

1.19 Perinatal mortality

The number of Aboriginal and Torres Strait Islander babies who die in the perinatal period, expressed as a rate (per 1,000 births)

Data sources

Data for this measure come from the ABS Deaths Registration Database.

The ABS Deaths Registration Database contains details of all deaths registered in Australia including information on fetal (stillbirths) and neonatal deaths (deaths occurring in live births up to 28 days of age), by age of the baby, sex, state/territory of birth, Indigenous status and cause of death (ICD-10).

The National Perinatal Data Collection also contains data on fetal and neonatal deaths, by gender, state/territory of birth and the Indigenous status of the mother, however, it does not collect information on cause of death for all jurisdictions. Work is underway for this collection to include data on obstetric antecedent factors that initiated the sequence of events leading to death based on the Perinatal Society of Australia and New Zealand Perinatal Death Classification for all jurisdictions.

Data from the ABS Deaths Registration Database have been used in this measure as cause of death can be ascertained and neonatal deaths are more comprehensively captured in the Registration Database.

Data are presented by state/territory of usual residence rather than state/territory of death. While identification of Indigenous deaths is incomplete in all state and territory registration systems, four jurisdictions (Queensland since 1998, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. These four jurisdictions represent approximately 60% of the Indigenous population of Australia.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from analysis.

Several years of data have been combined due to the small number of deaths from some conditions each year. Data have been analysed using the year of occurrence of death for all years prior to 2004 and year of registration of death for 2004. This is because mortality data by year of occurrence of death is a more accurate reflection of mortality during a particular year than year of registration data, however, year of occurrence data for 2004 are still incomplete owing to late registrations.

The perinatal mortality rate is defined by the ABS as the number of deaths (fetal deaths and neonatal deaths) of babies of at least 400 grams birthweight or, if birthweight is unavailable, a gestational age of at least 20 weeks, up to 28 completed days after birth per 1,000 live births during a given period. This definition has been used for the purposes of this measure.

Analyses

Mortality

- Over the period 2000–2004, there were 476 deaths of Indigenous perinatal infants and 3,381 deaths of non-Indigenous perinatal infants in Queensland, Western Australia, South Australia and the Northern Territory combined.

Mortality by state/territory

Perinatal mortality rates per 1,000 births among Indigenous and non-Indigenous babies are presented in Table 1.19.1 for Queensland, Western Australia, South Australia and the Northern Territory for the years 1996–1998, 1999–2001, and 2002–2004.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were 295 perinatal deaths of Indigenous babies in 1996–1998, 344 perinatal deaths of Indigenous babies in 1999–2001 and 250 perinatal deaths of Indigenous babies in 2002–2004.
- Over the period 2002–04, the perinatal mortality rate for Indigenous babies in Queensland, Western Australia, South Australia and the Northern Territory combined was 13.4 per 1,000 live births compared to 8.2 for non-Indigenous babies.
- Indigenous perinatal mortality rates ranged from 9.8 per 1,000 live births in Western Australia, to 18.3 per 1,000 live births in the Northern Territory.
- Indigenous babies in the Northern Territory, South Australia and Queensland died in the perinatal period at twice the rate of non-Indigenous babies in these jurisdictions. In Western Australia, Indigenous and non-Indigenous perinatal babies died in the perinatal period at similar rates.
- The majority of perinatal deaths were fetal deaths. Between 2002 and 2004, the fetal death rate was 7.6 per 1,000 live births among Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory compared to 5.5 among non-Indigenous Australians. The neonatal death rate among Indigenous babies for the same period was 5.8 per 1,000 live births compared to 2.7 among non-Indigenous babies.

Table 1.19.1: Fetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, Qld, WA, SA and NT, 1996–1998 to 2002–2004^{(a)(b)(c)(d)(e)(f)}

	1996–1998 ^(g)					1999–2001					2002–2004				
	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)
Fetal deaths															
Qld															
Indigenous	59	6.3	4.7	7.9	1.2	79	8.2	6.4	10.0	1.5*	56	6.6	4.9	8.3	1.2
Non-Indigenous	695	5.2	4.8	5.6		695	5.3	4.9	5.7		662	5.3	4.9	5.7	
WA															
Indigenous	49	10.6	7.6	13.6	2.2*	44	9.2	6.5	11.9	1.7*	25	6.3	3.8	8.8	1.1
Non-Indigenous	347	4.9	4.4	5.4		361	5.3	4.8	5.8		350	5.6	5.0	6.2	
SA															
Indigenous	12	6.8	3.0	10.6	1.3	23	12.6	7.5	17.7	2.5*	13	7.9	3.6	12.2	1.3
Non-Indigenous	291	5.4	4.8	6.0		256	5.1	4.5	5.7		279	5.9	5.2	6.6	
NT															
Indigenous	44	11.2	7.9	14.5	2.4*	46	9.8	7.0	12.6	1.7*	48	10.6	7.6	13.6	2.3*
Non-Indigenous	32	4.7	3.1	6.3		38	5.9	4.0	7.8		29	4.7	3.0	6.4	
Qld, WA, SA & NT^(c)															
Indigenous	164	8.3	7.0	9.6	1.7*	192	9.2	7.9	10.5	1.9*	142	7.6	6.3	8.9	1.5*
Non-Indigenous	1,365	5.2	4.9	5.5		1,350	5.3	5.0	5.6		1,320	5.5	5.2	5.8	

(continued)

Table 1.19.1 (continued): Fetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, Qld, WA, SA and NT, 1996–1998 to 2002–2004^{(a)(b)(c)(d)(e)(f)}

	1996–1998 ^(g)					1999–2001					2002–2004				
	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)
Neonatal deaths															
Qld															
Indigenous	57	6.1	4.5	7.7	1.8*	61	6.4	4.8	8.0	1.9*	50	5.9	4.3	7.5	1.9*
Non-Indigenous	457	3.5	3.2	3.8		432	3.3	3.0	3.6		395	3.2	2.9	3.5	
WA															
Indigenous	28	6.1	3.8	8.4	2.5*	35	7.4	4.9	9.9	3.3*	14	3.5	1.7	5.3	1.6*
Non-Indigenous	175	2.5	2.1	2.9		151	2.2	1.8	2.6		136	2.2	1.8	2.6	
SA															
Indigenous	3	1.7	-0.2	3.6	0.7	8	4.4	1.4	7.4	1.8*	9	5.5	1.9	9.1	2.5*
Non-Indigenous	130	2.4	2.0	2.8		120	2.4	2.0	2.8		103	2.2	1.8	2.6	
NT															
Indigenous	43	11.1	7.8	14.4	3.4*	48	10.4	7.5	13.3	2.4*	35	7.8	5.2	10.4	2.7*
Non-Indigenous	22	3.2	1.9	4.5		27	4.2	2.6	5.8		18	2.9	1.6	4.2	
Qld, WA, SA & NT^(c)															
Indigenous	131	6.7	5.6	7.8	2.4*	152	7.3	6.1	8.5	2.7*	108	5.8	4.7	6.9	2.4*
Non-Indigenous	784	3.0	2.8	3.2		730	2.8	2.6	3.0		652	2.7	2.5	2.9	

(continued)

Table 1.19.1 (continued): Fetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, Qld, WA, SA and NT, 1996–1998 to 2002–2004^{(a)(b)(c)(d)(e)(f)}

	1996–1998 ^(g)					1999–2001					2002–2004				
	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)	No.	Rate per 1,000	LCL 95% ^(h)	UCL 95% ⁽ⁱ⁾	Rate ratio ^(j)
Perinatal deaths															
Qld															
Indigenous	116	12.3	10.1	14.5	1.4*	140	14.5	12.1	16.9	1.7*	106	12.5	10.1	14.9	1.5*
Non-Indigenous	1,152	8.7	8.2	9.2		1,127	8.6	8.1	9.1		1,057	8.4	7.9	8.9	
WA															
Indigenous	77	16.7	13.0	20.4	2.3*	79	16.6	12.9	20.3	2.2*	39	9.8	6.7	12.9	1.2
Non-Indigenous	522	7.4	6.8	8.0		512	7.6	6.9	8.3		486	7.8	7.1	8.5	
SA															
Indigenous	15	8.5	4.2	12.8	1.1	31	16.9	11.0	22.8	2.3*	22	13.4	7.8	19.0	1.7*
Non-Indigenous	421	8.5	7.7	9.3		376	7.5	6.7	8.3		382	8.0	7.2	8.8	
NT															
Indigenous	87	22.2	17.5	26.9	2.8*	94	20.1	16.0	24.2	2.0*	83	18.3	14.4	22.2	2.4*
Non-Indigenous	54	7.9	5.8	10.0		65	10.2	7.7	12.7		47	7.6	5.4	9.8	
Qld, WA, SA & NT^(c)															
Indigenous	295	15.0	13.3	16.7	2.0*	344	16.4	14.7	18.1	2.1*	250	13.4	11.7	15.1	1.8*
Non-Indigenous	2,149	8.1	7.8	8.4		2,080	8.2	7.8	8.6		1,972	8.2	7.8	8.6	

(continued)

Table 1.19.1 (continued): Fetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, Qld, WA, SA and NT, 1996–1998 to 2002–2004^{(a)(b)(c)(d)(e)(f)}

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < .05$ level.

- (a) Shading indicates that the Indigenous identification is likely to be less than 50% complete.
- (b) Data are presented in three-year groupings due to small numbers each year.
- (c) Data are reported for Queensland, Western Australia, South Australia and the Northern Territory. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (d) While most perinatal deaths of Indigenous perinatal babies are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous perinatal mortality rate. There may also be under-identification of Indigenous babies in the denominator and the under-identification may be different for fetal deaths and live births, which would also affect the perinatal mortality rate. The ABS calculated the completeness of identification of Indigenous deaths for the period 1999–2003 using population estimates as 54% for Queensland, 72% for Western Australia, 66% for South Australia and 95% for the Northern Territory. The completeness of Indigenous identification for perinatal deaths may differ from the estimates for 'all causes'.
- (e) Due to changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous perinatal mortality rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous perinatal mortality rates due to these data quality issues.
- (f) Deaths are by year of occurrence of death.
- (g) Queensland data are only reliable from 1998 (National Health Performance Committee 2004).
- (h) LCL = lower confidence limit.
- (i) UCL = upper confidence limit.
- (j) Rate ratio Indigenous:non-Indigenous.

Source: ABS Deaths Registration Database.

Mortality by cause of death

Table 1.19.2 presents perinatal deaths of Indigenous and non-Indigenous babies by cause of death. It should be noted that perinatal cause of death data should be used with caution as the level of identification by cause is unknown and may not be suitable for the calculation of rates.

- Over the period 2000–2004, there were 476 perinatal deaths of Indigenous babies in Queensland, Western Australia, South Australia and the Northern Territory combined.
- Of conditions which originate in the fetus or infant, the most common cause of perinatal death among Indigenous babies was ‘other conditions originating in the perinatal period’ (such as birth trauma) which were reported as an underlying or associated cause of death in 41% of deaths of Indigenous babies. For 23% of Indigenous babies, disorders related to length of gestation and fetal growth was reported as a cause of death.
- Of conditions which originate in the mother, the most common cause of perinatal death among Indigenous babies was the fetus or newborn affected by complications of the placenta, cord and membranes (28%). For approximately 19% of Indigenous babies, the fetus and newborn affected by maternal complications of pregnancy was reported as an underlying or associated cause of death.

Table 1.19.2: Underlying or associated causes of death for perinatal babies, by Indigenous status, Qld, WA, SA and NT, 2000–2004^{(a)(b)(c)(d)(e)(f)(g)(h)}

Cause of death	Total number		Per cent	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Condition in the fetus/infant				
Disorders related to length of gestation and fetal growth (P05–P08)	109	473	22.9	14.0
Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)	58	525	12.2	15.5
Infections specific to the perinatal period (P35–P39)	23	127	4.8	3.8
Other conditions originating in the perinatal period (P10–P15 and P50–P96)	197	1,489	41.4	44.0
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	67	692	14.1	20.5
Other conditions ^(h)	409	2,689	85.9	79.5
Condition in the mother				
Fetus and newborn affected by complications of placenta, cord and membranes	135	922	28.4	27.3
Fetus and newborn affected by maternal complications of pregnancy	88	630	18.5	18.6
Fetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	77	448	16.2	13.3
Fetus and newborn affected by other complications of labour and delivery and noxious influences transmitted via placenta or breast milk	15	191	3.2	5.6
Total deaths⁽ⁱ⁾	476	3,381	100.0	100.0

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < .05$ level.

- (a) Data are reported for Queensland, Western Australia, South Australia and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Includes all fetuses and babies delivered weighing at least 400 grams or, if birthweight is unavailable, at gestational age of 20 weeks or more.
- (c) Data are presented in five-year groupings due to small numbers each year.
- (d) Cause of death data should be used with caution as the level of identification by cause is unknown.
- (e) These data exclude 27 perinatal deaths for the main condition in fetus/neonatal infant and 20 perinatal deaths for the main condition in Mother where the Indigenous status was not stated.
- (f) While most perinatal deaths of Indigenous perinatal babies are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous perinatal deaths and, depending on the level of under-identification in births, may either underestimate or overestimate the rates. It should be noted that different causes of death may have different levels of completeness of identification of Indigenous deaths that differ from the 'all cause' under-identification (coverage) estimates.
- (g) Deaths are by year of occurrence of death.
- (h) 'Other conditions' include: infectious and parasitic diseases, neoplasms, diseases of blood and blood-forming organs, endocrine, nutritional and metabolic diseases, mental and behavioural disorders, diseases of the nervous system, circulatory system, respiratory system, diseases of the digestive system, diseases of the musculoskeletal system and connective tissues, diseases of the genitourinary system, other symptoms, signs and abnormal findings, injury and poisoning, and external causes.
- (i) The sum of the components will total more than the total number of deaths and 100% as more than one condition may be reported for each death.

Source: ABS Deaths Registration Database.

Time series analysis

Longer term mortality trend data are limited to three jurisdictions – Western Australia, South Australia and the Northern Territory – which have 10 years of adequate identification of Indigenous deaths in their recording systems.

As there is a consistent time series of population estimates from 1991, data for the period 1991–2003 have been used for the analysis of Indigenous mortality in this indicator. Data for 2004 have not been used because they are still incomplete, owing to late registration of some deaths.

Due to the late inclusion of a ‘not stated’ category for Indigenous status in 1998 (before which not stated responses were included with non-Indigenous deaths), Indigenous mortality rates have been compared with the mortality rates of ‘other’ Australians (which include deaths of both non-Indigenous people and deaths for which Indigenous status was not stated).

Fluctuations in the level of Indigenous mortality over time partly reflect changing levels of identification of Indigenous deaths and population estimates. Given the volatility in the measures of Indigenous mortality, caution should be exercised in assessing trends in Indigenous mortality over time and comparisons between jurisdictions and comparisons with the non-Indigenous population.

Perinatal mortality rates, rate ratios and rate differences between Indigenous and other babies over the period 1991–2003 are presented in Table 1.19.3 and Figure 1.19.1.

- Over the period 1991–2003, there were significant declines in perinatal mortality rates of Indigenous babies in Western Australia, South Australia and the Northern Territory. The fitted trend implies an average yearly decline in the rate of around 0.9 deaths per 1,000 live births.
- Over the same period, there were also significant declines in perinatal mortality rates of other babies, with an average yearly decline in the rate of around 0.2 deaths per 1,000 live births.
- There were no significant changes in the mortality rate ratios between Indigenous and other babies between 1991 and 2003, however, there were significant declines in the mortality rate differences.

Table 1.19.3: Perinatal mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2003

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Annual change ^(a)
Indigenous rate per 1,000 births														
Number	66	93	86	86	63	66.5	71	65	85	63	56	44	55	
Rate	19.5	27.0	25.2	24.9	18.5	19.3	21.4	19.0	23.5	16.2	14.4	11.9	14.1	-0.9*
Other^(b) rate per 1,000 births														
Number	413	420	425	382	416	409	317	313	314	323	325	310	329	
Rate	9.1	9.4	9.4	8.5	9.3	9.3	7.3	7.3	7.3	7.6	7.9	7.5	7.9	-0.2*
Rate ratio^(c)														
Persons	2.1	2.9	2.7	2.9	2.0	2.1	2.9	2.6	3.2	2.1	1.8	1.6	1.8	-0.1
Rate difference^(d)														
Persons	10.4	17.6	15.8	16.4	9.3	10.0	14.1	11.8	16.2	8.7	6.5	4.4	6.2	-0.7*

* Represents statistically significant increases or decrease over the period 1991–2003 at the p<.05 level/

(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(b) Other includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

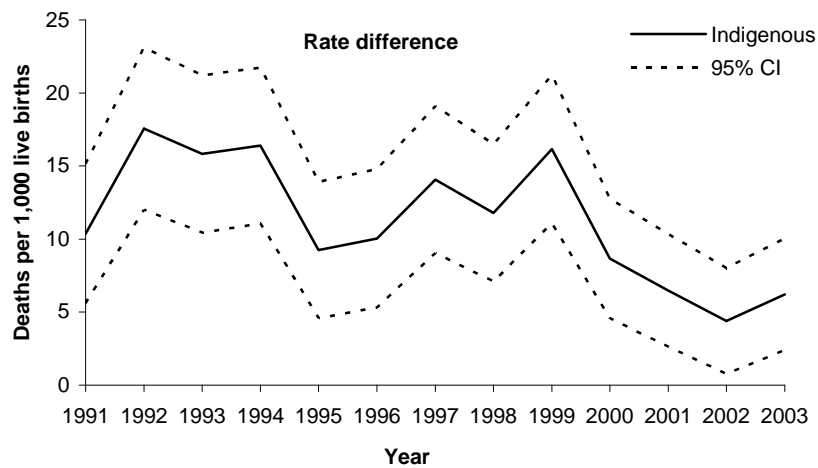
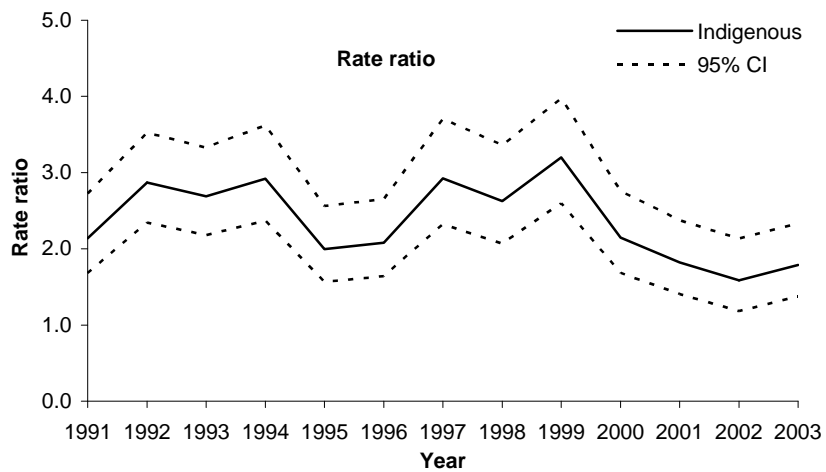
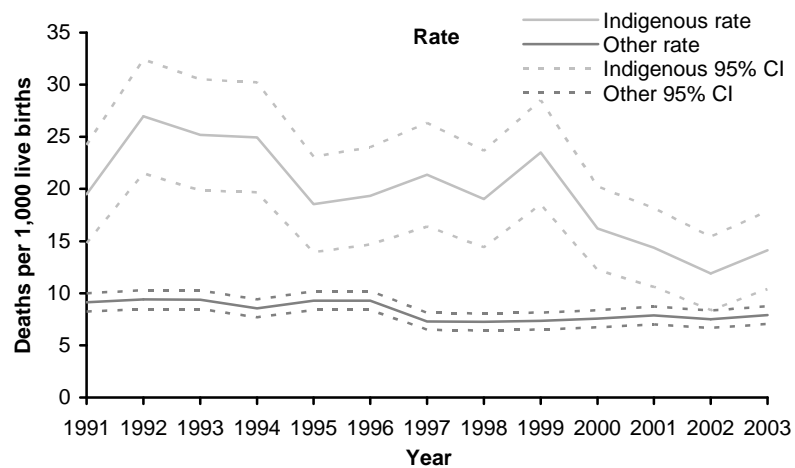
(c) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(d) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

Notes

1. Perinatal deaths were not available in South Australia in 1996 and thus the average of deaths for 1995 and 1997 were used for this year.
2. The average of births over 1993–1995 in Western Australia was used for births in 1991 and 1992 as there were errors in the number of births recorded.

Source: ABS Deaths Registration Database.



Source: ABS Deaths Registration Database.

Figure 1.19.1: Perinatal mortality rates, rate ratios and rate differences between Indigenous and other Australians, WA, SA and NT, 1991-2003

Sensitivity of mortality trends to changes in identification

- The fitted trends described above have been examined for their sensitivity to changes in Indigenous identification. Three scenarios for identification were posted – constant identification, increasing identification and decreasing identification.
 - Under the constant identification scenario, the numbers of deaths for the period under study were adjusted using identification estimates derived from the most recent ABS analyses (relating to the period 1999–2003).
 - Under the increasing identification scenario, deaths were adjusted by linearly increasing the identification through the period under study – from 64% in 1991 to 71% in 2002 for Western Australia, from 60% to 66% for South Australia, and from 90% to 95% for the Northern Territory.
 - Under the decreasing identification scenario, deaths were adjusted by linearly decreasing the identification from 80% in 1991 to 73% in 2002 for Western Australia, from 72% to 67% for South Australia, and from 100% to 95% for the Northern Territory.
- The adjustments in the latter two scenarios were based on judgements about the largest plausible shifts in identification during the period; of course if any actual shift in identification were more extreme than has been posted under these scenarios, then the observed trends in mortality might not persist.
- All of the observed trends in perinatal mortality mentioned above remained statistically significant under all three identification scenarios.

International comparisons

International data are available for New Zealand, the United States and Canada using the WHO definition of perinatal mortality. However, the WHO definition differs significantly from the Australian definition of the perinatal period. Therefore Australian data include babies of at least 400 grams (or at least 20 weeks if birthweight is unavailable) while the WHO definition commences at 500 grams (22 weeks if birthweight is unavailable). In addition, the WHO defines perinatal deaths as less than seven days while Australia includes deaths up to 28 days. Perinatal mortality rates of Aboriginal and Torres Strait Islander babies are therefore not comparable to rates for Indigenous populations in the other countries. International comparisons have therefore not been presented here.

Data quality issues

Mortality data

Deaths

The mortality rate for Indigenous Australians can be influenced by late registration of deaths, identification of Indigenous deaths and changes to death forms and/or processing systems. Due to the small size of the Indigenous population these factors can significantly impact on trends over time and between jurisdictions.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms. However, New South Wales, Victoria, South Australia, the Northern Territory and the Australian Capital Territory all have slightly different wording to the national standard for the instruction on those with both Aboriginal and Torres Strait Islander origin (ABS & AIHW 2005). While the wording is only slightly different, it would be ideal to have all jurisdictions asking the question in exactly the same way. The National Perinatal Data Collection has more significant problems with compliance with the standard wording.

Under-identification

Almost all deaths in Australia are registered. However the Indigenous status of the deceased is not always recorded/recorded correctly. The incompleteness of Indigenous identification means the number of deaths registered as Indigenous is an underestimate of deaths occurring in the Aboriginal and Torres Strait Islander population (ABS 1997). As a result, the observed differences between Indigenous and non-Indigenous mortality are underestimates of the true differences.

While the identification of Indigenous deaths is incomplete in all state and territory registration systems, four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) with 10 years of adequate identification of Indigenous deaths in their recording systems. The quality of the time series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous. The ABS calculated the implied coverage (identification) of Indigenous deaths for the period 2000–2004 using population estimates: New South Wales – 46%, Victoria – 35%, Queensland – 53%, South Australia – 66%, Western Australia – 72%, the Northern Territory – 94%, Tasmania and the Australian Capital Territory were not calculated due to small numbers, Australia – 57% (ABS 2005).

It should be noted that different causes may have different levels of under-identification that differ from the 'all cause' coverage estimates. It should also be noted that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

There are also current concerns about data quality for causes of death especially relating to external causes of death to all Australians (not just Indigenous) (ABS 2006).

Numerator and denominator

The perinatal mortality rate also relies on birth registration data. Unfortunately, as with deaths, some Indigenous births are not correctly identified as Indigenous. The estimated identification of births as Indigenous in 2000–04 was 94%. Identification for the states and territories ranged from 69% for the Australian Capital Territory to 108% for the Northern Territory (ABS 2005b). Given the identification is higher in births than deaths it is likely that Indigenous perinatal mortality rates are underestimated.

(continued)

Data quality issues (continued)

The numerator and denominator are not based on the same collection or the same method of collection. Births are registered by the parents while death registration forms are completed by doctors and funeral directors. Therefore there would be inconsistency of Indigenous identification between the numerator and denominator.

Cause of death coding

Causes of death are based on the tenth revision of the International Classification of Diseases (ICD-10). Mortality coding using ICD-10 was introduced into Australia from 1 January 1997.

International data

International data are available for New Zealand, the United States and Canada using the WHO definition of perinatal mortality. However, the WHO definition differs markedly from the Australian definition of the perinatal period (see above) which was developed to be relevant for the Australian context. Therefore Australian data include babies of at least at 400 grams/at least 20 weeks if birthweight is unavailable) while the WHO definition commences at 500 grams (22 weeks if birthweight is unavailable). In addition, the WHO defines perinatal deaths as less than seven days while Australia includes deaths up to 28 days (Laws & Sullivan 2004). It would be possible to analyse Australian data on the WHO definitional basis, but it is not recommended for this performance measure.

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