagnosed with cancer.

Numerator: Number of people diagnosed with cancer who survived for five years after diagnosis.

Denominator: Number of similar people in the general population who survived for the same period in the absence of cancer.

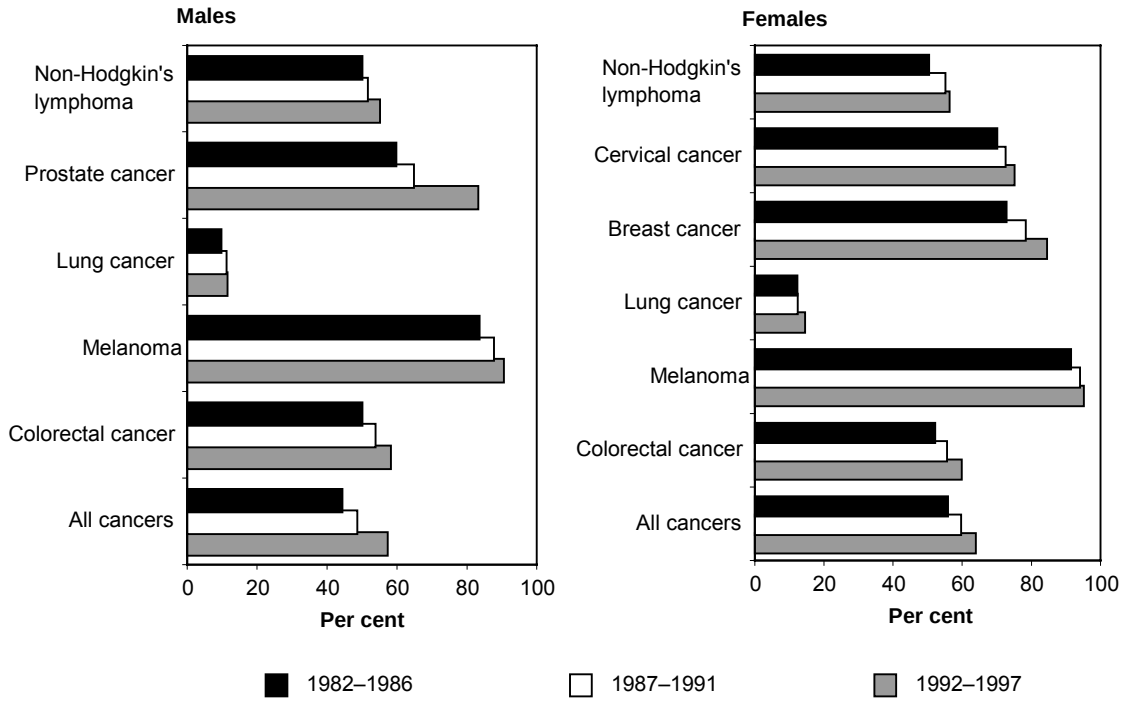
Presentation: Five-year relative survival proportions.

Rationale and evidence

Survival after diagnosis of cancer is an important measure in assessing the broad impacts of prevention and early detection methods such as screening and treatment. Relative survival is the ratio between what actually happens to a group of people with cancer and what would normally have happened to them in the absence of cancer. Thus, for example, a relative survival of 100% indicates that the disease has made no difference to survival of the group over a given period. A survival rate of less than 100% indicates that cancer did reduce survival compared to the population without cancer.

What the data show

- From 1982–1986 to 1992–1997, the five-year relative survival rates for both males and females have increased. For all cancers, the five-year relative survival rate for males increased from 44% in 1982–1986 to 57% in 1992–1997. For females the increase was from 55% to 63%.
- Females have higher five-year relative survival rates from all cancers than males.
- Five-year relative survival was highest for those aged 20–29 years, and decreased with age for those aged 30 years and over (AIHW & AACR 2001).
- In 1987–1991 Australia had the second highest five-year relative survival rate of all cancers compared with European countries and the United States for both males and females. The United States had the highest relative survival for 1987–1991 (AIHW & AACR 2001).
- Five-year relative survival was lowest for males and females living in remote centres (49.7% and 53.4%, respectively). This was statistically significantly lower than for males and females living in rural and metropolitan areas (AIHW & AACR 2003).
- Across all geographic areas, five-year survival was highest for those aged 20–29 years and decreased with age for those aged 30 years and over (AIHW & AACR 2003).
- With regard to socioeconomic status, five-year relative survival was highest for those in quintile 5 (the least disadvantaged) (61.4% for males and 62.2% for females), which was statistically significantly higher than for those in quintiles 1-4 (the most disadvantaged) (AIHW & AACR 2003).



Source: AIHW & AACR (2001).

Notes

1. Excludes non-melanoma skin cancer.
2. Age adjustment uses as a standard population the total number of cancer cases diagnosed from 1992–1997.

Figure 3.09: Five-year relative cancer survival rate following diagnosis, by sex, Australia, 1982–86 to 1992–97

Indicator related to:

1.02 Incidence of cancer

3.03 Cervical screening

3.04 Breast cancer screening

Indicator 3.10 Appropriate use of antibiotics

Indicator definition

Description: Number of prescriptions for oral antibiotics ordered by general practitioners (GPs) for the treatment of upper respiratory tract infections.

Numerator: Number of patient encounters where commonly used antibiotics are prescribed by GPs for URTI problems.

Denominator: Number of patient encounters for URTI by GPs.

Presentation: Prescribing rate per 100 encounters for URTI.

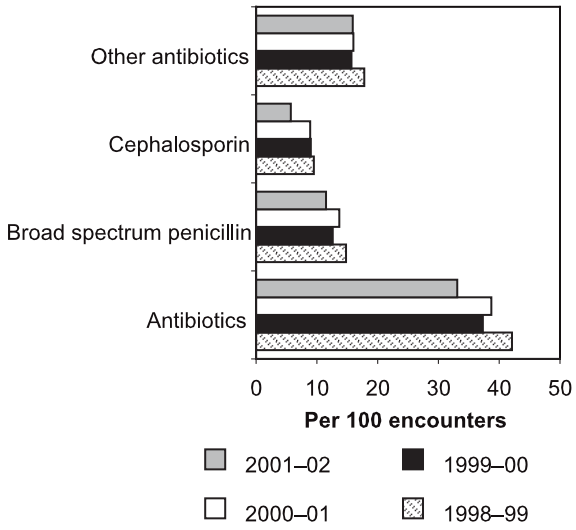
Rationale and evidence

URTIs without complications are most often caused by viruses. Antibiotics have no efficacy in the treatment of viral infections, but are still frequently prescribed when they occur. Overuse of antibiotics increases antibiotic resistance in the general population. A decline in the prescribing rate of antibiotics for URTI may be an indication of the more appropriate management of viral infections.

Data from the Pharmaceutical Benefits Scheme (PBS) were not used for this indicator because they do not include information on diagnosis or on medications that fall below the subsidy threshold or on private prescriptions. Data on prescriptions written by doctors was obtained from the BEACH survey of GPs (AIHW: Britt et al. 2002). Prescribing by GPs is somewhat higher than the prescriptions actually filled by the pharmacist.

What the data show

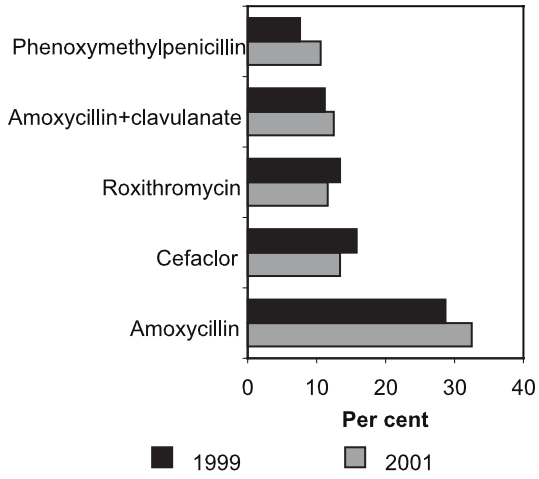
- The prescribing rate of antibiotics for URTI problems declined from 42.1 per 100 URTI problems in 1998–99 to 33.1 per 100 problems in 2001–02. The decline was significant for cephalosporins and broad-spectrum penicillin (Figure 3.10(a)).
- Where antibiotics are necessary for the management of some URTIs, narrow spectrum penicillins are recommended. These include amoxycillin, amoxycillin+clavulanate, and phenoxymethylpenicillin (Therapeutic Guidelines Ltd 2000). Between 1999 and 2001, the relative prescribing of these antibiotics (as a percentage of antibiotic prescribing for URTIs) increased (National Prescribing Service Limited 2003). This suggests a move towards the more appropriate management of URTIs.
- URTI was the second most common problem managed with antibiotics (14.4 per 100 antibiotic encounters), after acute bronchitis (15.3 per 100 antibiotic encounters). Between 1998–99 and 2001–02, there was no significant change in the management rate of URTI (problems per 100 encounters) (AIHW: Britt et al. 2002:110, 112).



Source: AIHW: Britt et al. (2002):110–111.

Note: Year refers to the BEACH data year which runs from April to March.

Figure 3.10(a): Prescribing rates of antibiotics for URTIs, Australia, 1998–99 to 2001–02



Source: Analysis of BEACH data published in National Prescribing Service Limited (2003).

Note: Year is calendar year.

Note: Amoxycillin, amoxicillin-clavulanate and phenoxymethylpenicillin are narrow spectrum antibiotics

Figure 3.10(b): Percentage of antibiotics prescribed for URTIs, by type, Australia, 1999 and 2001

Indicator related to:

3.07 Potentially preventable hospitalisations

Indicator 3.11 Management of diabetes

Indicator definition

Description: Proportion of people with diabetes mellitus who have received an annual cycle of care within general practice.

Numerator: Number of people with diabetes mellitus who have received an annual cycle of care in 2002 within PIP general practices.

Denominator: Estimated number of people with diabetes mellitus managed within PIP general practices in 2002.

Presentation: Proportion of people with diabetes mellitus who have received an annual cycle of care in 2002 within PIP general practices.

Rationale and evidence

This indicator is intended to measure the extent to which GPs are able to provide continuity or coordination of care for the prevention and management of diabetes mellitus, an example of a chronic condition. However, there are no accurate counts of the number of people in Australia who know they have diabetes or who have had appropriate management of the condition within general practice. For example, the estimate of those who knew they had diabetes as a long-term condition, from the ABS 2001 National Health Survey, was 554,200 (533,000 were aged 25 years or older). The estimate from the AusDiab survey conducted in 2000 was 878,000 (aged 25 years or older), and included those who knew they had diabetes (439,000) and those who didn't know until they participated in the survey (439,000) (AIHW analysis of The Australian Diabetes, Obesity and Lifestyle Study (AusDiab) database). For this reason, the indicator reported here is based on data from general practices participating in the Practice Incentives Program (PIP). PIP practices covered 78.2% of patients in general practice in 2002.

The numerator is estimated as the standardised Whole-Patient Equivalents (SWPEs) (see Appendix 3 for definition of SWPE) receiving an annual cycle of care for diabetes in 2002 at PIP practices. The diabetes annual cycle of care represents appropriate diabetes care in accordance with the RACGP and Diabetes Australia guidelines. For further information and information about the calculation of the denominator, see Appendix 3.

What the data show

- There were an estimated 744,975 people (SWPEs) with known diabetes mellitus whose condition was managed by PIP practices during 2002. Of these people, 18.2% (135,943 SWPEs) received an annual cycle of care for diabetes.
- A vast majority (98.3%, 133,671) of the people who received a cycle of care for diabetes in 2002 were from practices that participated in the diabetes management initiative.
- Large rural areas had the highest proportion of people who had received an annual cycle of care (20.1%), closely followed by other metropolitan areas (19.5%). The proportion was lowest for remote centres (9.3%).

- By May 2003, there were 4,593 practices participating in PIP, and 87% of those had signed-on for the diabetes management initiative. This was an increase from 67% in November 2001.

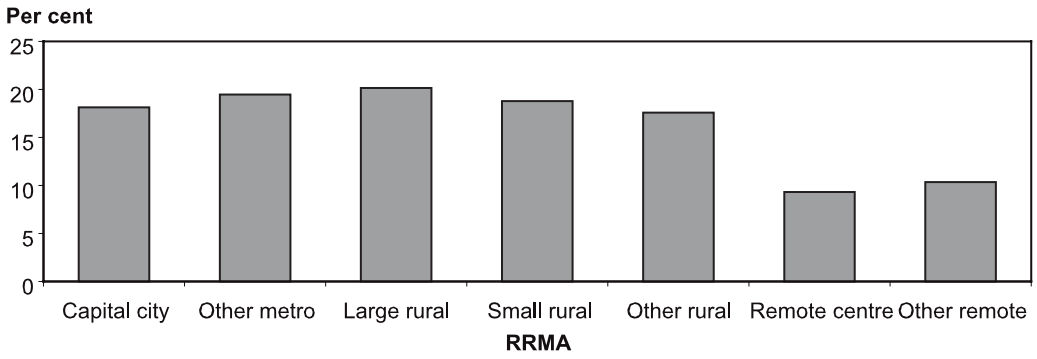


Figure 3.11(a): Percentage of persons with diabetes mellitus who completed an annual cycle of care within PIP practices in 2002, by RRMA

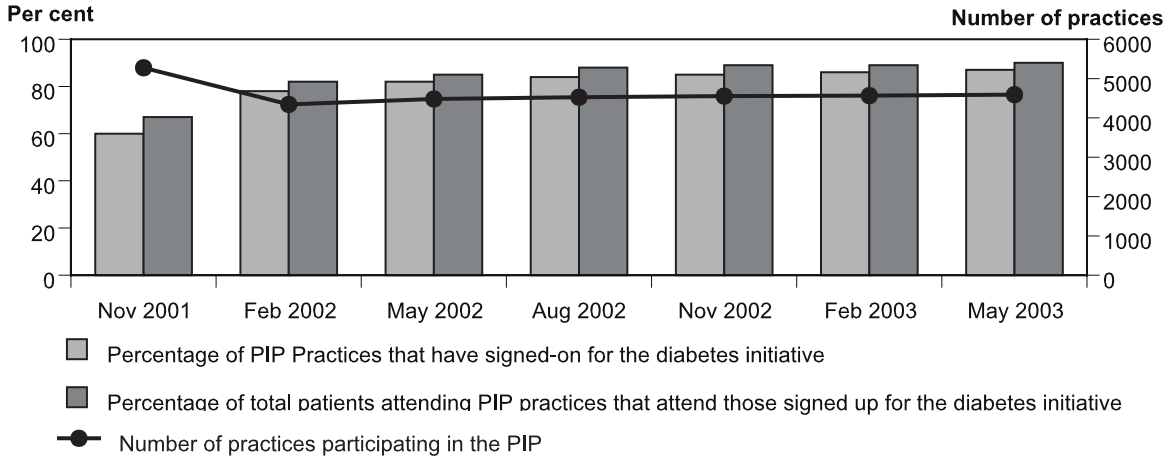


Figure 3.11(b): Proportion of practices (and their patients) participating in the Practice Incentives Program that have signed-on for the Diabetes Initiative, Australia, November 2001 to May 2003

Source: Australian Government Department of Health and Ageing (unpub.)

Notes

1. Number of people known to have diabetes is the number of SWPEs in PIP practices who had a glycosylated haemoglobin (HbA1c) test performed in 2001 or 2002.
2. MBS codes: HbA1c test for established diabetes—66551, 66554 and 73840. Completion of annual cycle of care for diabetes management—2517 to 2526 and 2620 to 2635.

Indicator related to:

3.07 Potentially preventable hospitalisations

3.22 Enhanced Primary Care services

Indicator 3.12 Delivery by caesarean section

Indicator definition

Description: Caesarean sections as a proportion of all confinements by hospital status.

Numerator: Confinements where birth is by caesarean section.

Denominator: Total number of hospital confinements of all women aged 15–49.

Presentation: Percentage of hospital confinements resulting in caesarean section.

Rationale and evidence

Caesarean section is one of the most common surgical procedures in Australia. Decisions to deliver by caesarean can be made before the onset of labour (elective caesarean) or after the onset of labour (emergency caesarean). Delivery by caesarean section is appropriate in a range of circumstances related to the clinical characteristics of patients, including failure to progress in labour, advanced maternal age, first births compared with second births, previous caesarean section, multiple pregnancy, breech presentation and low birthweight. However, studies across the world have shown that other factors are important contributors to variation, including the practice patterns of individual doctors and other non-clinical factors such as health insurance status, hospital characteristics and exercise of patient choice. Of the 21 OECD countries that reported caesarean section for 1999, Italy had the highest percentage (32.4%) while the Netherlands had the lowest (11.3%). The median was Iceland (17.3%). Six countries were below 15% (OECD 2002).

What the data show

- In 2000, the year for which the latest national data is available, 23.1% of hospital confinements in Australia involved delivery by caesarean section. This rate has increased over the last decade from 17.5% in 1990.
- Caesarean section rates have increased in both public and private hospitals. Factors contributing to increased rates include an increase in maternal age, higher level of health insurance, greater access to private hospitals and exercise of patient's choice, and changes in practice responding to the medical indemnity crisis (AIHW NPSU 2003).
- Caesarean section rates are higher for older mothers. Whilst women are tending to have babies at older ages, this only partially accounts for increases in the overall rate. There have been significant increases in rates for each age group.
- Caesarean section rates are higher for private patients than public patients. In 1999, 34.5% of confinements of private patients involved delivery by caesarean section. Rates are also higher for women who are treated as private patients in public hospitals.
- Increasing use of caesarean section has been observed in all reporting OECD countries, except the United States of America. In 1999, Australia's rate of 21.7% caesarean sections of all live births was 25% higher than the OECD median and the fourth highest of the 21 OECD countries that reported that year (OECD 2002).

- The national rate of caesarean sections for in-hospital births has increased from 21.8% in 1998–99 to 26.7% in 2001–02 (AIHW 2003b). (There are differences between this data from the national hospital statistics collection and the data above from the perinatal statistics collection in that the hospital statistics collection does not include all private hospitals and some data recording practices are different).

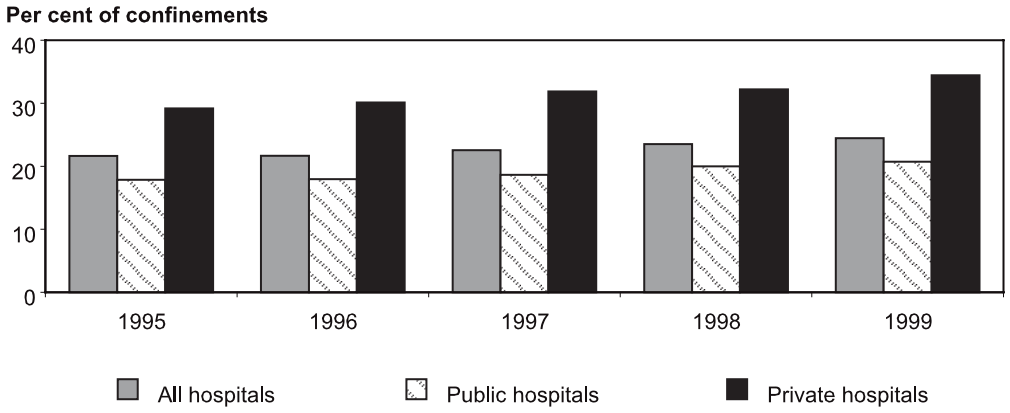


Figure 3.12(a): Delivery by caesarean section, by private or public hospital status, Australia, 1995–1999

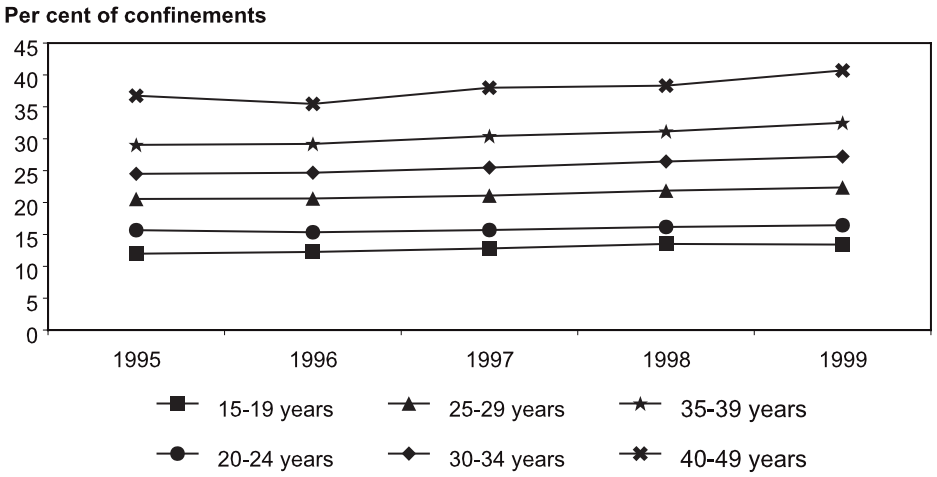


Figure 3.12(b): Delivery by caesarean section, by age of mother, Australia, 1995–1999

Source: National Perinatal Data Collection (2003). AIHW (2003b).

Notes

1. Multiple births excluded.
2. 1995–1997—no hospital accommodation classification for Victoria.
3. 1995–1999—no classification for hospital accommodation for the Northern Territory.
4. Caesarian includes elective, emergency and unspecified. Cases that did not specify hospital status are excluded.
5. Data not available for Tasmania in 1999: data from 1998 used as a proxy for 1999.
6. Denominator: confinements where hospital status is public or private (unknown and not stated are excluded).
7. Age grouping is 5 year intervals except 40–49.
8. Denominator: all confinements of mothers 15 years to 49 years in that year.