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# The Child Dental Health Survey Tasmania, 1995

*by*

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The AIHW Dental Statistics and Research Unit (DSRU) is an external unit of the Australian Institute of Health and Welfare, and was established in 1988 at The University of Adelaide. The DSRU was funded to improve the range and quality of dental statistics and research on the dental workforce, dental health status, dental practices and use of dental services.

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## THE CHILD DENTAL HEALTH SURVEY - TASMANIA 1995

### **Purpose of this report**

This report is part of the annual series providing descriptive statistics concerning child dental health in Tasmania. 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. Two figures combine and summarize information from four of the tables.

These data were collected during the 1995 calendar year from patients of the Tasmania School Dental Service by dental therapists and dentists. A random sampling procedure was used to select slightly less than one in two (1:2.5) patients. This was achieved by selecting those children whose birthday fell on the first sixteen days of any month.

### **Table 1: Demographic composition of the sample**

The age distribution of sampled children was wide, there being more than one thousand children in individual ages in the range 5 to 15 years (inclusive). The most frequently represented ages were in the range 6 to 12 years (accounting for 68 per cent of the sample), and this conforms with the predominant ages of the primary school population. Children aged 4 years or less and those aged 16 years or more were infrequent in this sample. The small numbers of children aged 4 and 16+ years results in less reliability of computed statistics for those ages. Furthermore, children in those ages are outside the main target group of the School Dental Service, and it is likely that they have some special characteristics which make them less representative of their respective age groups within the Tasmanian population.

Males and females were represented in approximately equal numbers in the full sample, and within individual ages the percentage of males fell within the range of 49 to 51 per cent.

### **Table 3: Deciduous teeth: age-specific prevalence**

The mean dmft prevalence among children aged 5 to 9 years varied across a narrow range, from 1.31 to 1.79 teeth. Four year olds had the highest mean dmft, although as noted above, they probably comprise a special, less representative group within the School Dental Service. The deciduous caries experience of children aged 9 years or more naturally declines as teeth exfoliate. The range in the mean number of decayed deciduous teeth was less than that observed for dmft, decreasing from 0.94 among five year olds to 0.52 among eight year-olds. As a consequence, the d/dmft ratio exceeds 60 per cent among children aged 6 years or less, and declines to 45 per cent among those aged 9 years.

**Table 4: Permanent teeth: age-specific prevalence**

The mean numbers of decayed permanent teeth and DMFT were smaller than the corresponding means for deciduous teeth across the range of 5 to 11 years. In addition, the mean number of decayed and DMF teeth increased in a fairly consistent manner across increasing age groups. As a consequence, the percentage of DMFT due to decay (D/DMFT) and the percentage of caries free children (DMFT=0) declined across age groups. It is noteworthy that more than 55 per cent or more of children aged 12 years or less were caries free (DMFT=0). The 12 year-old DMFT was 0.87.

Among those aged 13 years or more, the age-associated increase in mean DMFT was greater. This pattern suggests either that new caries progression accelerates after the age of 12, or that these older children represent a cohort with a higher historical caries experience.

**Table 5: All teeth: age-specific prevalence**

Untreated decay in the combined deciduous and permanent dentitions ( $d+D=1, 2, 3$  or  $4+$ ) existed for between 22 to 40 per cent of children in the age range 5 to 12 years. The greatest likelihood of untreated decay occurred for 8-year-olds. However, the most extensive levels of untreated decay ( $d+D=4$  or more) occurred in children aged 6 years or less.

While more than 96 per cent of children aged over four years had no deciduous or permanent teeth missing due to caries, smaller percentages avoided fillings, and this was associated with age. There was a reasonably consistent decline in the percentage of children with no caries experience in either deciduous or permanent dentition ( $dmft+DMFT=0$ ), from 62.3 per cent at age five to 39.8 per cent at age 14. The percentage fluctuated around 40 per cent among most older ages, reflecting the pattern of exfoliation of deciduous teeth. This statistic serves to demonstrate that more than one third of children at any of the key primary school ages have no experience of dental caries.

**Table 6: Fissure sealants: age-specific prevalence**

Fissure sealants were prevalent among children aged 8 years or more, and at those ages the mean number of fissure sealants exceeded the mean number of permanent teeth with caries experience (DMFT - Table 4). In all ages there was evidence of preferential use of fissure sealants among those with caries experience. For example, some 45.6 per cent of 12 year olds with permanent caries experience (DMFT=1+) had fissure sealants, compared with 27.1 per cent among those with a mean DMFT of zero.

**Table 7: Immediate treatment needs**

Immediate treatment needs were most infrequent, affecting less than one per cent or less of children in all key ages, although mean  $dmft$  and DMFT scores for these children were substantially higher than the levels reported in Tables 3 and 4.

### Table 8: School Dental Service examinations

The left hand side of this table describes the percentage of children who were new patients (having had no previous dental examination) in the Tasmania School Dental service. The figure was highest for the youngest ages (6 years or less) while fewer than six per cent of those aged 7 years or more had no previous examination. This pattern is expected, and indicates that most patients are enrolled during their early school years.

The right hand side of the table refers to children with previous examinations, and indicates their distribution according to time since last dental examination. Approximately one half of children in most ages received examinations within 7 to 12 months of their previous examination. A re-examination interval of 13-24 months years occurred for most of the remaining children, although approximately 5 per cent (higher among younger ages) received a re-examination within six months. Very few children were re-examined after a period of two or more years, although the percentage tended to be higher (greater than 5 per cent) among the oldest children aged 16 years or more.

#### *Changes since 1994*

There were no substantial changes in the data items between 1994 and 1995.

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

This figure presents data contained in tables 3, 4 and 5 to summarize the extent of dental health (represented by percentage with no caries experience) and the extent of more extensive untreated decay (represented by the percentage with d+D=4 or more).

#### **Figure 2: Time since last dental examination**

This figure draws on information from table 8, and selects 6- and 12-year-olds to demonstrate the variation in time since last examination.

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**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. The sampling procedure selects a constant proportion of children for whom date of birth is known by selecting only those children born on particular dates. Within Tasmania, the sampling ratio for children whose date of birth is known is 1:2.5.

State/Territory: Tasmania

Sampling ratio: 1:2.5

Data for period January–December 1995

Date of report: 29th November 1996

AGE (years)	NUMBER OF RECORDS PROCESSED		
	Males	Females	Persons
2	17	19	36
3	41	37	78
4	196	194	390
5	462	423	885
6	476	445	921
7	453	460	913
8	459	403	862
9	421	443	864
10	452	481	933
11	465	481	946
12	345	292	637
13	236	227	463
14	248	244	492
15	210	203	413
16	14	13	27
17	6	9	15
18	3	1	4
<b>Total</b>	<b>4507</b>	<b>4378</b>	<b>8885</b>

**TABLE 2: COUNTRY OF BIRTH (INCLUDING ABORIGINALITY)**

These data were not collected in Tasmania during the period January–December 1995.

TABLE 3: DECIDUOUS TEETH: AGE-SPECIFIC PREVALENCE<sup>1</sup>

This table uses State-wide data to describe the dmft index and its components for individual (year of birth) ages. Indices are calculated from data collected over a 12 month period. 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.

State/Territory: Tasmania

Sampling ratio: 1:2.5

Data for period January–December 1995

Date of report: 29th November 1996

Age (years)	Number of children in sample <sup>2</sup>	decayed		dmft		d/dmf	Children with dmft=0
		mean	sd	mean	sd	%	%
5	884	0.94	1.92	1.31	2.40	74.0	62.3
6	921	0.83	1.75	1.48	2.58	55.6	60.6
7	913	0.60	1.10	1.57	2.31	43.7	51.6
8	861	0.52	1.01	1.59	2.23	36.5	50.1
9	864	0.55	1.02	1.79	2.26	35.4	45.1
10	933	0.39	0.86	1.42	2.05	30.3	52.6

<sup>1</sup> Legend            d - decayed deciduous teeth  
                       dmft - decayed, missing or filled deciduous teeth  
                       sd - standard deviation

<sup>2</sup> Data relating to second or subsequent examinations of children within this reporting period are eliminated.



**TABLE 4: PERMANENT TEETH: AGE-SPECIFIC PREVALENCE<sup>1</sup>**

This table uses State-wide data to describe the DMFT index and its components for individual (year of birth) ages. Indices are calculated from data collected over a 12 month period. 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.

State/Territory: Tasmania

Sampling ratio: 1:2.5

Data for period January–December 1995

Date of report: 29th November 1996

Age (years)	Number of children in sample <sup>2</sup>	DECAYED		DMFT		Children with	
		mean	sd	mean	sd	D/DMFT %	DMFT=0 %
5	885	*	*	*	*	88.9	99.7
6	921	0.04	0.25	0.04	0.26	95.1	97.1
7	913	0.14	0.51	0.19	0.59	76.5	88.6
8	862	0.19	0.56	0.31	0.76	62.8	80.7
9	864	0.22	0.59	0.45	0.90	52.1	73.7
10	932	0.21	0.61	0.49	0.96	45.0	72.5
11	946	0.32	0.74	0.75	1.25	44.9	64.0
12	636	0.27	0.70	0.87	1.39	32.3	59.0
13	463	0.34	0.84	1.16	1.65	28.8	54.0
14	492	0.61	1.12	1.66	2.24	39.9	41.3
15	413	0.56	1.11	1.79	2.29	30.3	43.1

<sup>1</sup> Legend            D - decayed permanent teeth  
                       DMFT - decayed, missing or filled permanent teeth  
                       sd - standard deviation

<sup>2</sup> Data relating to second or subsequent examinations of children within this reporting period are eliminated.

TABLE 5: ALL TEETH: AGE-SPECIFIC PREVALENCE<sup>1</sup>

This table uses State-wide data to describe the combined dmft and DMFT indices and their components for individual (year of birth) ages. Indices are calculated from data collected over a 12 month period. 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.

State/Territory: Tasmania

Sampling ratio: 1:2.5

Data for period January–December 1995

Date of report: 29th November 1996

Age (years)	Number of children in sample <sup>2</sup>	% of children with d+D=					% of children with		
		0	1	2	3	≥4	m+M=0	f+F=0	dmft+DMFT=0
5	884	68.0	11.1	7.1	4.0	9.8	98.1	87.2	62.3
6	921	68.8	9.7	9.0	5.0	7.5	97.7	75.8	59.9
7	913	64.0	15.7	10.6	5.7	4.1	96.6	64.4	48.6
8	861	64.7	16.8	9.9	3.9	4.6	96.1	58.7	43.3
9	864	59.8	20.5	10.6	5.2	3.8	97.0	52.0	37.8
10	933	67.2	17.8	8.4	3.3	3.3	98.4	52.6	40.8
11	946	69.2	17.0	7.7	3.4	2.6	98.4	57.3	44.8
12	637	77.1	14.4	5.8	1.4	1.3	99.4	59.2	49.1
13	463	77.8	11.2	6.7	2.8	1.5	98.9	59.0	49.7
14	492	66.1	19.9	5.7	4.9	3.5	98.4	54.7	39.8
15	413	70.2	14.0	9.7	3.9	2.2	98.5	50.8	42.4

- <sup>1</sup> 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

- <sup>2</sup> Data relating to second or subsequent examinations of children within this reporting period are eliminated.

**TABLE 6: FISSURE SEALANTS: AGE-SPECIFIC PREVALENCE<sup>1</sup>**

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. Indices are calculated from data collected over a 12 month period. 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.

State/Territory: Tasmania

Sampling ratio: 1:2.5

Data for period January–December 1995

Date of report: 29th November 1996

Age (years)	Number of children in sample <sup>2</sup>	Number of sealants		CHILDREN WITH DMFT=0		CHILDREN WITH DMFT=1+	
		mean	sd	number	% with F/S=1+	number	% with F/S=1+
5	885	*	*	882	*	3	33.3
6	921	0.03	0.30	894	1.1	27	11.1
7	913	0.18	0.69	809	6.2	104	19.2
8	862	0.47	1.11	696	15.5	166	31.3
9	864	0.65	1.25	637	22.3	227	36.6
10	933	0.89	1.50	676	29.3	257	41.6
11	946	0.87	1.44	605	28.6	341	41.1
12	637	0.97	1.58	376	27.1	261	45.6
13	463	1.34	2.17	250	31.6	213	43.7
14	492	1.35	2.01	203	33.5	289	45.3
15	413	1.60	2.23	178	38.2	235	48.5

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

<sup>2</sup> Data relating to second or subsequent examinations of children within this reporting period are eliminated.

TABLE 7: IMMEDIATE TREATMENT NEEDS AGE-SPECIFIC DISTRIBUTION<sup>1</sup>

This table, based on State-wide data, describes the number and proportion of children in immediate need of dental treatment. This classification is accorded to children who have, or who are likely to develop within four weeks, oral pain or infection. The dental caries experience of this group of children is also described. Indices are calculated from data collected over a 12 month period. 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.

State/Territory: Tasmania

Sampling ratio: 1:2.5

Data for period January–December 1995

Date of report: 29th November 1996

Age (years)	Number of children in sample <sup>2</sup>	CHILDREN IN NEED OF IMMEDIATE TREATMENT										
		No.	% of all children	dmft		DMFT		% with d+D=				
				mean	sd	mean	sd	0	1	2	3	4+
5	885	6	0.7	*	*	-	-	*	50.0	0.0	0.0	*
6	921	3	*	*	*	-	-	*	0.0	*	0.0	*
7	913	5	0.5	*	*	*	*	*	*	0.0	*	*
8	862	7	0.8	3.43	2.23	*	*	0.0	*	57.1	0.0	*
9	864	4	0.5	3.50	1.73	2.50	1.29	0.0	*	0.0	50.0	*
10	933	5	0.5	*	*	*	*	60.0	0.0	*	0.0	*
11	946	2	*	-	-	1.50	0.71	0.0	0.0	100	0.0	0.0
12	637	2	*	*	*	*	*	100	0.0	0.0	0.0	0.0
13	463	3	*	-	-	*	*	*	0.0	*	*	0.0
14	492	2	*	*	*	*	*	0.0	0.0	*	0.0	*
15	413	2	*	-	-	*	*	0.0	*	*	0.0	0.0

<sup>1</sup> Legend      dmft - number of decayed, missing or filled deciduous teeth  
                   DMFT - number of decayed, missing or filled permanent teeth  
                   d - number of decayed deciduous teeth  
                   D - number of decayed permanent teeth

<sup>2</sup> Data relating to second or subsequent examinations of children within this reporting period are eliminated.

**TABLE 8: SCHOOL DENTAL SERVICE EXAMINATIONS:  
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; 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.

State/Territory: Tasmania

Sampling ratio: 1:2.5

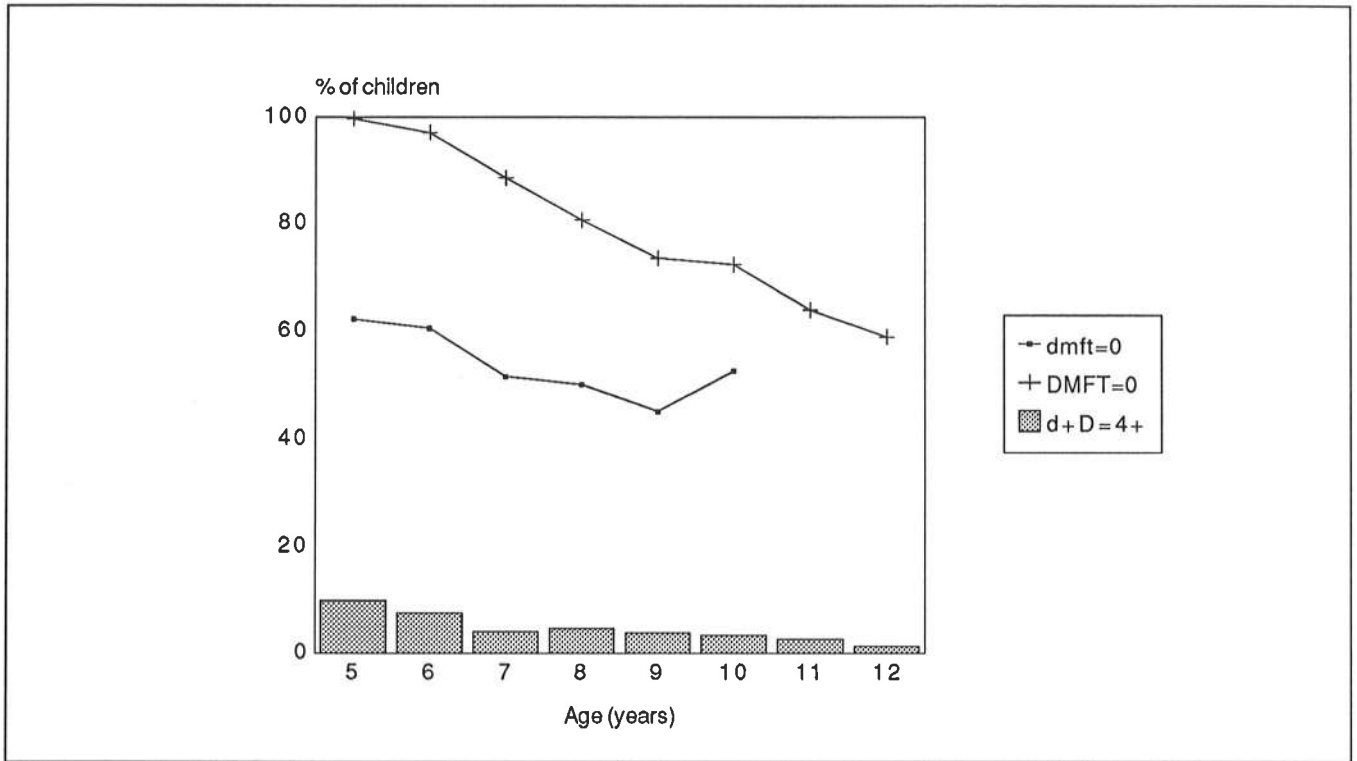
Data for period January–December 1995

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Age (years)	Number of children examined	Previous examination in School Dental Service (%)		CHILDREN WITH PREVIOUS EXAMINATION Months since last examination <sup>1</sup> (%)			
		Yes	No	0-6	7-12	13-24	25+
5	912	45.8	54.2	4.1	53.8	41.3	*
6	959	86.2	13.8	5.4	46.8	47.7	*
7	936	94.7	5.3	2.9	41.3	54.5	1.4
8	892	93.6	6.4	2.9	40.7	54.7	1.7
9	889	96.4	3.6	2.2	41.4	55.1	1.3
10	960	96.6	3.4	3.5	39.7	54.6	2.3
11	974	98.0	2.0	3.9	39.5	54.7	1.9
12	679	97.9	2.1	11.6	32.0	55.6	0.8
13	482	98.7	1.3	3.8	34.6	58.8	2.8
14	513	98.8	1.2	3.0	41.9	48.0	7.1
15	425	98.1	1.9	3.6	39.8	50.7	5.8

<sup>1</sup> Excludes those with no previous examination and where the date of previous examination is unknown.

**FIGURE 1: PERCENTAGE OF CHILDREN WITH dmft=0, DMFT=0 and d+D=0**



**FIGURE 2: TIME SINCE LAST DENTAL EXAMINATION**

