

# How are we going to close the gap? Key drivers

There are a broad range of inter-related factors which need to be addressed to close the gap in child mortality:

- [Health outcomes](#)
- [Determinants of health](#)
- [Health system performance](#)

## Health outcomes

*Disclaimer*

The mortality data in this analysis is based on the period 2002-2006. These statistics will be updated as new data becomes available for long term trend analysis.

### Child mortality

Aboriginal and Torres Strait Islander children aged 0-4 years die at 3 times the rate of non-Indigenous children – a gap of approximately 200 deaths per 100,000 live births (305 deaths per 100,000 compared with 102 per 100,000 in 2002–2006). There were 551 Indigenous child deaths during 2002–2006 representing 19% of total deaths of children aged 0-4 years.<sup>2</sup> To halve the gap in child mortality rates in 10 years we need approximately 40 less Indigenous child deaths over this period – around 4 less Indigenous child deaths per year.

### Causes of death (children 0-4 years)

- The most common causes of death among Indigenous children were:
- Conditions originating in the perinatal period (40%) – 3 times the rate of non-Indigenous children
  - Symptoms, signs and ill-defined conditions, including SIDS (20%) – almost 6 times the rate of non-Indigenous children
  - Congenital malformations (11%) – twice the rate of non-Indigenous children
  - Injury and poisoning (11%) – 3 times the rate of non-Indigenous children.

See [Table 1](#) for a breakdown of causes of death.

### Infant mortality

Infant mortality is a key driver of child mortality – contributing to 83% of the Indigenous child mortality rate. The mortality rate for Indigenous infants was 3 times the rate of non-Indigenous infants (12.3 per 1,000 live births compared with 4.2 per 1,000 live births in 2002-2006).

<sup>2</sup> Data are for the jurisdictions assessed to have adequate levels of Indigenous identification in mortality data: Queensland, Western Australia, South Australia and Northern Territory combined.

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During the period 2002–2006, there were 2,408 deaths of infants, 455 (19%) of which were deaths of Aboriginal and Torres Strait Islander infants and 62 deaths (3%) were of infants for whom Indigenous status was not stated.<sup>3</sup>

***Causes of death (children under 1 year)***

The most common causes of death for Indigenous infants were:

- Conditions originating in the perinatal period (46%) such as birth trauma, disorders related to fetal growth, complications of pregnancy, labour and delivery, and respiratory and cardiovascular disorders specific to the perinatal period – 3 times the rate of non-Indigenous infants
- Signs, symptoms and ill-defined symptoms, including SIDS (22%) – 6 times the rate of non-Indigenous infants
- Congenital malformations (12%).

See [Table 2](#) for a breakdown of causes of death.

For more information, see [HPF 1.19 Infant mortality](#)

***Causes of death (children 1-4 years)***

Over the periods 1991–1996 and 1997–2006, the most common causes of death among Indigenous children in the 1-4 year age group were external causes (43%) followed by diseases of the nervous system (13%). Another group of causes with similar rankings include infectious and parasitic diseases (9%); congenital abnormalities (9%); symptoms, signs and abnormal findings including SIDS (7%); circulatory system (7%) and cancer (6%). Note the numbers are small and rankings of causes could differ from year to year.

See [Table 3](#) for a further breakdown of causes of death.

For more information, see [HPF 1.19 Infant mortality](#)

**Low birth weight**

Babies of Indigenous mothers during 2003–2005 are twice as likely to be of low birth weight (weigh less than 2500g) as babies born to non-Indigenous mothers (13% compared to 6%). From 1991–2005, the low birth weight rate increased by 16% for babies born to Aboriginal and Torres Strait Islander mothers and the gap is widening.

Low birth weight babies are at a greater risk of dying during the first year of life and are prone to ill health during childhood.

<sup>3</sup> Data are for the jurisdictions which are assessed to have adequate levels of Indigenous identification in mortality data: Queensland, Western Australia, South Australia and Northern Territory combined.

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Risk factors both before and during pregnancy include socio-economic disadvantage; the height, weight and age of the mother; the number of babies previously born to the mother; the mother's [nutritional status](#); [smoking](#) and other risk behaviours; illness during pregnancy; multiple births and the duration of pregnancy. Pre-term delivery is a major contributor to excess low birth weight and is more common for babies born to Aboriginal and Torres Strait Islander mothers than for non-Indigenous mothers (68% compared with 61%).

For more information, see [HPF 1.01 Low birth weight](#)

**High birth weight**

High birth weight babies are babies born weighing 4,000 grams or more. High birth weight is linked with diabetes and will therefore be important to monitor for Indigenous Australians. In 2003–2005, the proportion of high birth weight babies born to Indigenous mothers in Australia (excluding Tasmania) was 8% compared with 12% of babies born to non-Indigenous mothers.

**Determinants of health**

**Breastfeeding**

Breastfeeding promotes the survival, growth and development of infants and young children providing protection against conditions which contribute to child mortality. Breastfeeding provides protection against the most common causes of death in infants and children under two; gastrointestinal and respiratory infections, as well as SIDS, which is among the main causes of mortality for Indigenous infants.

A lower proportion of Indigenous children than non-Indigenous children aged 0-3 years had ever been breastfed (76% compared to 88%).<sup>ii</sup>

For more information, see [HPF 2.24 Breastfeeding practices](#)

**Nutrition**

Good nutrition is critical before and during pregnancy as low pre-pregnancy weight and low gestational weight gain are among the most important factors known to reduce fetal growth. Almost half (49%) of Indigenous children aged 0-3 had birth mothers who took folate prior or during pregnancy.<sup>iii</sup>

Indigenous Australians were twice as likely to report no usual daily fruit intake and 7 times as likely to report no daily vegetable intake as non-Indigenous Australians. In 2004–05, 24% of Indigenous Australians in non-remote areas reported a low usual daily vegetable intake, up from 18% in 2001. A higher proportion of Indigenous Australians in non-remote areas reported a low usual fruit intake (58% up from 56% in 2001).

For more information, see [HPF 2.23 Dietary behaviour](#).

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## Obesity

Obesity is also associated with pregnancy complications and adverse neonatal outcomes.<sup>iv</sup> Indigenous adults are more likely to be obese than non-Indigenous Australians (34% compared with 18%). Indigenous females are more likely to be obese than Indigenous males (34% compared with 28%) and also more likely to be underweight than Indigenous males (6% compared with 3%).

For more information, see [HPF 2.26 Prevalence overweight and obesity](#).

## Smoking

In 2008, 47% of Indigenous Australians smoked, down from 51% in 2002.<sup>v</sup> This is still twice the non-Indigenous smoking rate. Unlike the non-Indigenous population, the smoking rate is similar across all regions, age groups and males and females including during pregnancy. Aboriginal and Torres Strait Islander mothers smoke at around 3 times the rate of non-Indigenous mothers (52% compared with 16%).

Smoking is a risk factor for adverse events during pregnancy and is associated with poor perinatal outcomes, such as low birth weight, preterm births, fetal growth restriction, congenital anomalies and perinatal death.

Indigenous babies are more likely to be exposed to environmental tobacco smoke and this increases their risk of sudden unexpected death in infancy from conditions such as SIDS<sup>vi</sup>. Approximately 16% of Indigenous children aged 0-3 years and 22.5% aged 4-14 years live in households with a smoker who usually smokes inside the house.<sup>vii</sup>

For more information, see [HPF 2.19 Tobacco smoking during pregnancy](#) and [HPF 2.03 Environmental Tobacco Smoke](#).

## Alcohol

Alcohol during pregnancy is a key risk factor for birth outcomes. Pregnant women who consume alcohol share the same blood alcohol level with their baby. The effects of alcohol on the fetus include:

- Harm to the development of the fetal nervous system, including the brain (destroying developing brain cells or slowing their growth)
- Prevention of the absorption of vitamins, glucose and other nutrients causing under-nourishment of the growing baby
- Narrowing of blood vessels in the placenta, reducing the amount of oxygen and blood supply to the baby.<sup>viii</sup>

In 2004-05, a greater proportion of Indigenous Australians abstained from alcohol consumption in the last 12 months compared with non-Indigenous Australians (29% and 15% respectively). However, those who do drink are more likely to drink at levels that are harmful. Approximately 19% reported drinking at short term risky/high risk levels at least once a week in the previous 12 months – twice the rate of non-Indigenous Australians.

In 2008, 17% of Indigenous Australians aged 15 years and over reported medium to high risky alcohol consumption in the past 12 months while 35% of the Indigenous population had abstained from drinking alcohol.<sup>ix</sup>

Indigenous females died from causes related to alcohol use at 12 times the rate of other females and were hospitalised for diagnoses related to alcohol at 3 times the rate.

For more information, please see [HPF 2.20 Risky and high-risk alcohol consumption](#).

**Socio-economic determinants**

A complex range of interrelated social, economic and community factors contribute to child health outcomes including:

- [Education](#)
- [Employment](#)
- [Income](#)
- [Housing](#)

**Education**

Evidence from population studies show that educational attainment is associated with health outcomes and health behaviours. Maternal education influences health behaviours with higher rates of educational attainment associated with better health literacy – the ability to use a wide range of health-related materials to understand and choose healthy options.<sup>x</sup> A much lower proportion of Indigenous women have completed Year 12 as their highest year of schooling (23%) compared with non-Indigenous women (47%). Aboriginal and Torres Strait Islander peoples also have lower health literacy levels.<sup>xi</sup>

Indigenous Australians whose highest level of schooling was Year 9 or below are twice as likely to smoke as those who had completed Year 12. They are also more likely to drink alcohol at short term risky/high risk levels, be physically inactive and report no usual daily intake of fruit and vegetables.

Education further affects health outcomes through interrelationships with [employment](#) and [income](#).

For further information, see [HPF 2.06 Education participation and attainment of Aboriginal and Torres Strait Islander adults](#), [HPF 2.04 Years 3, 5 and 7 literacy and numeracy](#) and [HPF 2.05 Years 10 and 12 retention and attainment](#).

**Employment**

Employment status affects health and wellbeing. In 2008, the labour force participation rate for Indigenous Australians was lower than for other Australians (65% compared with 77%). The unemployment rate for Indigenous Australians was 17% – over 3 times the rate for other Australians 5%.<sup>xii</sup> In 2004-05, Indigenous Australians in the labour force were more likely to report excellent/very good/good health status than those not in the labour force (64% compared with 36%).

Indigenous children are less likely to have a parent in paid employment than non-Indigenous children (47% of Indigenous families had no parent working compared with 20% of other families).<sup>xiii</sup> A key consequence of unemployment on maternal and child health is low [income](#).

For further information, see [HPF 2.07 Employment status including CDEP participation](#).

**Income**

People from lower socio-economic groups suffer higher rates of ill health and death at younger ages. Higher incomes help make healthy choices viable. In 2006, 40% of Indigenous Australians were in the bottom 20% of mean equivalised household incomes. Median weekly incomes of households with Indigenous children were 67% those of non-Indigenous children.<sup>xiv</sup>

The effect of low income on health is exacerbated by other factors, such as the relatively high costs of nutritious food in remote Indigenous stores. Indigenous Australians in the lowest income quintile were almost twice as likely as those in the highest income quintiles to report no usual daily fruit intake (17% compared with 6%) and no usual daily vegetable intake (8% compared with 0.2%).

Low income is also associated with unhealthy behaviours. The proportion of Indigenous Australians who are current smokers in the lowest income quintile is almost twice as high as those in the highest income quintiles (55% compared with 32%). The proportion of Aboriginal and Torres Strait Islander babies who have never been breastfed is 3 times higher for babies of mothers in the lowest income quintiles than in the two highest quintiles (29% compared with 10%).

For further information, see [HPF 2.08 Income](#).

**Housing**

The conditions in which mothers and children live affect health outcomes. The proportion of Indigenous households which are overcrowded is significantly higher than non-Indigenous households (14% compared with 3%). Overcrowding contributes to inadequate access to facilities, including water, sanitation, sewerage and electricity services which increase the risk of infection and injury. Overcrowding may also increase exposure to passive smoking in the home.<sup>xv</sup>

Problems of housing affordability contribute to health outcomes and are more common for Indigenous Australians than non-Indigenous Australians. Where housing costs, such as rent and mortgage payments, exceed 30% of income they create stress on the household's capacity to meet other basic costs of living including nutritious food.

For further information, see [HPF 2.02 Overcrowding in housing](#), [HPF 2.01 Access to functional housing with utilities](#) and [HPF 2.09 Housing tenure type](#).

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# Health system performance

Child mortality is also associated with the performance of the health system. [The Aboriginal and Torres Strait Islander Health Performance Framework](#) provides information on the accessibility, effectiveness, capability and responsiveness of the health system for Indigenous Australians. This analysis focuses on antenatal care and immunisation. The analysis on chronic disease will provide further information on access to health care and barriers.

## Antenatal care

Antenatal care involves “recording medical history, assessment of individual needs, advice and guidance on pregnancy and delivery, screening tests, education on self-care during pregnancy, identification of conditions detrimental to health during pregnancy, first-line management and referral if necessary.”<sup>xvi</sup> Antenatal care may be especially important for Aboriginal and Torres Strait Islander women, as they are at a higher risk of giving birth to low birth weight babies. Antenatal care can target a range of issues that can affect pregnancy outcomes, such as: poor nutritional status, smoking, anaemia, hypertension, diabetes or glucose intolerance, genital and urinary tract infections. Most guidelines recommend antenatal care to commence during the first trimester as this is when risk factors can best be assessed and addressed.

Around 96% of Aboriginal and Torres Strait Islander mothers accessed antenatal care services at least once during pregnancy compared with 99% of non-Indigenous mothers.<sup>4</sup> There have been significant increases in access to antenatal care between 1998 and 2005 for both Indigenous and non-Indigenous mothers.<sup>5</sup>

However, Indigenous mothers are accessing these services later in pregnancy and less frequently. Indigenous mothers were less likely than non-Indigenous mothers to attend antenatal care during the first trimester (46% compared with 62%); and were more likely to have their first antenatal care visit during the third trimester (28% compared with 11%). Indigenous women were more likely than non-Indigenous women to attend no antenatal care sessions (2.6% compared with 0.2%); and were less likely to attend 5 or more sessions (73% compared with 92%).<sup>6</sup>

Antenatal care positively affects birth outcomes. Indigenous mothers who attended antenatal care were less likely to have low birth weight babies (13%) than those who did not attend (39%). Perinatal deaths were much higher among mothers who attended no antenatal sessions compared with mothers who attended five or more antenatal sessions (13% compared with 0.5%).

For more information, see [HPF 3.01 Antenatal care](#).

<sup>4</sup> Data are for New South Wales, Queensland and South Australia  
<sup>5</sup> Data are for New South Wales and South Australia  
<sup>6</sup> Data are for New South Wales, Queensland, South Australia and Northern Territory combined for 2005.

## **Immunisation**

Immunisation is highly effective in reducing morbidity and mortality caused by vaccine-preventable diseases.

Immunisation rates for Aboriginal and Torres Strait Islander children are high; however, the timeliness of vaccinations remains a key challenge. Vaccination coverage of Indigenous children is lower than non-Indigenous children at 1 year of age (83% compared with 92%). At 2 years of age vaccination rates are similar (91% compared with 93%).

For more information, see [HPF 3.02 Immunisation](#).