Part 5:
Health system performance

Many factors influence health. Most of the factors relevant to young people—socioeconomic factors, health behaviours, influence of families and communities and so on—have been discussed in previous parts of this report. In addition to these, the health system also plays an important role in influencing the health of a society.

Activities of a health system can range from clinical and preventive services and programs, through to efforts to improve the physical, social and economic environment for groups or individuals. Further, various strategies within a health system aim at developing individuals' personal skills to exercise more control over their own environments and decision-making, and enhancing a community's capacity to provide culturally relevant services (AIHW 2006a).

The overall goal of a health system is to contribute to improving population health, to be responsive to the people they serve and to be financed fairly (OECD 2004). The health system's effectiveness in achieving this goal is a function of its performance as a system. In 2001, the National Health Performance Committee (NHPC) adopted a framework specially designed for measuring the performance of Australia's health system (NHPC 2001). The national youth information framework used in this report is based on the NHPC framework and accordingly, health system performance is measured using a number of components: effective, appropriate, efficient, responsive, accessible, safe, continuous, capable and sustainable.

This part of the report provides a limited number of indicators used to measure some of these components. The indicators are limited by their relevance to a particular population group, that is, young people, and the availability of data for this population group.

Indicators presented in this part of the report are drawn heavily from the N*ational report on health sector performance indicators 2003*, which contains detailed information on indicators of health system performance. For further information, see this publication on the AIHW website at <www.aihw.gov.au/publications/hwi/nrhspi03/nrhspi03a.pdf>.

Ambulatory care sensitive conditions

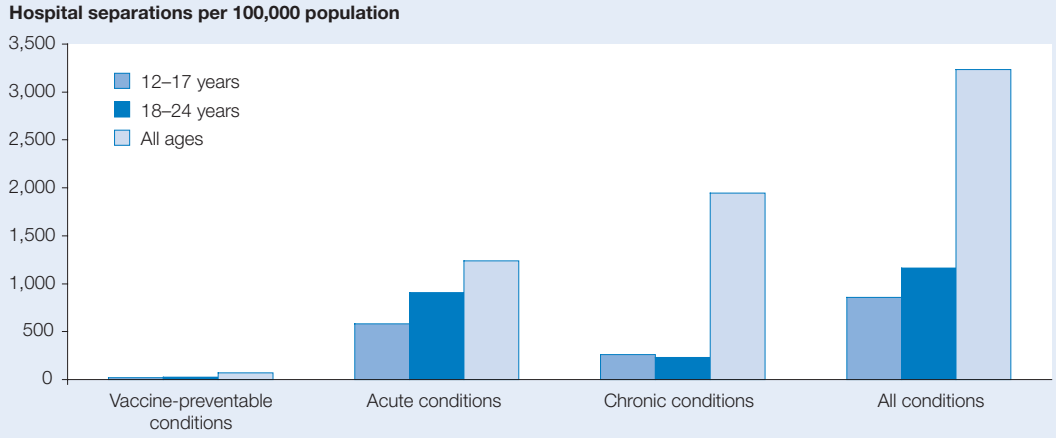
Ambulatory Care Sensitive Conditions (ACSCs) are those for which hospitalisation is thought to be avoidable through preventive care and early disease management, usually in the ambulatory setting. It is believed that timely and effective ambulatory care can reduce the risks of hospitalisation by preventing the onset of an illness or condition, controlling an acute illness episode or condition or managing a chronic disease or condition. ACSCs admission rates have also been proposed as a measure of access to health care (Victoria. Department of Human Services 2002).

The concept of access to primary health care can be broadly defined as 'the timely use of personal health services to achieve the best possible health outcomes'. This definition encompasses barriers to receiving care, as well as the quality of the care provided. This definition can be used to ask whether access-related problems can explain the relatively poorer health outcomes of specific population groups. Better access to primary health care increases the use of ambulatory care, prevents unnecessary hospitalisations and improves the health status of the population.

INDICATOR:

Hospital separation rate for ambulatory care sensitive conditions

In 2004–05, there were over 3.5 million hospital separations for ACSCs among young people aged 12–24 years. This represented 6% of all ACSC separations for all ages and 7% of all separations for young people in that year.



Source: AIHW National Hospital Morbidity Database.

Figure 5.1: ACSCs hospital separation rates, by broad categories and age, 2004–05

- The hospital separation rate for all ACSC conditions among those aged 12–17 years was lower than for those aged 18–24 years (858 per 100,000 population and 1,163 per 100,000 population respectively), and substantially lower than the rate for all ages (3,236 per 100,000).
- Separation rates for vaccine-preventable ACSCs, acute ACSCs and chronic ACSCs were lower for young people aged 12–24 years than for persons of all ages.
- Young people were more likely to be hospitalised for acute ACSCs than for vaccine-preventable or chronic ACSCs. In contrast, hospital separations for patients of all ages were much higher for chronic ACSCs than for acute or vaccine-preventable conditions.

Teenage purchase of cigarettes

Evidence suggests that there is a correlation between regular smoking, buying cigarettes and heavy cigarette consumption, and that decreasing the ability of teenagers to purchase their own cigarettes will assist in reducing the likelihood of teenagers making the transition from experimental to regular and addicted smoking (AIHW & NHPC 2004).

Prior to 1993, the legal age for purchasing cigarettes was 16 years in all states and territories except Western Australia (where the legal age for purchasing cigarettes has always been 18). In 1993, Victoria raised the legal age for purchasing cigarettes to 18. Other states followed suit, and in 1999 it was illegal to sell cigarettes to young people under the age of 18 throughout Australia.

According to the 2002 Australian secondary school students' survey, 14% of students aged 12–17 years were current smokers (defined as having smoked in the week before the survey), and 9% were committed smokers (defined as having smoked on at least 3 days in the week before the survey) (White & Hayman 2004b). For information on tobacco smoking among young people aged 12–24 years, see *Substance use* in Part 3 of this report.

INDICATOR:

Percentage of teenage smokers aged 12–17 years who personally purchased their most recent cigarette

In 2002, around 22% of current smokers aged 12–17 years personally purchased their cigarettes (14% of current smokers aged 12–15 years and 37% of those aged 16–17 years) (White & Hayman 2004b). The most common places for purchasing cigarettes for young people were milk bars (5%), petrol stations (5%) and supermarkets (4%) (White & Hayman 2004b).

Between 1987 and 2002, the proportion of current smokers aged 12–15 years buying their own cigarettes declined from 52% to 14% (White & Hayman 2004b). A similar decrease was found for current smokers aged 16–17 years.

Overall, the proportion of current smokers aged 12–17 years personally purchasing cigarettes decreased from 30% to 22% between 1999 and 2002. Corresponding with this decrease was an increase in the proportion of current smokers saying they obtained their cigarettes by asking someone older to buy them (15% to 20% between 1999 and 2002) (White & Hayman 2004b).

Cervical screening

Up to 90% of all cases of cervical cancer could be prevented through regular screening. Increasing participation in cervical screening will reduce the number of women who develop cervical cancer and ultimately die from the disease. While cervical cancer is rare among young women under 24 years of age (2.1 per 100,000 for 20–24 year olds and 0.0 per 100,000 for females aged 15–19 years in 2002) (AIHW 2006b), it is recommended that women in the target age group of 20 to 69 years, who have ever been sexually active, have a Pap smear every two years. The organised National Cervical Screening Program was established in 1991. Between 1988 and 1998 the mortality rate for cervical cancer in the age group 20 to 69 years fell by 53% and the incidence rate fell by 41% (AIHW & NHPC 2004).

INDICATOR:

Participation rate for cervical screening among young women aged 20–24 years

Table 5.1: Participation rate in National Cervical Screening Program, 1999–2000 to 2003–04, Australia (per cent)

24-month period	Age group (years)										
	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	20–69[(a)]
1999–2000	51.4	62.2	65.8	65.5	64.3	64.7	63.1	64.4	54.7	45.5	61.3 (61.2–61.3)
2001–2002	50.0	60.3	64.1	64.4	64.2	65.4	63.0	65.7	56.1	48.0	61.0 (60.9–61.0)
2003–2004	47.8	58.1	62.8	63.8	64.3	65.9	64.0	66.6	57.2	49.6	60.7 (60.6–60.7)

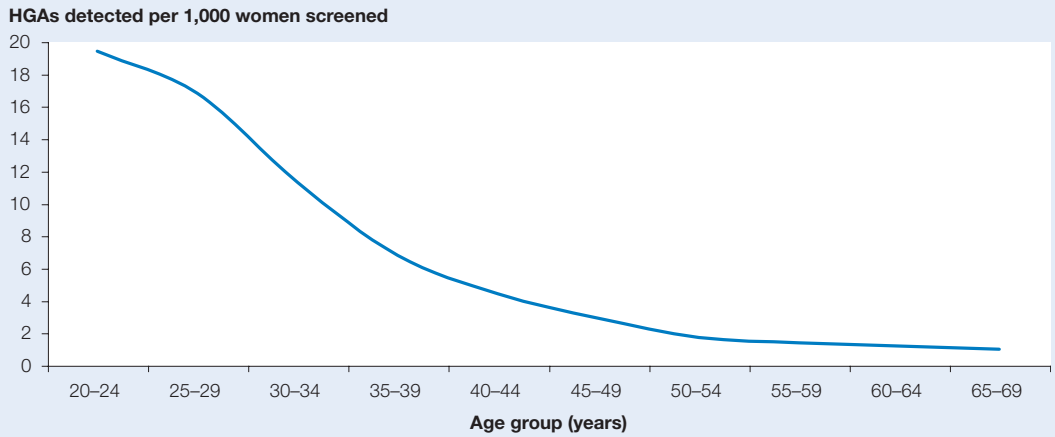
(a) Age-standardised to the 2001 Australian population with 95% confidence intervals.

Source: AIHW 2006b.

- The proportion of women aged 20–24 years participating in cervical screening has declined slightly, from 51% in 1999–2000 to 48% in 2003–04.
- In 2003–04, the participation rate for cervical screening among women aged 20–24 years was the lowest rate of all women in the target age group (48% compared with 61%).

Data from the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey indicate that around 52% of young Indigenous women had regular Pap smear tests. This is similar to the general participation rate of young women aged 20–24 years in the cervical screening program (around 50%). Indigenous women in remote areas were less likely than their non-remote counterparts to have heard of Pap smears (94% compared with 79%).

Infection with human papilloma virus (HPV) is believed to be necessary, though not sufficient, for development of cervical cancer (NHMRC 2005). Infection with high-risk HPV is almost always sexually transmitted, and the most common age at first infection is between 15 and 25 years (NHMRC 2005). The infection may progress to a lesion which may eventually progress to cancer. High-grade lesions have a greater probability of progressing to invasive cancer than low-grade lesions. However, not all high-grade lesions result in cervical cancer, many will resolve spontaneously (NHMRC 2005).



Source: AIHW analysis of State and Territory Cervical Cytology Registry data.

Figure 5.2: High-grade abnormalities per 1,000 women by age group, Australia, 2004

- The rate of high-grade abnormalities detected was much higher in the younger age groups. Among those aged 20–24 years, the rate was 19 per 1,000 women screened, compared with less than 2 per 1,000 women aged 50–54 years and older. This age-specific distribution is the inverse of the pattern for cervical cancer mortality.

Appropriate use of antibiotics

Upper respiratory tract infections (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 more appropriate management of viral infections (AIHW & NHPC 2004).

Data from the Pharmaceutical Benefits Scheme (PBS) were not used for this indicator because they do not include information on diagnosis, 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 (AIHW & NHPC 2004).

Table 5.2: Proportion of URTI problems for which antibiotics were prescribed, for patients aged 12–24 years, 2001–02 to 2003–04

Antibiotics	2001–02	2002–03	2003–04
Beta-lactam antibacterial, penicillins	19.5	22.7	20.8
Other beta-lactam antibacterials (includes cephalosporins)	5.4	6.4	5.0
All other antibiotics	10.4	13.0	11.1
Total problems for which antibiotics were prescribed	**35.3**	**42.2**	**37.0**

Source: AIHW analysis of BEACH data.

INDICATOR:

Proportion of prescriptions for oral antibiotics ordered by general practitioners for the treatment of upper respiratory tract infections (URTIs)

- In 2003–04, 37% of young people aged 12–24 years were prescribed antibiotics for URTIs—a decline from 42% in 2002–03, but little change from 2001–02 when the rate was 35%.

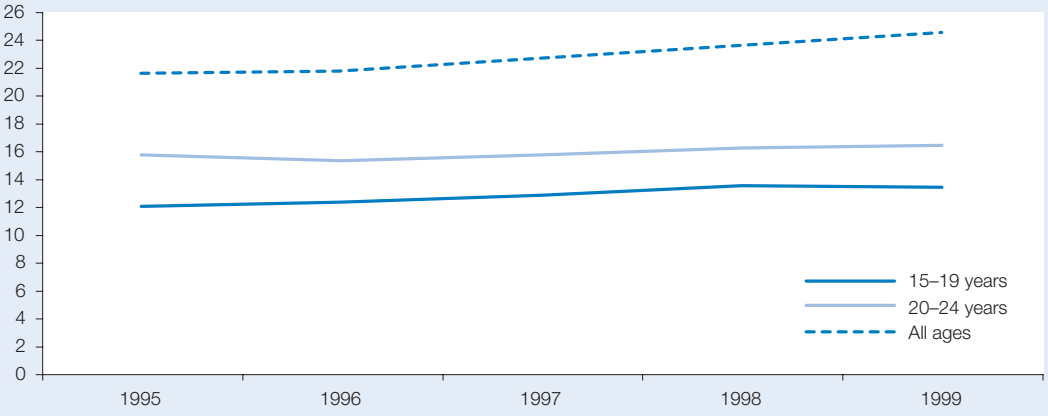
Delivery by caesarean section

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 in the decision to deliver by caesarean section, including the practice patterns of individual doctors, and other non-clinical factors such as health insurance status, hospital characteristics and exercise of patient choice.

In 2000, 23% of hospital confinements in Australia were delivered by caesarean section—an increase of 32% over the last decade, from 18% in 1990.

INDICATOR:

Caesarean sections as a proportion of all confinements of young women aged 15–24 years



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. Caesarean 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. Denominator: all confinements of mothers 15 years to 49 years in that year.

Source: NHPC 2004.

Figure 5.3: Delivery by caesarean section, by age of mother, Australia, 1995–1999

- In 1999, delivery by caesarean section as a proportion of all confinements was 13% for 15–19 year olds and 16% for 20–24 year olds. This was lower than the proportion for all ages (25%).

- Deliveries by caesarean section as a proportion of all confinements remained stable between 1995 and 1999 for 15–19 and 20–24 year olds. The proportion for all ages increased by 3 percentage points (from 22% to 25%).

Compared with other age groups, those aged 15–19 years and 20–24 years have the lowest rate of caesarean births.

Increasing use of caesarean section has been observed in all reporting OECD countries, except for the United States of America. Of the 21 OECD countries that reported caesarean section for 1999, Australia was ranked fourth highest. Italy had the highest percentage (32%) while the Netherlands had the lowest (11%). The median was Iceland (17%). Six countries were below 15% (OECD 2002).

Waiting times in emergency departments

Emergency departments in public hospitals play a key role in ensuring that the public hospital system is able to manage emergency patients requiring rapid treatment and also less urgent cases where community-based medical care is not appropriate or not available.

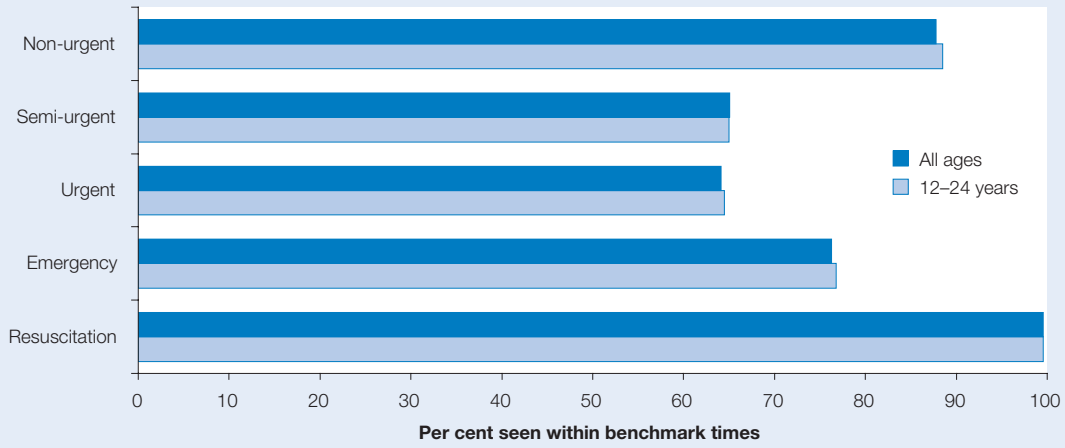
Patients attending emergency departments should be treated within an appropriate time. All patients attending public hospital emergency departments are assessed and are assigned a triage category that reflects the urgency with which treatment should commence. The appropriate time for commencing treatment decreases as the urgency of the triage category increases. Within Australia, benchmarks for the commencement of treatment have been identified for each triage category (AIHW 2001). The benchmarks are:

- triage category 1: patient needs resuscitation (seen within seconds)
- triage category 2: emergency (seen within 10 minutes)
- triage category 3: urgent (seen within 30 minutes)
- triage category 4: semi-urgent (seen within 60 minutes)
- triage category 5: non-urgent (seen within 120 minutes)

This indicator measures the extent to which these benchmarks have been achieved.

INDICATOR:

Percentage of patients aged 12–24 years who are treated within national benchmarks for waiting in public hospital emergency departments for each triage category



Note: Resuscitation patients whose waiting time for treatment was less than or equal to 2 minutes were considered to have been seen on time.

Source: AIHW National Hospital Morbidity Database.

Figure 5.4: Non-admitted patient emergency department presentations, by triage category and age, Australia, 2004–05

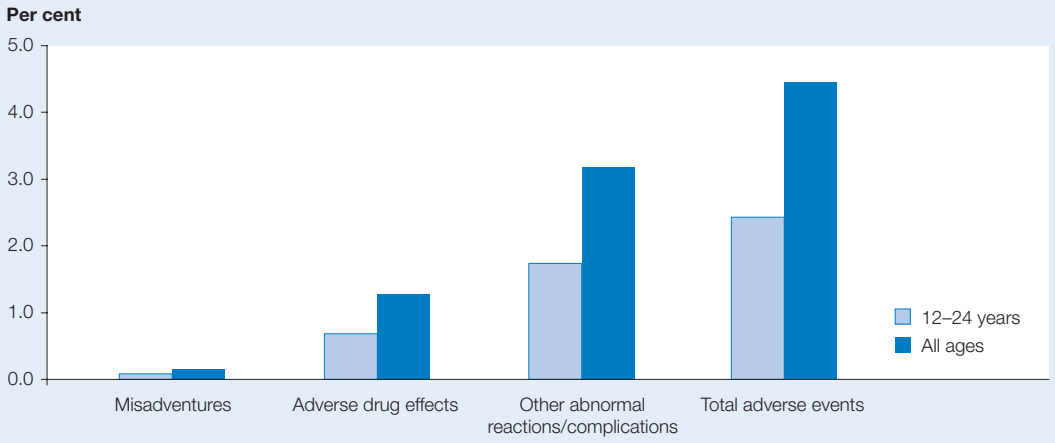
- In 2004–05, 69% of 12–24 year olds were seen within the national benchmark times, the same proportion as that for all ages. Young people in Major Cities were the least likely to be seen in time (65%) and young people in Remote areas were the most likely to be seen within the national benchmarks (80%).

- Approximately 100% of patient presentations in which the patient required resuscitation were seen immediately, and 76% of patient presentations for patients requiring emergency treatment were seen within 10 minutes. Around 64% of patient presentations requiring urgent treatment, 65% of patient presentations requiring semi-urgent treatment, and 88% of patient presentations requiring non-urgent treatment were seen within the national benchmark times. Rates for young people were the same as those for all Australians.

Adverse events treated in hospitals

Adverse events occur when harm arises from health care management, rather than from the patient's underlying disease or condition. The Australian Commission on Safety and Quality in Health Care, government health authorities and others are working to support those who work in the health system to deliver safer patient care. The Commission is also working to improve the reporting and analysis of data on adverse events, in order to inform patient safety improvement activities. Increasing reports of adverse events may therefore reflect these initiatives, rather than increased risks in health care.

Data on hospital separations where an adverse event was treated and/or occurred are available from the AIHW National Hospital Morbidity Database. Not all adverse events are identifiable in the data—adverse events that occurred during a hospital admission but manifested after discharge (and did not result in a readmission) are not identifiable. Similarly, particular types of adverse events (such as those associated with obstetric care, in-hospital patient falls and accidental poisoning associated with incorrect use of drugs) are not identifiable. Consequently, the data shown here represent only a proportion of adverse events in health care.



Source: AIHW National Hospital Morbidity Database.

Figure 5.5: Proportion of hospital separations where an adverse event was treated and/or occurred, by age group, 2004–05

INDICATOR:

Proportion of hospital separations for young people aged 12–24 years where an adverse event was treated and/or occurred

- In 2004–05, there were 339,551 hospital separations where an adverse event was treated and/or occurred. Of these separations, 15,121 (5%) were for young people aged 12–24 years.
- Adverse advents treated and/or occurred accounted for 2% of all separations among young people aged 12–24 years; a lower rate than for all ages (4%).
- Among young people, abnormal reactions/complications (such as post-operative infections and haemorrhages) were the most common type of adverse event (2% of separations), followed by adverse drug events (due to incorrect use) (1%), and misadventures (such as an accidental perforation during surgery) (0.2%). These patterns were similar to that for all ages, although rates for all ages were consistently higher across all types of adverse events.