



Key national indicators of children's health, development and wellbeing

Developing a key national indicator framework

The key national indicators presented in this bulletin build upon an earlier set developed by the AIHW in collaboration with an expert committee. This initial set was based on a conceptual framework for the organisation of national child health information. The framework consisted of three broad groups of indicators of child health: health status, risk and protective factors, and the delivery of health services and interventions. The framework was endorsed by the AIHW Advisory Committee, discussed at a workshop convened by the AIHW in 1998 and subsequently endorsed by the Australian Health Ministers' Advisory Council. While this original framework was primarily focused on health, subsequent indicator development and national monitoring of the wellbeing of children undertaken by the Institute has progressively broadened.

The 2005 report aims to encompass reporting on the wider social, community and economic contexts in which young people in Australia are growing up and the way in which these influences affect outcomes for children. This approach is consistent with the international research literature and the shift in government policy towards early intervention and prevention. Recent research findings have emphasised the importance of early childhood exposures (such as family environment, social interaction, and education) in shaping children's health, development and wellbeing later in life (for a summary of this research, see Waters et al. 2002; McCain & Mustard 2002).

Recognising the significance and benefits of investing in the early years of life, the Australian Government established a Task Force on Child Development, Health and Wellbeing in September 2001, to develop a 'whole of government' approach to the early years of life. A major responsibility of the Task Force is to lead the development of the National Agenda for Early Childhood announced in September 2002. The focus of this national policy agenda is on early child and maternal health, early learning and care, and supporting child-friendly communities. Central to this agenda is the capacity to be able to monitor regularly over time how Australia's children are faring, and how certain population groups, such as Indigenous children and children from rural and regional Australia, are faring by comparison (ACCAP 2004). Several Australian states and territories have also begun to commission reports monitoring the progress of children within their jurisdiction (Centre for Epidemiology and Research 2002; NSW and QLD Commissions for Children and Young People 2004; Queensland Commission for Children and Young People 2004; Tennant et al. 2003).

In March 2004 ACCAP hosted a workshop that brought together a variety of leading academic experts, and government and non-government stakeholders, to consider a national reporting framework for Australia's children. A draft set of indicators developed by the AIHW was discussed at this workshop, and later finalised by the Advisory Committee for the *Picture of Australia's Children* project (see Appendix). The final set of key national indicators now covers a broad range of risk and protective factors that affect early childhood development and influence children's outcomes, in line with current research that children's experiences early in life affect their health and wellbeing later in life (McCain & Mustard 2002; Prior et al. 2000). The national indicators selected for this report have also been influenced by international indicator

development in Europe (European Union Community Health 2002), in Canada (Canadian Council On Social Development 2002), and in America (Federal Interagency Forum on Child and Family Statistics 2003), as well as indicator development within Australia (Waters et al. 2002; Zubrick et al. 2000).

Indicator selection criteria

Checklists of the desirable qualities of indicators and caveats on their use are common adjuncts to statistical indicators. The process of selecting the national indicators of children's health, development and wellbeing took into account existing criteria developed by the National Health Performance Committee (NHPC 2001:19) and also those used in developing the AIHW Indicators of Australia's Welfare (AIHW 2001 & 2003). According to the NHPC guidelines, national indicators should:

- be worth measuring
- be measurable for diverse populations—(i.e. Aboriginal and Torres Strait Islander peoples, rural/urban dwellers, people with different socioeconomic circumstances, etc.)
- be understood by people who need to act—(i.e. 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—(i.e. 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—(i.e. relevant to actions that can lead to improvement when widely applied)
- be measurable over time to reflect results of actions—(i.e. if action is taken, tangible results will be seen indicating improvements in various aspects of children's wellbeing)
- be feasible to collect and report—(that is 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 of data definitions.

The key national indicators

The following tables set out the key national indicators of children's health, development and wellbeing that have emerged out of the consultative process outlined above. They present the indicator and a brief justification explaining the relevance to child wellbeing.

National indicators on socioeconomic, familial and health-related factors are well developed and good quality data have been available for some time on these measures. However, indicators on the cultural, educational, psychological and environmental wellbeing of children are, at present, less well developed. Even where indicators exist,

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such as with school readiness, emotional development and parental style, national data to measure them are not yet available. For these indicators, only contextual data, research and information can be reported in 2005.

The AIHW project team has organised the key indicators around answering questions vital to assessing the wellbeing of Australia's children, such as:

- How healthy are Australia's children?
- How well are we promoting healthy child development?
- What factors can affect children adversely?
- How safe and secure are Australia's children?
- How well are Australia's children learning and developing?
- What kind of families and communities do Australian children live in?

While the majority of Australian children are faring well, as evidenced by the decline in mortality rates over the last two decades, not all are doing so well (AIHW 2004a, AIHW:Al-Yaman et al. 2002). Hence it is important for any national report to provide information on how wellbeing varies according to population groups, such as children from rural and regional Australia, children according to socioeconomic background and Indigenous children. This information will be included in *A Picture of Australia's Children 2005* where quality data are available.

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How healthy are Australia's children?

Indicator	Measure	Justification
Mortality	Infant mortality rate	Infant mortality is an important indicator to monitor the health status of children, as the majority of childhood deaths occur in the first year of life (AIHW 2004a). It is also used internationally as the key indicator of the hygiene and health conditions prevailing in a community.
	Sudden infant death syndrome (SIDS) rate	For the last 25 years, SIDS has been the major cause of death in infants. Because of the national prevention campaign in the early 1990s, there has been a substantial decrease in SIDS (AIHW: Al-Yaman et al. 2002). In 2002, there were 119 cases.
	Death rate for children aged 1-14 years	Death rates are one of the most widely used measures of health in a population.

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¹ These tables present information about the rationale for including these indicators in the *Picture of Australia's Children 2005* report. They are not intended to be interpreted as a conceptual framework for the organisation of child health, development and wellbeing information. In consultation with the relevant stakeholders, work is currently in progress to develop a framework of this kind.

How healthy are Australia's children? (continued)

Indicator	Measure	Justification
Morbidity	Proportion of children aged 0–14 years with asthma as a long-term condition	Asthma is the leading cause of disease burden among children, and is one of the seven National Health Priority Areas endorsed by Australian Health Ministers. The prevalence of childhood asthma in Australia increased during the 1980s and early 1990s but it is not clear whether there has been any change since that time (ACAM 2003). It is important to continue to monitor asthma to detect further changes in prevalence.
	New cases of cancer per 100,000 children aged 0–14 years	Cancer is the second most common cause of death for children aged 1–14 years (injury is by far the most common cause among this age group) (AIHW: Al-Yaman et al. 2002).
	Five-year relative survival rate for leukaemia in children aged 0–14 years	Cancer is a National Health Priority Area.
	New cases of children aged 0–14 years receiving insulin on the National Diabetes Register as a rate per 100,000 children	Diabetes is one of the seven National Health Priority Areas and is one of the most common chronic diseases among children. There is evidence that the incidence of Type 1 diabetes is on the rise (AIHW 2004a). It is important to monitor this emerging trend as well as the increase in Type 2 diabetes among children which has been observed in other countries and in some parts of Australia (McMahon et al. 2004).
Disability	Proportion of children aged 0–14 years with severe or profound core activity restrictions	Children with severe disabilities may be in poor health, but may also have long-term activity limitations and participation restrictions which they and their parents must manage. Childhood disability can create serious financial hardship for families and may limit the opportunities to fully participate in society for both children themselves and their carers (AIHW: Al-Yaman et al. 2002).
Mental health	Proportion of children aged 4–14 years with mental health problems	Mental health is one of the seven National Health Priority Areas. Mental health problems and disorders account for the second highest burden of disease among children. Many children experience mental health problems which, if left untreated, may develop into clinical disorders (Raphael 2000, Sawyer et al. 2000).
	Proportion of children aged 6–14 years with mental health disorders (ADHD, depressive disorder, conduct disorder)	
	Suicide death rate for children aged 10–14 years	Although suicide is rare in children, it is important to continue to monitor such deaths in order to detect emerging patterns and trends. Suicide rates among young people have generally increased over the last couple of decades (Mitchell 2000), but have been declining in the past few years. The suicide rate is greater for boys than for girls. Suicide deaths are also often associated with mental illness, especially depression (Groholt et al. 2000).

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How well are we promoting healthy child development?

Indicator	Measure	Justification
Immunisation	Proportion of children who are fully vaccinated at 1, 2 and 6 years of age	<p>Immunisation against communicable diseases is an effective public health intervention that has significantly reduced the morbidity and mortality arising from childhood diseases (AIHW 2004a).</p> <p>The Immunise Australia program includes vaccination against diphtheria, tetanus, whooping cough (pertussis), poliomyelitis, measles, mumps, rubella, Haemophilus influenzae type B (Hib), hepatitis B, meningococcal C and pneumococcal disease.</p>
Breastfeeding	Proportion of infants exclusively breastfed at ages 3 and 6 months	In Australia, in accordance with World Health Organisation guidelines, exclusive breastfeeding is recommended to six months of age, before additional fluids and solids need to be introduced (NHMRC 2003).
Dental health	Proportion of children decay-free at age 6 years and at age 12 years	<p>The proportion of children free from tooth decay experience has been increasing in recent years indicating improvements in the dental health of children (AIHW DSRU: Armfield, Roberts-Thomson & Spencer 2003)</p> <p>It is important to continue monitoring trends in oral health to detect any changes in the current pattern of improvement.</p>
	Mean decayed, missing or filled teeth scores at age 6 years at age 12 years	Since the introduction of the School Dental Scheme in 1977, the dental health of Australian children has improved. There has been a decline in the average number of dental caries experienced. It is important to continue monitoring trends in oral health to detect any changes in the current pattern of improvement.

What factors can adversely affect children?

Indicator	Measure	Justification
Birth weight and premature births	Proportion of infants weighing less than 2,500 grams at birth	Low birthweight is an indicator of general health of newborns and a key determinant of infant survival, health and development. Low birthweight babies are at a greater risk of dying during the first year of life (AIHW NPSU: Ford et al. 2003).
Healthy weight	Proportion of children aged 2–14 years whose body weight is at an acceptable/ unacceptable level as measured by BMI scores	Children who are overweight or obese are at a greater risk of being overweight or obese in adulthood (Whitaker et al. 1997). 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.
Tobacco and alcohol use	Proportion of children aged 12–14 who are current smokers	<p>Tobacco use is associated with many chronic and life-threatening diseases. It is the risk factor associated with the greatest disease burden in Australia (AIHW 2004a).</p> <p>Cigarette smoking at young ages is strongly correlated with smoking at adult ages.</p>
	Proportion of children 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	<p>NHMRC dietary guidelines state that alcohol is not recommended for children.</p> <p>Children 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).</p>
Tobacco smoking during pregnancy	Proportion of women smoking during pregnancy	Smoking during pregnancy restricts the flow of oxygen to the foetus and can result in a multitude of poor birth outcomes (AIHW NPSU: Ford et al. 2003). This behaviour is one of the most important known modifiable risk factors for low birthweight and infant mortality.
Exposure to tobacco smoke	Proportion of households with children aged 0–14 years where adults smoke inside	Young or un-born children who are exposed to tobacco smoke are at risk of serious health problems, including increased risk of asthma, lower respiratory tract illnesses, low birthweight and sudden infant death syndrome (NHMRC 1997).

How safe and secure are Australia's children?

Indicator	Measure	Justification
Neighbourhood safety	Proportion of households with children aged 0–14 years where neighbourhood is perceived as unsafe	Children living in unsafe, particularly violent, neighbourhoods are more likely than their peers in safer communities to display or experience anti-social behaviours (such as aggression or bullying), suffer from stress, anxiety or depression, and/or start to fail at school (Aneshensel & Succo 1996; Attar et al. 1994; Coulton et al. 1996; Schwartz & Proctor 2000; Stewart et al. 2002; Wilson 1987, in Coulton et al. 1996). This association is strongest where lack of safety is real, but perceived feelings of living in an unsafe neighbourhood may also affect these responses (Colder et al. 2000).
Injuries to children	Injury death rate for children aged 0–14 years	Injuries are the single major underlying cause of death for children aged 1–14 years (AIHW: Al-Yaman et al. 2002). Injury prevention and control is one of seven National Health Priority Areas endorsed by Australian Health Ministers in recognition of the national burden of injury. Many of the causes of injuries are preventable and are therefore amenable to intervention (AIHW NISU: Moller and Kreisfeld 1997).
	Road transport accident death rate for children aged 0–14 years	Road transport accidents are of particular concern because they represent a major cause of death for children. Many of the causes of road transport accidents are preventable and therefore amenable to intervention (AIHW NISU: Moller & Kreisfeld 1997).
	Accidental drowning death rate for children aged 0–14 years	Accidental drowning is a leading cause of childhood deaths, especially among toddlers and preschoolers (ages 1–4 years) (AIHW: Al-Yaman et al. 2002).
	Hospitalisation rate for children aged 0–14 years for injuries from assault	Hospitalisation rates for assault capture serious incidents of intentional harm inflicted by other people. This group includes hospitalisations for injuries from domestic violence and child abuse.
	Hospitalisation rate for children aged 0–14 years for accidental injuries (poisoning, burns and scalds, pedestrian accidents, pedal cycling)	Injuries are a major reason for hospitalisations of children aged 1–14 years. Injury is one of the six National Health Priority Areas. Serious injury may lead to chronic and disabling conditions.
Abuse and neglect	Rate of children aged 0–14 years who are the subject of child protection substantiation	Abuse of or harm to children is substantiated if, in the professional opinion of officers of the child protection authority, there is reasonable cause to believe that a young person has been, is being or is likely to be abused or neglected or otherwise harmed. Abuse and neglect can have both short-term and long-term adverse consequences for children, including injuries, lower social competence, poor school performance, depression and suicidal and self-injurious behaviours (Shonkoff & Phillips 2000).
	Rate of children aged 0–14 years who are the subject of care and protection orders	Recourse to the court is generally a last resort and is used in situations where supervision and counselling are resisted by the family, where other avenues for resolution of the situation have been exhausted, or where removal of a child into out-of-home care requires legal authorisation. Children on orders are those children whose safety and wellbeing are of serious concern (AIHW 2003).
	Assault death rate for children aged 0–14 years	Although deaths from assault are relatively rare among children, 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 parental drug and alcohol misuse and with mental health problems.
Homelessness	Rate of children aged 0–15 years accompanying a parent or guardian seeking assistance from Supported Accommodation Assistance Program	Children in a homeless situation can be disadvantaged in a number of ways: missing out on attending school, lacking parental affection, having to look after younger siblings, and lacking the opportunities for social interaction with peers, all of which affect children's social and emotional development (AIHW 2004b).
Victims of violence	Rate of children aged 0–14 years who have been the victim of physical and sexual assault	A large body of international research suggests that physical and sexual abuse has multi-faceted short- and long-term negative effects on childhood development (Paolucci et al. 2001). In particular, a history of child abuse has been associated with psychopathology, depression, anxiety disorder, phobias, panic disorder, post traumatic stress disorder, and substance abuse (Molnar et al. 2001).

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How well are Australia's children learning and developing?

Indicator	Measure	Justification
Early learning and school readiness	Proportion of children aged <1 year and 4 years of age who are read to by an adult on a regular basis	Pre-literacy and literacy skills are important predictors of how well children learn, cope and develop (De Lemos & Mellor 1994). Pre-literacy skills are an important component of school readiness. School readiness encompasses linguistic, behavioural, pre-literacy, pre-numeracy, social, emotional and physical attributes that enable a child to adjust well to entering formal schooling. School readiness is recognised as a benchmark for how well prepared children are to cope with the transition to formal schooling (Janus & Offord 2000). Children who are not school ready risk school failure.
	Proportion of children aged 3–4 years enrolled at preschool	Preschool services offer educational and developmental programs for children in the year or two before full-time school. The role of preschool is to further children's social, emotional, physical and intellectual (particularly literacy and numeracy) development, their knowledge and understanding of the world and to enhance their transition to school. Research suggests that early learning experiences assist children to assimilate better to the curriculum content demands of formal schooling (AIHW: 2003; Doherty 1997).
Educational benchmarks	Percentages of children in Years 3, 5 and 7 meeting national literacy (reading & 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 standards for literacy and numeracy at particular year levels (MCEETYA 2001). Academic performance in early grades is considered a significant predictor of children's school retention at high school/college years (Doherty 1997).
Social and emotional development	Under development Data gaps being addressed by the Longitudinal Study of Australian Children	Research suggests that if psycho-social problems are not resolved in childhood, they can lead to lowered quality of life, physical health problems, mental disorders, lowered academic and vocational attainment, risky behaviours, substance use, suicidal ideation and attempts, and family discord (Raphael, 2000).
Involvement with the juvenile justice system	Rate of children aged 10–14 years who are in detention in juvenile justice facilities	Many young offenders have pre-existing mental health and behavioural problems (Bickel & Campbell 2002), as well as substance use problems and health conditions. Many are homeless and live in poverty (Cunneen & White 1995). For some juveniles, involvement with the juvenile justice system is also associated with offending behaviour in adulthood. These young people are also characterised by high levels of instability in their lives and poor educational outcomes (Lynch et al. 2003).

What kind of families and communities do Australian children live in?

Indicator	Measure	Justification
Family functioning	Proportion of children aged 4–12 years living in families where family cohesion is low	The National Survey of Mental Health and Well-being found that children with more emotional and behavioural problems lived in less cohesive families (Sawyer et al. 2000:16).
Children in non-parental care	Rate of children aged 0–14 years in out-of-home care	Young people in out-of-home care represent a particularly disadvantaged group. Most of them have suffered child abuse or neglect, as well as the breakdown of their families. Compared with the general population, young people in out-of-home care have higher levels of aggressive/violent behaviour, higher levels of substance use, a higher incidence of intellectual disability, mental health problems and poorer educational outcomes (Jackson 2001).

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What kind of families and communities do Australian children live in? (continued)

Indicator	Measure	Justification
Economic security	Proportion of children aged 0–14 years living in families where no parent is 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 children’s development, their educational progress and their own employment prospects. Long-term unemployment often leads to stress, tension and family conflict, which may impact on children’s emotional and mental health (McClelland 1994).
Social support networks	Proportion of households with children under 15 years of age where respondent was able to get support in time of crisis from persons living outside the household	A cohesive society is one that promotes wellbeing via a large range of mutually supportive interactions, at the individual, group and social level (AIHW 2003). This is a relatively new area for statistical measurement but one whose importance is increasingly recognised.
Parents with disability and chronic illness	Proportion of parents with a disability	Parental disabilities may be associated with children’s lateness and poor school attendance, and also have adverse effects on basic parenting tasks (Cassino et al. 1997). Children may also be ‘young carers’ of a disabled parent, which can restrict social and educational opportunities and increase stress (Mukherjee et al. 2002).
	Proportion of parents rating their health as ‘fair’ or ‘poor’	Parents’ health and wellbeing impact on the health and wellbeing of the child in several ways. Children rely on their primary carer for their physical, emotional, and economic needs and support. When disruption to parenting or caregiving occurs, as sometimes happens with the onset of a physical or mental illness, the needs of the child may receive less attention or may not be met at all (Silburn et al. 1996).
Parental mental health	Proportion of parents with a mental health problem	While many parents who have a mental illness are capable parents, mental health problems can affect parent–child relationships in a number of ways. Problems may include relationship discord, discontinuity of care, poor general parenting skills, social isolation and exclusion (AICAFMHA 2001).

A complete picture?

Through these key indicators, the Picture of Australia’s Children 2005 report will aim to present data on as many aspects of children’s health, development and wellbeing possible. The contexts and influences that are known to be so important in determining outcomes for children will be presented in one report for the very first time.

The challenge that remains, however, is that there are still aspects of children’s wellbeing for which there are no national or even jurisdictional data available to paint a statistical picture. Themes such as parenting style, postnatal depression, father’s involvement in parenting, school absenteeism, bullying, aspects of disability and motor and social development are just some of the areas for which national data development are required and data collection are vital.

In addition, the available statistical information in areas such as children’s mental health and overweight and obesity is now outdated. Renewed data collection in these areas is needed before they risk adding to existing data gaps.

The data emerging from *Growing Up in Australia—The Longitudinal Study of Australian Children* will go some way to filling these data gaps by providing a snapshot of two cohorts of children, starting with infants and children 4 years of age, which may be useful