

Wellbeing indicators across the life cycle

# Appendix 3

# Youth Indicators

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# Domain Health

## 1. Injury and Poisoning

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### Measurement Options

- Injury and poisoning death rate for young people aged 12–24 years old
  - Road transport accident death rate for young people aged 12–24 years old
  - Assault death rate for young people aged 12–24 years old
  - Suicide rate for young people aged 15–24 years old
  - Accidental poisoning death rate for young people aged 12–24 years old
  - Injury and poisoning hospitalisation rate for young people aged 12–24 years old
- 

### NSW Domain

Health

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### Domain in other frameworks

- Health status and wellbeing (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Depends on indicator, usually measured over one year

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### Unit of analysis

Individual level

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

High

Injury, including poisoning, has a major, but largely preventable, impact on the health of young Australians and hence, affects their future health and wellbeing (NPHP 2004).

Allgaier et al. (2012) found that 'injury, poisoning and other consequences of external causes' is the main reason for hospitalisation.

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**Sensitivity** (*degree to which measures can distinguish between different states of wellbeing*)

Not enough information in the literature to assess the sensitivity of the indicator

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**Relevance** (*relevance across the life cycle {Q2 -FACS} and relevance across specific population of interest {Q3 - FACS}*)

- Relevant across specific population of interest

The discussion leads to the conclusion that this indicator is mainly relevant for young people. In particular, Algaier et al (2012) specify their work is based on children aged 9–12 years old or adolescents (aged 13–16 years old).

Some groups of young people are more at risk of injury than others: Indigenous young people, those living in remote areas and those living in socioeconomically disadvantaged areas (NPHP 2004).

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### Assessment of Useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: High
  3. Availability in NSW data: High
    - Australian Bureau of Statistics (ABS): 4324.0.55.001 - National Health Survey: 2004-05, 2007-08, 2011-12, 2014-15
    - HILDA: Life events in past year: serious personal injury/illness
-

## 2. Chronic conditions

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### Measurement Options

- Prevalence of long-term conditions among young people aged 12–24 years old
  - Proportion of young people aged 12–24 years old with asthma as a long-term condition
  - Incidence of diabetes among young people aged 15–24 years old
  - Incidence of cancer per 100,000 young people aged 12–24 years old
- 

### NSW Domain

Health

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### Domain in other frameworks

- Health status and wellbeing (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Depending on indicator, point in time or assessed over a longer period, like a year

---

### Unit of analysis

Individual level

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Chronic conditions such as asthma can place considerable restrictions on a youth's physical, social and emotional lives, and on their families (GINA 2005) and lead to a lower quality of life than their healthy peers (Varni et al. 2007).

Edward (2013) finds that chronic conditions have a negative impact on wellbeing and can cause mental illness but this can be reduced by self-management and self-righting capabilities.

---

**Sensitivity** (*degree to which measures can distinguish between different states of wellbeing*)

Chronic condition seems to have a good correlation with wellbeing especially because socioeconomically disadvantaged Australians generally experience poorer levels of health. However, optimism, an active or adaptable coping style and the ability to elicit social support could reduce the impact (Edward, 2013)

---

**Relevance** (*relevance across the life cycle {Q2 -FACS} and relevance across specific population of interest {Q3 - FACS}*)

- The literature above indicates that it is relevant across the lifecycle
  - Relevant across specific population of interest (youth)
- 

### Assessment of Useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: High
    - Australian Bureau of Statistics (ABS):
    - 4324.0.55.001 — Microdata: Australian Health Survey, National Health Survey
    - AIHW: 2004–05, 2007–08, 2011–12, 2014–15
    - Australian Institute of Health and Welfare's (AIHW) National Hospital Morbidity Database
    - In HILDA:
      - Which long term health conditions—shortness of breath, CPQ, LHESBDB or difficulty breathing
      - RP CPQ LHECRP Which long term health conditions—chronic or recurring pain
-

### 3. Communicable diseases

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#### Measurement options

- Incidence of vaccine-preventable diseases among young people aged 12–24 years old
  - Hepatitis A, B, and C notification rates for young people aged 12–24 years old
  - HIV infection notification rate for young people aged 12–24 years old
  - Incidence of notifiable sexually transmissible infections among young people aged 12–24 years old
- 

#### NSW Domain

Health

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#### Domain in other frameworks

- Health status and wellbeing (AIHW Young Australians: their health and wellbeing 2011)
- 

#### Indicator type

Objective

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#### Time frame

Depending on indicator, usually point in time but can be measured as incidents over a period of time

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#### Unit of analysis

Individual level

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Miller et al (2012) stated that much of the negative social impact of chronic infection was due to the association of infection with perceived discrimination. Perceptions of stigma had direct negative impacts on wellbeing and social functioning.

Hutton et al (2013) found 'felt' stigma in the form of unsupportive social interactions continues to exert a negative impact on subjective wellbeing.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant across the whole life cycle
  - Relevant across specific population of interest
  - Although relatively low among young people in Australia, it is high for Aboriginal and Torres Strait Islander young people (depends on society perception).
- 

#### Assessment of useability: Medium

This was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data (including administrative data) Medium
    - The National Notifiable Diseases Surveillance System (NNDSS)
-

## 4. Oral health

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### Measurement Options

- Proportion of young people aged 12 and 15 years old and decay-free
  - Mean number of decayed, missing or filled teeth (DMFT) at 12 and 15 years old
  - Dentist to population ratio
- 

### NSW Domain

Health

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### Domain in other frameworks

- Health status and wellbeing (AIHW Young Australians: their health and wellbeing 2011)
  - Health Service Access (Youth Social Exclusion)
- 

### Indicator type

Objective

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### Time frame

Depending on indicator, but usually point in time

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### Unit of analysis

Individual level

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

High

Good oral health and hygiene positively affect the physical, social and psychological wellbeing of young people (AIHW 2005).

Studies also show that poor oral health may be associated with an increased incidence of chronic disease later in life such as obesity, heart disease, cancer, stroke, diabetes, chronic pulmonary obstructive disease and mental illness, due to shared risk conditions (Petersen 2003; Watt 2005).

Pahel et al (2007) argue that dental disease and treatment experience can negatively affect the oral health related quality of life (OHRQL) but currently no valid and reliable instrument is available to measure these negative influences in children. Respondents reported more impacts of these problems on the child compared to the parents or families.

Aboriginal and Torres Strait Islander adolescents and those living outside major cities and in the most socioeconomically disadvantaged areas suffer from poorer oral health than the rest of the population. (Kruger et al. 2005; Roberts-Thomson et al. 2008). However, some parts of Australia do not have fluoride in the public water supply, which may result in higher dental decay in these areas.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

There is an indication that the correlation is strong especially for youth but there is still a lack of study in this field

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**Relevance:** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant across the life cycle
  - Relevant across specific population of interest but difficult to test in young children
-

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### Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
  2. Reliability: High
  3. Availability in NSW data: High
    - Child Dental Health Survey, conducted by the Australian Institute of Health and Welfare's Dental Statistics Research Unit.
    - The ABS Census of Population and Housing, five yearly for data on dentists in an area
-

## 5. Overweight and obesity

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### Measurement Options

- Proportion of young people who are overweight or obese
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### NSW Domain

Health

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### Domain in other frameworks

- Factors influencing health (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Point in time

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### Unit of analysis

Individual level

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

In the short term, overweight and obesity affects the psychological wellbeing of young people, and increases the risk of developing cardiovascular conditions, asthma and Type 2 diabetes. (Lobstien et al., 2004; Reilly, 2005).

Bullying and teasing directed towards obese children and adolescents can also contribute to poor body image and low self-esteem, and may have a major effect on future psychological and social wellbeing (Royal College of Physicians of London, 2004).

Stewart-Knox et al. (2012) found that BMI among the British was explained by having spent less time in education, having reported illness related events, frequent alcohol consumption and lack of physical activity.

Tiffin et al (2011) argued a number of studies have reported significant associations between obesity and poor psychological wellbeing in children but findings have been inconsistent.

In this large and nationally representative cohort there was evidence of a threshold effect of obesity on reported mental wellbeing in children. The impact of obesity on psychological health was largely independent of reported physical activity levels.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Medium correlation with wellbeing. It is prominent but not robust especially given social, economic and geographical disadvantage is associated with an increased risk of overweight and obesity.

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant across the life cycle
  - Relevant across specific population of interest
-

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### Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: High
    - Australian Bureau of Statistics (ABS):
      - 4324.0.55.001 — Microdata: Australian Health Survey, National Health Survey
      - HILDA:
        - RP DV LBMI DV: [SCQ] Body Mass Index
        - RP DV LBMHT DV: [SCQ] Height in centimetres
        - RP DV LBMWT DV: [SCQ] Weight in kilograms
-

## 6. Nutrition

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### Measurement Options

- Proportion of young people aged 12–24 years old meeting Australian Dietary Guidelines
- 

### NSW Domain

Health

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### Domains in other frameworks

- Factors influencing health (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Point in time

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### Unit of analysis

Individual level

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

The development of healthy eating habits is particularly important during childhood and adolescence as these habits are likely to persist across the lifespan. In adolescence the body experiences rapid growth, resulting in significant changes in body mass and height.

McNaughton et al (2012) stated that nutrition and physical activity are major determinants of health and disease. Promoting physical activity and a healthy diet has the potential to substantially reduce the burden of disease and improve quality of life.

In remote areas, lengthy transportation processes increase the cost of fresh nutritious foods. Limited availability, limited household storage and food preparation capacity, can also contribute to poor nutrition choices (Brimblecombe and O'Dea 2009).

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator.

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- It is relevant but especially on children and older people
  - Relevant across specific population of interest
- 

### Assessment of useability: Medium

This was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: High
    - Australian Bureau of Statistics' (ABS) National Health Survey to report on the number of serves of fruit and vegetables consumed by young people
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## 7. Sun protection

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### Measurement Options

Proportion of young people aged 12–24 years old using sun protection

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### NSW Domain

Health

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### Domains in other frameworks

- Factors influencing health (AIHW Young Australians: their health and wellbeing 2011)
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### Indicator type

Objective

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### Time frame

Point in time

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### Unit of analysis

Individual level

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Sun exposure during childhood and adolescence is considered to be the most significant risk factor for developing skin cancer. Australia has the highest rate of skin cancer in the world (AIHW 2007b).

Grant et al. (2009) found that life satisfaction was positively associated with sunscreen use. These effects were significant in Western Europe and USA and in Central and Eastern Europe, but not in the Pacific Asian region.

According to the 2006–07 National Sun Protection Survey there was little evidence for any significant variation in sun protective behaviours by adolescents' socioeconomic status (Dobbinson et al. 2008).

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator. There is limited national information on the use of sun protection behaviours for subpopulations of young people in Australia.

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- It is relevant but especially for children and young adults
  - Relevant across specific population of interest
- 

### Assessment of useability: Medium

This was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: Medium
    - The Cancer Council of Australia's 2006–07 National Sun Protection Survey
-

## 8. Substance use

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### Measurement Options

- Reported rate for substance use disorders for young people aged 16–24 years old
  - Proportion of young people aged 12–24 years old who are daily smokers
  - Proportion of young people aged 12–24 years old who drink at risky or high-risk levels in the short or long term
  - Proportion of young people aged 12–24 years old who had used an illicit drug within the last 12 months.
- 

### NSW Domain

Health

---

### Domains in other frameworks

- Factors influencing health (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

---

### Time frame

Depends on indicator, can be point in time or over a period, like a year

---

### Unit of analysis

Individual level

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

High

In the short term, substance use may result in hospitalisations due to acute intoxication and related injuries, dependence, withdrawal symptoms, psychotic disorders and amnesia. In the long term, alcohol and other drug use can lead to depression, infections with blood borne diseases, damage to the liver, heart and brain, and increased risk of cancers and other serious health conditions (Bruner & Fishman 1998; Moran et al. 2006).

Slade et al (2009) found that, on average, people with a substance use disorder experienced three days at a time out of role.

Those living in remote areas and areas of socioeconomic disadvantage experience higher rates of substance use (AIHW 2010b, 2011c).

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator (often occurred together with other disorders)

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

High

- It is relevant across the life cycle but is usually unrecorded for children
  - Relevant across specific population of interest
  - Substance use data for Indigenous young people are not available for all young people aged 12–24 years old, with smoking data only available for 15–24-year-olds and alcohol use for 18–24-year-olds. For illicit substance use, while data are available for Indigenous young people, no comparable data are available for other young Australians.
-

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### Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: High
  3. Availability in NSW data: High
    - Australian Bureau of Statistics' (ABS) 1997 and 2007 National Survey of Mental Health and Wellbeing
-

## 9. Sexual and reproductive health

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### Measurement Options

- Proportion of young people in Year 10 and Year 12 who have had sexual intercourse
  - Age-specific birth rate for 15–19-year-old women
  - Teenage pregnancies: proportion of females aged 15–19 years old with at least one child ever born
- 

### NSW Domain

Health

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### Domains in other frameworks

- Factors influencing health (AIHW Young Australians: their health and wellbeing 2011)
  - Caring responsibilities (Youth Social Exclusion)
- 

### Indicator type

Objective

---

### Time frame

Depending on indicator, point in time or measured over a period

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### Unit of analysis

Individual level

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

High

Sexual and reproductive behaviour during adolescence can have far-reaching consequences in later life (WHO 2005).

Johns et al. (2013) found that homosexuality could affect psychosocial markers of wellbeing (i.e., depressive symptoms, anxiety, self-esteem, and social support) more than heterosexual youth; however, it remains unclear whether these health disparities exclusively affect individuals who adopt a sexual minority identity or if they are also present among heterosexually-identified youth who report same-sex attractions.

McMahon et al. (2011) found that an older maternal age at first birth also appear to have some psychological advantages, with older mothers being more resilient and reporting lower symptoms of depression and anxiety during pregnancy.

Adolescent pregnancy and STIs may disproportionately affect young people who are socioeconomically disadvantaged and those from different cultural backgrounds. (Kang et al. 2007). Research suggests that limited access to family planning information and services may contribute to relatively high numbers of teenage births in rural communities (Pursche 2007).

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Mostly for adolescence (end of school age)
  - Relevant across specific population of interest
-

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### Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
  2. Reliability: High
  3. Availability in NSW data: High
    - The 2008 National Survey of Australian Secondary Students and Sexual Health
    - Australian Institute of Health and Welfare's National Perinatal Data Collection
    - ABS Census Population and Housing
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## 10. Parental health and disability

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### Measurement options

- Proportion of parents rating their health as 'fair' or 'poor'
  - Proportion of young people aged 15–24 years old living with a parent with disability
  - Proportion of youth aged 15–19 old living in households where someone needs assistance with core activities
- 

### NSW Domain

Health

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### Domains in other frameworks

- Family and community factors (AIHW Young Australians: their health and wellbeing 2011)
  - Caring responsibilities (Youth Social Exclusion)
- 

### Indicator type

Objective

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### Time frame

Point in time

---

### Unit of analysis

Individual

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Parents with a disability or a chronic health condition may pay less attention to the needs of a young person in the same household or may be unable to provide the young person with sufficient physical, emotional or economic support. Studies have shown that children whose parents have a mental illness are more likely to experience learning disabilities and perform poorly academically, and are susceptible to substance abuse (Kowalenko et al. 2000; Lancaster 1999).

The ability of young people to cope in these circumstances varies with their age, gender, developmental stage, personality, severity of their parent's health condition and the support they receive from other family members (Steck et al. 2005).

The prevalence of chronic disease and disability are higher among some subpopulations in Australia, especially Aboriginal and Torres Strait Islander people, and those living in remote and socioeconomically disadvantaged areas (AIHW 2010b).

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information but note that the ability of young people to cope in these circumstances varies

---

**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant mostly for children
  - Relevant across specific population of interest
- 

### Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
  2. Reliability: Medium
  3. Availability in NSW data: High
    - The Household, Income and Labour Dynamics in Australia (HILDA) Survey includes information on people's self-assessed health status as well as their parental status
    - The Australian Bureau of Statistics' (ABS) Survey of Disability, Ageing and Carers (SDAC) collects information on young people aged 15 years old and over living with parents with disability.
    - The Australian Bureau of Statistics' (ABS) Census Population and Housing
-

## 11. Environmental tobacco smoke

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### Measurement Options

- Proportion of households with a young person aged 12–17 years old where a household member smoked inside the home
- 

### NSW Domain

Health

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### Domains in other frameworks

- Family and community factors (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Point in time

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### Unit of analysis

Household

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

High

Tobacco smoke contains numerous toxic and cancer-causing chemicals that increase the risk of adverse health outcomes for adolescents, including onset and increased severity of asthma, respiratory infections and symptoms, increased risk of cardiovascular disease, slowed lung growth, and decreased lung function (CDC 2007; WHO 2007b).

Most of the work in this area links environmental tobacco smoke (ETS) to child health. However, Chen et al. (2013) found that participants exposed to ETS had a significantly increased risk of severe syndromes. This was dose-dependently related to exposure level and duration.

Some groups within the population are more likely to smoke than others (AIHW 2010b). In lower socioeconomic groups, there is more social acceptance of smoking and a pro-smoking context can mean that smokers are less likely to succeed in quitting (Paul et al. 2010).

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Evidence from the literature shows that the correlation is relatively strong

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant across the life cycle but mostly children
  - Relevant across specific population of interest
- 

### Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: High
  3. Availability in NSW data: High
    - Australian Bureau of Statistics'- National Health Survey 4364.0.55.001
-

## 12. Potentially preventable hospitalisations

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### Measurement Options

Potentially preventable hospitalisation rate for young people aged 12–24 years old

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### NSW Domain

Health

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### Domain in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Usually assessed over a period, for example, a year

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### Unit of analysis

Individual

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Potentially preventable hospitalisations serve as an indicator of the availability and effectiveness of ambulatory care services. Greater access to ambulatory care has been shown to be associated with lower rates of mortality and morbidity while allowing more efficient use of the resources allocated to health care (Bodenheimer & Fernandez 2005).

Mohanty et al (2016) show positive associations between rates of both of the negative health outcomes: potentially preventable hospitalisations (PPH) and avoidable deaths, and the overall risk of child social exclusion as well as with the index domains. This analysis at the small-area level can be used to identify and study areas with unexpectedly good or bad health outcomes relative to their estimated risk of child social exclusion.

Availability, affordability and cultural barriers may result in some groups of the population being unable to access appropriate ambulatory care services.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information to assess sensitivity in the literature

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for all life cycle
  - Relevant across specific population of interest
- 

### Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: High
    - The Australian Institute of Health and Welfare's National Hospital Morbidity Database
    - Australian hospital statistics 2008–09 (AIHW 2010c. Australian hospital statistics, 2008–09. Cat. No. HSE 84. Canberra: AIHW.)
-

### 13. Survival for melanoma of the skin

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#### Measurement Options

- Five-year relative survival rate for melanoma of the skin for young people aged 12–24 years old
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#### NSW Domain

Health

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#### Domains in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
- 

#### Indicator type

Objective

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#### Time frame

Survival rates are assessed over a period of years

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#### Unit of analysis

Individual

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Hamama-Raz et al.'s (2007) study of 300 melanoma survivors examines the relative contributions of objective illness related factors (stage of illness at diagnosis, time since diagnosis, and change in physical condition) and of subjective factors (cognitive appraisal) to their psychological adjustment. The findings show a low appraisal of the situation as a threat, a higher appraisal of it as a challenge, and a high appraisal of their subjective ability to cope with it all increased their wellbeing. A lower threat appraisal and higher appraisal of subjective ability to cope also reduced their distress.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator.

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for all life cycle
- 

#### Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: High
    - Australian Cancer Database
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## 14. Cervical cancer

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### Measurement Options

- Cervical screening rates among women aged 20–24 years old
  - Cervical cancer vaccination rates among women aged 12–24 years old
- 

### NSW Domain

Health

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### Domains in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Point in time, or assessed over a period of time to increase representation

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### Unit of analysis

Individuals

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Vistad et al (2006) found that while several aspects of physical and psychosocial well-being varied considerably, they were quite consistent in areas concerning sexuality. One robust study investigating general health compared different groups of cervical cancer survivors receiving surgery, and found that general well-being did not differ between the groups. Two of the minor studies found no differences between various gynaecologic cancers concerning physical well-being, while one study found physical well-being to be better in cervical cancer survivors than in survivors of ovarian cancer.

Differences in cervical cancer screening rates among subpopulations may be the result of a range of factors such as physical access to screening facilities, poor transport, lack of child care, difficulty getting time off work, and poor education or knowledge about the screening process and its benefits (Australian Indigenous Health Info Net, 2003). Cervical cancer vaccination data are not available by Indigenous status or remoteness.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess sensitivity of the indicator

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for the whole life cycle
- 

### Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: High
    - ABS National Health Survey
-

## 15. Appropriate use of antibiotics

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### Measurement Options

- Proportion of upper respiratory tract infections managed for which oral antibiotics were prescribed
- 

### NSW Domain

Health

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### Domain in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

---

### Time frame

Assessed over time, e.g., over a year

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### Unit of analysis

Individual

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Low

Overuse of antibiotics increases antibiotic resistance, which is a significant problem worldwide. A decline in the prescribing rate of antibiotics for upper respiratory tract infections (URTI) may be an indication of more appropriate management of viral infections (NHPC 2004).

The use of antibiotics in treating URIs may be affected by peer norms, local medical culture and supply mechanisms (Wutzke et al. 2007). All these factors are likely to vary among some population groups across Australia. The BEACH survey of general practice only covers a very small sample of consultations involving Indigenous patients or patients in Remote and Very remote areas.

---

**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess sensitivity

---

**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for all lifecycle
  - Relevant across population of interest but lack data for Indigenous people
- 

### Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Low
  3. Availability in NSW data: High
    - ABS National Health Survey
-

## 16. Delivery by caesarean section

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### Measurement Options

- Caesarean sections as a proportion of all deliveries for young women aged 15–24 years who gave birth
- 

### NSW Domain

Health

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### Domains in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

---

### Time frame

Usually assessed over a year

---

### Unit of analysis

Individuals (Women)

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Medically necessary caesareans offer better outcomes for both the mother and her unborn baby; however, there are also risks associated with the procedure, mainly associated with future pregnancies. Various studies have shown a higher likelihood of complications in future pregnancies if the mother has had a previous caesarean section (Getahun et al. 2006; Taylor et al. 2006)

In women of all ages, caesarean sections are less common in the Indigenous population than in the non-Indigenous population (24% and 31% respectively) (AIHW 2010b). Caesarean sections are more likely to be carried out in private hospitals than in public hospitals, suggesting that the caesarean rate should be higher in the highest socioeconomic areas (ABS 2006e). Among 15–24-year-old women, however, the rate of caesarean section does not differ by socioeconomic status.

Rowlands and Redshaw (2012) found that women who had forceps-assisted vaginal births and unplanned caesarean section births reported the poorest health and wellbeing, while women who had unassisted vaginal births and planned caesarean section births were less affected by the birth process. Most women's physical and emotional health appeared to improve with time, however, those who had a forceps-assisted vaginal birth were more likely to report ongoing post-traumatic type symptoms several months after the birth.

---

**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for whole life cycle
- 

### Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data (including administrative data) High
    - The Australian Institute of Health and Welfare's National Perinatal Data Collection
-

## 17. General practice consultations

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### Measurement Options

Rate of general practice encounters for young people aged 12–24 years old

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### NSW Domain

Health

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### Domains in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
  - Health Service Access (Youth Social Exclusion)
- 

### Indicator type

Objective

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### Time frame

Assessed over a time period, e.g., a month or a year

---

### Unit of analysis

Individual

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

During adolescence, many young people establish contact with health services independently of their parents. The major health issues faced by young people include injuries, sexual and mental health problems, and substance abuse. These problems and behavioural factors are possible predictors of ill health in adult life, and are partly preventable or may be treated (Hetlevik et al. 2010).

Potiriadis et al (2008) through multivariable mixed effects linear regression showed that patients who were older, rated their health more highly, visited their GP more frequently and saw the same GP each time tended to express greater satisfaction with their care. Structural barriers, especially the cost and transport involved, can have a considerable impact on the accessibility of general practice services. As a result, Aboriginal and Torres Strait Islander people and those living in remote and socioeconomically disadvantaged areas may have more limited access to general practice services than the general population.

Huang et al (2006) found that foreign-born noncitizens were 40% and 80% more likely to have not visited a doctor or dentist in the previous year and twice as likely to lack a usual source of care. They found that, overall, children from immigrant families were in worse physical health than children from non-immigrant families and used health care services at a significantly lower frequency

---

**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Relatively strong correlation

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for whole life cycle
- 

### Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
  2. Reliability: Medium
  3. Availability in NSW data (including administrative data) High
    - The Medicare Benefit Schedule claims data
    - The Bettering the Evaluation and Care of Health (BEACH) survey of general practice
-

## 18. Emergency department waiting times

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### Measurement Options

- Proportion of patients aged 12–24 years old who are treated within national benchmarks for waiting times across triage categories in public hospital emergency departments
- 

### NSW Domain

Health

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### Domains in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Usually assessed over a time period, for example, a year

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### Unit of analysis

Individuals

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

The injuries that necessitate attending hospital emergency departments for treatment can affect a young person's employment, education and recreation, and can lead to permanent disability and disfigurement, which can then affect their future health and wellbeing (NPHP 2004).

Muntlin et al (2006) found that waiting time is a key factor in patient satisfaction in emergency departments. Studies have shown that, if patients are being informed about the waiting time, they are more satisfied.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator.

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**Relevance** (*Relevance across the life cycle {Q2 – FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for all life cycle
- 

### Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: High
    - Australian Institute of Health and Welfare's Non-Admitted Patient Emergency Department Care Database
-

## 19. Adverse events treated in hospital

---

### Measurement Options

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

### NSW Domain

Health

---

### Domains in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Usually assessed over a period of time, for example a year

---

### Unit of analysis

Person count aggregated to National or States/Territories level

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Low

While most adverse events do not result in death or permanent disability, about 2% of hospital separations have been estimated to be associated with serious adverse events causing major disability (1.7%) or death (0.3%) (Runciman et al. 2000). Further, adverse events that lead to permanent disability or death were more likely to be caused by negligence, compared with less serious adverse events (Brennan et al. 2004).

According to the available data, the number of hospital separations associated with an adverse event for young people does not appear to vary greatly across population groups.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for all life cycle
- 

### Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Low
  3. Availability in NSW data: High
    - Australian Institute of Health and Welfare's National Hospital Morbidity Database
-

## 20. Family functioning

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### Measurement Options

- Not clear
- 

### NSW Domain

Social & Community

---

### Domains in other frameworks

- Family and community factors
- 

### Indicator type

Subjective

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### Time frame

None

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### Unit of analysis

None

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Living in strong, stable families has many benefits for young people, including having positive role models for building relationships, being more able to cope with change and stressful events, and having better self-esteem (Geggie et al. 2000; Shek 2002).

In addition, good family relationships and communication have been shown to positively influence adolescent sociability and academic achievement (Fleming et al. 2010; Ghazarian & Buehler 2010; Henderson et al. 2006; Li-Nang 1999).

Strazdins et al (2006) found associations between nonstandard work schedules and children's emotional and behavioral difficulties, which were partially mediated by poorer family functioning, parent depressive symptoms, more hostile and ineffective parenting, depressive symptoms, family functioning, and parenting were measured by the mother's report in most instances, so this analysis could not capture the influence of father's work times on the mediating variables.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Association found but mediated by other factors

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for all but mostly children
- 

### Assessment of useability: Medium<sup>1</sup>

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: Medium
  3. Availability in NSW data: Low
- 

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<sup>1</sup> Limited data available.

# Domain: Safety

## 21. School relationships and bullying

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### Measurement Options

- Not clear
- 

### NSW Domain

Safety

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### Domains in other frameworks

- Family and community factors
- 

### Indicator type

Subjective

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### Time frame

None

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### Unit of analysis

None

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

High

School bullying has been shown to adversely affect the social, emotional, educational and physical wellbeing of young people. (Lodge 2008; Skues et al. 2005; Spector & Kelly 2006).

Wolke and Skew (2012) assessed that bullying victims and those involved in both relational and direct aggression have been found to most likely exhibit anxiety and depression or psychotic symptoms, with increasing evidence for a dose-response relationship. Longitudinal studies support these findings, with victims of bullying in primary school more often suffering internalising and externalising problems, and more likely to have a psychiatric diagnoses years later.

---

**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Strong association found through longitudinal studies especially with the level of unhappiness

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for all but mostly for children
- 

### Assessment of useability: Medium<sup>2</sup>

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: High
  3. Availability in NSW data: Low
- 

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<sup>2</sup> Limited data available.

## 22. Child protection

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### Measurement Options

- Rate of young people aged 12–17 years old who were the subject of a substantiation of a child protection notification received in any given year
  - Rate of young people aged 12–17 years old who are the subject of care and protection orders
- 

### NSW Domain

Safety

---

### Domain in other frameworks

- Family and community factors (AIHW Young Australians: their health and wellbeing 2011)
- 

### Indicator type

Objective

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### Time frame

Assessed over a period of time, for example a year

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### Unit of analysis

Individual (children)

---

**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

High

There is a demonstrated relationship between the health and wellbeing of young people and the environment in which they grow up. Young people who are raised in supportive, nurturing environments are more likely to have better social, educational, behavioural and health outcomes (McCain & Mustard 2002; Stanley et al. 2003).

Young abuse and neglect victims may experience reduced social skills, poor school performance, impaired language ability, a higher likelihood of criminal offending, and mental health issues such as eating disorders, substance abuse and depression (Chartier et al. 2007; Gupta 2008; Zolotor et al. 1999).

Higgins and Katz (2008) found that protecting the children is of particular importance in Indigenous communities, because of the over-representation of Indigenous children in child protection activity, and because of the potential for community-owned and community-led initiatives to support the health, wellbeing and safety of Indigenous children in culturally safe ways.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess the sensitivity of the indicator

---

**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevant for children
- 

### Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
  2. Reliability: High
  3. Availability in NSW data: High
    - The Australian Institute of Health and Welfare's National Child Protection Data Collection<sup>3</sup>
- 

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<sup>3</sup> With the note: the difficulties in defining measures and collecting data. Available data relate only to situations where children have come to the attention of child protection authorities.

# Domain: Economic, education and skills

## 23. Parental socioeconomic status

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### Measurement Options

- Proportion of young people aged 12–24 years old whose parents did not complete secondary school (Year 10 or above)
  - Proportion of young people aged 12–24 years old living in jobless families
  - Proportion of youth aged 15–19 years old in families where no parent is working
- 

### NSW Domain

Economic, Education and Skills

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### Domains in other frameworks

- Socioeconomic factors (AIHW Young Australians: their health and wellbeing 2011)
  - Socio-economic background (Youth Social Exclusion)
- 

### Indicator type

Objective

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### Time frame

Point in time

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### Unit of analysis

Individuals

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**Reliability** (*self-reporting or not, statistical evidence as predictor of wellbeing, validated against other indicators, etc.*)

Medium

Parental employment has significant effects on young people, particularly the financial wellbeing of the family. Parental employment increases the economic resources available to families and protects against social exclusion and inter-generational disadvantage, as well as providing a positive role model for young people in terms of work ethics and social responsibility (AIHW 2009c).

Conger et al (2010) found that a mediated pathway was crucial for gaining additional understanding of how family income or wealth conveys developmental advantage across the life course.

Aboriginal and Torres Strait Islander people, and those living in rural and remote areas, and in socioeconomically disadvantaged areas, often have poorer access to higher education and employment opportunities. This may place young people at greater risk of growing up in households with low levels of parental education and parental joblessness, and hence at risk of social exclusion.

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**Sensitivity** (*degree to which measures are able to distinguish between different states of well-being*)

Not enough information in the literature to assess sensitivity of the indicator.

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**Relevance** (*Relevance across the life cycle {Q2 –FACS} and relevance across specific population of interest {Q3 – FACS}*)

- Relevance for children and adolescents
-

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### Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
  2. Reliability: Medium
  3. Availability in NSW data: High
    - ABS Survey of Income and Housing
    - ABS General Social Survey
    - The Household, Income and Labour Dynamics in Australia (HILDA) Survey
-