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**The Child Dental Health Survey
Tasmania
January to December, 1993**

by

AIHW Dental Statistics
and Research Unit

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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 1993

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 1993 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.

The following sections briefly describe each table and provide a simple, summary statement highlighting differences between the 1993 and 1992 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.

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 67 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.

Changes since 1992

There were approximately 594 more records processed in 1993, with no substantial change in the distribution of cases sampled.

Table 3: Deciduous teeth: age-specific prevalence

The mean dmft prevalence among children aged 5 to 9 years varied across a narrow range, from 1.13 to 1.86 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 0.76 among five year olds to 0.46 among nine year olds. As a consequence, the d/dmft ratio exceeds 50 per cent among children aged 6 years or less, and declines to less than 40 per cent among those aged 10 years or more.

Changes since 1992

Small but constant declines in mean dmft levels were observed among all age groups for the period 1992-93. There also appeared to be substantial increases in the d/dmft ratio of up to 25 per cent for children aged three to five 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 0.96.

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.

Changes since 1992

In a number of ages, the mean DMFT in 1993 was marginally smaller (approximately 0.1 teeth) than the corresponding mean for 1992 for children aged 13 years and older. Other statistics reported in Table 4 did not change substantially between the two years.

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 23 to 37 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 4 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 62.9 per cent at age five to 39.3 per cent at age 10. 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.

Changes since 1992

The distribution of untreated decay (d+D) did not vary between 1992 and 1993 by more than one per cent for most ages. Similarly, there were inconsequential changes in percentages of children with m+M=0 or dmft+DMFT=0 or f+F=0.

Table 6: Fissure sealants: age-specific prevalence

Fissure sealants were prevalent among children aged 7 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 60.4 per cent of 12 year olds with permanent caries experience (DMFT=1+) had fissure sealants, compared with 44.7 per cent among those with a mean DMFT of zero.

Changes since 1992

There were no substantial differences in the prevalence of fissure sealants between 1992 and 1993, nor in the distribution of fissure sealants between children with and without dental disease experience.

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 five 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.

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 1993

Date of report: 1st March 1995

Age (years)	NUMBER OF RECORDS PROCESSED		
	Males	Females	Persons
2	11	20	31
3	57	61	118
4	411	351	762
5	682	698	1380
6	791	749	1540
7	752	752	1504
8	825	806	1631
9	771	765	1536
10	757	762	1519
11	738	702	1440
12	536	537	1073
13	430	416	846
14	447	415	862
15	400	391	791
16	42	54	96
17	28	28	56
18	3	6	9
Total	7681	7514	15195

TABLE 2: COUNTRY OF BIRTH (INCLUDING ABORIGINALITY)

These data were not collected in Tasmania during the period January-December 1993.

TABLE 3: DECIDUOUS TEETH: AGE-SPECIFIC PREVALENCE¹

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 1993

Date of report: 1st March 1995

Age (years)	Number of children in sample ²	decayed		dmft		d/dmf %	Children with dmft=0 %
		mean	sd	mean	sd		
2	32	*	*	*	*	100	71.9
3	119	1.27	2.53	1.27	2.53	100	64.7
4	763	0.90	2.13	1.03	2.30	87.7	71.0
5	1387	0.76	1.58	1.13	2.12	70.1	63.2
6	1546	0.64	1.39	1.35	2.28	50.5	59.3
7	1514	0.57	1.24	1.59	2.48	39.7	55.3
8	1648	0.58	1.16	1.81	2.45	36.3	46.8
9	1544	0.46	.92	1.86	2.35	28.9	44.7
10	1524	0.37	.80	1.50	2.09	28.1	50.6

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

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

TABLE 4: PERMANENT TEETH: AGE-SPECIFIC PREVALENCE¹

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 1993

Date of report: 1st March 1995

Age (years)	Number of children in sample ²	DECAYED		DMFT		D/DMFT	Children with
		mean	sd	mean	sd	%	DMFT=0 %
5	1387	*	*	*	*	80.0	99.4
6	1546	0.07	0.34	0.08	0.37	92.7	95.1
7	1514	0.16	0.58	0.22	0.69	74.6	87.1
8	1648	0.17	0.54	0.30	0.70	58.4	80.9
9	1544	0.19	0.58	0.46	0.92	42.7	74.5
10	1524	0.18	0.51	0.58	1.05	35.2	68.4
11	1445	0.25	0.71	0.72	1.23	33.5	63.8
12	1077	0.25	0.66	0.96	1.50	28.5	57.8
13	846	0.38	0.88	1.28	1.79	28.8	51.2
14	862	0.41	0.96	1.64	2.06	26.0	42.0
15	791	0.44	0.97	1.97	2.41	24.0	36.5

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

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

TABLE 5: ALL TEETH: AGE-SPECIFIC PREVALENCE¹

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 1993

Date of report: 1st March 1995

Age (years)	Number of children in sample ²	% of children with d+D=					% of children with		
		0	1	2	3	≥4	m+M=0	f+F=0	dmft+DMFT=0
3	119	64.7	10.1	7.6	4.2	13.4	100	99.2	64.7
4	763	72.7	8.8	6.4	3.3	8.8	99.5	94.1	70.8
5	1387	69.6	12.3	7.1	4.7	6.3	98.3	85.7	62.9
6	1546	69.9	12.4	8.0	4.3	5.5	97.7	73.9	57.3
7	1514	67.3	14.3	9.0	4.0	5.4	97.2	65.5	52.1
8	1648	63.1	18.1	8.8	5.6	4.4	96.9	56.4	41.3
9	1544	65.2	17.6	9.7	4.2	3.3	97.5	48.8	37.9
10	1524	68.5	17.3	8.3	3.6	2.4	98.1	49.0	39.3
11	1445	73.2	16.6	6.1	2.4	1.7	98.8	52.0	42.6
12	1077	77.3	14.9	5.5	1.6	0.7	99.4	56.3	47.5
13	846	75.8	13.0	7.1	2.0	2.1	98.3	57.2	47.2
14	862	76.0	14.4	5.8	1.7	2.1	98.6	50.0	41.0
15	791	74.1	15.4	5.8	2.3	2.4	97.2	45.4	35.4

- 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

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

TABLE 6: FISSURE SEALANTS: AGE-SPECIFIC PREVALENCE¹

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 1993

Date of report: 1st March 1995

Age (years)	Number of children in sample ²	Number of sealants		CHILDREN WITH DMFT=0		CHILDREN WITH DMFT=1+	
		mean	sd	number	% with F/S=1+	number	% with F/S=1+
5	1387	*	*	1378	0.3	9	0.0
6	1546	0.09	0.50	1471	3.2	75	13.3
7	1514	0.43	1.08	1319	13.7	195	31.3
8	1648	0.84	1.43	1333	26.7	315	41.9
9	1544	1.09	1.55	1150	33.1	394	50.8
10	1524	1.19	1.62	1042	37.2	482	52.1
11	1445	1.38	1.72	922	38.3	523	58.1
12	1077	1.78	2.05	622	44.7	455	60.4
13	846	2.09	2.35	433	46.9	413	64.4
14	862	2.18	2.45	362	48.1	500	62.6
15	791	2.48	2.72	289	50.5	502	61.8

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

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

TABLE 7: IMMEDIATE TREATMENT NEEDS AGE-SPECIFIC DISTRIBUTION¹

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 1993

Date of report: 1st March 1995

CHILDREN IN NEED OF IMMEDIATE TREATMENT												
Age (years)	Number of children in sample ²	No.	% of all children	dmft		DMFT		% with d+D=				
				mean	sd	mean	sd	0	1	2	3	4+
3	119	5	4.2	4.60	3.91	-	-	0.0	*	*	0.0	60.0
4	763	12	1.6	5.42	5.78	-	-	25.0	*	*	*	50.0
5	1387	8	0.6	3.50	1.07	-	-	*	0.0	37.5	*	*
6	1546	4	0.3	4.75	2.06	-	-	0.0	0.0	*	0.0	75.0
7	1514	9	0.6	2.67	2.92	*	*	44.4	*	*	*	*
8	1648	9	0.5	2.78	2.17	*	*	0.0	*	55.6	*	*
9	1544	7	0.5	4.00	3.74	*	*	0.0	*	42.9	*	*
10	1524	4	0.3	1.25	0.96	*	*	50.0	*	*	0.0	0.0
11	1445	2	*	*	*	-	-	*	*	0.0	0.0	0.0
12	1077	2	*	*	*	*	*	*	*	0.0	0.0	0.0
13	846	2	*	*	*	*	*	0.0	*	0.0	*	0.0
14	862	4	0.5	-	-	*	*	50.0	50.0	0.0	0.0	0.0
15	791	3	*	-	-	3.67	1.53	0.0	*	*	*	0.0

¹ 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

² 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 1993

Date of report: 1st March 1995

Age (years)	Number of children examined	Previous examination in School Dental Service (%)		CHILDREN WITH PREVIOUS EXAMINATION			
		Yes	No	Months since last examination ¹ (%)			
				0-6	7-12	13-24	25+
4	769	80.6	19.4	13.5	53.4	33.1	0.0
5	1426	47.6	52.4	8.0	59.5	31.6	0.8
6	1624	10.5	89.5	4.8	53.6	40.9	0.7
7	1592	4.7	95.3	4.9	50.6	43.3	1.3
8	1725	4.2	95.8	5.5	48.4	45.7	0.4
9	1593	4.0	96.0	5.8	48.9	44.6	0.8
10	1569	2.9	97.1	5.1	46.5	47.7	0.7
11	1503	3.1	96.9	4.7	47.7	46.7	0.9
12	1131	3.1	96.9	4.8	47.0	47.1	1.1
13	871	2.4	97.6	4.2	42.2	48.9	4.6
14	880	2.6	97.4	3.7	45.5	44.7	6.1
15	811	2.2	97.8	6.2	46.7	41.3	5.8

¹ 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

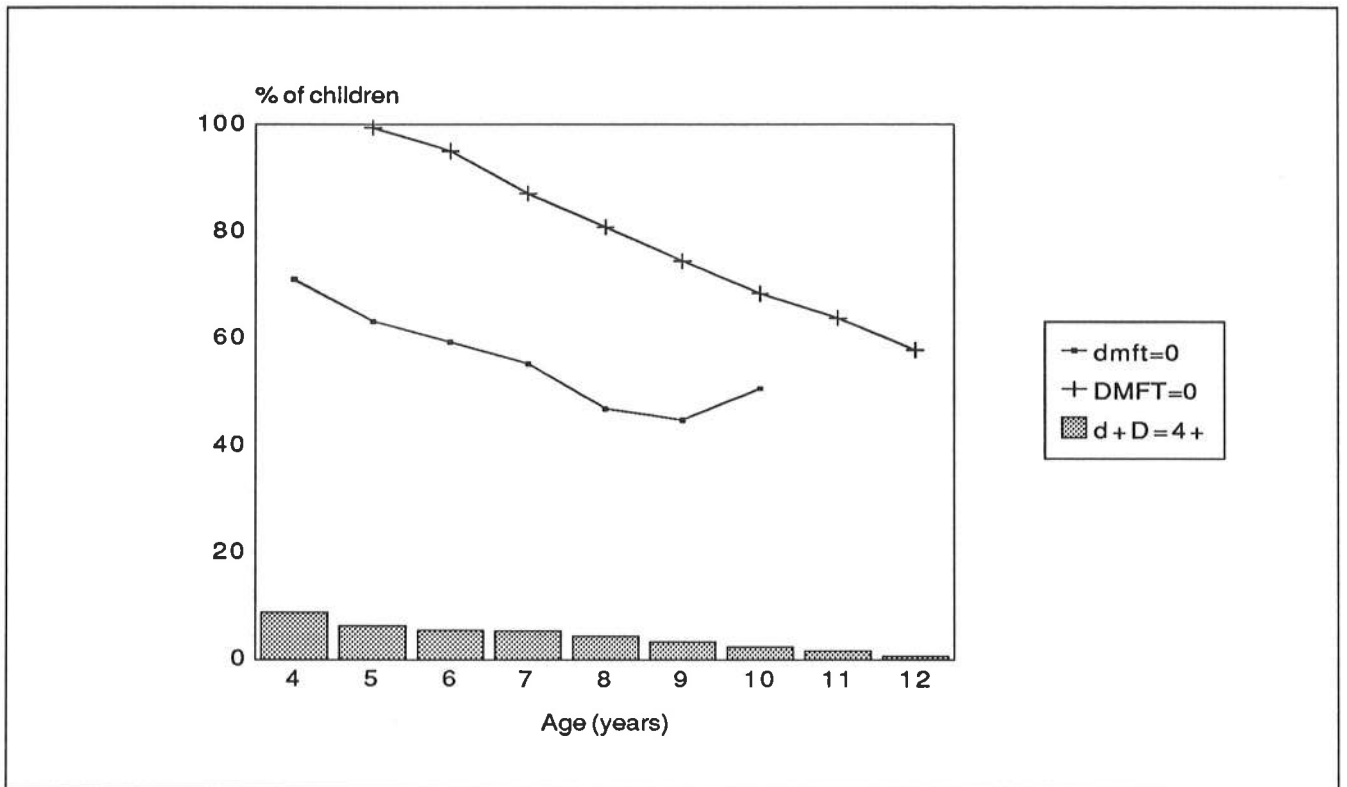


FIGURE 2: TIME SINCE LAST DENTAL EXAMINATION

