



THE UNIVERSITY OF ADELAIDE

The Child Dental Health Survey Victoria 1996

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

**in collaboration with
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Purpose of this report

This report continues the series of annual reports providing descriptive statistics concerning child dental health in Victoria, and follows the 1995 report. 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, immediate treatment needs and children's history of school dental service examinations.

Data were collected during the 1996 calendar year from Victoria School Dental Service patients by dental therapists and dentists. A random sampling procedure was used to systematically select one in eight patients. This was achieved by maintaining a count of all examined patients and collecting data for every eighth patient counted.

The following sections briefly describe each table and provide a simple, summary statement highlighting differences between the 1995 and 1996 figures. 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

A total of 12,308 children aged 4 to 14 years were sampled during 1996 (see Table 1). The frequency distribution of children's ages peaked at 6 to 7 years, and few children aged less than 5, or more than 12 years, were sampled. Accordingly, it is important to note that the sample was greatest for primary school aged children, and that caution should be used when considering the representativeness of the sample for older children.

It is also important to note that the sampling procedure sought to ensure that the sample was representative of the School Dental Service population, and was not necessarily representative of the Victorian child population.

Changes since 1995

The total number of children sampled in 1996 is some 3,319 more than in 1995, indicating that the sample was closer to the specified ratio of one in eight than in 1995. There were substantial increases in the number of children sampled across all age categories.

Deciduous teeth: age-specific experience

As can be seen in Table 2, the mean number of decayed teeth among children aged 5 to 10 years varied from 1.16 to 0.67 and is lower among older children. The variation in mean dmft in this age range was similar (1.53 to 2.09), however a higher prevalence was observable among older children. Mean dmft remained fairly constant between the ages of 7 and 10, despite the exfoliation of deciduous teeth in older children.

The percentage of caries experience due to decay (d/dmft) showed an age-associated decline, more than halving from 79.3 per cent among five year-olds to 38.4 per cent among 10 year-olds. In addition, the percentage of caries-free children (% dmft=0) reduced from 61.8 per cent among five year-olds to a low of 44.1 per cent among nine year-olds. It is noteworthy that less than one half of children were free of deciduous

caries experience above the age of seven. The percentage of caries free children therefore inversely mirrors the mean dmft prevalence.

Changes since 1995

Between 1995 and 1996 there were no substantial changes in the mean number of decayed teeth. However, there was a decrease in dmft scores for six to nine year-old children and this was responsible for an increase in the d/dmft ratio for these children. There was also an increase in the percentage of children with dmft=0 for children aged five to nine.

Permanent teeth: age-specific experience

The mean number of clinically decayed permanent teeth increased progressively across the age groups (see Table 3). The results for 14 year-olds can be disregarded due to the small number of children represented in this age group. The mean DMFT also rose quite consistently across age groups, increasing from 0.03 for 5 year-olds to 1.35 for 13 year-olds. The percentage of DMFT due to decay (D/DMFT) and the percentage caries free (DMFT=0) declined steadily across age groups. Age-specific D/DMFT percentages were greater than the corresponding d/dmft percentages in the deciduous dentition between the ages of 5 and 10. In contrast to the deciduous dentition, over 72 per cent of children in each age group aged nine or less had no detectable caries experience in their permanent dentition. At age 12, 54.3 per cent of children had no clinically detectable levels of decay.

The caries experience of children aged over 11 years requires some special discussion. The mean DMFT for each of those ages appeared to be greater than expected based on the age-associated pattern in younger ages. As noted already, children aged 12 years or more were outside the main target groups for universal care in Victoria and, in addition, there are relatively small numbers of such children in the sample for children aged 12 years and over. For these reasons the data may be less representative of the population. The DMFT for 12 year-old children in 1996 was 1.09.

Changes since 1995

There were consistent and sometimes appreciable reductions in both mean D and DMFT scores for children aged 6 to 11 years of age. The exception was for 10 year olds which can be explained by the fact that the 1995 cohort had unexpectedly low D and DMFT scores. Children aged 5, 7, 8, and 10 had a higher percentage D/DMFT in 1996 than in 1995. Finally, the percentage of children with DMFT=0 increased slightly for children aged 6 to 11 years old.

All teeth: age-specific experience

Untreated caries in the combined deciduous and permanent dentitions existed for between 34.9 and 46.0 per cent of children in each age range from 4 to 12 years. Within this range, the greatest likelihood of untreated decay occurred for 9 and 10 year-olds where only about 54 per cent of children had d+D of zero. It is noteworthy that the most extensive levels of untreated decay (4 or more deciduous or permanent teeth) declined across ages, ranging from 6.5 per cent of 11 year-olds to 20.0 per cent of four

year-olds. This age trend suggests that the greatest contribution came from the deciduous dentition.

While 90 per cent or more children had no deciduous or permanent teeth missing due to caries, smaller percentages avoid fillings, and this clearly was associated with age. Similarly, the percentage of children with no caries experience ($dmft+DMFT=0$) was age associated, tending to reduce and then plateau at approximately 37 to 39 per cent for children above eight years of age.

Changes since 1995

In general, there were few differences between 1995 and 1996. However, children aged six to nine years of age had a higher percentage $f+F=0$ in 1996 than in 1995. This finding was reflected in statistics for $dmft+DMFT=0$ where, again, children aged six to nine years of age were more likely to have a score of 0 in 1996 than in 1995.

Fissure sealants: age-specific experience

The use of fissure sealants increased sharply for children across the age range of 7 to 12 (see Table 5). There was a higher frequency of fissure sealants among children with permanent caries experience ($DMFT=1+$) for most ages, although these differences were generally small and the opposite relationship was found for 10 and 13 year-olds.

Changes since 1995

Between 1995 and 1996 the mean number of fissure sealants decreased for children aged 7 to 9 years of age but increased for children aged 10 to 12 years. In 1995, the mean number of fissure sealants for 12 year-old children was 1.76. This has risen to 2.26 for 12 year-olds in 1996.

School Dental Service examinations

The left hand side of Table 6 describes the percentage of children who were new patients (having had no previous dental examination). As expected, the figure was highest for the youngest ages (seven years or less) with fewer than 17 per cent of each of these age-groups having had a previous examination. This pattern was as expected, and indicates that most patients were enrolled during their early school years. For children up to 13 years of age, the highest percentage with a previous examination was 68.5 per cent for 12 year-olds

The right hand side of the table refers to children with previous examinations, and indicates their distribution according to time since last dental examination. More than 60 per cent of five and six year-old children had had an examination within the previous 12 months. However, fewer than 25 per cent of children aged eight years or more had a previous examination within the preceding 12 months. The most common period since the previous examination was between one and two years for those older children. More than one third of children aged eight years or more had a previous examination more than two years previously. For 12 year-old children who had previously had an exam, 45.4 per cent had not had an exam within the previous two years.

Changes since 1995

The changes during 1996 in frequency and timing of examinations indicate a greater percentage of children over the age of eight known to have had a previous examination in the school dental service. However, children under the age of eight were less likely to have had a previous known exam in 1996 than in 1995. Of those children with previous exams, there were considerably larger percentages of children across most age groups in 1996 compared to 1995 having received their last exam more than two years previously.

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 Victoria the sampling is 1:8. This ratio is achieved by systematically selecting every eighth record of data from all children examined in the School Dental Service. The following table describes the number of records processed from children in Victoria.

Age (years)	Number of records processed			Persons
	Males	Females	Not stated	
4	16	8	1	25
5	452	442	39	933
6	977	987	41	2005
7	1027	971	25	2023
8	932	871	48	1851
9	907	847	31	1785
10	766	790	23	1579
11	655	643	26	1324
12	363	344	4	711
13	36	29	0	65
14	0	7	0	7
Total	6131	5939	238	12308

Table 2: Deciduous teeth: Age-specific experience

This table uses Statewide data to describe the dmft¹ index and its components for individual (year of birth) ages. Where children received more than one examination 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	Decayed		dmft		d/dmft	Children with dmft=0
		mean	sd	mean	sd	%	%
4	25	1.68	2.75	2.16	2.78	73.8	44.0
5	933	1.16	2.39	1.53	2.88	79.3	61.8
6	2005	1.16	2.23	1.61	2.81	76.1	59.3
7	2023	1.15	2.04	1.99	2.98	62.0	52.9
8	1851	0.94	1.65	2.04	2.80	49.6	47.9
9	1785	0.79	1.38	2.09	2.61	41.6	44.1
10	1579	0.67	1.23	1.96	2.60	38.4	46.9

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

Table 3: Permanent teeth: Age-specific experience

This table uses Statewide data to describe the DMFT index and its components for individual (year of birth) ages. Where children received more than one examination 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	Decayed		DMFT		D/DMFT	Children with DMFT=0
		mean	sd	mean	sd	%	%
5	933	0.03	0.31	0.03	0.33	98.7	98.6
6	2005	0.07	0.41	0.08	0.43	89.3	95.3
7	2023	0.18	0.61	0.21	0.66	88.5	88.1
8	1851	0.31	0.79	0.38	0.91	82.6	78.7
9	1785	0.33	0.76	0.49	0.96	69.1	72.4
10	1579	0.39	0.93	0.64	1.23	63.8	68.0
11	1324	0.41	1.00	0.77	1.35	53.6	63.5
12	711	0.58	1.18	1.09	1.72	54.5	54.3
13	65	0.88	1.43	1.35	1.87	70.0	49.2
14	7	0.14*	0.38*	0.71*	1.10*	11.0*	57.1

Table 4: All teeth: Age-specific experience¹

This table uses Statewide data to describe the combined dmft and DMFT indices and their components for individual (year of birth) ages.

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	25	56.0	4.0*	16.0*	4.0*	20.0	96.0	84.0	44.0
5	933	65.1	11.8	7.0	4.1	12.1	96.1	88.9	61.2
6	2005	62.5	10.8	8.8	5.7	12.2	96.3	86.7	57.8
7	2023	58.1	12.4	9.1	6.6	13.8	93.4	76.0	49.8
8	1851	55.2	15.8	10.3	6.9	11.8	92.2	64.8	42.6
9	1785	54.1	17.8	11.8	6.7	9.7	90.8	56.1	37.1
10	1579	54.0	19.9	11.5	6.0	8.6	93.2	53.6	36.7
11	1324	58.2	18.7	11.3	5.3	6.5	96.4	55.9	39.2
12	711	57.8	18.7	11.0	5.2	7.3	97.0	57.7	39.4
13	65	53.8	16.9	7.7*	10.8	10.8	96.9	63.1	38.5
14	7	85.7	14.0*	0.0*	0.0*	0.0*	85.7	43.0*	43.0*

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 Statewide 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 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	number	% with F/S=1+	number	% with F/S=1+
4	25	0.48*	1.30*	23	8.7*	2	50.0
5	933	0.01*	0.19*	920	0.2*	13	0.0
6	2005	0.04	0.36	1910	1.1	95	14.7
7	2023	0.22	0.84	1782	6.8	241	14.1
8	1851	0.69	1.47	1457	22.0	394	24.1
9	1785	1.30	1.65	1293	42.0	492	49.2
10	1579	1.89	1.74	1074	61.1	505	58.2
11	1324	2.04	1.82	841	64.8	483	65.4
12	711	2.26	1.97	386	67.4	325	69.5
13	65	2.20	2.35	32	65.6	33	63.6
14	7	1.60*	2.90*	4	25.0*	3	100.0

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

Table 6: School Dental Service examination: Age-specific distribution

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.

Age (years)	No. of children examined	Previous examinations in School Dental Service (%)		Children with previous examination Months since last examination (%) ¹			
		No/unknown	Yes	0-6	7-12	13-24	25+
4	25	92.0	8.0	0.0	50.0	50.0	0.0
5	944	98.1	1.9	42.9	21.4	28.6	7.1
6	2068	94.7	5.3	45.4	24.1	21.3	9.3
7	2110	83.6	16.4	18.3	22.1	37.5	22.1
8	1947	57.9	42.1	8.0	10.2	43.1	38.6
9	1880	53.4	46.6	6.3	11.7	43.0	39.0
10	1653	47.2	52.8	5.2	10.7	45.0	39.2
11	1378	50.8	49.2	5.5	8.3	45.8	40.4
12	750	31.5	68.5	5.7	6.5	42.5	45.4
13	71	35.2	64.8	8.9	13.3	35.6	42.2
14	8	25.0	75.0	16.7	0.0	50.0	33.3

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

FIGURES

Figure 1: Percentage of children with dmft=0, DMFT=0 and d+D=4+

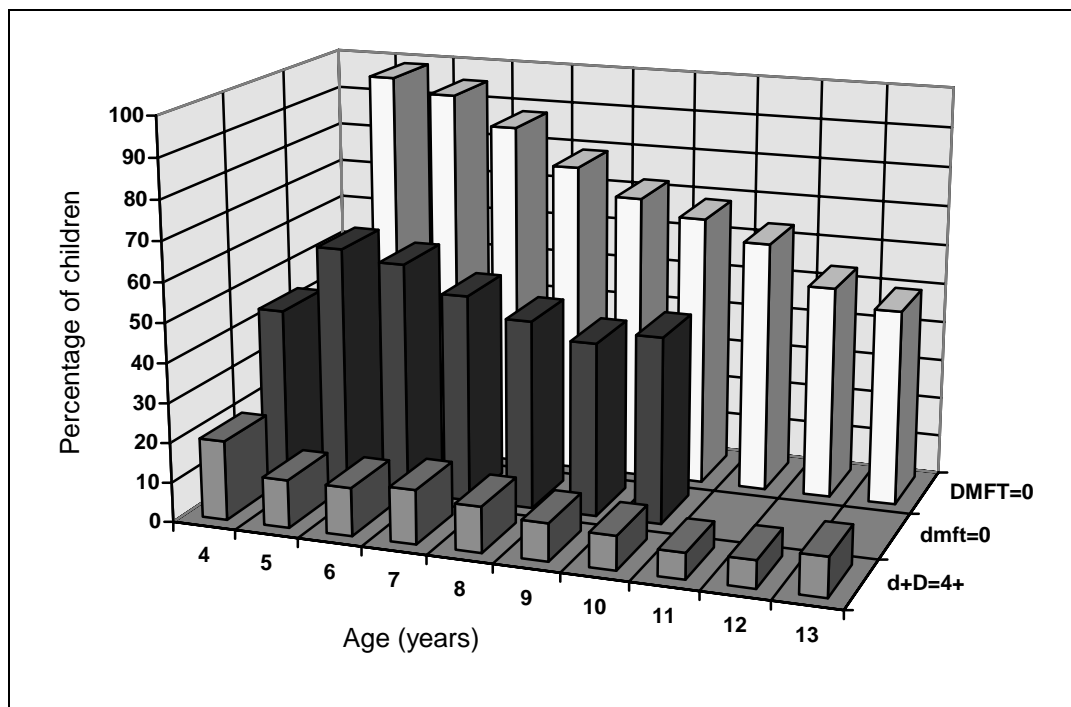


Figure 2: Time since last dental examination

