



THE UNIVERSITY OF ADELAIDE

The Child Dental Health Survey Australian Capital Territory 1996

**AIHW Dental Statistics and Research Unit
The University of Adelaide**

**in collaboration with
The Australian Capital Territory School Dental Service**

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Purpose of this report

This report is part of the annual series providing descriptive statistics concerning child dental health in the Australian Capital Territory. The report contains tables and figures. Information listed in the tables includes: the age and sex of children in the sample, their deciduous and permanent caries experience, frequency of fissure sealants and children's history of School Dental Service examinations. The figures combine and summarise information from four of the tables.

These data were collected during the 1996 calendar year from patients of the ACT School Dental Service by dental therapists and dentists. A random sampling procedure was used to select approximately one in two (1:2.5) patients. This was achieved by selecting those children whose birthday was between the 1st and 12th (inclusive) of any month. Provision was made for inclusion and numerical weighting of data from children whose date of birth was unknown. A total of 54 patients with birth dates outside of the desired sampling frame were also sampled. These children were included in the analyses with appropriate adjustments being made to statistical weightings.

The following sections briefly describe each table (see pages 5-10) and provide a simple, summary statement highlighting differences between the 1996 and 1995 findings. However, no formal hypothesis tests have been undertaken and descriptions of difference between years are intended as a guide to the reader rather than an evaluation of trends.

Demographic composition of the sample

The great majority of children in the sample (95.2 per cent) were aged between 5 and 12 years inclusive, with approximately equivalent numbers in individual ages within the range of 6 to 11 years (see Table 1). Twelve year-olds were less than half as likely as those aged between 6 and 11 years to be in the sample, while 4-year-olds and those aged 13+ were infrequent. Males and females were represented in approximately equal proportions.

This distribution of the sample is closely related to the main target groups of children served by the School Dental Service in the ACT and emphasises that the sample is representative of primary school aged children served by the School Dental Service, rather than all children in the ACT. The small numbers of children aged 4 and 13+ are likely to be less representative of ACT children in general, and their small numbers contribute to imprecision in some age-specific statistics contained in the remaining tables.

Changes since 1995

There was an increase of 645 in the sampled number of cases from 1995.

Deciduous teeth: age-specific caries experience

The mean number of clinically decayed (d) teeth among children aged 5 to 10 years decreased from 0.75 to 0.36 (see Table 2). This can be explained by the exfoliation of deciduous teeth (as seen by the decrease in the mean number of deciduous teeth in

Table 2) and does not reflect a reduction in the percentage of teeth with decay in older age groups. The magnitude of variation in mean dmft (0.89 to 1.29) in the 5–10 year-old age range was similar to that of mean decay in absolute terms, with the mean number decreasing to six years of age, increasing to ages eight and nine years, before declining.

The percentage of caries experience due to decay (d/dmft) showed an age-associated decline, more than halving from 79.9 per cent among five year-olds to 34.2 per cent among 10 year-olds. By comparison, the percentage of caries-free children (% dmft=0) showed a more modest reduction from 69.6 per cent among five year-olds to 55.9 per cent among 10 year-olds.

Changes since 1995

The mean number of clinically detectable decayed teeth and mean dmft scores were appreciably lower in 1996 for five and six year-olds and also for 10 year-olds. For all ages d/dmft was higher in 1996 than in 1995. The percentage of children with dmft=0 was also higher across age groups in 1996 than in 1995.

Permanent teeth: age-specific caries experience

It can be seen from Table 3 that the mean number of clinically detectable decayed permanent teeth (D) was smaller than the mean number of clinically decayed deciduous teeth. Detectable decay increased across the age range of 6–14 years (0.02 to 0.37 teeth). The mean DMFT also increased quite consistently across age groups, from 0.02 for 5 year-olds to 1.22 for children aged 15 years and over. The age-related increase in D and DMFT scores reflects the increase in permanent teeth with age, from 1.08 for 5 year olds to 27.53 for those aged 15 years and older. The percentage of DMFT due to decay (D/DMFT) and the percentage of caries free children (DMFT=0) generally declined across age groups. Age-specific D/DMFT percentages were lower than d/dmft percentages between the ages of five and nine. It is noteworthy that more than 68.6 per cent of children aged 12 or less had no clinically detectable caries experience in their permanent teeth (DMFT=0). The mean DMFT for 12 year-olds was 0.56.

Changes since 1995

Increases in the mean number of clinically decayed permanent teeth can be seen for children aged 11-12 years of age. There has also been an increase across most age groups for D/DMFT in 1996, compared to 1995.

All teeth: age-specific caries experience

Untreated caries in the combined deciduous and permanent dentitions (d+D=1, 2, 3 or 4+) existed for between 31.4 and 18.3 per cent of children in the age range 5 to 12 years (see Table 4). The greatest likelihood of detectable untreated decay existed for 8 year-olds. However, the most extensive levels of untreated decay (d+D=4 or more) occurred in the younger age groups with the percentage d+D=4+ declining with increasing age.

More than 99 per cent of children had no deciduous or permanent teeth missing due to caries. However, smaller percentages avoided fillings. The percentage of children without fillings declined to age 10, increased to age 12, and then declined again. There was a similar pattern in the percentage of children with no caries experience in either deciduous or permanent dentition ($dmft+DMFT=0$), from 68.9 per cent at age five to 48.4 per cent at age 10, increasing to 59.3 per cent at age 13, and then declining. More than 50 per cent of children at every specific age group bar one had no detectable caries experience.

Changes since 1995

There was an increase in the percentage of children with $dmft+DMFT=0$ across almost all ages between 1996 and 1995 which is largely accounted for by increases in the percentage of children with $f+F=0$. An increase occurred for six year-olds in $d+D=0$, however a decrease could be observed for 8 and 11 year-olds.

Fissure sealants: age-specific experience

The mean number of fissure sealants were consistently greater than the mean DMFT at each age group and increased in prevalence with increasing age (see Table 5). There is clear evidence of preferential use of fissure sealants among those with caries experience: the prevalence of fissure sealants among children aged between 7 and 12 years with some caries experience ($DMFT=1+$) was between 23.3 and 235.4 per cent greater than among those with no caries experience ($DMFT=0$).

Changes since 1995

There have been no systematic changes in either the pattern or mean number of fissure sealants across years.

Immediate treatment needs

Immediate treatment needs for existing or imminent pain or infection were designated for no children in any age groups.

Changes since 1995

The immediate treatment needs category was used for only 5 children in 1995. The observed frequency for 1996 may be due to a small variation in the number of cases, or the cessation of use of the category during assessments.

School Dental Service examinations

The left hand side of Table 6 describes the percentage of children who are new patients (having had no previous dental examination) in the ACT School Dental Service. As expected, the figure is highest for the youngest ages (6 years or less) with few children aged 8 years or more having had no previous examination. This pattern is expected, and indicates that most patients are enrolled during their early school

years. The result of 10.9 per cent for 13 year-olds appears anomalous and is not immediately explicable.

The right hand side of Table 6 refers to children with previous examinations, and indicates their distribution according to time since last dental examination. Less than 43 per cent of children in all key ages received examinations within 7 to 12 months of their previous examination with greater than 43 per cent occurring between 13 to 24 months. A minority of children were re-examined either within six months or after two years. Time since last examination increases across age groups: whereas 54.4 per cent of five year-olds had an examination within the previous year this figure was only 26 per cent for 14 year olds.

Time since last examination for both 6 and 12 year-olds is presented in Figure 1.

Changes since 1995

There was an increase in the percentage of children who had their last exam between 13 and 24 months previously among older children and a corresponding reduction in the percentage of children with their last visit between 7 and 12 months previous to the current exam. There was also an increase for children aged older than five years in the percentage who had not previously had an examination with the School Dental Service.

TABLES

Table 1: Demographic composition of the sample

Data for the Child Dental Health Survey are collected from a stratified random sample of children in all Australian States and Territories. In the Australian Capital Territory the sampling ratio is 1:2.5. The following table describes the number of records processed from children in the Australian Capital Territory.

Age (years)	No. of children in sample ¹		
	Males	Females	Persons
3	1	1	2
4	18	18	36
5	217	201	417
6	280	269	549
7	323	337	660
8	308	300	608
9	356	301	657
10	295	298	592
11	290	272	561
12	148	117	265
13	43	34	77
14	29	40	69
15	15	16	30
16	0	1	1
Total	2322	2203	4525

¹ Processed records are weighted to reflect the sampling scheme. Records from children with a known date of birth are weighted up, while records from children for whom age only is known or who were not sampled according to the desired sampling frame are weighted down. The sum of the weighted records is equivalent to the number of children sampled for the survey. The number of cases have been rounded to the nearest integer.

Table 2: Deciduous teeth: age-specific experience¹

This table uses State-wide data to describe the dmft index and its components for individual (year of birth) ages. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 40 per cent and population estimates of these indices are statistically unreliable.

Age (years)	No. of children in sample	Mean no. of decid. teeth	Decayed		dmft		d/dmft	Children with dmft=0	
			mean	sd	mean	sd	%	%	
≤4	38	19.97	0.48	1.04	1.20	2.35	42.1	70.1	
5	417	19.50	0.75	1.73	0.98	2.16	79.9	69.6	
6	549	17.39	0.50	1.22	0.89	1.82	62.8	69.5	
7	662	14.48	0.52	1.13	1.14	1.96	49.1	61.7	
8	608	12.34	0.49	1.05	1.29	2.01	42.0	56.8	
9	657	10.99	0.41	0.95	1.29	1.97	34.5	56.3	
10	592	7.86	0.36	0.78	1.08	1.63	34.2	55.9	

¹ Legend: d - decayed deciduous teeth
dmft - decayed, missing or filled deciduous teeth
sd - standard deviation

Table 3: Permanent teeth: age-specific experience ¹

This table uses State-wide data to describe the DMFT index and its components for individual (year of birth) ages. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 40 per cent and population estimates of these indices are statistically unreliable.

Age (years)	No. of children in sample	Mean no. of perm. teeth	Decayed		DMFT		D/DMFT	Children with DMFT=0
			mean	sd	mean	sd	%	%
5	417	1.08	0.02*	0.14*	0.02	0.15	85.7	98.3
6	549	4.63	0.02	0.17	0.03	0.18	91.7	97.9
7	662	8.43	0.10	0.39	0.15	0.51	61.6	89.8
8	608	11.13	0.11	0.40	0.19	0.55	61.4	86.8
9	657	12.69	0.10	0.40	0.25	0.70	42.5	84.8
10	592	16.13	0.09	0.37	0.27	0.71	31.3	82.7
11	561	19.83	0.14	0.51	0.42	0.93	31.9	76.1
12	267	23.18	0.19	0.60	0.56	1.02	31.5	68.6
13	77	26.69	0.25	0.79	0.92	1.62	23.8	61.8
14	69	26.99	0.37	0.84	0.86	1.29	34.9	54.3
15+	31	27.53	0.37*	0.87*	1.22	1.83	24.5	53.1

¹ Legend: D - decayed permanent teeth
 DFMT - decayed, missing or filled permanent teeth
 sd - standard deviation

Table 4: All teeth: age-specific experience¹

This table uses State-wide data to describe the combined dmft and DMFT indices and their components for individual (year of birth) ages. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 40 per cent, and population estimates of these indices are statistically unreliable.

Age (years)	No. of children in sample	% of children with d+D=					% of children with		
		0	1	2	3	≥4	m+M=0	f+F=0	dmft+DMFT=0
≤4	38	80.4	2.6*	5.2*	11.8	0.0	100.0	77.8	70.1
5	417	72.2	9.9	8.7	2.6	6.6	99.5	90.3	68.9
6	549	76.5	9.7	7.5	2.7	3.6	99.8	85.1	69.0
7	662	69.9	14.6	7.8	3.3	4.5	99.4	73.0	57.7
8	608	68.6	15.9	9.0	3.2	3.2	99.7	65.3	51.6
9	657	73.3	14.7	6.4	2.7	2.9	99.4	61.1	51.7
10	592	72.9	15.6	7.1	3.2	1.2	99.5	58.7	48.4
11	561	76.3	12.0	7.5	2.3	1.9	99.5	65.2	53.1
12	267	81.7	12.4	3.3	1.1*	1.5	99.6	68.2	58.7
13	77	87.3	6.4	2.5*	1.3*	2.5*	100.0	64.3	59.3
14	69	77.1	12.9	5.7	2.9*	1.4*	100.0	60.0	50.0
15+	31	81.2	6.2*	6.2*	6.2*	0.0*	96.9	59.4	53.1

¹ Legend

- d - decayed deciduous teeth
- D - decayed permanent teeth
- m - deciduous teeth missing due to caries
- M - permanent teeth missing due to caries
- f - deciduous teeth restored due to caries
- F - permanent teeth restored due to caries
- dmft - decayed, missing or filled deciduous teeth
- DMFT - decayed, missing or filled permanent teeth

Table 5: Fissure sealants: age-specific experience¹

This table uses State-wide data to describe the distribution of fissure sealants for individual (year of birth) ages, along with the caries experience of those who have fissure sealants and those who do not. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 40 per cent, and population estimates of these indices are statistically unreliable.

Age (years)	No. of children in sample	No. of sealants		Children with DMFT=0		Children with DMFT=1+	
		mean	sd	No.	F/S=1+	No.	% with F/S=1+
6	549	0.03	0.31	537	1.5	12	0.0
7	662	0.27	0.89	594	8.2	68	27.5
8	608	0.63	1.31	528	19.8	80	33.8
9	657	0.93	1.53	557	30.0	100	37.4
10	592	1.05	1.56	490	31.0	102	57.7
11	561	1.20	1.64	427	37.6	134	61.9
12	267	1.16	1.71	183	34.9	84	44.7
13	77	1.90	2.46	48	42.3	30	76.7
14	69	1.41	1.76	37	42.1	31	59.4
15+	31	2.25	3.23	17	47.1	15	46.7

¹ Legend: DMFT - decayed, missing or filled permanent teeth
F/S - number of fissure sealed teeth
sd - standard deviation

Table 6: School Dental Service examinations

This table describes the percentage distribution of children who have received initial and subsequent dental examinations in the School Dental Service. Data from all examinations of children who were examined during the report period are included in this table; percentage estimates denoted with an asterisk (*) are those in which the relative standard error exceeds 40 per cent, and population estimates of these percentages are statistically unreliable.

Age (years)	No. of children examined	Previous examination in School Dental Service (%)			Children with previous examination Months since last examination ¹ (%)			
		No	Yes	Unknown	0-6	7-12	13-24	25+
≤4	40	37.0	39.5	23.5	0.0	75.0	25.0	0.0
5	428	47.7	26.2	26.1	12.3	42.1	43.9	1.8*
6	591	25.6	57.3	17.1	9.9	42.0	46.1	2.0
7	695	10.3	77.7	12.0	8.0	36.5	52.0	3.5
8	641	5.2	84.3	10.5	5.8	35.7	54.6	3.9
9	689	4.0	85.6	10.4	5.9	31.8	59.3	3.0
10	626	4.6	87.2	8.3	5.6	32.0	58.5	4.0
11	576	4.8	89.6	5.6	4.2	32.6	60.3	3.0
12	287	3.1	87.3	9.6	4.3	29.1	60.3	6.3
13	81	10.9	78.8	10.3	1.5*	30.8	60.0	7.7
14	70	4.2*	76.1	19.7	1.9*	24.1	59.3	14.8
15+	33	8.8*	79.4	11.8	7.4*	25.9	63.0	3.7*

¹ Excludes those with no previous examination and where the date of previous examination is unknown.

FIGURES

Figure 1: Time since last dental examination

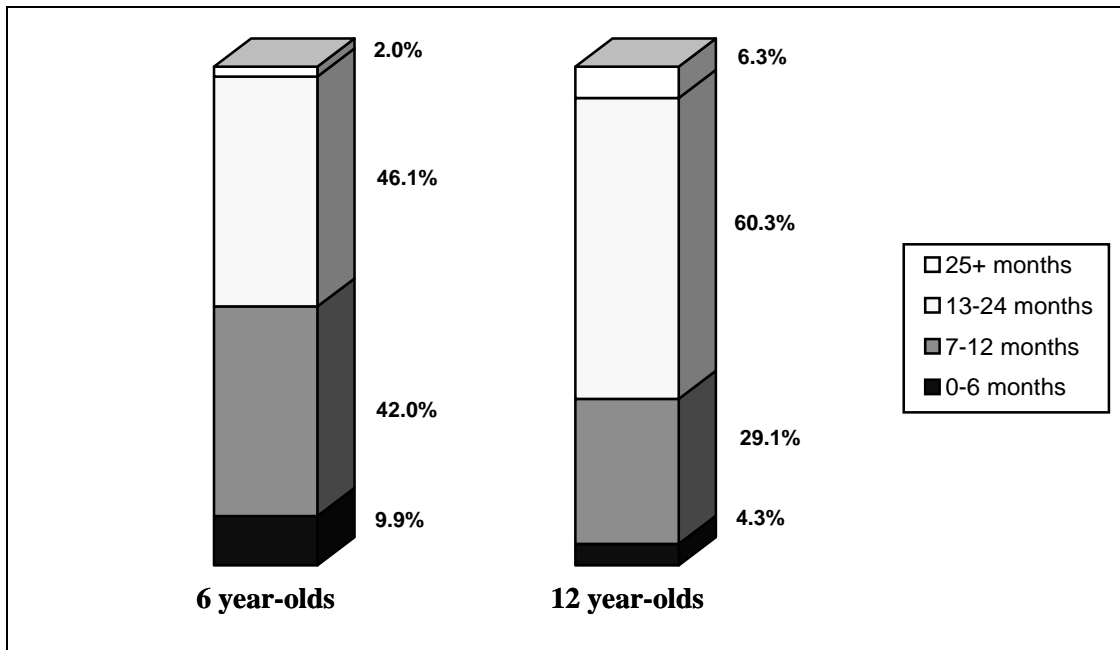


Figure 2: Percentage of children with dmft=0, DMFT=0 and d+D=4+

