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# Young Australians: their health and wellbeing

## *Key national indicators*

### Introduction

This bulletin provides a preview of the reporting framework and key indicators that are the basis of the report *Young Australians: their health and wellbeing*, scheduled for release in 2007. The report is the sixth in a series of reports on the health of Australian children and young people published by the AIHW (AIHW 2005a, 2003; AIHW: Al-Yaman et al. 2002; Moon et al. 1999, 1998).

The development of the indicators presented in this bulletin was guided by an advisory group of experts on health and wellbeing of young people. The members of the Youth Information Advisory Group are given in Appendix 2. Using the earlier indicators developed by the AIHW for its reports on young people, these indicators have been broadened to accommodate current issues of importance to young people as well as new data sources available.

The AIHW reports on young Australians are funded by the Australian Government Department of Health and Ageing. The need to improve the information base available for young people has long been recognised by the Australian Government, state and territory governments, the national health policy for young Australians, and various strategic plans relating to information and policy. AIHW reports, in addition to providing the most up-to-date information on how young people in Australia are faring, identify areas where information is currently lacking or requiring development.

### The development process of key national indicators

The key national indicators presented in this bulletin were produced by the AIHW in consultation with an advisory group comprising key experts on child and youth health and wellbeing, jurisdictional representatives, and other relevant stakeholders responsible for youth policies and programs. The Australian Bureau of Statistics' draft information development plan for children and young people was also useful in identifying issues relevant to young people. This indicator set builds on the indicators developed for previous AIHW reports on Australia's young people in 1999 and 2003 (see AIHW 2003; Moon et al. 1999), which followed similar consultation processes. These earlier reports used a National

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Youth Information Framework (an adaptation of the National Health Performance Framework (NHPF)) to identify key national indicators for young people.

The NHPF is a nationally agreed framework endorsed by the Australian Health Ministers' Advisory Council (AHMAC). The National Youth Information Framework used for developing indicators for the *Young Australians: their health and wellbeing* report is aligned very closely with the NHPF with minor modifications to better capture issues relevant to young people. This revised National Youth Information Framework also reflects improvements in the information available and is designed to provide a comprehensive set of indicators that will help monitor the health and determinants of health for young Australians.

## Indicator selection criteria

The selection of key national indicators of young Australians' health and wellbeing was guided by criteria developed by the National Health Performance Committee (NHPC 2001:19). According to the NHPC guidelines, national indicators should:

- be worth measuring (the indicators represent an important and salient aspect of the public's health or the performance of the health system)
- be measurable for diverse populations (the indicators are valid and reliable for the general population and diverse populations i.e. Aboriginal and Torres Strait Islander peoples, rural/urban dwellers, people with different socioeconomic circumstances)
- be understood by people who need to act (people who need to act on their own behalf or on behalf of others should be able to readily comprehend the indicators and what can be done to improve outcomes)
- galvanise action (the indicators are of such a nature that action can be taken at the national, state, local or community level by individuals, organised groups and public and private agencies)
- be relevant to policy and practice (relevant to actions that can lead to improvement when widely applied)
- be measurable over time to reflect results of actions (if action is taken, tangible results will be seen indicating improvements in various aspects of children's wellbeing)
- be feasible to collect and report (the information required for the indicator can be obtained at reasonable cost in relation to its value and can be collected, analysed and reported on in an appropriate time frame)
- comply with national processes for data definitions.

## National Youth Information Framework

The National Youth Information Framework (see Box 1) seeks to identify key information required to develop an understanding of, and to monitor, the health and wellbeing of young people in Australia. The framework and the indicators identified within its domains are expected to be updated as new data sources become available and as new issues relating to young people emerge requiring indicator development and refinement.

As mentioned earlier, the National Youth Information Framework is an adaptation of the NHPF (Appendix 1), which consists of three tiers: 'Health status and outcomes', 'Determinants of health', and 'Health system performance'. Within each tier, there a number of dimensions. For example, within the 'Health status and outcomes' tier there are four dimensions: *health conditions, human function, life expectancy and wellbeing,* and *deaths*.

The National Youth Information Framework comprises all three tiers and dimensions of the NHPF. However, the order in which these dimensions appear within a tier has been altered to make the framework more meaningful to the issues relevant to young people.

## Box 1 National Youth Information Framework

### HEALTH STATUS AND OUTCOMES (TIER 1)

How healthy are young Australians? Is it the same for everyone? Where is the most opportunity for improvement?

***Life expectancy and wellbeing***

Broad measures of physical, mental and social wellbeing of individuals and other derived indicators such as disability adjusted life expectancy (DALE)

***Human function***

Alterations to body structure or function (impairment), activities (activity limitation) and participation (restrictions in participation)

***Health conditions***

Prevalence of disease, disorder, injury or trauma or other health-related states

***Deaths***

Age-specific and/or condition-specific mortality rates

### FACTORS INFLUENCING HEALTH AND WELLBEING (TIER 2)

Are the factors determining young people's health changing for the better? Are they the same for everyone? Where and for whom are they changing?

***Environmental factors***

Physical, chemical and biological factors such as air, water, food and soil quality resulting from chemical pollution and waste disposal

***Socioeconomic factors***

Socioeconomic factors such as education, employment, per capita expenditure on health and average weekly earnings

***Community capacity***

Characteristics of communities and families such as population density, age distribution, health literacy, housing, community support services and transport

***Health behaviours***

Attitudes, beliefs, knowledge and behaviours, e.g. patterns of eating, physical activity, excess alcohol consumption and smoking

***Person-related factors***

Genetic-related susceptibility to disease and other factors such as blood pressure, cholesterol levels and body weight

### HEALTH SYSTEM PERFORMANCE (TIER 3)

How well is the health system performing in delivering quality health actions to improve the health of young Australians? Is it the same for everyone?

***Effective***

Care, intervention or action achieves desired outcome

***Responsive***

Service provides respect for persons and is client orientated, including respect for dignity, confidentiality, participation in choices, promptness, quality of amenities, access to social support networks and choice of provider

***Continuous***

Ability to provide uninterrupted, coordinated care or service across programs, practitioners, organisations and levels over time

***Appropriate***

Care, intervention or action provided is relevant to the client's needs and based on established standards

***Accessible***

Ability of people to obtain health care at the right place and right time irrespective of income, physical location and cultural background

***Capable***

An individual's or service's capacity to provide a health service based on skills and knowledge

***Efficient***

Achieves desired results with most cost-effective use of resources

***Safe***

The avoidance or reduction to acceptable limits of actual or potential harm from health care management or the environment in which health care is delivered

***Sustainable***

System's or organisation's capacity to provide infrastructure such as workforce, facilities and equipment, and to be innovative and respond to emerging needs (research, monitoring)

# Young Australians: their health and wellbeing

## Tier 1: Health status and outcomes

This tier consists of four dimensions:

1.1 Life expectancy and wellbeing

1.2 Health conditions

1.3 Human function

1.4 Deaths

## Tier 2: Factors influencing health and wellbeing

This tier aligns with the 'Determinants of health' tier of the NHPF but has been modified for the National Youth Information Framework to capture the broader factors affecting health and wellbeing of young people. This tier has five dimensions:

2.1 Environmental factors

2.2 Socioeconomic factors

2.3 Community capacity

2.4 Health behaviours

2.5 Person-related factors

## Tier 3: Health system performance

There are nine dimensions to the health system performance tier:

3.1 Effective (interventions achieve the desired outcomes)

3.2 Appropriate (care is relevant to the client's needs and based on established standards)

3.3 Efficient (desired results are achieved cost-effectively)

3.4 Responsive (service shows respect for people and is client oriented)

3.5 Accessible (ability of people to obtain health care at the right place and right time irrespective of income, cultural background or physical location)

3.6 Safe (avoidance or reduction of harm associated with health care management)

3.7 Continuous (service can provide uninterrupted, coordinated care)

3.8 Capable (skilled and knowledgeable workforce)

3.9 Sustainable (capacity to provide ongoing workforce and other infrastructure, and to engage in research and monitoring)

Currently there are no well-developed indicators for three of the nine dimensions in this tier, but a number of indicators have been developed to cover the remaining dimensions. There is a need to identify more data sources and specific health systems and services aimed at young people, and to develop suitable indicators to monitor their performance.

The following tables set out the key national indicators of health and wellbeing for young people according to various tiers and dimensions of the National Youth Information Framework. There is also a brief rationale for including each indicator for monitoring outcomes for young Australians. The indicators refer mainly to the age group 12–24 years, but will be reported separately for appropriate age groups (e.g. 12–14, 15–19 and 20–24) and sex.

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 1: Health status and outcomes** | | |
| **1.1 LIFE EXPECTANCY AND WELLBEING** | | |
| ***Physical, mental and social wellbeing*** | Proportion of young people aged 15–24 years rating their health as 'excellent', 'very good' or 'good' | People's perception of their own health has been shown to be a powerful, independent predictor of their future health and survival (Gerdtham et al. 1999). |
| **1.2 HUMAN FUNCTION** | | |
| ***Disability and activity limitation*** | Proportion of young people aged 15–24 years with severe or profound core activity restriction | Disability can limit young people's participation in various activities including schooling, sports and social activities and can limit employment choices and opportunities available to the affected person and carers. Young people with severe disabilities may be in poor health in general and this can place the person and the family in serious financial hardship (Hendley & Pascall 2002; Sport England 2000). |
| | Proportion of young people aged 15–24 years with specific disabling conditions (e.g. Down syndrome, brain injury, cerebral palsy) | Young people with these disabling conditions have limited opportunities in life. In addition, research shows that families with young people with Down syndrome experience increased stress and demands on their time and changes to their roles (Van Riper 1999). |
| **1.3 HEALTH CONDITIONS** | | |
| ***Mental health*** | Proportion of young people aged 18–24 years reporting the highest levels of psychological distress as measured by the K10 scale | The K10 is a scale measuring psychological distress. It contains 10 items asking about feelings such as nervousness, hopelessness, restlessness, depression and worthlessness. Andrew and Slade (2001) showed a strong association between the K10 scale and current diagnosis of anxiety and affective disorders as well as a lesser (but significant) association with other mental disorder categories. |
| | Rate of suicide for young people aged 12–24 years | Suicide deaths are an important public health issue (Bourke 2003; Viilo et al. 2005). |
| | Prevalence rate for mental health disorders (ADHD and conduct disorders) among young people aged 12–17 years | Conduct disorder is a serious problem often leading to antisocial behaviour such as frequent truancy from school, bullying, frequent physical fights, deliberate destruction of other people's property and breaking into houses or cars. Young people with conduct disorders are also at increased risk of substance misuse, school behavioural problems, contact with the police and suicidal behaviour (MacDonald & Achenbach 1999). |
| | Prevalence rate for mental health disorders (depressive and anxiety disorders) among young people aged 12–24 years | Depressive disorders affect many young people. Some people experiencing depression may be at risk of suicide. Anxiety disorders are the most common form of mental disorder (Andrew et al. 1999). They can substantially impair a person's social, academic and occupational functioning. |
| ***Injury*** | Injury and poisoning hospitalisation rate for young people aged 12–24 years | Injury is a National Health Priority Area. Injuries are a major reason for hospitalisations of young people aged 12–24 years and serious injury may lead to chronic and disabling conditions. |
| | Injury and poisoning death rate for young people aged 12–24 years | Injuries are the single major underlying cause of death for young people aged 12–24 years. Many of the causes of these injuries are preventable and therefore amenable to intervention. |
| | Hospitalisation rate for assault among young people aged 12–24 years | Hospitalisation rates for assault capture serious incidents of intentional harm inflicted by other people including hospitalisations for injuries from domestic violence and child abuse. |
| | Assault death rate for young people aged 12–24 years | Although deaths from assault are relatively low among young people, fatal outcomes from intentionally inflicted injuries or homicide provide a practical indicator of the nature and extent of extreme interpersonal violence in this age group. Interpersonal violence which includes domestic violence and child abuse can be associated with drug and alcohol misuse and with mental health problems. |
| | Transport accident death rate for young people aged 12–24 years | Transport accidents are of particular concern because they represent a major cause of death for young people. Many of the causes of transport accidents are preventable and therefore amenable to intervention. |

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 1: (continued) Health status and outcomes** | | |
| **1.3 HEALTH CONDITIONS** | | |
| ***Chronic diseases (selected: diabetes, asthma, cancer)*** | The prevalence of chronic diseases among young people aged 12–24 years | Chronic diseases, although not immediately life-threatening, can contribute to a significant disease burden. Management and treatment of chronic diseases can be very costly to the individual and the overall health system. Many chronic diseases can be prevented early by tackling known risk factors in adolescence (AIHW 2002a). |
| ***Communicable diseases*** | Incidence of non-vaccine-preventable notifiable diseases (e.g. chlamydia, gonorrhoea and syphilis) among young people aged 12–24 years | Communicable diseases are a significant public health priority in Australia. Sexually transmissible infections (STIs) are responsible for a significant amount of long-term morbidity in Australia. Chlamydia, for example, is now the most common notifiable infection among young women in Australia and is a significant cause of infertility. In Australia, currently there are seven STIs of public health importance, other than HIV. These are chlamydia, gonorrhoea, syphilis, hepatitis B, trichomoniasis, herpes simplex virus and human papilloma virus. Ongoing surveillance is important in order to monitor the rates of these infections and guide preventive measures (Commonwealth of Australia 2005; Couldwell 2005; Mindel & Kippax 2005). |
| | Incidence of vaccine-preventable notifiable diseases among young people aged 12–24 years | At the beginning of the 20th century Australia still experienced considerable illness and death from infectious diseases. With mass immunisation programs as well as public health measures and accompanying social and demographic changes, these diseases were largely eradicated (ABS 1997). Despite this, outbreaks of diseases such as pertussis, measles, rubella and mumps still occur in Australia, and this particularly affects young people. |
| ***Oral health*** | Proportion of young people whose teeth are decay-free at 12 and 15 years | The proportion of young people free from tooth decay has been increasing until recently indicating improvements in the dental health of young people. However, more recently there has been an increase in the rate of dental decay (Ellershaw et al. 2005). It is important to continue monitoring trends in oral health to detect changes in the current pattern.<br>The 'DMFT' score describes decay experience in permanent teeth. |
| | Mean number of decayed, missing and filled teeth (DMFT) for permanent teeth at 12 and 15 years | |
| **1.4 DEATHS** | | |
| ***Mortality*** | Death rates for young people aged 12–24 years | Death rates are the most widely used population health measure.<br>This indicator also captures deaths from specific causes including various illnesses, drug dependence disorders and accidental poisoning as a result of an accidental overdose. |
| | Disease burden among young people (DALY, YLL, YLD) relative to adults | The disability adjusted life year (DALY) is an indicator of number of years of life lost by premature death (YLL) and the number of years lived with illness, injuries and disabilities (YLD). It is a measure of the state of health of a population and is useful for setting health service priorities; identifying disadvantaged groups and targeting health interventions (Mathers et al. 1999). |
| **Tier 2: Factors influencing health and wellbeing** | | |
| **2.1 ENVIRONMENTAL FACTORS** | | |
| ***Housing environment*** | Proportion of young people aged 12–24 years who live in overcrowded housing | It is suggested that overcrowding increases vulnerability to infectious diseases such as meningococcal disease, rheumatic fever, tuberculosis, skin infections and infestations, diarrhoeal diseases, eye and ear infections and respiratory diseases (Howden-Chapman & Wilson 2000; Menzies School of Health Research 2000). It may also affect mental health and is an indicator of other adverse conditions in young people's environments, e.g. poverty. |
| ***Environmental smoke*** | Proportion of young people aged 12–17 years where adults smoke inside | Young people who are exposed to tobacco smoke are at risk of serious health problems, including increased risk of asthma and lower respiratory tract illnesses (NHMRC 1997; Jordan et al. 2005). |

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 2: (continued) Factors influencing health and wellbeing** | | |
| **2.2 SOCIOECONOMIC FACTORS** | | |
| ***Education*** | Proportion of young people aged 12–24 years whose parents (i.e. neither parent) were not educated beyond secondary level | Parental education is an important predictor of health status and cognitive, social and emotional outcomes for children and young people (Bradley & Corwyn 2002). In developed countries such as Australia, a direct link between parental education and health is harder to establish, but education is clearly associated with income and employment (Ewald & Boughton 2002; Silburn et al. 1996). |
| | Apparent school retention rates for young people to Year 12 | Completion of secondary education is considered important preparation for full participation in many aspects of adult life including the workforce. Educational achievement is related to higher socioeconomic status and the greater potential for better health. In contrast, failure to complete secondary school may lead to difficulties obtaining employment, low income and other social problems. Studies (e.g. Sturm & Gresenz 2002) show that lack of education is associated with higher prevalence of chronic and mental health problems. |
| | Proportion of young people aged 20–24 years who have completed Year 12 or equivalent qualifications | Completing Year 12 is an increasingly important prerequisite for success in the labour market. For young people who have not completed Year 12, outcomes are poorer, whereas for every additional year of schooling completed from Year 9 to Year 12, the outcomes improve (Lamb & McKenzie 2001; DSF 2002). |
| | Proportion of young people aged 15–24 years undertaking or with post-school qualifications | Education attainment is an important indicator of an individual's capacity to compete in demanding labour markets. Tertiary education improves employment prospects. In addition to improving income, employment has a positive effect on health and wellbeing through participation and networking within a community (see Curtain 2001; Long & DSF 2004). |
| | Percentages of young people in Years 7 and 9 meeting national literacy (reading and writing) and numeracy benchmarks | National benchmarks represent the minimum acceptable standard without which a student will have difficulty making sufficient progress at school. These benchmarks are nationally agreed upon standards for literacy and numeracy at particular year levels (MCEETYA 2001). |
| ***Employment*** | Proportion of one-family households with young people aged 12–24 years where no parent was employed | Families with no parent employed generally have low incomes and live in poor economic circumstances—they are also more likely to be socially isolated than families with an employed parent. Living in a jobless family may have long-term effects on young people's development, their educational progress and their own employment prospects. Long-term unemployment often leads to stress, tension and family conflict, which may affect children's and young people's emotional and mental health (McClelland 1994; Pedersen et al. 2005). |
| | Unemployment rate for young people aged 15–24 years | Both Australian and overseas studies suggest that unemployment is associated with adverse health effects (lower levels of general and physical health, more anxiety and depression, higher rates of smoking, and higher suicide rates), both among youth and adults (Harris et al. 1998; Lakey et al. 2001; Mathers 1996; Mathers & Schofield 1998; Muir et al. 2003; Power & Estaugh 1990). |
| | Proportion of young people aged 15–24 years who are long-term (more than 52 weeks) unemployed | |
| | Proportion of young people aged 15–24 years who are not in labour force and not in education | |
| | Full-time participation rate of young people aged 15–24 years (full-or part-time education, employment, and/or both) | This indicator was used by MCEETYA as a 'key performance measure of full participation' (MCEETYA 2002, 2004). The literature suggests that high levels of education and training lead to high levels of employment and, similarly, low literacy levels and early school leaving lead to high risk of unemployment (Chiswick et al. 2003; Lamb & McKenzie 2001). |
| | Rate of underemployment | Underemployment can lead to both mental and physical ill health. People in this situation find their career options are limited and that the existing jobs do not match their capabilities, resources or needs. Job stress can lead to poor health and even injury (Dollard & Winefield 2002; National Institute of Occupational Safety and Health 1999). |

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 2: (continued) Factors influencing health and wellbeing** | | |
| **2.2 SOCIOECONOMIC FACTORS** | | |
| ***Income*** | Proportion of young people aged 15–24 who are financially dependent on their families | This indicator is more relevant to 20–24 year olds as younger people, particularly those aged under 20, are likely to be in full-time education and dependent on parents. Young people aged 20–24 years may be dependent on parents for financial support because of lack of job opportunities and limited financial support available to them (Kerr & Savelsberg 2003; Schneider 2000). Young people who were dependant on parental support in Tasmania stated that a lack of good income restricted their education, employment and social opportunities (Office of Youth Affairs Tasmania 2002). |
| | Proportion of young people aged 15–24 who are receiving a regular allowance/income from parents | |
| | Mean/median income earned by young people | Earning an income is an important requirement for young people being able to live independently. Income provides people with opportunities, access to housing, goods and services and mobility. Inadequate earnings mean that young people cannot afford adequate shelter, food, and further education and training required to find skilled work without some external support.<br><br>Young people's earnings depend on a number of factors such as education, labour force experience, gender, social background and cultural background (Ainley et al. 2000). |
| | Proportion of young people aged 15–24 years receiving government income support | Government income support for young people aged 15–24 years includes income support payments such as Youth Allowance, New Start Allowance, CDEP, Disability Support Pension and Parenting Payment. Young people on government income support, such as those who are unemployed or underemployed or have an independent living status, are likely to experience financial hardship which can affect their health and wellbeing (Office of Youth Affairs Tasmania 2002). This group can include young people who are studying. Although this group may not be disadvantaged in the longer term, they can be while they are studying. |
| | Proportion of young people aged 12–24 years who carry various types of debt (and overall debt) | Increasing levels of debt among young people have become a concern in recent years. This has been exacerbated by the strategies of various finance and telecommunication companies urging people 'to 'buy now pay later', as well as young people's lack of money management skills (Office of Fair Trading 2003). |
| | Proportion of young people aged 15–24 years who are living independently and receiving rent assistance | For young people, the transition to independent living is one of the most important decisions in their lives. For a minority, it may represent a break from a difficult family situation such as domestic violence or abuse (Burke et al. 2002). It is, nevertheless, difficult for young people, particularly when they have no regular income, to support their independent living. Rent Assistance (RA)—for those who are eligible—provides assistance in improving their housing situation, as well as education and employment outcomes (Burke & Ewing 2002). |
| | Proportion of young people aged 15–24 years who experienced hardship because of a shortage of money | Young people experiencing financial hardship experience stress and distress, and being unable to afford medical and other health care or to go out and socialise with other young people (Headey 2002; Saunders 2002; Taylor & Morrell 2002). |
| **2.3 COMMUNITY CAPACITY** | | |
| ***Family capacity*** | Proportion of young people aged 12–17 years living in families where family cohesion is low | The National Survey of Mental Health and Well-being found that young people living in less cohesive families were more likely to have emotional and behavioural problems (Sawyer et al. 2000). Family cohesion was rated on a five-point scale, from 'poor' to 'excellent', based on questions asked of parents on the family members' ability to get along with one another. |
| | Health status of parents of young people aged 12–24 years (general health, disability and mental health status) | Parents' own health and wellbeing affect the way they care for children and may affect their children's physical and mental health. Young people rely on their primary carer(s) for their physical, emotional and economic needs and support. When disruption to parenting or caregiving occurs, as may occur with parental physical or mental illness, the needs of the child may receive less attention or may not be met at all (Zubrick et al. 2005; Silburn et al. 1996; Cassino et al. 1997). |

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 2: (continued) Factors influencing health and wellbeing** | | |
| **2.3 COMMUNITY CAPACITY** | | |
| ***Family capacity*** | Rate of young people aged 12–17 years who are the subject of child protection substantiation | Abuse and neglect have both short- and long-term adverse consequences for young people, including injuries, lower social competence, poor school performance, depression, and suicidal and self-injurious behaviours (Shonkoff & Phillips 2000). |
| | Rate of young people aged 12–17 years who are the subject of care and protection orders and in out-of-home care | Young people who come into contact with state/territory community services departments for protectiion reasons include those who have been or are being abused or neglected or whose parents cannot provide adequate care and protection. This can have profound negative impact on these young people's health and wellbeing (Shonkoff & Phillips 2000). |
| | Proportion of young people who are carers of their family members (e.g. parents, siblings and partners) | Young carers may care for or help care for family members affected by illness, disability, or drug and alcohol or mental health issues. Young carers' health is at risk owing to stress, limited sleep and the multiple physical and emotional demands on them. These demands also limit the choices and opportunities available to these young people as they are often unable to leave home, gain employment and financial independence or maintain relationships (see Becker 2005). |
| ***Community support and safety*** | Proportion of young people aged 15–24 years who score well on a social support scale[1] | Social support is an important part of wellbeing, and can also have positive health effects. Social support may help reduce the effects of stress, and may also improve outcomes of certain health conditions. Young people who lack appropriate support may have worse mental and physical health outcomes than other young people (Royal Australasian College of Physicians 1999). |
| | Rate of young people aged 12–24 years who have been the victim of physical and/or sexual assault | Sexual abuse has multifaceted short- and long-term negative effects on childhood development (Paolucci et al. 2001). In the short term, the victims are likely to be affected by physical injuries and infections. A history of child sexual abuse has been associated with depression, anxiety disorder, phobias, panic disorder, post-traumatic stress disorder, and substance abuse (Molnar et al. 2001).<br><br>The overlap between victim and offender populations, and instances of intergenerational family violence, are cited as evidence of the cycle of violence, and of the need to break that cycle through the prevention of child abuse (Regoeczi 2000). |
| | Alcohol and other drug-related violence victimisation rate for young people aged 14–24 years | There is a strong link between alcohol and other drug consumption and violence. Young people are more likely to be victims in alcohol and other drug-related violence, particularly young males. Violence can include physical and verbal abuse, as well as being put in fear by another person, which can affect mental health and wellbeing (AIHW 2005b; Regoeczi 2000). |
| | Proportion of young people witnessing family violence | Young people growing up witnessing family violence are at risk of mental health problems. They are also more likely to be victims of relationship violence and perpetrators of violence in their intimate relationships (Indermaur 2001; Partnerships Against Domestic Violence 2000). |
| | Proportion of young people aged 12–24 years who are currently homeless | Young people who are homeless are at serious risk of poor health and wellbeing outcomes such as physical and sexual assault, as well as a range of health conditions, including skin and respiratory conditions. Many homeless people have mental health or substance use problems, which may have existed before the period of homelessness began (Howden-Chapman & Wilson 2000; Menzies School of Health Research 2000). |
| | Volunteering rate for young people aged 18–24 years | Participation in social and community life is an important aspect of life for most people and provides social and psychological benefits. Volunteering is one form of social participation (Lee & Bartkowski 2004; Putnam 2000). |

[1] Social support index in HILDA is based on responses to ten survey questions regarding the personal support and friendship available to respondents. The Index of Social Support reflects people's experiences of social and emotional loneliness or connection.

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 2: (continued) Factors influencing health and wellbeing** | | |
| **2.3 COMMUNITY CAPACITY** | | |
| ***Legal and justice issues*** | Proportion of people aged 12–17 years in the juvenile justice system | Young people in juvenile justice facilities are at increased risk of injuries (due to accidents, assaults or intentional self-harm), suicide and attempted suicide, infectious diseases and skin problems (Committee on Adolescence 2001; Muir et al. 2003).<br><br>Young offenders are more likely than their non-offending peers to have pre-existing mental health and behavioural problems (Bickel & Campbell 2002). They are also likely to have been on care and protection orders (Weatherburn 2001). While young people in juvenile justice facilities may have improved access to health services while in detention, and consequent improvements in health status, their health is likely to worsen on release (Jarvis et al. 2000). |
| | Rate of imprisonment among young people aged 18–24 years | Young people in prison are at risk of a number of poor health outcomes including suicide, assault and communicable diseases (resulting from unsafe injecting drug use or sexual behaviours) (Allerton et al. 2003). |
| **2.4 HEALTH BEHAVIOURS** | | |
| ***Physical activity/ inactivity*** | Proportion of young people participating in moderate to vigorous physical activity, one hour per day<br><br>Median hours per week spent in sedentary activities | Physical activity for young people is important for a number of reasons: maintaining and improving physical fitness, improving health and wellbeing, encouraging active lifestyles which will continue into adulthood, and reducing the risk of chronic diseases in adulthood (Biddle et al. 1998). Physical activity also prevents or delays, and helps reduce, high blood pressure in some adolescents (USDHHS 1996) and has been associated with good mental health and, in particular, positive self-esteem (Mutrie & Parfitt 1998). |
| ***Food habits and eating behaviour*** | Proportion of young people aged 12–24 years eating breakfast | Eating breakfast regularly has many benefits including improved cognitive function, attentiveness, social skills, overall nutrient balance and energy intake (Shaw 1998). Adolescents with a consistent meal pattern tend to be leaner, and skipping meals may lead to obesity (Ma et al. 2003; Siega-Riz et al. 1998). |
| | Proportion of young people aged 12–24 years consuming the recommended serves of key food groups | Adequate consumption of key foods including fruit and vegetables is a protective factor against many diseases including coronary heart disease, hypertension, stroke, Type 2 diabetes and many forms of cancer (NPHP 2001). Current NHMRC guidelines suggest eating at least 5 serves of vegetables and 2 serves of fruit every day for adults and 3 serves each of fruit and vegetables for 12–18-years-olds (NHMRC 2005). |
| ***Sun protection*** | Proportion of young people aged 12–24 years always using sun protection | Exposure to sunlight in childhood and adolescence is the main risk factor for melanoma and other types of skin cancer in adulthood. Use of sunscreen can prevent squamous cell carcinoma (Gallagher et al. 2004; The Cancer Council Australia 2004). |
| | Proportion of young people aged 18–24 years whose skin is regularly checked for changes in freckles and moles | Checking skin for changes in freckles and moles can assist in early detection of skin cancers. Early detection of skin cancers is likely to lead to better prognosis (The Cancer Council Australia 2004). |
| ***Substance use*** | Mean age of initiation: tobacco, alcohol and illicit drugs | The earlier a young person is introduced to drug use, the more likely it is they will continue using drugs. In addition, drug use (such as smoking) at an early age can be an indicator of behavioural problems which have their origins in childhood (Hanna et al. 2001). |
| ***Smoking*** | Proportion of young people aged 12–14 who are current smokers<br><br>Proportion of young people aged 12–24 years who are 'recent' smokers | Tobacco use is associated with many chronic and life-threatening conditions. It is the risk factor associated with the greatest disease burden in Australia (AIHW 2004). Cigarette smoking at young ages is strongly correlated with smoking in adulthood. Tobacco use at young ages may also be an antecedent to depressed mood in adolescence (Wu & Anthony 1999).<br><br>'Current' smoking refers to daily and occasional smoking and 'recent' smoking refers to smoking on at least 1 day in the week before the survey. |

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 2: (continued) Factors influencing health and wellbeing** | | |
| **2.4 HEALTH BEHAVIOURS** | | |
| ***Alcohol*** | Proportion of young people aged 12–14 who have engaged in high-risk (5 or more drinks in a row) drinking at least once in the last 2 weeks | Young people are more vulnerable to the risks of alcohol use than adults—they are physically smaller, they lack experience of drinking and its effects, and do not have a built-up tolerance to alcohol (DoHA 2003; NHMRC 2003). |
| | Proportion of young people aged 14–24 years who drink at risky or high-risk levels in the short term | Excessive drinking can lead to involvement in verbal and physical abuse, injury, drink-driving and unintended sex (Bonomo 2005). |
| | Proportion of young people aged 14–24 years who drink at risky or high-risk levels in the long term | Chronic alcohol misuse can lead to diseases of the liver, some cancers, pancreatitis, diabetes, epilepsy and dependence disorders, as well as being a major risk factor for other morbidity and mortality (AIHW 2002b). |
| ***Other substance use*** | Prevalence rate for substance use disorders for young people aged 18–24 years | Substance use disorders involve a pattern of use of alcohol and/or other drugs which is harmful to a person's health (Andrew et al. 1999; White 2003). Substance use disorders have a greater prevalence among people aged 18–24 years than among older adults. Alcohol use disorders are the most common substance use disorders. |
| | Proportion of young people aged 12–24 years who had used an illicit drug (cannabis, injected drugs, ecstasy, amphetamines and steroids) within the previous 12 months | Illicit drugs are illegal drugs, drugs and volatile substances used illicitly or pharmaceutical drugs taken for non-medical purposes. Many medical conditions are associated with illicit drug use including overdose, HIV/AIDS, hepatitis C (when injecting equipment and needles are shared), low birthweight (for babies of drug users), malnutrition, infective endocarditis (inflammation of the lining of the heart), poisoning, suicide and intentional self-harm. Illicit drug use may also affect social functioning (DHAC 2000). |
| ***Sexual and reproductive health*** | Proportion of young people in Year 10 and Year 12 who have had sexual intercourse | Understanding the sexual behaviour of young people is a prerequisite for any sexual health education or intervention program. This indicator will provide data on the proportion of young people who have had sex. Of the young people who are having sex or who have had sex, some may undertake risky sexual behaviours and would benefit from education programs and interventions to promote safe sex and prevent unwanted pregnancies (WHO 2004). |
| | Proportion of sexually active young people aged 16–24 who are currently using any contraception to avoid pregnancy | When a woman gives birth at a relatively early age, the risk of encountering complications increases. Teen mothers are at greater risk of giving birth to a baby that is pre-term or of low birthweight, and are also more likely to miscarry than other mothers. Young mothers may be more likely to drop out of school, be unemployed or low paid, live in poor housing conditions, suffer from depression and require government assistance (Major et al. 2000; UNICEF 2001).<br><br>The success in lowering unwanted pregnancy rates among young women relies heavily on the use of effective contraception. Use of contraception is influenced by the degree of availability of contraception and the kind of sex education provided to young people.<br><br>This indicator will also look at teenage pregnancy rate and elective terminations. |
| | Proportion of young people aged 16–24 years who have non-regular sexual partners and who sometimes or never use condoms | Young people who have had unprotected sex are at risk of unwanted pregnancy as well as sexually transmitted infections (STI). Regular partners (live-in or not) might use other forms of contraception to avoid unwanted pregnancies. Not using condoms, especially if an individual has had multiple sexual partners, is associated with higher rates of STI (Couldwell 2005). |
| | Participation rate for cervical screening among young women aged 20–24 years | Pap smears can pick up changes in cells which indicate pre-cancerous growth. Early diagnosis of abnormalities is associated with improved prognosis. Therefore, Pap smear screening is an effective way of preventing cervical cancers (Farnsworth & Mitchell 2003). |

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 2: (continued) Factors influencing health and wellbeing** | | |
| **2.4 HEALTH BEHAVIOURS** | | |
| ***Sexual and reproductive health*** | Substance use during pregnancy | Drug and alcohol use during pregnancy is known to cause a range of adverse effects. Smoking and alcohol use are risk factors for adverse events during pregnancy and birth such as low birthweight, preterm birth, fetal growth restriction, congenital anomalies and perinatal death (ADCA 2000; Chan et al. 2001; Walsh et al. 2001). |
| | Antenatal care in pregnancy | Inadequate antenatal care may result in adverse outcomes in teenage pregnancies (Department of Health Social Services and Public Safety 2000; Raatikainen et al. 2005). |
| **2.5 PERSON-RELATED FACTORS** | | |
| ***Overweight and obesity*** | Proportion of young people aged 12–24 years who are overweight or obese according to their body mass index | People who are overweight or obese as adults have higher mortality and morbidity rates for a number of diseases and conditions such as Type 2 diabetes, coronary heart disease, respiratory disease and some types of cancers. Other conditions associated with excess body weight are gall bladder disease, osteoporosis and ischaemic stroke. Young adolescents who are overweight or obese are at a greater risk of being overweight or obese in adulthood (Ludwig & Ebbeling 2001; WHO 2000).<br><br>Promoting physical activity and healthy eating are important for reducing the prevalence of obesity (CDC 2005). |
| **Tier 3: Health system performance** | | |
| **3.1 EFFECTIVE** | Hospitalisation rate for potentially preventable conditions | Potentially preventable hospitalisations are those for which hospitalisation is thought to be avoidable with the application of preventive care and early disease management, usually delivered in the ambulatory care setting such as primary care settings (GP, community health services). Timely and effective ambulatory care is expected to reduce the risks of hospitalisation by preventing the onset of an illness or condition; controlling an acute episodic illness or condition; or managing a chronic disease or condition (Victorian Government Department of Human Services 2002). This is a measure of the effectiveness of primary health care. |
| | Percentage of injecting drug users who report recent sharing of needles and syringes | The main objective of needle and syringe programs is to prevent the transmission of bloodborne viruses through sharing injecting equipment among injecting drug users. Needle and syringe programs provide sterile injecting equipment and information to injecting drug users, and have also been an important component of the strategy to control HIV/AIDS (NHPC 2004). |
| | Proportion of teenage smokers aged 12–17 who personally purchased their most recent cigarette | There is evidence that regular smoking and being able to purchase cigarettes and heavy cigarette consumption are correlated. State and territory legislations prohibit tobacco sales to teenagers. Therefore it is important to see whether the system is working well (NHPC 2004). |
| **3.1 EFFECTIVE** | Cervical screening rate for women aged 18–24 years | Cervical screening provides women with an opportunity to greatly reduce the risk of cervical cancer. The effectiveness needs to be viewed along with long-term mortality trends; however, the effect of screening will take a long time to be visible in mortality data (AIHW 2005c). |
| **3.2 APPROPRIATE** | Number of prescriptions for oral antibiotics ordered by GPs for the treatment of upper respiratory tract infections | In most instances, antibiotics have no efficacy in the treatment of upper respiratory tract infections (URTIs) which are most often caused by viruses. Overuse of antibiotics increases antibiotic resistance. A decline in the rate of antibiotics prescriptions for URTI may be an indication of good management of viral infections (NHPC 2004). |
| | Proportion of young people with diabetes who have received an annual cycle of care within general practice | This indicator is intended to measure the extent to which GPs are able to provide continuity or coordination of care for the prevention of diabetes. |

| INDICATOR | MEASURE | JUSTIFICATION |
|---|---|---|
| **Tier 3: (continued) Health system performance** | | |
| **3.2 APPROPRIATE** | Caesarean sections as a proportion of all confinements of young women aged 15–24 years | Delivery by caesarean section is appropriate in a number of clinical circumstances. However, a number of other reasons also seem to influence this, including the practice patterns of individual doctors, health insurance status, hospital characteristics and patients' right to choice (NHPC 2004; OECD 2002). |
| **3.3 EFFICIENT** | Relative stay index (RSI) for those aged 12–24 years by medical, surgical and other DRGs (length of stay in hospital) | The average length of hospital stay per separation is a measure of the efficiency of acute care hospitals. |
| **3.4 RESPONSIVE** | Percentage of patients aged 12–24 years who are treated within national benchmarks for waiting in public hospital emergency departments for each triage category | Patients attending emergency department should be treated within an appropriate time. All patients attending public hospital emergency departments are assessed and assigned a triage category, which reflects the urgency with which treatment should start. In Australia, benchmarks for the start of treatment have been identified for each triage category (AIHW 2001). This indicator measures the extent to which these benchmarks have been achieved. |
| | Median waiting time for access to elective surgery for those aged 12–24 years | Waiting time is shorter for private patients, whereas in the public system patients need to wait long periods while enduring pain or discomfort. Ideally the length of waiting time should be the same for everyone. |
| **3.5 ACCESSIBLE** | Proportion of young women aged 15–24 years attending antenatal services during pregnancy | Young pregnant women are more likely to receive no or late antenatal care (Child Trends Data Bank 2005). It is important to make antenatal services accessible to young women to encourage attendance during pregnancy. |
| | Mental health services (indicator not well defined) | Mental disorders cause a severe burden on young people and these often continue into adulthood. It is important that these problems are detected early, and attempt to provide effective treatment and prevention through ready access to necessary services (Rey 2001). |
| | Proportion of non-referred attendances at GPs that are bulk-billed under the Medicare program | Bulk-billing provides young people with ready access to affordable medical services (NHPC 2004). |
| | Availability of general practitioner services | GPs are often the first point of contact for health services; therefore, the availability of GPs reflects accessibility to health services, particularly to primary care. |
| **3.6 SAFE** | Proportion of hospital separations for young people aged 12–24 years where an adverse event treated and/or occurred | An adverse event occurs when there was harm caused by health care management rather than the underlying disease or condition of the patient. The Australian Council for Safety and Quality in Health Care is working to improve the reporting and analysis of data on adverse events, in order to shape patient safety improvement activities. Therefore, increased reports of adverse events may not reflect an increased risk in health care (NHPC 2004). |

As mentioned at the outset, the development of these key national indicators for young people was guided by an advisory group (see Appendix 2 for membership) with particular expertise in the areas of health and wellbeing of young people. The indicators listed above are chosen to capture all aspects of young people's health status, risk and protective factors of health including social and behavioural influences of health and wellbeing. There are some additional indicators listed in Appendix 1 which were not considered as explaining key aspects of young people's health and wellbeing but were seen to complement the information presented in the report. The reporting against all these indicators will, however, largely depend on data availability.

## Appendix 1 Additional indicators

### Physical, mental and social wellbeing

- Proportion stating that they feel 'delighted', 'pleased' or 'mostly satisfied' with their life as a whole

### Human function

- Proportion of young people aged 15–24 years who had days away from work or study because of illness or injury in the previous 2 weeks

### Mental health

- Hospitalisation rate for mental health problems and disorders in young people aged 12–24 years
- Prevalence rate for suicidal ideation for young people aged 12–24 years
- Intentional self-harm hospitalisation rate for young people aged 12–24 years

### Chronic diseases (selected conditions)

- Asthma hospitalisation rate for young people aged 12–24 years
- GP visits by young people for asthma management
- Diabetes hospitalisation rate for young people aged 12–24 years
- Blood pressure, cholesterol, blood sugar and insulin, spinal disease, myopia, liver disease associated with overweight
- Small screen recreation (relationship to myopia leading to blindness)
- Days missed from school or work

### Communicable diseases (with cross-referencing to reproductive health)

- Hospitalisation rate for meningococcal disease among young people aged 12–24 years

### Oral health

- Proportion of young people aged 12–24 years who rate their oral health positively (per cent)
- Oral health problems hospitalisation rate for young people aged 12–24 years

- Proportion of young people aged 12–24 years making a dental consultation in the past 12 months (per cent)
- Young population aged 12–24 years residing in areas with optimum fluoride concentrations in the mains water

### Education

- Happiness at school and education

### Employment

- Proportion of young people participating in casual work

### Community support and safety

- Proportion of young people aged 15–24 years involved in cultural or leisure activities as a volunteer
- Proportion of young people participating in one or more civic activities (e.g. proportion of 17- and 18-year-olds who have registered to vote)
- Proportion of young people aged 18–24 years who were able to raise $2,000 in an emergency

### Health behaviours

- Proportion of young people aged 14–24 years who are 'daily' smokers
- Proportion of young people successfully quitting smoking in the last 12 months (per cent)
- Hospitalisation rate for substance use disorders for young people aged 15–24 years
- Hospitalisation rate for drug dependence disorder in young people aged 15–24 years
- Volatile substance use (glue, petrol)
- Use of medications (pain killers, etc.)

### Sexual and reproductive health

- Proportion of young people in Year 10 and Year 12 who are attracted to the same sex, both sexes or unsure of their sexual attraction
- Rate of low- and high-grade abnormalities detected, incidence of cervical cancer (genital warts and HPV are part of low-grade abnormalities detected)
- Fetal alcohol syndrome

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