Part VI: Oral health

Chapter 17: Dental health

17. Dental health

Australian children generally experience good oral health. Oral health refers to the health of a number of tissues in the mouth, including mucous membrane, connective tissue, muscles, bone, teeth and periodontal structures or gums. It may also refer to immunological, physiological, sensory and digestive system functioning, but is most often used to refer to two specialised tissues of the mouth: the teeth, and the gums (AIHW 2000a).

Decayed teeth are the cause of considerable illness and pain, and losing permanent teeth can lead to difficulties in chewing, higher levels of discomfort while eating, personal embarrassment, social isolation, and a need for assistance (AIHW 2000a). Good oral heath throughout infancy and early childhood contributes to better dental health in adulthood, resulting in less decay and reduced loss of natural teeth. Early preventive strategies, including water fluoridation, improved oral hygiene practices, better diet, regular brushing and flossing and improved disease management, all help to maintain the health of teeth and gums. The level of access to dental health services in terms of availability and affordability is also an important determinant of dental health.

Oral health outcomes are usually measured in terms of dental health, which is measured in terms of the number of decayed, missing or filled teeth for both baby (deciduous) and adult (permanent) teeth. Another measure of good oral health is the proportion of children with no tooth decay.

Following the introduction of the School Dental Scheme in 1977, there have been great improvements in the dental health of Australian children, including a decline in average decay experience, and an increase in the proportion of children with no dental decay (AIHW 1996). Adding fluoride to the public water supply has also been an effective and socially equitable way of reducing dental decay (AIHW 1998).

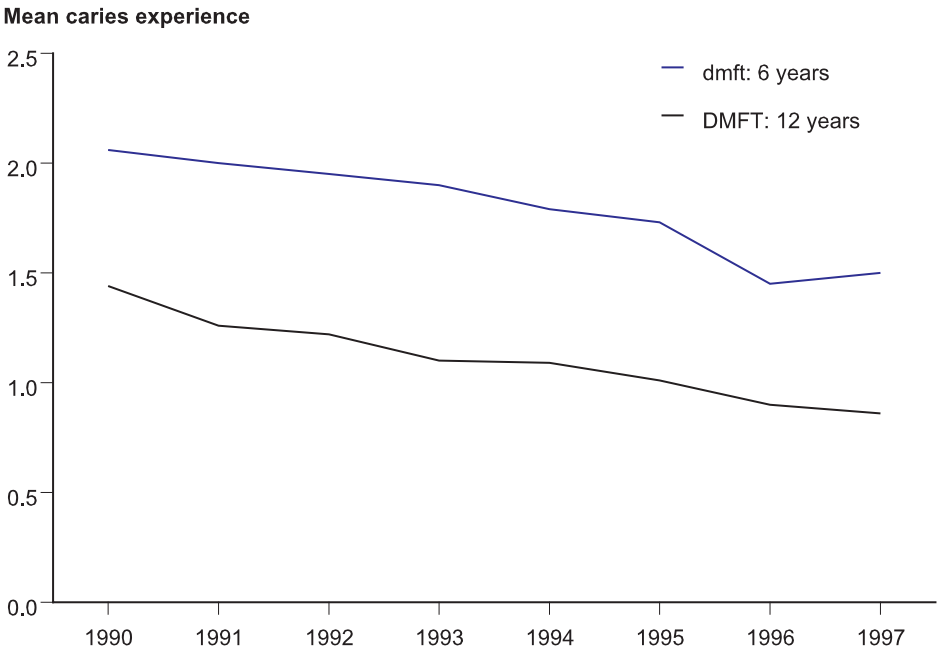
The Child Dental Health Survey monitors the dental health of children enrolled in the dental services operated by all State and Territory health departments (AIHW DSRU: Armfield et al. 2000). School dental services typically provide dental care to primary school-aged children, although in New South Wales screens children up to Year 8. The data obtained from the school dental scheme have some limitations, as only children enrolled with school dental services are represented in the sample. The scheme is not accessible to all schoolchildren and there is some variation among State and Territory programs with respect to priority age groups and the nature of services. Some States and Territories serve 80% of primary school children, while others serve smaller proportions.

Data in this chapter come from the Child Dental Health Survey and the 1999 National Dental Telephone Interview Survey conducted by the Dental Statistics and Research Unit (DSRU) of the AIHW.

Dental health of school children

Dental decay experience is expressed as a dmft or DMFT score: the number of teeth currently decayed, teeth extracted due to decay, and teeth with fillings (AIHW 2000a). The 'dmft' score describes decay experience in deciduous teeth, while the 'DMFT' score describes decay experience in permanent teeth. The other commonly used statistic is the percentage of individuals who are decay free, that is, when both dmft and DMFT equal zero.

The indicator for dental decay is the mean dmft score for children aged 6 years and the mean DMFT score for children aged 12 years. The mean numbers of decayed teeth among children aged 6 years (dmft) and 12 years (DMFT) from 1990 to 1997 are shown in Figure 17.1.

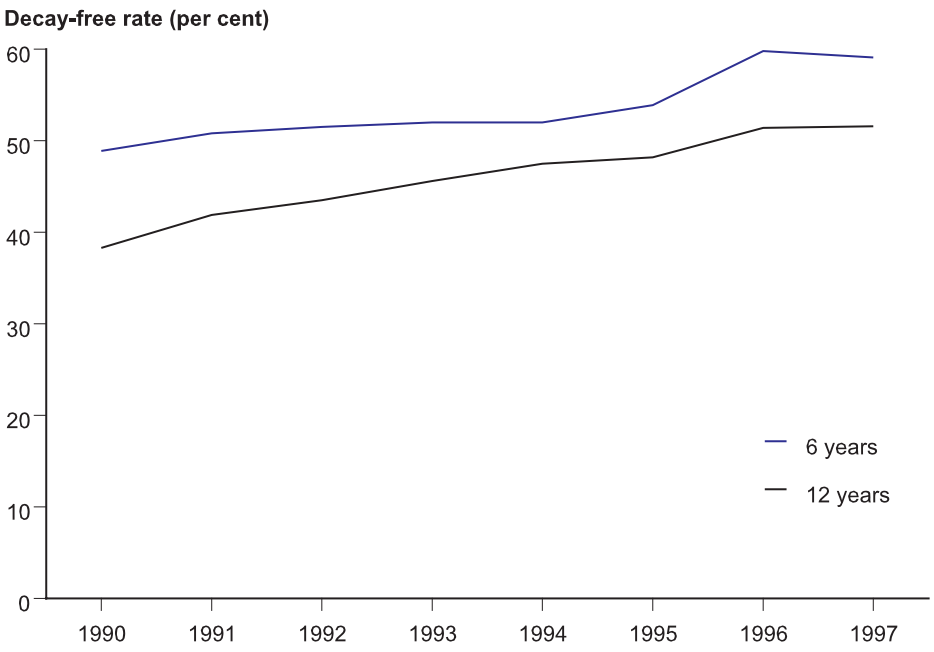


Source: AIHW DSRU 1993; AIHW DSRU: Davies et al. 1994a, 1994b; AIHW DSRU: Davies & Spencer 1995, 1997a, 1997b; AIHW DSRU: Armfield et al. 1999, 2000 [Table A17.1].

Figure 17.1: Mean caries experience of children aged 6 and 12 years, 1990–97

- The mean number of decayed teeth in children aged 6 and 12 years decreased between 1990 and 1997. Among children aged 6 years, the average number of baby teeth affected by decay (dmft) decreased from 2.1 to 1.5. Among children aged 12 years, the average number of permanent teeth affected by decay (DMFT) decreased from 1.4 to 0.9.
- The mean number of decayed teeth was higher in the baby teeth of children aged 6 years than in the permanent teeth of children aged 12 years.

The indicator for the decay-free rate is the number of children aged 6 years or 12 years with a dmft + DMFT score of zero as a percentage of all children aged 6 years or 12 years. The decay-free experience of children aged 6 and 12 years from 1990 to 1997 is shown in Figure 17.2.



Source: AIHW DSRU 1993; AIHW DSRU: Davies et al. 1994a, 1994b; AIHW DSRU: Davies & Spencer 1995, 1997a, 1997b; AIHW DSRU: Armfield et al. 1999, 2000 [Table A17.2].

Figure 17.2: Proportion of children aged 6 and 12 years free from decay experience, 1990–97

- The proportions of children aged 6 and 12 years free from decay experience gradually increased between 1990 and 1997. The proportion of children aged 6 years rose from 49% to 59%, while the proportion of children aged 12 years rose from 38% to 52%.

While there have been general improvements in the dental health of Australian children, problems with dental health are still seen in Aboriginal and Torres Strait Islander and overseas-born children. Davies et al. (1997) found that, in 1992, Aboriginal and Torres Strait Islander children had significantly more decayed teeth and higher aggregate decay experience in both baby and adult teeth than other Australian children. They also found that overseas-born children had more fillings and fissure sealants than other Australian children. Data from the 1998 Child Dental Health Survey for children in the Northern Territory show that Indigenous children are more likely than other Australian children to have decayed, missing or filled baby teeth. Moreover, in children aged 6–14 years, the proportion of Indigenous children with no decayed permanent teeth was consistently lower than for other Australian children at every age examined (ABS & AIHW 2001).

Dental health can also be looked at by examining the proportion of the child population in immediate need of treatment. These data are recorded for New South Wales, Queensland, South Australia and the Northern Territory (Table 17.1).

Table 17.1: Children in need of immediate treatment and the state of their dental health, 1997

Age (years)	Proportion needing immediate treatment (per cent)	Mean dmft	Mean DMFT	Proportion with 5 or more decayed teeth (per cent)
4	12.0	1.58	—	11.8
5	10.5	2.73	0.01	16.5
6	10.6	2.73	0.10	10.1
7	10.6	2.74	0.20	6.5
8	9.4	2.59	0.43	9.7
9	8.7	2.34	0.68	1.7
10	8.6	2.15	0.82	2.7
11	8.5	1.60	1.21	2.6
12	9.9	0.66	1.52	2.3
13	12.1	0.38	1.46	2.9
14	10.5	0.10	2.14	7.9

Note: Excludes Vic, WA, Tas and ACT.

Source: AIHW DSRU: Armfield et al. 2000.

- The highest proportions of children needing immediate treatment in 1997 were those aged 4 years and 13 years, with 12.0% and 12.1%, respectively, requiring immediate treatment.
- The highest proportion of children with 5 or more decayed teeth (16.5%) were aged 5 years.
- Generally, a greater proportion of younger children (aged 4–7 years) required immediate treatment. The proportion requiring immediate treatment increased again among children aged 13 and 14 years.

Dental consultations by children

The indicator for dental consultations is the number of children aged 5–9 and 10–14 years who had a dental consultation in the past 12 months as a percentage of all children aged 5–9 and 10–14 years.

Information on dental visits by children aged 5–14 years, gathered from the National Dental Telephone Interview Survey, is shown in Table 17.2.

Table 17.2: Dental consultations by children aged 5–14 years, 1999

	Age (years)	
Question	**5–9**	**10–14**
Time since last dental visit		
Never	8.6%	0.4%
<12 months	78.5%	79.5%
1–<2 years	11.6%	15.1%
2–<5 years	1.3%	5.1%
5+ years	0.0%	0.0%
Place of last dental visit		
Private	38.5%	44.8%
Public clinic	3.9%	8.2%
School dental service	57.6%	47.1%
Reason for last dental visit:[(a)]		
Problem	24.6%	29.0%
Check-up	75.4%	71.0%
Mean number of:[(a)]		
Visits	1.92	2.60
Extractions	0.22	0.30
Fillings	0.52	0.37
Scale and clean services	0.53	0.71
Social impact		
Toothache[(b)]	5.7%	8.6%
Food avoidance[(c)]	10.8%	9.2%

(a) Among children who made a dental visit in the previous 12 months.

(b) Percentage reporting experience of toothache as 'very often', 'often', or 'sometimes' during the last 12 months.

(c) Percentage reporting avoidance of eating some foods because of problems with their teeth or mouth as 'very often', 'often', or 'sometimes' during the last 12 months.

Source: 1999 National Dental Telephone Interview Survey (AIHW DSRU).

- The majority of children aged 5–14 years in 1999 had visited a dentist or dental professional in the previous 12 months: 78.5% of children aged 5–9 years, and 79.5% of children aged 10–14 years.
- Over half of children aged 5–9 years (57.6%) and just under half of those aged 10–14 years (47.1%) used the school dental service on their last visit to a dentist or dental professional. Of children aged 5–9 years, 38.5% had last used a private dentist, while of children aged 10–14 years, the proportion was 44.8%.
- A higher proportion of children had last visited a dentist for a check-up rather than for a problem (75.4% of children aged 5–9 years, and 71.0% of children aged 10–14 years).
- For children aged 5–9 years, the average number of visits was 1.9, while for children aged 10–14 years, the average number was 2.6.
- Toothache in the previous 12 months was reported for 5.7% of all children aged 5–9 years, and 8.6% of children aged 10–14 years. A small proportion of children were also reported to avoid eating some foods due to tooth or mouth problems: 10.8% of children aged 5–9 years, and 9.2% of children aged 10–14 years.