

1.10 Decayed, missing, filled teeth

The number of decayed, missing and filled deciduous infant teeth (dmft) and the number of decayed, missing and filled permanent adult teeth (DMFT) for Aboriginal and Torres Strait Islander peoples

Data sources

Data for this measure come from the AIHW Dental Statistics Research Unit (Child Dental Health Survey, Indigenous child oral health in remote communities study, and the National Survey of Adult Oral Health), the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey, the Western Australian Aboriginal Child Health Survey and the AIHW National Hospital Morbidity Database.

Dental health survey data

The AIHW Dental Statistics Research Unit is responsible for a number of data collections in the areas of oral health, access to dental care and dental health services.

Child Dental Health Survey

Data on children's dental health come from the Child Dental Health Survey, a national survey which monitors the dental health of children enrolled in school dental services operated by health departments in all states and territories. In the period 2000–2003, Indigenous status was recorded reliably and for sufficient numbers of children in New South Wales, South Australia and the Northern Territory. Data from those jurisdictions are used for this measure. Data from a total of 341,195 children were included in the analyses: 11,017 (3.2%) Indigenous children and 330,178 (96.8%) non-Indigenous children.

Indigenous child oral health in remote communities study

Indigenous child oral health data were collected from remote Indigenous communities in all jurisdictions in the 2000–2003 period as part of a study undertaken by the Australian Research Centre for Population Oral Health in collaboration with the Far West Area Health Service (New South Wales), the remote Indigenous communities of Nganampa lands (South Australia), and various remote communities around Alice Springs (Northern Territory). Data were collected by dental health professionals providing services to these communities. (Because of issues of confidentiality, specific location details were unable to be included in the analysis.)

Data were gathered in terms of sociodemographic information (age, sex, Indigenous status), self-care habits (toothbrushing at home and school), dental disease experience, gingivitis and caries risk status, and fluorosis and hypoplasia levels.

National Survey of Adult Oral Health

The 2004–06 National Survey of Adult Oral Health is the second national oral examination survey of Australians which included telephone interviews with 14,123 people aged 15–97 years, 5,505 of whom were also dentally examined. The survey included 229 people who identified as Aboriginal or Torres Strait Islander (1.5%). The survey collected information on levels of oral disease, perceptions of oral health and patterns of dental care within a representative cross-section of adults in all states and

territories of Australia. The first survey (the National Oral Health Survey of Australia) was conducted in 1987–88 and did not collect information on Indigenous status.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 NATSIHS collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians about health-related issues including health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

Western Australian Aboriginal Child Health Survey

This survey was a large-scale investigation into the health of 5,289 Western Australian Aboriginal and Torres Strait Islander children aged 0–17 years. It was undertaken in 2001 and 2002 by the Telethon Institute for Child Health Research in conjunction with the Kulunga Research Network. The survey was the first to gather comprehensive health, educational and developmental information on a population-based sample of Aboriginal and Torres Strait Islander children and their families and communities.

Hospitalisations

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Data are presented for the six jurisdictions which have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2004–05 – New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

Hospitalisations for which Indigenous status was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period July 2004 to June 2006. An aggregate of 2 years of data has been used, as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending a change in a type of care (for example, from acute to rehabilitation).

‘Separation’ also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

Analyses

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of other Australians, taking into account differences in age distributions.

Decayed, missing and filled teeth

Oral health outcomes are usually measured in terms of the number of decayed, missing or filled baby (deciduous) and adult (permanent) teeth (dmft and DMFT scores) (AIHW 2000). The dmft score measures decay experience in deciduous teeth, and the DMFT score measures decay experience in permanent teeth. Another measure of good oral health is the proportion of children with no tooth decay.

Data on decayed, missing and filled teeth for Indigenous children and adults come from the Child Dental Health Survey and the National Survey of Adult Dental Health and are presented below.

Children

Data on decay in deciduous and permanent teeth are presented below for Indigenous children in New South Wales, South Australia and the Northern Territory. Data for New South Wales are for 2000, for South Australia they are for 2003 and for the Northern Territory they are for 2002.

Deciduous teeth

Mean dmft

- In New South Wales, South Australia and the Northern Territory, the mean number of decayed, missing or filled deciduous teeth for Indigenous children aged 4-10 years was higher than for non-Indigenous children at all ages (Table 1.10.1, Figure 1.10.1).
- Of all children with decayed, missing or filled deciduous teeth, both Indigenous and non-Indigenous children were most likely to have decayed teeth, followed by filled teeth.
- The mean numbers of decayed or missing teeth were highest among those aged less than 7 years, whereas the mean number of filled teeth was highest among those aged 7 years and over.
- Children in New South Wales had lower mean numbers of decayed or filled teeth than children in South Australia and the Northern Territory. One possible explanation for this is the different type of dental examination used in New South Wales where a screening is undertaken rather than a clinical examination used in other states and territories.
- Indigenous children in the Northern Territory had much higher mean numbers of decayed teeth than Indigenous children in South Australia and New South Wales, whereas for non-Indigenous children, scores were similar across jurisdictions.

Table 1.10.1: Mean number of decayed, missing or filled deciduous teeth, children aged 4–10 years, by Indigenous status, NSW (2000), SA (2003) and NT (2002)

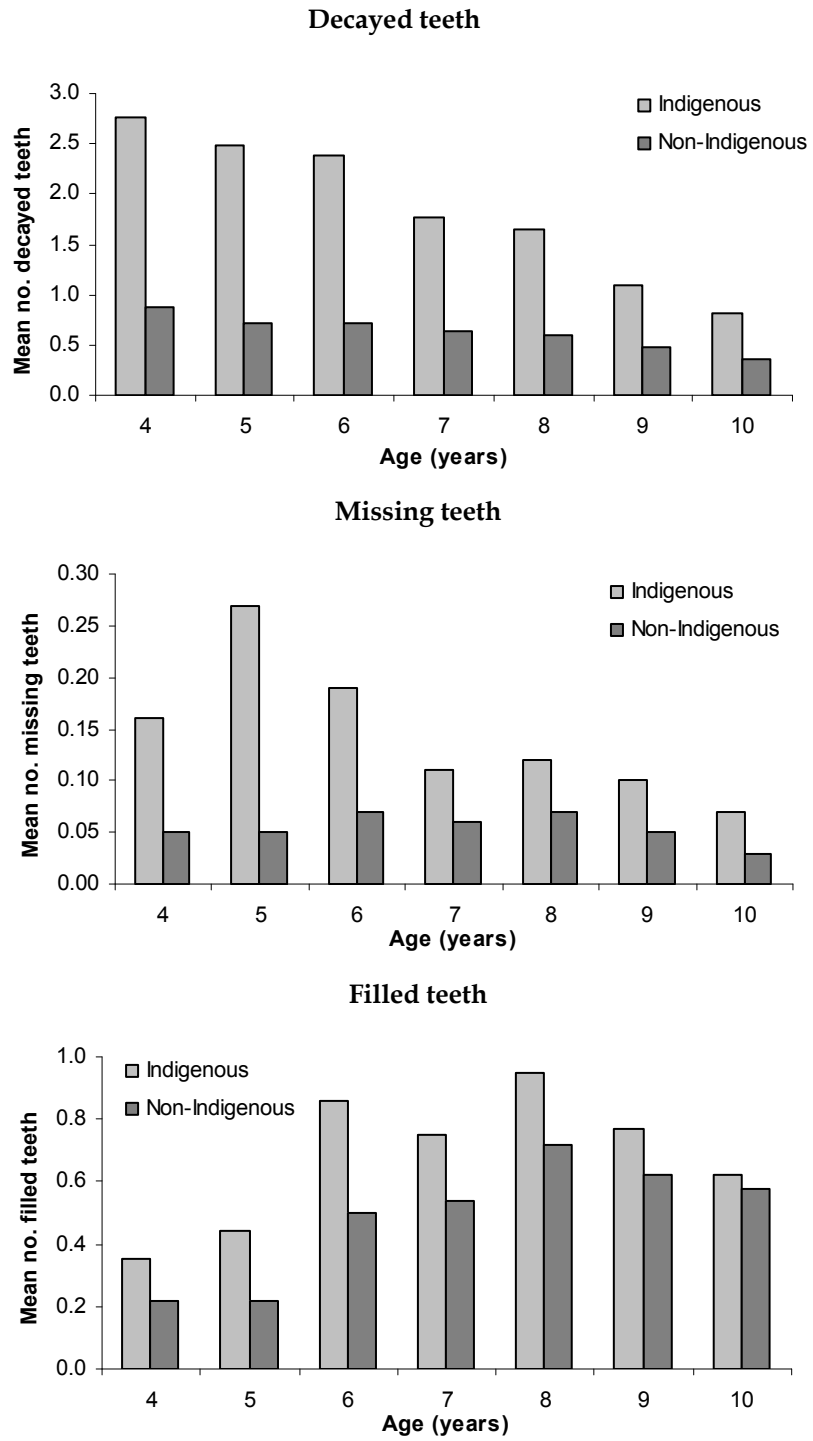
Age	New South Wales		South Australia		Northern Territory		NSW, SA & NT	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Decayed (d)								
4	1.90*	0.79*	2.48*	0.96*	3.07*	0.82*	2.77*	0.87*
5	1.64*	0.69*	2.11*	0.89*	3.62*	0.92*	2.49*	0.72*
6	1.36*	0.65*	2.10*	0.89*	3.10*	0.85*	2.38*	0.72*
7	1.05*	0.62*	1.54*	0.78*	2.90*	0.73*	1.77*	0.64*
8	0.98*	0.56*	1.22*	0.67*	2.19*	0.67*	1.65*	0.60*
9	0.74*	0.45*	1.27*	0.60*	1.54*	0.54*	1.10*	0.47*
10	0.43*	0.32*	0.58*	0.44*	1.17*	0.38*	0.82*	0.36*
Missing (m)								
4	^(b) 0.16*	^(a) 0.04*	^(a) 0.33*	0.06*	^(a) 0.11	^(a) 0.05	^(a) 0.16*	0.05*
5	0.33*	0.04*	0.35*	0.09*	^(a) 0.15*	0.05*	0.27*	0.05*
6	^(a) 0.16*	0.05*	^(a) 0.31*	0.10*	^(a) 0.15*	^(a) 0.05*	0.19*	0.07*
7	^(a) 0.12*	0.068	^(a) 0.21*	0.08*	0.08	0.06	0.11*	0.06*
8	0.13*	0.06*	^(a) 0.24*	0.08*	^(a) 0.07	0.09	0.12*	0.07*
9	0.10*	0.048	^(a) 0.07	0.06	0.09	0.09	0.10*	0.05*
10	0.05	0.03	^(b) 0.05	0.03	^(a) 0.08	0.05	0.07*	0.03*
Filled (f)								
4	^(a) 0.36*	0.15*	^(a) 0.58*	0.30*	0.26	0.19	0.35*	0.22*
5	0.30*	0.17*	1.18*	0.51*	0.32*	0.43*	0.44*	0.22*
6	0.57*	0.32*	1.54*	0.94*	0.69	0.76	0.86*	0.50*
7	0.57*	0.43*	1.45*	1.17*	0.72*	0.93*	0.75*	0.54*
8	0.68*	0.49*	1.81*	1.25*	0.76*	1.08*	0.95*	0.72*
9	0.51*	0.498	1.68*	1.29*	0.76*	1.08*	0.77*	0.62*
10	0.49*	0.40*	1.29	1.45	0.44*	0.70*	0.62	0.58*
Decayed, missing & filled (dmft)								
4	2.42*	0.98*	3.39*	1.32*	3.44*	1.06*	3.41*	1.33*
5	2.27*	0.90*	3.64*	1.49*	4.09*	1.40*	3.66*	1.31*
6	2.09*	1.02*	3.95*	1.93*	3.94*	1.66*	3.68*	1.54*
7	1.74*	1.11*	3.20*	2.03*	3.70*	1.72*	2.94*	1.54*
8	1.79*	1.11*	3.27*	2.00*	3.02*	1.84*	2.91*	1.60*
9	1.35*	0.98*	3.02*	1.95*	2.39*	1.71*	2.17*	1.34*
10	0.97*	0.75*	1.92	1.92	1.69*	1.13*	1.60*	1.09*

* Statistically significant differences in the Indigenous/Non-Indigenous comparisons.

(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

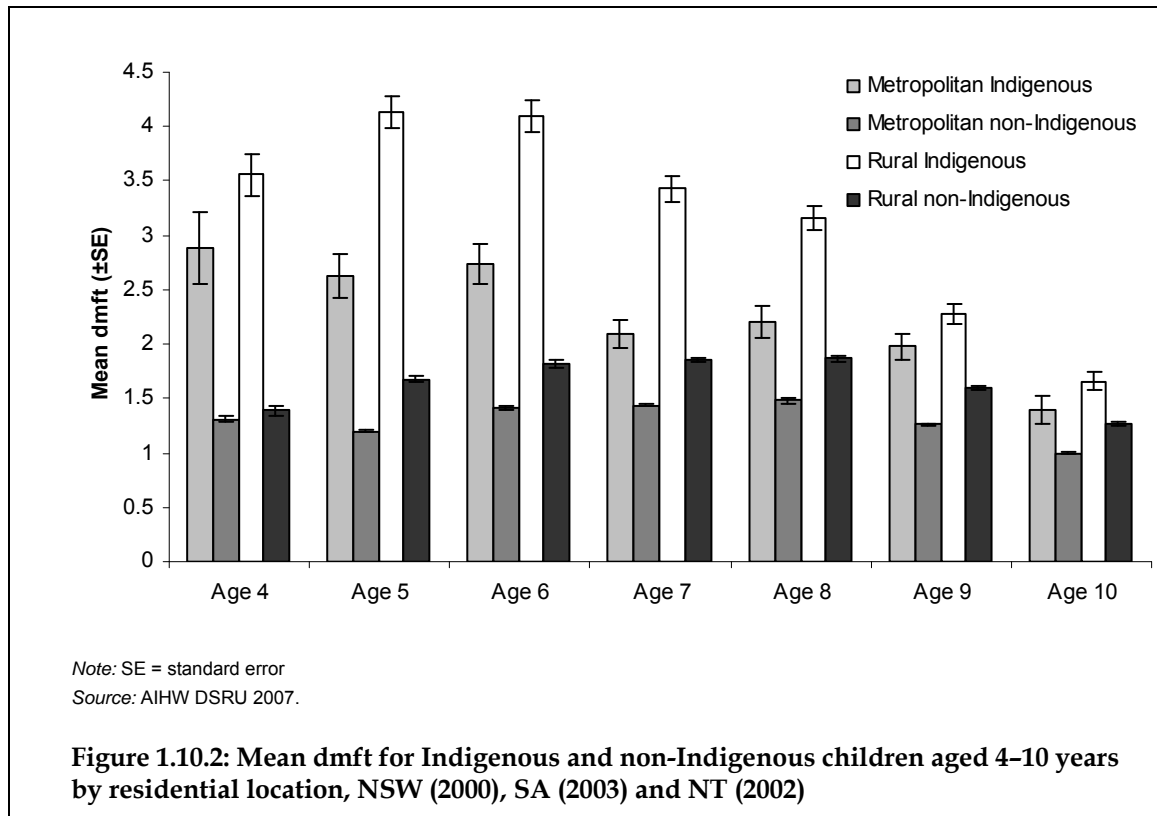
Source: AIHW Dental Statistics Research Unit.



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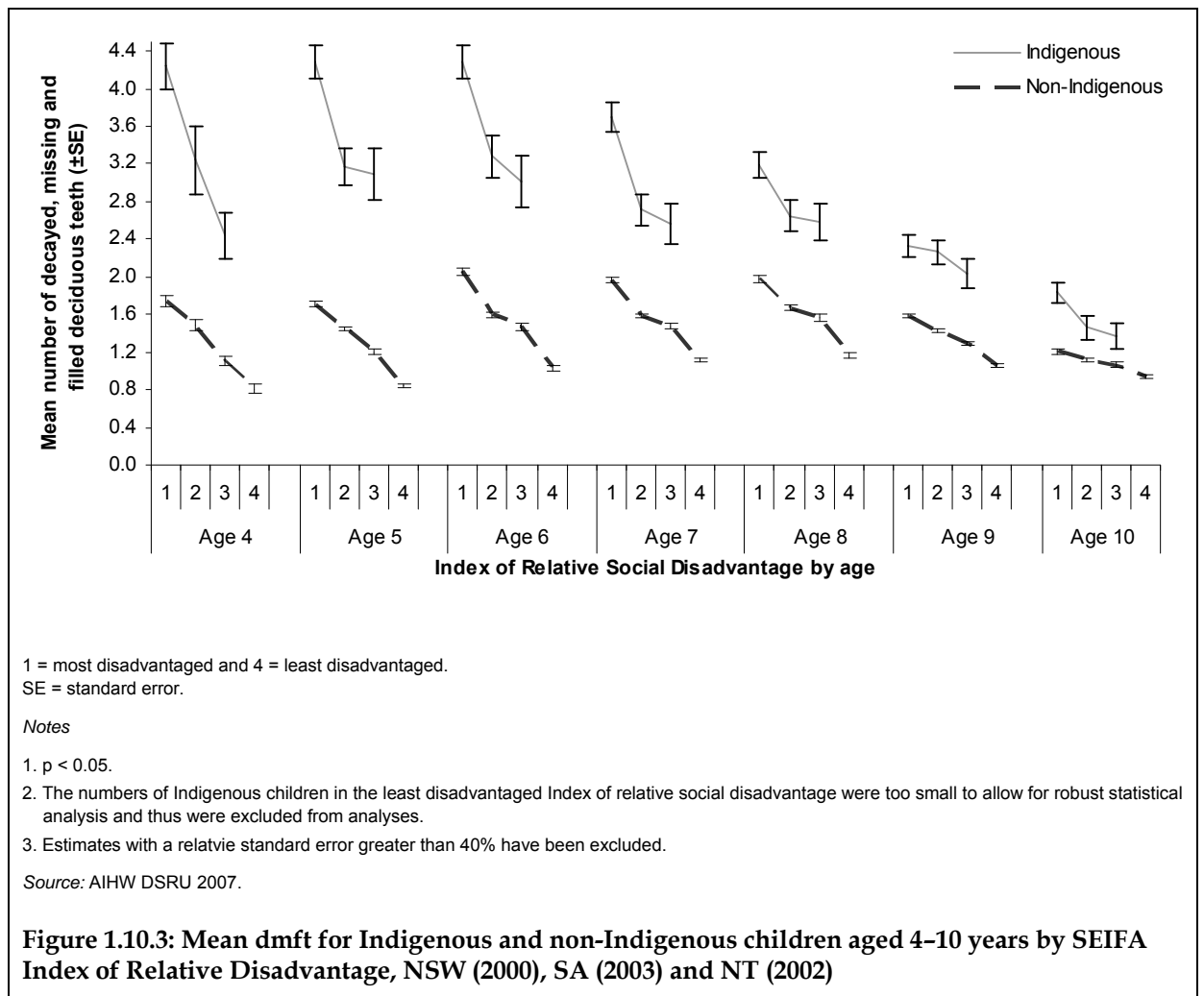
Figure 1.10.1: Mean number of decayed, missing or filled deciduous teeth, children aged 4-10 years, by Indigenous status, NSW (2000), SA (2003) and NT (2002)

- The mean dmft of children aged 4–10 years by residential location is presented in Figure 1.10.2. In all age groups rural Indigenous children had the highest mean dmft levels, followed by metropolitan Indigenous children, rural non-Indigenous children and metropolitan non-Indigenous children.



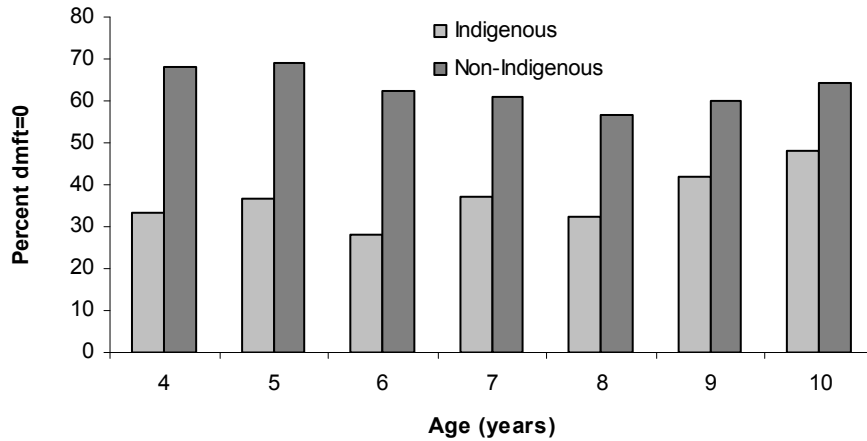
The mean dmft of Indigenous and non-Indigenous children aged 4–10 years by the SEIFA Index of Relative Disadvantage is presented in Figure 1.10.3.

- Indigenous children across all age groups had higher dmft than non-Indigenous children, and Indigenous children in the most disadvantaged category had higher dmft than Indigenous children who were less disadvantaged.
- Indigenous children aged 4–6 years from disadvantaged areas had the highest dmft scores, and this was around 2.5 times the dmft of non-Indigenous children aged 4–6 years from disadvantaged areas.
- The dmft difference among Indigenous and non-Indigenous children decreased with increasing age, although across all age groups the dmft of Indigenous children from the most advantaged areas was less than the dmft of non-Indigenous children from the most disadvantaged areas.



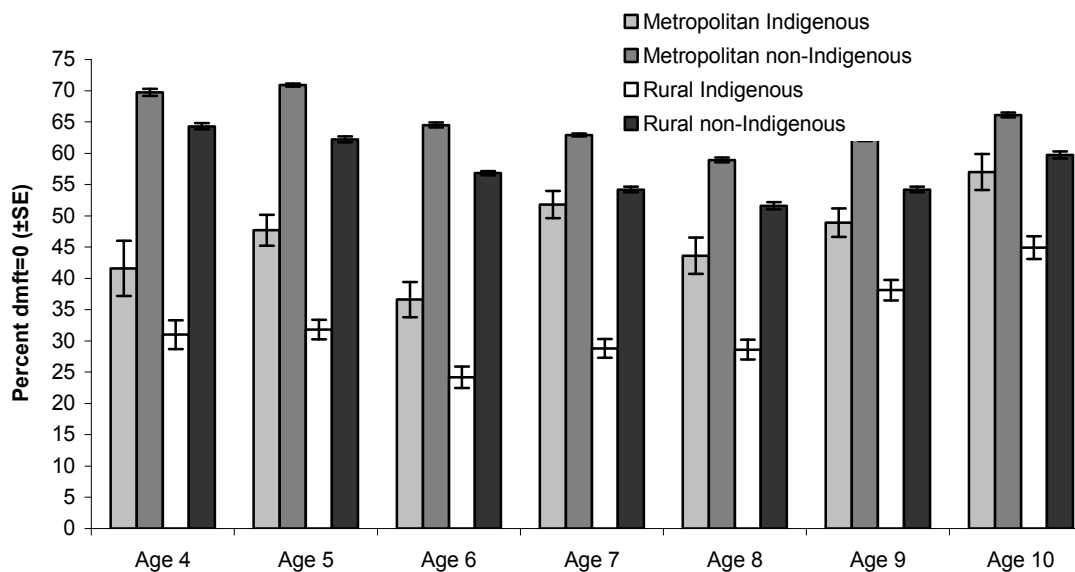
$dmft = 0$

- At all ages, the proportion of Indigenous children in New South Wales, South Australia and the Northern Territory free of caries in their deciduous teeth ($dmft = 0$) was lower than the proportion for non-Indigenous children. At age 6 years, twice as many non-Indigenous children had no clinical deciduous caries experience (62.3%) than Indigenous children (28.0%) (Figure 1.10.4).
- The proportion of children aged 4–10 years with $dmft = 0$ by residential location is presented in Figure 1.10.5. Across all age groups a higher proportion of metropolitan non-Indigenous children had no evidence of dental disease experience in their deciduous teeth, followed by rural non-Indigenous children, metropolitan Indigenous children and rural Indigenous children respectively.



Source: AIHW Dental Statistics Research Unit.

Figure 1.10.4: Proportion of children aged 4-10 years with no decayed, missing or filled deciduous teeth (dmft = 0), by age and Indigenous status, NSW (2000), SA (2003) and NT (2002)

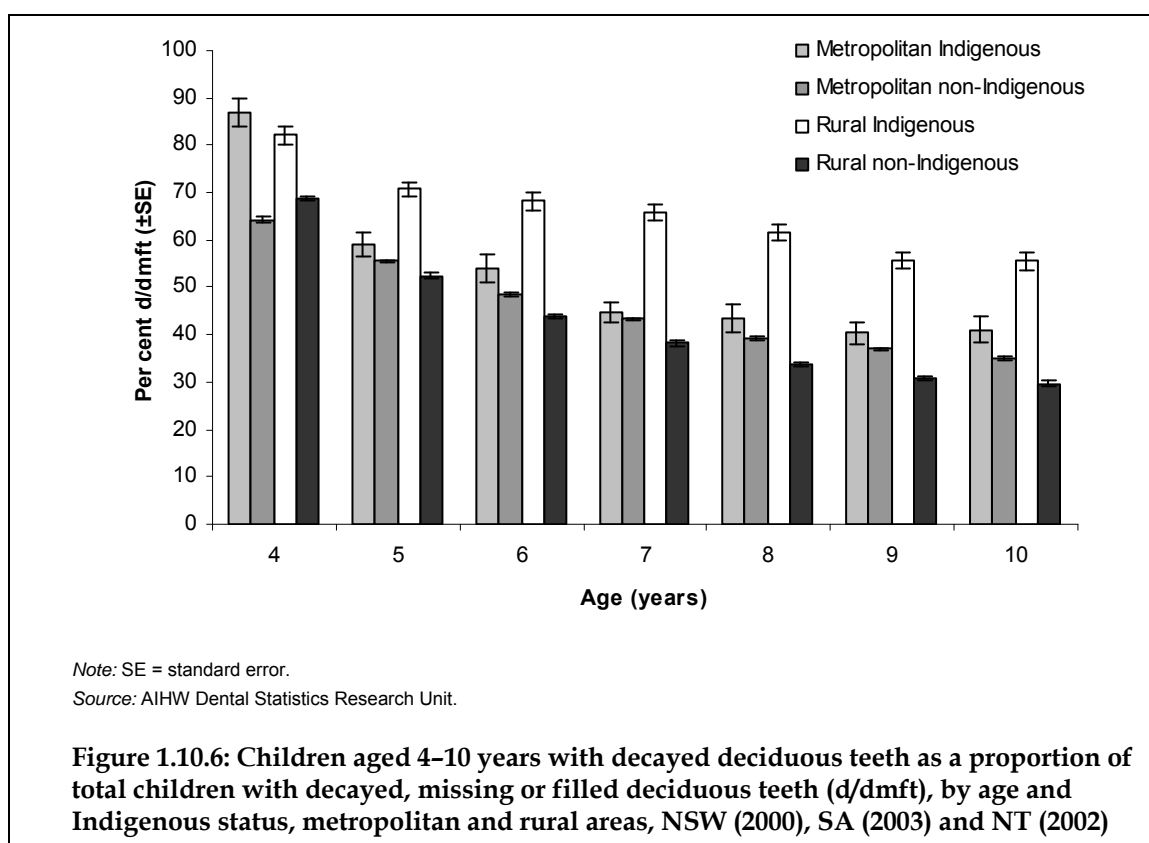


Note: SE = standard error.
Source: AIHW DSRU 2007.

Figure 1.10.5: Proportion of Indigenous and non-Indigenous children aged 4-10 years with dmft = 0 by residential location, NSW (2000), SA (2003) and NT (2002)

d/dmft

- The *d/dmft* ratio refers to the proportion of untreated teeth with decay in the population. It shows that Indigenous children have a greater unmet need for dental treatment than non-Indigenous children. Indigenous children had higher levels of untreated decay as a percentage of total caries experience than non-Indigenous children across all age groups, with the difference between rural Indigenous and rural non-Indigenous children becoming more marked with increasing age (Figure 1.10.6). Across all age groups, with the exception of 4-year-olds, rural Indigenous children had markedly higher proportions of *d/dmft* than their metropolitan and non-Indigenous counterparts.



Permanent teeth

Mean DMFT

- In New South Wales, South Australia and the Northern Territory, the mean numbers of decayed and filled permanent teeth for Indigenous children aged 6–15 years were higher than for non-Indigenous children at all ages except at age 15 years for filled teeth (Table 1.10.2, Figure 1.10.7). Data are not presented separately for missing permanent teeth because of low numbers.
- As with deciduous teeth, children in New South Wales had lower mean numbers of decayed or filled permanent teeth than children in South Australia and the Northern Territory.
- Indigenous children in the Northern Territory had the highest mean number of decayed teeth, whereas Indigenous children in South Australia had the highest mean number of filled teeth.

Table 1.10.2: Mean number of decayed, missing and filled permanent teeth for children aged 6–15 year, by age and Indigenous status, NSW (2000), SA (2003) and NT (2002)

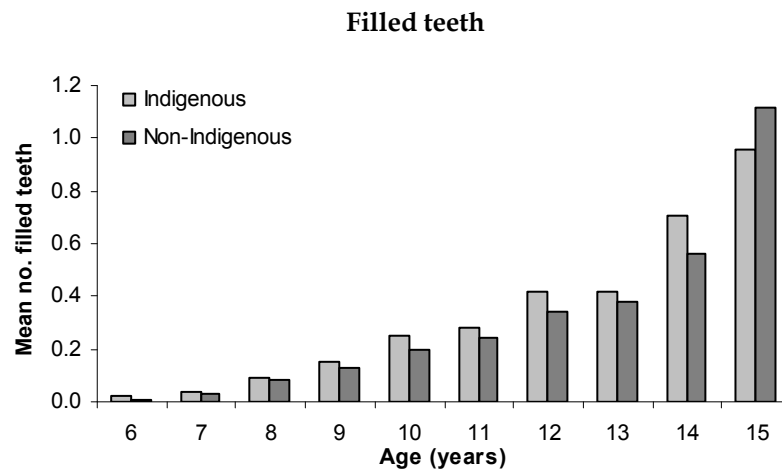
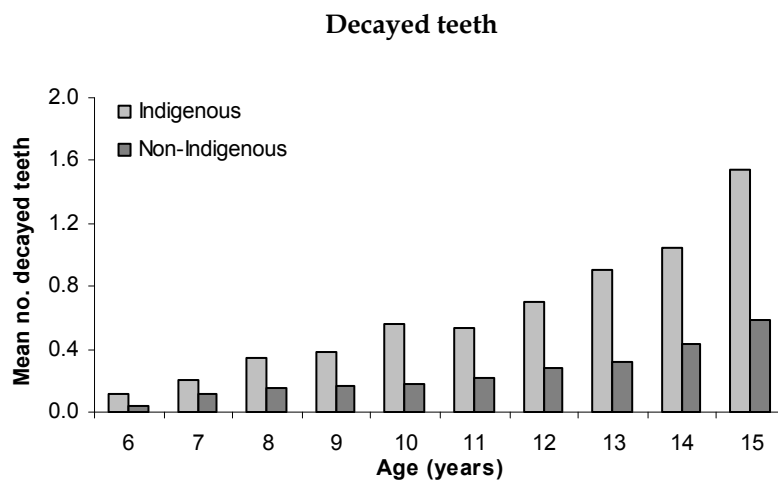
Age	New South Wales		South Australia		Northern Territory		NSW, SA & NT	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Decayed (D)								
6	0.09*	0.03*	0.14*	0.06*	0.12*	0.06*	0.12*	0.04*
7	0.17*	0.12*	0.30*	0.17*	0.25*	0.12*	0.21*	0.12*
8	0.29*	0.13*	0.39*	0.18*	0.40*	0.12*	0.35*	0.15*
9	0.29*	0.15*	0.53*	0.19*	0.45*	0.14*	0.38*	0.16*
10	0.37*	0.16*	0.51*	0.21*	0.69*	0.17*	0.56*	0.18*
11	0.36*	0.21*	0.55*	0.24*	0.72*	0.21*	0.53*	0.22*
12	0.54*	0.26*	0.59*	0.31*	0.78*	0.25*	0.70*	0.28*
13	0.66*	0.31*	1.00*	0.41*	1.45*	0.258	0.90*	0.32*
14	0.82*	0.38*	1.24*	0.50*	1.24	^(a) 0.74	1.04*	0.43*
15	n.a.	n.a.	1.59*	0.54*	*1.31*	^(b) 0.48*	1.54*	0.58*
Filled (F)								
6	^(b) 0.01	0.01	^(b) 0.03	0.01	^(b) 0.01	0.01	0.02	0.01
7	^(a) 0.03	0.03	^(a) 0.06	0.06	^(a) 0.04	^(a) 0.04	0.04	0.03
8	^(a) 0.06	0.06	^(a) 0.13	0.14	^(a) 0.08	0.08	0.09	0.08
9	0.11	0.10	0.33	0.27	0.15	0.18	0.15*	0.13*
10	0.22*	0.13*	0.47*	0.35*	0.19	0.21	0.25*	0.20*
11	0.25*	0.20*	0.55*	0.43*	0.21*	0.29*	0.28*	0.24*
12	0.33	0.27	0.67*	0.48*	0.32	0.39	0.42*	0.34*
13	0.34	0.32	0.78	0.66	^(a) 0.36	0.41	0.42	0.38
14	0.45	0.39	1.12*	0.81*	^(a) 0.43	^(b) 0.77	0.71*	0.56*
15	n.a.	n.a.	1.18	1.14	^(b) 0.11	^(b) 0.39	0.96	1.12
Decayed, missing & filled (DMFT)								
6	^(a) 0.11*	0.04*	0.17*	0.07*	0.13*	0.07*	0.16*	0.06*
7	0.21*	0.15*	0.36*	0.22*	0.29*	0.16*	0.31*	0.22*
8	0.36*	0.20*	0.53*	0.32*	0.49*	0.20*	0.51*	0.29*
9	0.42*	0.26*	0.87*	0.47*	0.61*	0.32*	0.64*	0.38*
10	0.61*	0.30*	1.09*	0.57*	0.93*	0.40*	0.94*	0.46*
11	0.63*	0.43*	1.11*	0.68*	0.99*	0.52*	0.96*	0.59*
12	0.87*	0.54*	1.28*	0.80*	1.13*	0.71*	1.25*	0.75*
13	1.03*	0.65*	1.83*	1.09*	1.87*	0.78*	1.62*	0.90*
14	1.37*	0.81*	2.43*	1.34*	1.87	^(a) 1.51	2.09*	1.18*
15	n.a.	n.a.	2.79*	1.73*	*1.60	^(b) 0.86	2.65*	1.80*

* Statistically significant differences in the Indigenous/Non-Indigenous comparisons.

(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

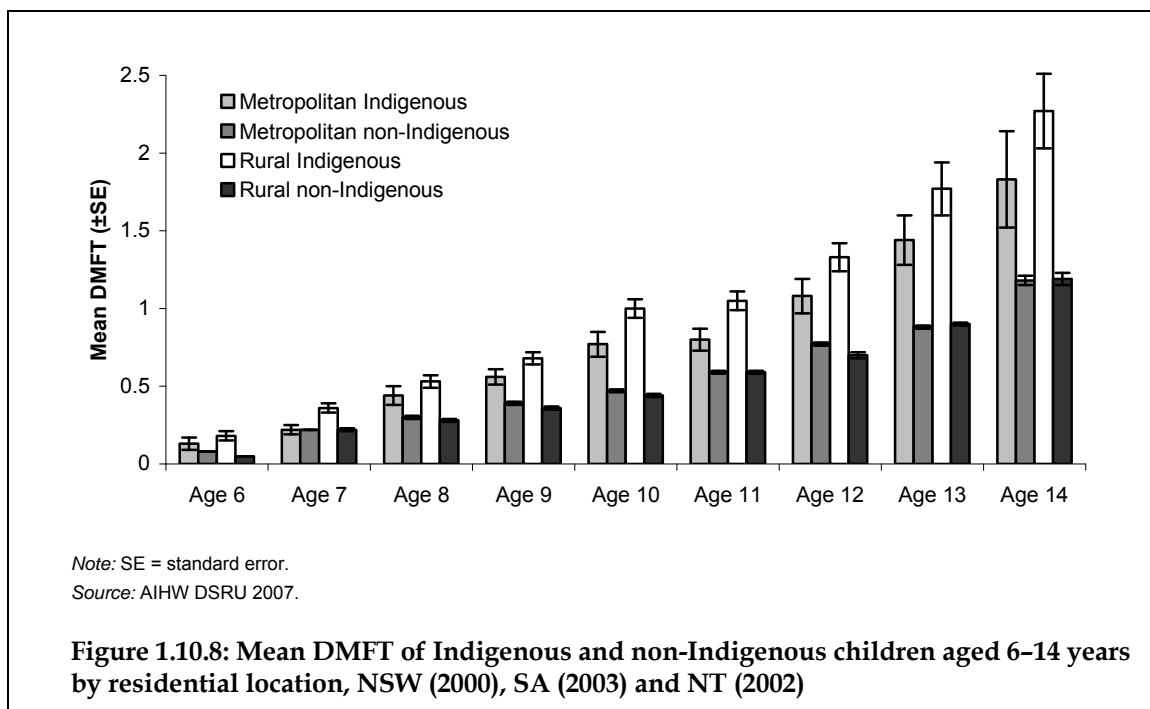
Source: AIHW Dental Statistics Research Unit.



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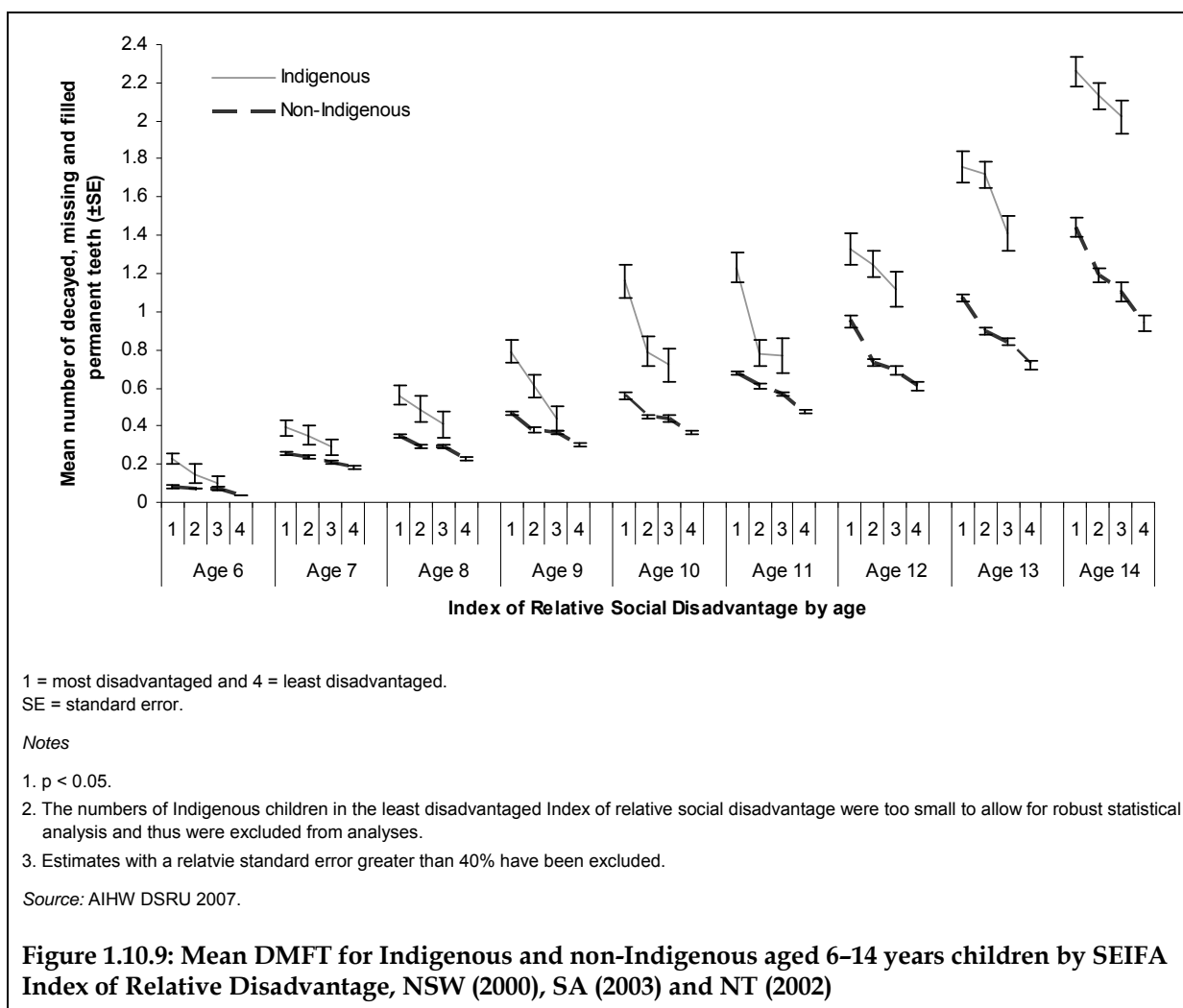
Figure 1.10.7: Mean number of decayed and filled permanent teeth, children aged 6–15 years, by age and Indigenous status, NSW (2000), SA (2003) and NT (2002)

- The mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by residential location is presented in Figure 1.10.8. Indigenous children had higher DMFT than non-Indigenous children across all age groups except metropolitan children aged 7 years, with the difference becoming more marked with increasing age. Across all age groups, rural Indigenous children had greater DMFT than their metropolitan counterparts but rural and metropolitan non-Indigenous DMFT levels were relatively similar. The mean DMFT increased with increasing age for all children, with the steepest gradient occurring among rural Indigenous children.



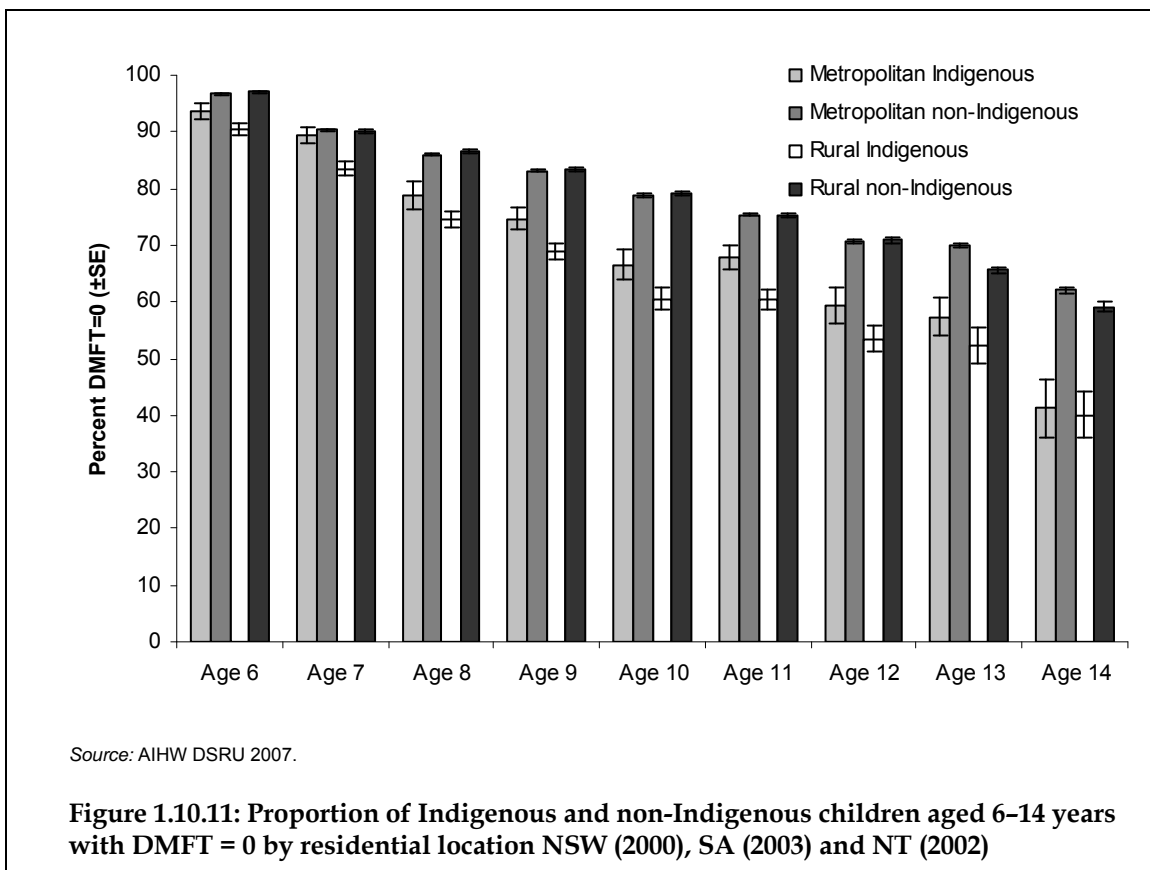
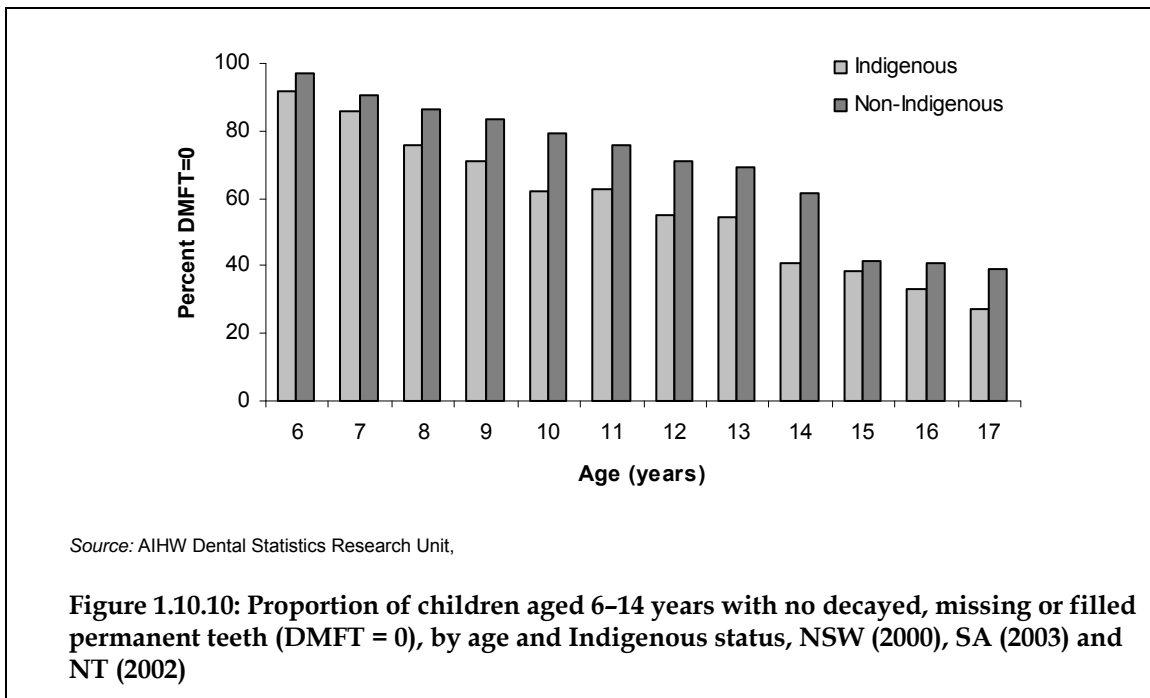
The mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by the SEIFA Index of Relative Disadvantage is presented in Figure 1.10.9.

- Across all age groups, Indigenous children had higher DMFT than non-Indigenous children and this difference increased with increasing age. Indigenous and non-Indigenous children in the most disadvantaged SES category had higher DMFT than their counterparts in more advantaged categories across all age groups, with mean DMFT decreasing with increasing social advantage.
- The highest DMFT was observed among Indigenous children aged 14 years in the most disadvantaged category, and this was 1.6 times the DMFT of similarly disadvantaged non-Indigenous children aged 14 years.
- The greatest DMFT difference among disadvantaged Indigenous and non-Indigenous children was observed among those aged 10 years (Indigenous children aged 10 years from disadvantaged areas had 2.1 times the DMFT of their non-Indigenous counterparts from disadvantaged areas). Across all age groups, except 9 years, Indigenous children in the least disadvantaged categories had higher DMFT than the most disadvantaged non-Indigenous children.



DMFT = 0

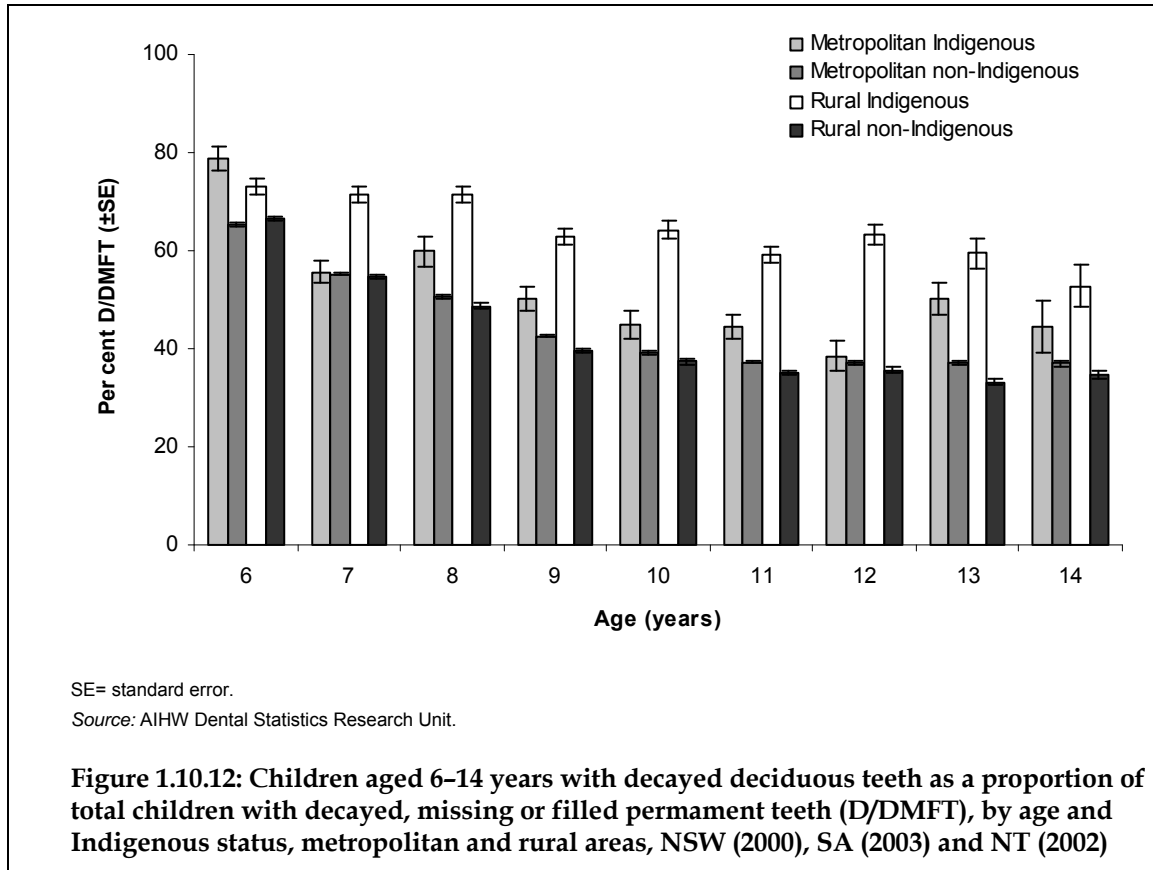
- The proportion of Indigenous children in New South Wales, South Australia and the Northern Territory free of caries in their permanent teeth decreased with increasing age. At each age level, fewer Indigenous children had no caries experience than non-Indigenous children, but the differences between Indigenous and non-Indigenous children in the proportion with no clinical caries experience was less marked than with their deciduous teeth (Figure 1.10.10).
- Across all age groups the proportion of children with no evidence of dental disease experience in their permanent teeth was highest among metropolitan and rural non-Indigenous groups, followed by metropolitan Indigenous children and rural Indigenous children respectively (Figure 1.10.11). The highest proportion of children who were caries-free in their permanent teeth were metropolitan and rural non-Indigenous children aged 6 years. The proportion of children with DMFT = 0 generally decreased with increasing age across Indigenous and non-Indigenous groups, with the trend being most marked among rural and metropolitan Indigenous children.



D/DMFT

- At all ages between 6 and 14 years, there was a higher proportion of Indigenous children in rural areas with untreated permanent decayed teeth as a percentage of those with

decayed, missing or filled teeth (D/DMFT) than non-Indigenous children in rural areas (Figure 1.10.10). This was also the case in metropolitan areas for most ages, but the differences between Indigenous and non-Indigenous children with untreated permanent decayed teeth were not as marked as in rural areas.



dmft and DMFT of Indigenous children in remote communities

Data on the oral health of Indigenous children in remote communities come from a study undertaken in 2000–2003 by the Australian Research Centre for Population Oral Health in collaboration with the Far West Area Health Service (New South Wales), the remote Indigenous communities of Nganampa lands (South Australia), and various remote communities around Alice Springs (Northern Territory). There were a total of 831 children in the sample, whose ages ranged from 2 to 16 years.

The mean dmft and DMFT scores of Indigenous children in remote locations by age group are presented in Table 1.10.3. Overall, the mean dmft for Indigenous children aged 2–16 years was 4.03 and the mean DMFT was 1.06.

Indigenous children aged under 5 years and aged 5–9 years had higher mean dmft scores than those in older age groups (3.69 to 6.27 compared with 0.08 to 1.99). In contrast, older children had higher mean DMFT scores than their younger counterparts. Indigenous children aged 15–16 years had mean DMFT scores of 3.67 compared with 0.55 and 1.62 for Indigenous children aged 5–9 years and 10–14 years respectively.

Table 1.10.3: Mean dmft and DMFT scores of remote Indigenous children, by age group, 2000–2003

	Age group				
	<5 years	5–9 years	10–14 years	15–16 years	All children (2–16 years)
Mean dmft	3.69	6.27	1.99	0.08	4.03
Mean DMFT	—	0.55	1.62	3.67	1.06

Source: AIHW DSRU 2007.

Comparison of remote Indigenous child oral health and state/territory and national dental disease levels

A comparison of caries experience of remote Indigenous children compared with children in South Australia, the Northern Territory and total Australia is shown in Table 1.10.4.

Dental disease experience in primary teeth was greater for remote Indigenous children (dmft = 2.94 for 5–6 years) compared with children in South Australia, the Northern Territory and total Australia (dmft = 1.46 to 2.26 for 5–6 years). The proportion of children with caries in both deciduous and permanent teeth was greater for children living in remote Indigenous communities.

Table 1.10.4: Caries experience of remote Indigenous children compared with South Australia, the Northern Territory and total Australia child populations

Population	dmft (5–6 years)	% dmft > 0	DMFT (> 12 years old)	% DMFT > 0
Remote Indigenous	2.94	69.0	0.92	43.6
SA	1.46	58.5	0.60	31.4
NT	2.26	47.6	0.97	37.5
Australia	1.56	59.1	0.84	35.1

Source: AIHW DSRU 2007.

Comparison of remote Indigenous child oral health and state/territory Indigenous oral health

Indigenous children aged 6 years in remote communities had higher dmft levels than their New South Wales counterparts, but lower levels than Indigenous children in the Northern Territory and South Australia (Table 1.10.5). Average DMFT levels for Indigenous children aged 12 years were highest among those in the Northern Territory (DMFT = 1.33) and lowest among those in New South Wales (DMFT = 0.87). A higher proportion of Indigenous children aged 6 years in remote communities had caries experience in their deciduous teeth than children in New South Wales and South Australia, and a higher percentage of Indigenous children aged 12 years in remote locations had caries experience in their permanent teeth compared with their New South Wales and South Australia counterparts (Table 1.10.5).

Table 1.10.5: Remote and state/territory caries experience of Indigenous children

Population	dmft (6 years old)	% dmft > 0	DMFT (12 years old)	% DMFT > 0
Remote Indigenous	2.94	69.0	0.92	43.6
NSW Indigenous	2.09	55.0	0.87	35.9
SA Indigenous	3.64	49.3	1.28	37.0
NT Indigenous	3.96	67.8	1.33	46.1

Source: AIHW DSRU 2007.

Time series analysis

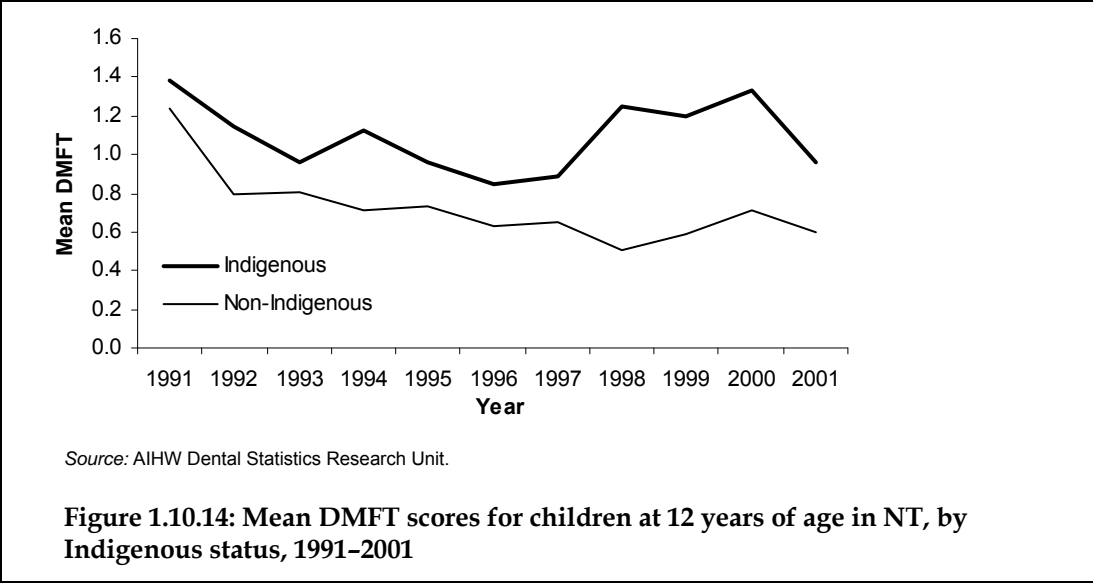
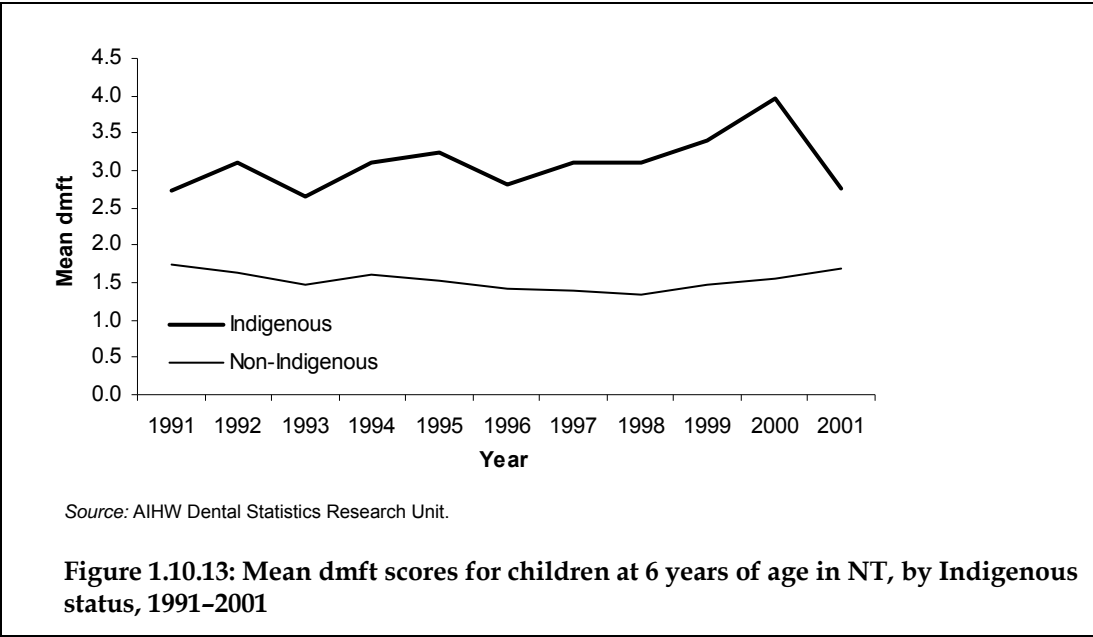
Time series data for caries experience among Indigenous children are available for the Northern Territory and are presented in Table 1.10.6 and Figures 1.10.13 and 1.10.14.

- Between 1991 and 2001, the mean number of decayed, missing and filled deciduous teeth (dmft) for Indigenous children in the Northern Territory at 6 years of age varied from year to year.
- For the period 1991–2001, there was little change in the number of decayed, missing and filled deciduous (dmft) and permanent teeth (DMFT) for Indigenous and non-Indigenous children.
- The mean dmft and DMFT scores were higher for Indigenous children than for non-Indigenous children over the period 1991–2001.
- The decline in Indigenous dmft and DMFT in 2001 may be part of normal variation in Indigenous data which may relate to particular remote communities receiving school dental services in any particular year.

Table 1.10.6: Mean dmft and DMFT scores for Indigenous children in NT, 1991–2001

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Mean dmft scores, children aged 6 yrs											
Indigenous	2.74	3.11	2.66	3.11	3.23	2.80	3.12	3.11	3.4	3.96	2.77
Non-Indigenous	1.73	1.64	1.48	1.62	1.53	1.41	1.40	1.35	1.47	1.56	1.68
Mean DMFT scores, children aged 12 yrs											
Indigenous	1.38	1.15	0.96	1.13	0.96	0.85	0.89	1.25	1.20	1.33	0.96
Non-Indigenous	1.24	0.79	0.81	0.71	0.73	0.63	0.65	0.51	0.59	0.71	0.60

Source: AIHW Dental Statistics Research Unit.



Adult oral health

The latest available data on DMFT scores and complete loss of all natural teeth for Indigenous adults come from the 2004-06 Adult Dental Health Survey.

- In 2004-06, the mean number of decayed, missing or filled teeth for Indigenous adults aged 15 years and over was 14.8 compared with 12.8 for non-Indigenous persons of the same age. The mean numbers of decayed and missing teeth were higher for Indigenous adults across all age groups from 15 to 74 years, and the mean number of filled teeth was higher for non-Indigenous adults in the age groups 35-54 and 55-74 years (Table 1.10.7, Figure 1.10.15).
- Overall, a higher percentage of Indigenous persons aged 15 years and over had no natural teeth (7.9%) than non-Indigenous persons aged 15 years and over (6.4%) (Figure 1.10.16). This difference is observed in all age groups over 35 years of age and is

particularly marked in the 35–54 age group where Indigenous adults were around five times as likely to have no natural teeth as non-Indigenous adults.

Table 1.10.7: Mean number of decayed, missing or filled teeth for adults, by age group and Indigenous status, 2004–06

	Age group				All ages (15+)
	15–34	35–54	55–74	> 75+	
Mean no. of decayed teeth					
Indigenous	1.7 ^(c)	4.1 ^(c)	1.4 ^(c)	n.p.	2.7 ^(c)
Non-Indigenous	0.9	0.8	0.5	0.6 ^(b)	0.8
Mean no. of missing teeth					
Indigenous	4.0 ^(b)	7.4 ^(b)	13.1 ^(b)	n.p.	7.4
Non-Indigenous	3.5	5.3	10.2	14.2	6.1
Mean no. of filled teeth^(a)					
Indigenous	1.3	4.3	8.8	n.p.	4.7
Non-Indigenous	0.1	8.2	11.5	9.6	5.9
Mean no. of filled tooth surfaces					
Indigenous	8.0 ^(c)	15.9 ^(b)	26.5 ^(b)	n.p.	16.6 ^(b)
Non-Indigenous	5.6	24.5	34.7	30.3	19.9
Mean no. of decayed, missing or filled teeth					
Indigenous	7.0 ^(c)	15.8	23.3	n.p.	14.8
Non-Indigenous	4.5	14.3	22.2	24.4	12.8

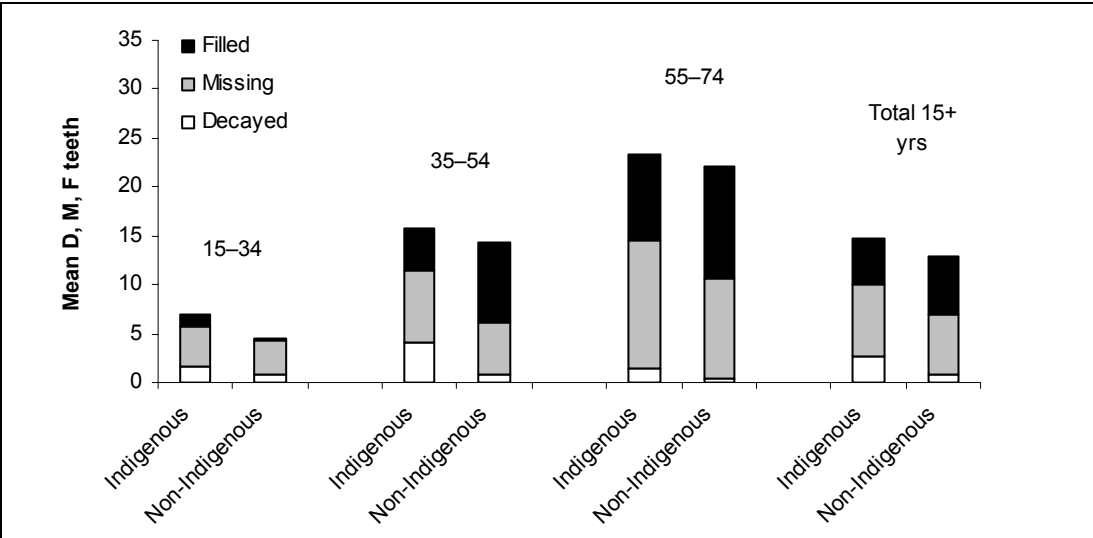
(a) No relative standard error estimates for mean number of filled teeth available.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

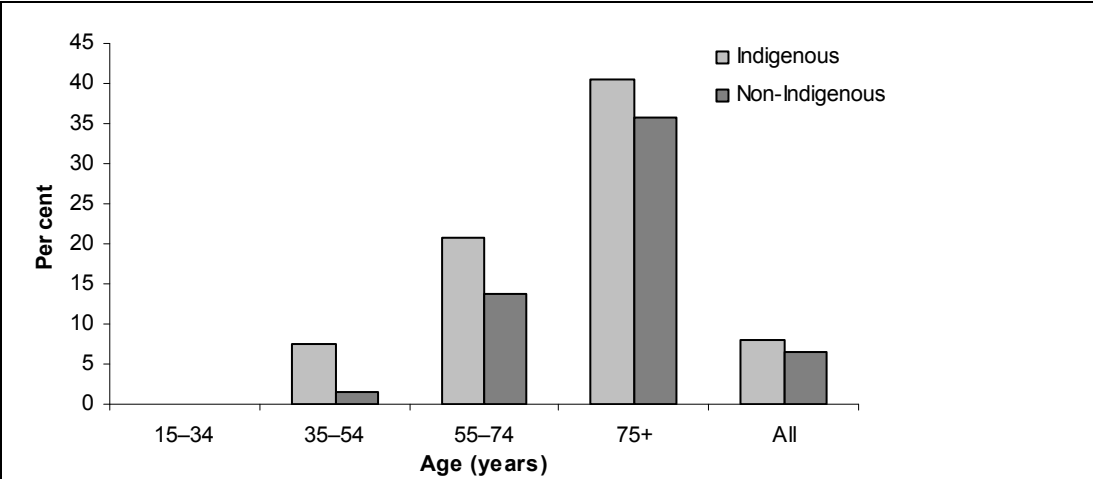
Note: Excludes those with no natural teeth.

Source: Roberts-Thomson & Do 2007.



Source: Roberts-Thomson & Do 2007.

Figure 1.10.15: Mean number of decayed, missing or filled teeth for persons aged 15 years and over, by age group and Indigenous status, 2004-06

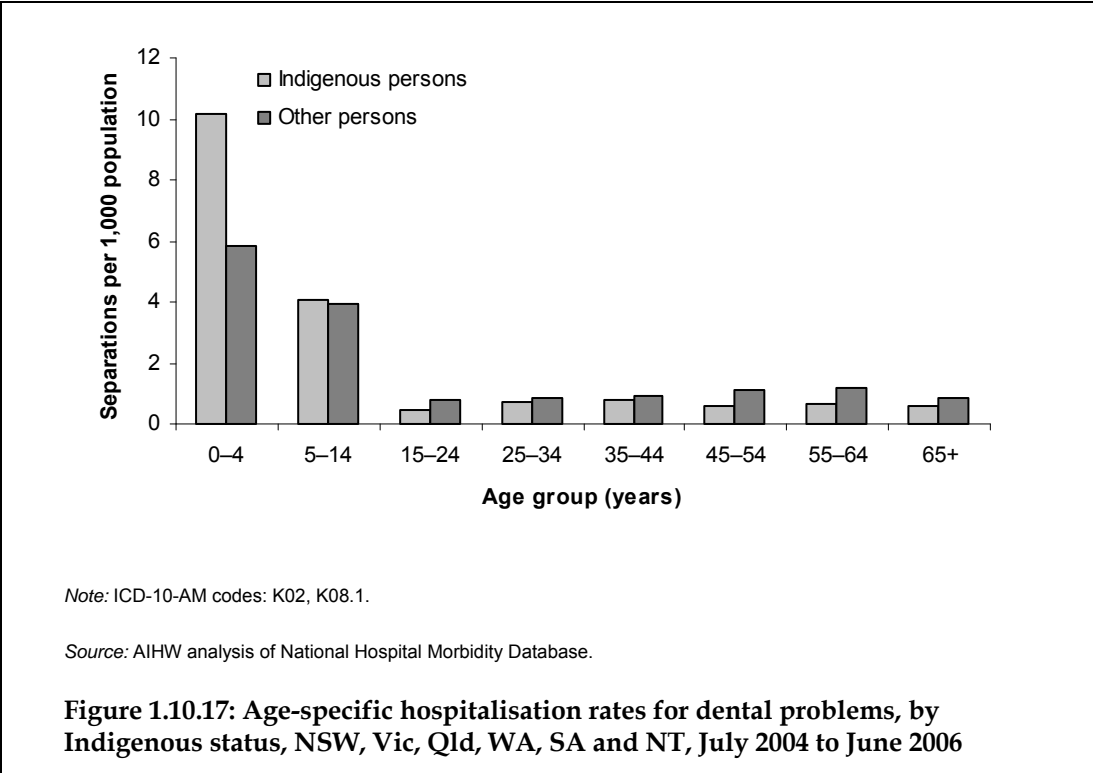


Source: Roberts-Thomson & Do 2007.

Figure 1.10.16: Persons aged 15 years and over with no natural teeth (complete tooth loss), by Indigenous status, 2004-06

Hospitalisations for dental problems

- For the 2-year period July 2004 to June 2006, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 65,633 hospitalisations for dental problems, of which 2,495 (3.8%) were of Aboriginal and Torres Strait Islander peoples.
- Indigenous children aged 0–4 years had higher hospitalisation rates for dental problems (dental caries and tooth extractions) than other children of the same age (Figure 1.10.17). At ages 5–14 years, Indigenous children were hospitalised for dental problems at similar rates to other children, but in the older age groups other Australians were hospitalised at higher rates than Indigenous Australians.



- After adjusting for differences in age structure between the two population groups, Indigenous and other Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised at similar rates for dental problems.

Additional information

Child oral health

Dental health problems of Aboriginal children

Information on dental problems among Aboriginal children was collected in the Western Australian Aboriginal Child Health Survey between 2001 and 2002. Carers of Aboriginal children were asked whether their child currently had a number of dental problems including cavities and dental fillings.

- Overall, approximately 38% of Aboriginal children aged 0–17 years were assessed by their carers as having one or more dental problems (tooth decay, tooth removals or fillings). Almost half of children aged 4–17 years had experienced one or more dental problems at the time of the survey (47%). The proportion of children who had dental problems varied by level of relative isolation, with children living in Perth metropolitan areas twice as likely to have tooth decay, a tooth removal or filling (52%) than children living in areas of extreme isolation (25%).
- Approximately 19% of Aboriginal children aged 0–17 years were assessed by their carers as having holes in their teeth. Prevalence of cavities was lowest for children aged 0–3 years (8%) and highest for children aged 4–7 years (31%).
- Around 9% of Aboriginal children were reported to have ever had a tooth removed. Children aged over 3 years were more likely to have had a tooth extraction for dental decay.
- Over one-quarter (28%) of children aged 0–17 years were reported to have had dental fillings. A greater proportion of older children were reported to have ever had a tooth filled than younger children. Less than 1% of children aged 0–3 years had ever had a dental filling compared with around 40% of children aged 8–11 years and 12–17 years.
- An estimated 6% of Aboriginal children aged 0–17 years were reported to have a problem with sore and bleeding gums. The prevalence of sore and bleeding gums was highest for children aged 12–17 years (8%).

Dental characteristics of Indigenous children in remote communities

Data on the oral health of Indigenous children in remote communities come from a study undertaken in 2000–2003 by the Australian Research Centre for Population Oral Health in collaboration with the Far West Area Health Service (New South Wales), the remote Indigenous communities of Nganampa lands (South Australia), and various remote communities around Alice Springs (Northern Territory).

Dental characteristics of remote Indigenous children are presented in Table 1.10.8. Almost one-third were classified as 'high caries risk' and just over one-fifth were in the 'moderate' gingivitis risk group. One-quarter had 'moderate' hypoplasia on permanent teeth and one-quarter had 'mild' fluorosis on permanent teeth.

Table 1.10.8: Dental characteristics of remote Indigenous children, 2000–2003

	Number	Per cent (%)
Caries risk status		
Low	366	44.0
Moderate	193	23.2
High	265	31.9
Gingivitis risk status		
Low	541	65.1
Moderate	171	20.6
High	56	6.7
Hypoplasia on permanent teeth		
None	92	25.4
Mild	127	35.1
Moderate	88	24.3
Severe	55	15.2
Fluorosis on permanent teeth		
None	120	58.3
Mild	50	24.3
Moderate	33	16.0
Severe	3	1.5

Source: Jamieson et al 2007.

Dental characteristics of remote Indigenous children by age group are presented in Table 1.10.9. Less than 4% of children aged less than 5 years brushed their teeth at home, compared with almost one-quarter of those aged 10–14 years (23%). Children aged less than 5 years and 5–9 years were at the highest caries risk (37% and 39% respectively), and those aged 15–16 years were at the highest gingivitis risk (25%). The prevalence of hypoplasia and fluorosis on permanent teeth was higher among children in the older age groups.

Table 1.10.9: Dental characteristics of remote Indigenous children, by age group, 2000–2003

	< 5 years		5–9 years		10–14 years		15–16 years	
	Number	%	Number	%	Number	%	Number	%
Brush teeth school	11	21.2	78	20.5	52	14.6	5	20.8
Brush teeth home	2	3.8	79	20.7	80	22.5	3	12.5
Caries risk status								
Low	28	53.8	130	34.1	192	54.1	10	41.7
Moderate	5	9.6	98	25.7	76	21.4	8	33.3
High	19	36.5	150	39.4	84	23.7	6	25.0
Gingivitis risk status								
Low	38	73.1	290	76.1	198	55.8	8	33.3
Moderate	3	5.8	56	14.7	97	27.3	10	41.7
High	—	—	10	2.6	39	11.0	6	25.0
Hypoplasia on permanent teeth								
None	3	100.0	49	26.1	31	20.0	3	42.9
Mild	—	—	72	38.3	54	34.8	1	14.3
Moderate	—	—	45	23.9	42	27.1	1	14.3
Severe	—	—	22	11.7	28	18.1	2	28.6
Fluorosis on permanent teeth								
None	3	100.0	55	61.8	55	54.5	—	—
Mild	—	—	21	23.6	26	25.7	2	40.0
Moderate	—	—	11	12.4	19	18.8	3	60.0
Severe	—	—	2	2.2	1	1.0	—	—

Source: Jamieson et al 2007.

Water fluoridation and children's oral health

Water fluoridation is the process of adjusting the level of fluoride in drinking water to achieve a concentration of approximately 1 ppm. That concentration is effective in preventing decay but it does not cause appreciable levels of dental fluorosis, a discolouration of the enamel that, in severe cases, creates a chalky appearance on the tooth surface. Fluoride reduces dental decay by making teeth less susceptible to the acids formed by micro-organisms living on and around the teeth. Fluoride can also assist in reversing the process of decay once it has begun. Some small communities in Australia have drinking water that contains naturally occurring fluoride in a concentration of around 1 ppm; that concentration is achieved by water fluoridation in most larger communities and cities (Jamieson et al 2007). Non-fluoridated water supplies are more likely in rural and remote areas, where a significant proportion of the population is Indigenous, and there is evidence that children in these areas are more likely to have poorer dental health (Armfield 2006). Data from the Child Dental Health Survey showed that children from fluoridated areas had less dental decay than children from non-fluoridated areas (Jamieson et al 2007). Within each jurisdiction, children from areas with fluoride concentrations at or above 0.7 ppm had fewer dmft per child, on average, than did children residing in areas with relatively low fluoride concentrations. The

proportion of Australians who had access to fluoridated water in 2006 ranged from 5% in Queensland to 100% in the Australian Capital Territory (Australian Dental Association 2006).

Adult oral health

The National Survey of Adult Oral Health collected information on the oral health status, dental care and oral health perceptions of Indigenous and non-Indigenous Australians. This information is presented below.

Oral health status

In 2004–06, approximately 12% of Indigenous persons aged 15 years and over wore dentures, 57% reported untreated coronal decay (compared with 25% of non-Indigenous persons), 8% had untreated root decay and only 4% had no dental decay (compared with 10% of non-Indigenous persons). In addition, 21% of Indigenous persons reported having periodontitis, 21% reported periodontal pockets of depth of 4 mm and 27% reported gingival inflammation (Table 1.10.10).

Table 1.10.10: Oral health status of persons aged 15 years and over, Australia, 2004–06

	Indigenous	Non-Indigenous
	Per cent	
Fewer than 21 teeth ^(a)	10.4 ^(c)	11.4
Wear dentures ^(a)	11.5 ^(c)	15.0
Untreated coronal decay ^(a)	57.0 ^(c)	25.1
Untreated root decay ^(a)	7.7 ^(d)	6.7
One or more filled teeth ^(a)	82.5	83.9
No dental decay ^(a)	3.8 ^(d)	10.0
Moderate or severe periodontitis ^(b)	29.0 ^(c)	22.9
Periodontitis ^(b)	21.2 ^(c)	19.0
4mm periodontal pocket depth ^(b)	21.4 ^(c)	19.7
2+mm gingival recession ^(b)	56.1 ^(c)	52.8
Gingival inflammation ^(b)	26.8 ^(c)	19.6

(a) Excludes those with no natural teeth.

(b) Includes those who were periodontally examined only.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(d) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

Source: Roberts-Thomson & Do 2007.

Dental care

Information on the dental care of Indigenous and non-Indigenous Australians is presented in Table 1.10.11.

- In 2004–06, approximately 51% of Indigenous persons aged 15 years and over reported they had visited a dentist in the last 12 months and 15% reported their last dental visit was at least 5 years ago compared with 60% and 12% of non-Indigenous Australians respectively.
- Indigenous persons were less likely to have attended a private dental practice at the last dental visit (66%), to have paid for their last dental visit (80%), to usually visit a dentist at least once a year (43%), to have a regular dentist (72%) and to usually visit a dentist for a

check-up (45%) than non-Indigenous persons (83%, 92%, 53%, 79% and 56% respectively).

- Indigenous Australians were more likely to report that they had avoided or delayed dental care (38%), that cost had prevented recommended dental treatment (34%) and that they would have a lot of difficulty paying a \$100 dental bill (27%) than non-Indigenous Australians.

Table 1.10.11: Dental care of Indigenous and non-Indigenous adults, 2004-06

	Indigenous	Non-Indigenous
	Per cent	
Visit dentist in last 12 months	50.7	59.5
Last dental visit at least 5 years ago	14.5 ^(a)	11.8
Attended private dental practice at last dental visit	66.2	83.4
Paid for last dental visit ^(b)	79.8	91.5
Usually visit dentist at least once a year ^(c)	43.4	53.3
Have a regular dentist ^(d)	72.1	78.7
Usually visit dentist for check-up	44.6	56.4
Avoided or delayed dental care	37.7	29.9
Reported cost had prevented recommended dental treatment ^(e)	33.7 ^(a)	20.5
Would have a lot of difficulty paying \$100 dental bill	26.9 ^(a)	18.1

(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) People who visited dentist within last 5 years.

(c) Excludes those with no natural teeth.

(d) People who visited dentist in last 5 years. Excludes those with no natural teeth.

(e) People who visited dentist within last 2 years.

Source: Spencer & Harford 2007.

Oral health perceptions

Information on the dental care of Indigenous and non-Indigenous Australians is presented in Table 1.10.12.

- In 2004-06, Indigenous persons were more likely than non-Indigenous Australians to report their oral health as fair or poor (25% compared with 16%), to experience toothache (27% compared with 15%), to need dentures (16% compared with 7%), to need an extraction or filling (49% compared with 33%) and to need oral treatment within 3 months (83% compared with 69%).

Table 1.10.12: Oral health perceptions of Indigenous and non-Indigenous adults, 2004–06

	Indigenous	Non-Indigenous
	Per cent	
Avoid foods due to dental problems	34.9	17.1
Self assessed fair/poor oral health ^(a)	25.1 ^(c)	16.3
Experiences toothache ^(a)	27.0 ^(c)	15.0
Experiences orofacial pain	27.1 ^(c)	22.5
Needs dentures	15.8 ^(c)	7.1
Need an extraction or filling ^(a)	48.8	32.6
Perceive a need for a check-up ^(a)	58.1	59.6
Perceive need for treatment within 3 mths ^{(a)(b)}	82.9	69.1

(a) Excludes those with no natural teeth.

(b) People who need an extraction or filling.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

Source: Harford & Spencer 2007.

Dental consultations and oral health actions

Information on the dentist consultations and oral health actions of Indigenous Australians was also collected in the 2004–05 NATSIHS and yielded similar findings to the Adult Dental Health Survey. This information is summarised below.

- In 2004–05, approximately 4% of Indigenous Australians and 6% of non-Indigenous Australians aged 2 years and over reported they had visited a dentist in the last 2 weeks.
- Approximately 89% of Indigenous Australians aged 15 years and over reported they had visited a health professional about their teeth at some point in their lives. A higher proportion of Indigenous people living in remote areas had visited a health professional about their teeth than Indigenous people living in non-remote areas (94% compared with 76%).
- In 2004–05, approximately 10% of Indigenous Australians aged 15 years and over reported wearing dentures and 6% reported they required dentures. A higher proportion of Indigenous Australians in non-remote areas reported wearing dentures than those living in remote areas (12% compared with 5%), whereas a higher proportion of Indigenous people in remote areas reported they required dentures (8%) than those living in non-remote areas (6%).

For more detailed information on oral health actions of Indigenous Australians from the NATSIHS, see the 2006 edition of this report (detailed analyses).

International comparisons

Information is available on the oral health of Maori children in New Zealand, First Nation children in Canada and Native American children in the United States of America.

Indigenous child oral health in New Zealand

There is no national survey data that describe the oral health status of Maori children in New Zealand. However, regional studies suggest that Maori children experience higher levels of dental disease than non-Maori children (Thomson 1993 cited in Jamieson et al 2007), and that this disparity is widening (Lee & Dennison 2004; Thomson et al. 2002 cited in Jamieson et al 2007). In a survey of 3,283 5-year-olds in one region the proportion of Maori children identified as having dental caries severe enough to warrant treatment under a general anaesthetic was over twice that of non-Maori children (Thomson 1993 cited in Jamieson et al 2007). Another report found that 66% of children receiving dental care under a general anaesthetic in one region were Maori, and that demand for this form of care was increasing (Broughton 2000; Thomson 1994 cited in Jamieson et al 2007).

Indigenous child oral health in Canada

Although dental health is improving among Canadian children in the general population, the same cannot be said for First Nation Canadian children. A comparison of two national oral health surveys of First Nation Canadian children conducted in 1990–91 and 1996–97 respectively showed that deft (decayed, extracted, filled deciduous teeth) scores for 6-year-old children had increased from 8.2 to 8.7, and mean DMFT scores had increased from 0.7 to 0.8. This was in contrast to the overall Canadian child population in these age groups, where a decrease in dental disease experience was noted (Peressini et al. 2004, cited in Jamieson et al 2007). Other regional reports of First Nation Canadian child oral health show similar trends (Harrison & Davis 1993; Harrison & White 1997; Klooz 1988 cited in Jamieson et al 2007).

Indigenous child oral health in the United States of America

Findings from the 1991 Indian Health Service Patient Oral Health Status and Treatment Needs Survey revealed that Native American children experienced a much higher prevalence of dental caries in their primary and permanent teeth than the general US child population (Niendorff & Jones 2000, cited in Jamieson et al 2007). Grim et al. (1994) reported that of 1,667 public school students dentally examined in Oklahoma, Native American children had over double the dmfs and DMFS scores of their non-Native American counterparts. The mean dmfs for children aged 5–6 years was 10.4 for Native American children and 5.1 for non-Native American children, and the mean DMFS for children aged 15–17 years was 10.1 for Native American children and 6.0 for non-Native American children (Jamieson et al 2007). A review of several large-scale oral health epidemiologic surveys found that Native American children had greater caries experience than non-Native American children, with risk factors including rural residence, minimal exposure to fluoride, and coming from less educated or poorer families (Caplan & Weintraub 1993 cited in Jamieson et al 2007).

Data quality issues

Dental health survey data

The assessment of dmft and DMFT is based on the World Health Organization protocol. The accuracy of dmft and DMFT will depend on the quality of the assessment and the accuracy of recording.

Child Dental Health Survey

The Child Dental Health Survey monitors the dental health of children enrolled in school dental services operated by health departments or authorities in each state and territory. Therefore, this survey will miss those children not attending these programs. There are some variations among state and territory programs with respect to priority age groups and the nature of the services provided, such as dental examinations, preventive services and restorative treatment. Caution is required in interpreting statistics for those over the age of 12 years, as many programs only include primary school children. Different sampling procedures are used across the states and territories (Armfield et al. 2003). The sample has not been specifically designed to measure Indigenous children and therefore caution is needed in interpreting the results. Data on Indigenous status are collected from the patient's treatment card or medical history. Problems have been identified in the accurate recording of Indigenous status in this data (Armfield et al. 2003).

Indigenous child oral health in remote communities study

Indigenous child oral health data were collected from remote Indigenous communities in all jurisdictions in the 2000–2003 period as part of a study undertaken by the Australian Research Centre for Population Oral Health in collaboration with the Far West Area Health Service (New South Wales), the remote Indigenous communities of Nganampa lands (South Australia), and various remote communities around Alice Springs (Northern Territory). Data were collected by dental health professionals providing services to these communities. Because of issues of confidentiality, specific location details were unable to be included in the analysis. The sample included 832 Indigenous children aged 2–16 years.

National Survey of Adult Oral Health

The 2004–06 National Survey of Adult Oral Health included computer-assisted telephone interviews with 14,123 people aged 15–97 years, 5,505 of which were also dentally examined. The survey included 229 people who identified as Aboriginal or Torres Strait Islander (1.5%). Indigenous identity was based on responses to the question 'Are you of Aboriginal or Torres Strait Islander origin?' People who responded 'Yes, Aboriginal', 'Yes, Torres Strait Islander' or 'Yes, Torres Strait Islander & Aboriginal' were classified as Indigenous. People who responded 'no' were classified as non-Indigenous. Twelve interviewees did not respond or said 'don't know' and they were excluded from estimates for the two subgroups. Results of Indigenous Australians should be interpreted with care because of the small sample size.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians and thus overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

(continued)

Data quality issues (continued)

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in major cities and regional and remote areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.

In remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

Western Australian Aboriginal Child Health Survey

Survey data are subject to sampling and non-sampling errors. Confidence intervals are published with the data to provide a guide to the reliability of the estimates. Non-sampling errors can occur in surveys owing to questionnaire design problems, respondent difficulty recalling information/lack of appropriate records, and errors made in the recording and processing of the data. Every effort was made to minimise non-sample errors in this survey.

Hospital separations data

Separations

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations of Aboriginal and Torres Strait Islander peoples. The identification of Indigenous people in hospitalisations is incomplete in all states and territories, but six jurisdictions (New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the AIHW as having adequate identification (above 80%) in 2004–05 (AIHW unpublished data). This assessment was based on a comparison of the number of Indigenous patients identified in patient interviews with the number of Indigenous patients identified in hospital records. It has therefore been recommended that reporting of Indigenous hospital separations be limited to aggregated data from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. The proportion of the Indigenous population covered by these six jurisdictions is 96%.

(continued)

Data quality issues (continued)

The following caveats have also been recommended for analysis of hospitalisation data from selected jurisdictions (ABS & AIHW 2005):

- *Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from Western Australia and the Northern Territory and relatively marked Indigenous under-identification in data from South Australia and Victoria).*
- *Data for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.*
- *Hospitalisation data for these six jurisdictions are not necessarily representative of the jurisdictions not included.*

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. The changes in the completeness of identification of Indigenous people in hospital and records may take place at different rates than changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2009 (ABS 2004).

References

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