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**The Child Dental Health Survey  
Australian Capital Territory  
January-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 - AUSTRALIAN CAPITAL TERRITORY 1993

### 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, immediate treatment needs and children's history of school dental service examinations. The figures combine and summarize information from four of the tables.

These data were collected during the 1993 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.

The sampling scheme has been elaborated through the following over time of a cohort of children for a study concerned with evaluating the effectiveness of water fluoridation. The cohort was, however, sampled using the same procedures as for all children reported upon in this document.

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 great majority of children in the sample (93 per cent) were aged between 5 and 11 years inclusive, with approximately equivalent numbers in individual ages within this range. Twelve year-olds were less than half as likely as those aged 5-11 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 emphasizes 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 following tables.

### *Changes since 1992*

There were 1,458 fewer cases sampled in 1993 than in 1992, although the distribution of cases across ages was similar between years.

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

There was little variation in the mean number of decayed (d) teeth among children aged 5 to 7 years (0.52 to 0.50). However, the magnitude of variation in mean dmft in this age range was greater (1.11 to 1.33), and the mean number increased in older age groups.

The percentage of caries experience due to decay (d/dmft) showed an age-associated decline, more than halving from 72.0 per cent among 5 year-olds to 30.3 per cent among 10 year-olds. This is the strongest and most consistent age-associated effect for deciduous teeth. By comparison, the percentage of caries-free children (% dmft=0) showed a more modest reduction from 66.6 per cent among 5 year-olds to 48.4 per cent among 9 year-olds. The percentage of caries-free children therefore mirrors the mean dmft prevalence.

#### *Changes since 1992*

Most changes in deciduous caries experience among 5 to 9 year-olds between 1992 and 1993 were small, with means varying by less than 0.1 in most instances. Changes in percentages (d/dmft and dmft=0) were not consistent among ages and do not indicate any clear trends.

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

The mean number of decayed permanent teeth was smaller than the mean number of decayed deciduous teeth and increased across the range of 7 to 12 years (0.07 to 0.18 teeth). In contrast, the mean DMFT increased quite consistently across those age groups (0.10 to 0.77), and this is natural in a cumulative index such as DMFT. 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. Age-specific D/DMFT percentages were higher than d/dmft percentages between the ages of five and nine. However this phenomenon is due largely to the very low DMFT values which are the denominators in D/DMFT and which drive the percentage upwards. It is noteworthy that more than 62 per cent of children aged 12 or less were caries free (DMFT=0).

#### *Changes since 1992*

Changes in the mean number of decayed permanent teeth are inconsequential, and in most ages the changes in mean DMFT were also small (less than 0.1 teeth).

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

Untreated caries in the combined deciduous and permanent dentitions (d+D=1, 2, 3 or 4+) existed for between 22 and 19 per cent of children in the age range 5 to 12 years. The greatest likelihood of untreated decay existed for 9 year-olds. However, the most extensive levels of untreated decay (d+D=4 or more) occurred in the younger age groups, with six per cent or more of children aged 6 years or less being affected to this extent. This age distribution suggests that the greatest contribution comes from the deciduous dentition.

More than 98 per cent of children had no deciduous or permanent teeth missing due to caries. Smaller percentages avoided fillings, and the percentage of children without fillings declined among older ages. There was a similar decline in the percentage of children with no caries experience in either deciduous or permanent dentition (dmft+DMFT=0), from 66.2 per cent at age five to 51.3 per cent at age 12. In other words, more than 40 per cent of children at any specific age had no dental caries experience.

*Changes since 1992*

The pattern of caries appears to have changed little over the last 12 months, when considered in terms of the distribution of d+D, f+F or dmf+DMF.

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

Fissure sealants were prevalent in children aged 7 to 12 years, and at those ages the mean number of fissure sealants was equal or equivalent to the mean DMFT. There is clear evidence of preferential use of fissure sealants among those with caries experience: the prevalence of fissure sealants among children aged 8 to 12 years with some caries experience (DMFT=1+) was between 10 and 16 per cent greater than the prevalence among those with no caries experience (DMFT=0).

*Changes since 1992*

In 1993, the mean number of fissure sealants was greater by 0.1 to 0.2 sealants per child within the range 8 to 12 years. Furthermore, the targeting of fissure sealants to children with caries experience appeared to continue, although with less difference in the percentage of children with fissure sealants among those with DMFT of 1 or more, compared to those with DMFT=0.

**Table 7: Immediate treatment needs**

Immediate treatment needs for existing or imminent pain or infection were designated for fewer than one per cent of children in all age groups. The small number of children had very high deciduous caries experience. However, with these small numbers it is not possible to comment on changes since 1992, except to indicate that there were numerically fewer cases in 1993.

**Table 8: School Dental Service examinations**

The left hand side of this table 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 fewer than 6 per cent of those 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 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 one third of children in all ages received examinations within 7 to 12 months of their previous examination, and slightly greater percentages occurred between 13 to 24 months. Very few children were re-examined within six months, or after two years.

*Changes since 1992*

There were no substantial changes for those age groups with high percentages with prior examinations.

**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 7- and 11-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. In Australian Capital Territory the sampling is 1:2.5. This ratio is achieved by systematically selecting every fifth record of data from all children examined in the School Dental Service. The following table describes the number of records processed from children in Australian Capital Territory.

State/Territory: **Australian Capital Territory**

Sampling Ratio: **1:2.5**

Data for period January-December 1993

Date of Report: 31st August 1992

Age (years)	UNWEIGHTED NUMBER OF RECORDS PROCESSED						WEIGHTED NUMBER OF CHILDREN IN SAMPLE <sup>1</sup>		
	TYPE OF SAMPLING								
	Known date of birth			Age only known			Males	Females	Persons
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
3	1	1	2	0	0	0	1	1	2
4	15	25	40	0	0	0	15	25	40
5	379	373	752	0	0	0	379	373	752
6	439	494	933	0	0	0	439	494	933
7	484	465	949	0	0	0	484	465	949
8	503	472	975	0	0	0	503	472	975
9	492	434	926	0	0	0	492	434	926
10	480	454	934	0	0	0	480	454	934
11	454	406	860	0	0	0	454	406	860
12	166	173	339	0	0	0	166	173	339
13	36	28	64	0	0	0	36	28	64
14	21	19	40	0	0	0	21	19	40
15	10	14	24	0	0	0	10	14	24
16	0	1	1	0	0	0	0	1	1
<b>Total</b>	<b>3480</b>	<b>3359</b>	<b>6839</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3481</b>	<b>3360</b>	<b>6841</b>

<sup>1</sup> 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 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: COUNTRY OF BIRTH (INCLUDING ABORIGINALITY)**

These data were not collected in Australian Capital Territory during the period January-December 1993.



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

This table uses Statewide 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: Australian Capital Territory

Sampling ratio: 1:2.5

Data for period January-December 1993

Date of report: 31st August 1992

Age (years)	Number of children in sample	decayed		dmft		d/dmf %	Children with dmft=0 %
		mean	sd	mean	sd		
4	42	0.52	0.89	0.60	0.99	89.7	69.0
5	752	0.79	1.81	1.11	2.26	72.0	66.6
6	933	0.65	1.46	1.33	2.37	48.5	62.6
7	949	0.50	1.07	1.33	2.14	41.4	57.6
8	975	0.51	1.09	1.57	2.21	33.1	50.2
9	926	0.47	0.95	1.55	2.07	32.2	48.4
10	934	0.41	1.00	1.32	1.93	30.3	52.7

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

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

This table uses Statewide 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: Australian Capital Territory

Sampling ratio: 1:2.5

Data for period January-December 1993

Date of report: 31st August 1992

Age (years)	Number of children in sample	DECAYED		DMFT		D/DMFT %	Children with DMFT=0 %
		mean	sd	mean	sd		
5	752	0.01	0.10	0.01	0.11	77.8	98.8
6	933	0.04	0.26	0.05	0.33	71.3	96.4
7	949	0.07	0.31	0.10	0.38	66.4	92.6
8	975	0.10	0.40	0.20	0.60	48.7	87.1
9	926	0.10	0.38	0.32	0.72	31.5	79.6
10	934	0.10	0.37	0.41	0.87	27.1	75.5
11	860	0.12	0.44	0.51	0.96	22.2	71.3
12	339	0.18	0.63	0.77	1.29	21.5	62.8

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

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

This table uses Statewide 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: Australian Capital Territory

Sampling ratio: 1:2.5

Data for period January-December 1993

Date of report: 31st August 1992

Age (years)	Number 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
3	2	*	*	0.0	0.0	0.0	100.0	100.0	*
4	40	70.0	*	*	*	0.0	100.0	92.5	70.0
5	752	71.5	10.9	5.7	3.9	8.0	99.1	87.5	66.2
6	933	72.3	11.7	6.8	2.7	6.5	98.4	74.2	61.3
7	949	71.1	15.1	6.8	3.5	3.5	98.5	67.4	55.4
8	975	69.2	15.6	8.7	3.3	3.2	97.2	58.4	47.3
9	926	68.3	17.8	8.5	2.8	2.6	98.8	51.5	42.2
10	934	73.3	14.1	6.3	3.6	2.6	98.9	52.2	43.7
11	860	77.1	15.0	5.3	1.7	0.8	98.5	57.8	49.7
12	339	81.4	10.6	4.7	2.1	*	98.8	58.4	51.3

<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

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

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. 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: Australian Capital Territory

Sampling ratio: 1:2.5

Data for period January-December 1993

Date of report: 31st August 1992

Age (years)	Number of children in sample	Number of sealants		CHILDREN WITH DMFT=0		CHILDREN WITH DMFT=1+	
		mean	sd	number	% with F/S=1+	number	% with F/S=1+
6	933	0.09	0.52	899	3.2	34	17.6
7	949	0.31	0.95	879	10.0	70	32.9
8	975	0.70	1.35	849	21.7	126	41.3
9	926	0.93	1.49	737	28.2	189	47.1
10	934	1.14	1.58	705	37.9	229	47.2
11	860	1.10	1.59	613	32.8	247	51.8
12	339	1.24	1.88	213	39.0	126	44.4

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

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

This table, based on Statewide 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: Australian Capital Territory

Sampling ratio: 1:2.5

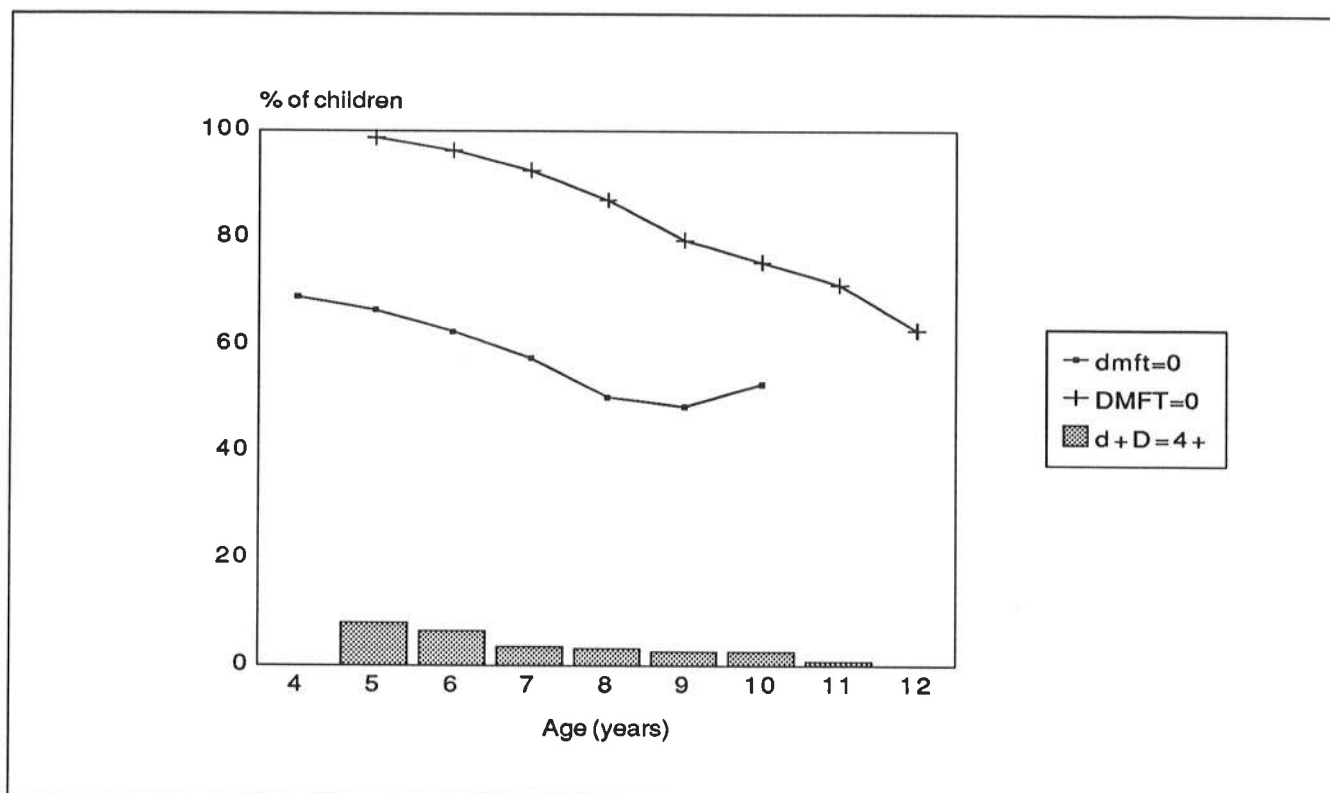
Data for period January-December 1993

Date of report: 31st August 1992

CHILDREN IN NEED OF IMMEDIATE TREATMENT												
Age (years)	Number of children in sample		% of all children	dmft		DMFT		% with d+D=				
	sample	No.		mean	sd	mean	sd	0	1	2	3	4+
3	0	0	—	—	—	—	—	—	—	—	—	—
4	0	0	—	—	—	—	—	—	—	—	—	—
5	1	1	100.0	2.00	—	—	—	0.0	100.0	0.0	0.0	0.0
6	0	0	—	—	—	—	—	—	—	—	—	—
7	1	1	100.0	6.00	—	—	—	0.0	0.0	100.0	0.0	0.0
8	0	0	—	—	—	—	—	—	—	—	—	—
9	0	0	—	—	—	—	—	—	—	—	—	—
10	0	0	—	—	—	—	—	—	—	—	—	—
11	1	1	100.0	—	—	1.00	—	100.0	0.0	0.0	0.0	0.0
12	1	1	100.0	—	—	2.00	—	100.0	0.0	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

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



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

