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The Child Dental Health Survey New South Wales, 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 - NEW SOUTH WALES 1995

Purpose of this report

This report continues the annual series providing descriptive statistics concerning child dental health in New South Wales. The report contains tables and figures. Information listed in the tables includes: the age, sex and country of birth / Aboriginality 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 summarise information from four of the tables.

The data for this report were collected during the 1995 calendar year from patients of the New South Wales School Dental Service by dental therapists and dentists. A random sampling procedure was used to select approximately one in 16 patients. This was achieved by selecting those children whose birthday was on the 3rd or 30th of any month. The effective sampling ratios varied between regions. Provision was made for inclusion and numerical weighting of data from all children whose date of birth was unknown. When an individual child was sampled more than once during the calendar year, the information from only the first examination was included in Tables 1 to 7 (inclusive). Table 8 contains data from all examinations of sampled children.

The following sections briefly describe each table and provide a simple, summary statement highlighting differences between the 1995 and 1994 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 majority of children in the sample (88.7 per cent) were aged between five and 12 years (inclusive). Within that range, seven year-olds were the most frequent individual age, while there tended to be smaller numbers of children towards the lower and upper limits of the age range. The age structure within the majority of the sample therefore reflects closely the age range of children who attend primary schools and who constitute the main target group of the School Dental Service. There were very small numbers of children aged more than 15 years or less than four years, and the data from them has been excluded from the subsequent tables describing dental health status (Tables 3 to 8). Children aged four years or between 13 and 15 years were represented in small numbers which results in low reliability of some computed statistics in Tables 3 to 8. Furthermore, they are likely to be less representative of the corresponding age groups of school children than is the case for the majority of the sample aged five to 12 years.

Males constituted 50.4 per cent of children in the full sample.

Changes since 1994

There were no substantial changes in the methodology between years, and the composition of the sample.

Table 2: Country of birth including Aboriginality

This data item was not provided in 1995.

Table 3: Deciduous teeth: age-specific caries experience

The mean dmft prevalence among children aged 4 to 9 years varied across a narrow range, from 1.90 to 1.60 teeth. The deciduous caries experience of children aged more than 9 years naturally declines as teeth exfoliate. The range in the mean number of decayed deciduous teeth was less than that observed for dmft, decreasing from 1.64 among four year-olds to 0.73 among nine year-olds. As a consequence, there was a substantial difference in the d/dmft percentage which declined from 85.9 per cent among four year-olds to 46.4 among nine year-olds.

Changes since 1994

There were small decreases of 0.1 to 0.3 in the mean number of decayed deciduous teeth and dmft.

Table 4: Permanent teeth: age-specific caries experience

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 contrast to deciduous caries, 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 more than 64 per cent of children aged 12 years or less were caries free (DMFT=0). The DMFT score for 12 year-olds was 0.93.

Among those aged 13 years or more, the age-associated increase in mean DMFT was greater: the mean numbers of decayed permanent teeth and DMFT for 15 year-olds are approximately 1.5 times as large as the corresponding means for 13 year-olds. However, in view of the apparently less representative nature of these older ages, it is likely that part of the differences could be related to other characteristics of older patients within the School Dental Service other than a simple ageing effect.

Changes since 1994

The mean DMFT of individual ages was similar to the corresponding figures for 1995 within the age range six to seven years. Within the main age groups of six to 12 years, the mean number of decayed permanent teeth declined by 0.1 to 0.2 teeth. The DMFT scores showed a general decline across age groups, which was most noticeable in children aged 9 years and older.

Table 5: All teeth: age-specific caries experience

Untreated decay in the combined deciduous and permanent dentitions (d+D=1, 2, 3 or 4+) existed for between 28 to 40 per cent of children in the age range five to 12 years. The greatest likelihood of untreated decay within that age range occurred for 12 year-olds, although the most extensive levels of untreated decay (d+D=4 or more) occurred in children aged 5 years.

In all key ages, more than 97 per cent of children had no deciduous or permanent teeth missing due to caries. The greatest likelihood of missing teeth was observed for eight year-olds, where 3.0 per cent had one or more missing teeth. Much smaller percentages of children 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 60.4 per cent at age five to 43.3 per cent at age nine. The percentage fluctuated around 45 per cent among most older ages, reflecting the pattern of exfoliation of deciduous teeth. This statistic serves to demonstrate that more than 38 per cent of children at any of the key primary school ages (five to 12 years) have no experience of dental caries.

Changes since 1994

There were consistent increases across years in the percentage of children with d+D=0, and dmft+DMFT=0.

Table 6: Fissure sealants: age-specific prevalence

Fissure sealants were prevalent among children aged 8 years or more. There is a tendency for children with some permanent caries experience (DMFT=1+) to have a higher likelihood of sealants than children without caries experience (DMFT=0). However the differential use of sealants appears to be limited in older children. For example, 26.0 per cent of 12 year-olds with DMFT=1+ had one or more fissure sealants, while 20.6 per cent of 12 year-olds with DMFT=0 had fissure sealants.

Changes since 1994

There were small differences in the mean number of fissure sealants within some individual age groups. There was also a slight decrease in the difference in sealant prevalence for younger children between those with DMFT=0 and DMFT=1+.

Table 7: Immediate treatment needs

Immediate treatment needs were recorded when, in the judgement of the clinical examiner, there was existing pain or infection or the likelihood of pain or infection developing within a four week period. Immediate treatment needs could also be recorded for life threatening conditions.

Between 10.8 and 16.4 per cent of children in the key age range of five to 12 years had immediate treatment needs. The percentage tended to be highest among younger ages. Those with immediate treatment needs had substantially higher mean dmft values than the

overall sample (Table 3). For example, among six year-olds with immediate treatment needs, the mean dmft of 3.91 was approximately twice as large as the overall sample mean of 1.75. There was a similar trend for permanent DMFT, with approximately two-fold differentials between those with immediate treatment needs and the sample mean. Consistent with this overall picture was the relatively high percentages of children with four or more decayed teeth (d+D=4+).

Changes since 1994

The percentage of children with immediate treatment needs and their pattern of deciduous and permanent caries experience declined since 1994.

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 New South Wales School Dental service. The figure was highest for the youngest ages (less than six years) while fewer than nine per cent of those aged 12 years 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. Between one third and one half of children in most ages received examinations within 7 to 12 months of their previous examination. Periods of less than six months and 13-24 months were the other predominant re-examination intervals, with 13-24 months being the next most frequent recall interval. However, there was a tendency for younger age groups to have shorter re-examintion intervals. Very few children aged ten years or less were re-examined after a period of two or more years, and the percentage was highest (greater than 10 per cent) among the oldest children aged 13 years or more.

Changes since 1994

There was a decrease in the percentage of children whose last examination was in the period of 0-6 months, with corresponding increases in each of the other recall intervals.

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 six 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. In New South Wales the sampling is 1:16. The following table describes the number of records processed from children in New South Wales.

State / Territory: **New South Wales** Sampling Ratio: **1:16**

Data for period January–December 1996 Date of report: 25th October 1996

Age (years)	UNWEIGHTED NUMBER OF RECORDS PROCESSED — TYPE OF SAMPLING: Known date of birth			Age only known			WEIGHTED NUMBER OF CHILDREN IN SAMPLE[1]		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
2	12	17	29	0	0	0	12	17	29
3	71	56	127	1	0	1	72	56	128
4	214	205	419	2	1	3	216	206	422
5	801	812	1613	22	28	50	823	840	1663
6	789	753	1542	17	22	39	806	775	1581
7	842	867	1709	18	22	40	860	889	1749
8	777	695	1472	14	16	30	791	711	1502
9	844	790	1634	14	20	34	858	810	1668
10	694	713	1407	13	10	23	707	723	1430
11	649	665	1314	15	6	21	664	671	1335
12	370	335	705	4	6	10	374	341	715
13	224	258	482	3	2	5	227	260	487
14	168	166	334	3	2	5	171	168	339
15	30	20	50	0	0	0	30	20	50
16	9	15	24	0	0	0	9	15	24
17	2	5	7	0	0	0	2	5	7
19	0	2	2	0	0	0	0	2	2
Total	6496	6374	12870	126	135	261	6622	6509	13131

[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 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 items were not provided in 1995.

TABLE 3: DECIDUOUS TEETH: AGE-SPECIFIC CARIES EXPERIENCE[1]

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: **New South Wales** Sampling ratio: **1:16**

Data for period January–December 1996 Date of report: 25th October 1996

Age (years)	Number of children in sample	decayed		dmft		d/dmf	Children with dmft=0
		mean	sd	mean	sd	%	%
4	422	1.64	3.07	1.90	3.32	85.9	58.1
5	1663	1.32	2.50	1.57	2.80	84.0	60.7
6	1581	1.08	2.06	1.75	2.82	64.2	56.3
7	1749	0.94	1.75	1.78	2.68	56.7	51.6
8	1502	0.87	1.57	1.90	2.49	48.5	47.2
9	1668	0.73	1.47	1.60	2.28	46.4	50.9
10	1430	0.48	1.02	1.26	1.98	43.0	56.4

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

TABLE 4: PERMANENT TEETH: AGE-SPECIFIC CARIES EXPERIENCE[1]

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: **New South Wales** Sampling ratio: **1:16**

Data for period January–December 1996 Date of report: 25th October 1996

Age (years)	Number of children in sample	DECAYED		DMFT		D/DMFT	Children with DMFT=0
		mean	sd	mean	sd	%	%
5	1663	0.01	0.10	0.01	0.11	86.4	99.3
6	1581	0.10	0.47	0.11	0.51	89.6	94.4
7	1749	0.15	0.56	0.19	0.63	78.9	88.5
8	1502	0.19	0.57	0.32	0.79	60.1	81.9
9	1668	0.20	0.64	0.38	0.88	51.7	79.8
10	1430	0.20	0.61	0.47	1.02	45.2	76.2
11	1335	0.26	0.71	0.62	1.19	42.8	69.4
12	715	0.49	1.30	0.93	1.75	50.2	64.5
13	487	0.65	1.38	1.31	2.03	47.1	51.7
14	339	0.77	1.56	1.65	2.43	45.7	47.5

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

TABLE 5: ALL TEETH: AGE-SPECIFIC CARIES EXPERIENCE[1]

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: **New South Wales** Sampling ratio: **1:16**

Data for period January–December 1996 Date of report: 25th October 1996

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
4	422	61.8	8.8	6.2	5.7	17.5	99.3	89.8	57.8
5	1663	63.9	9.4	7.2	5.0	14.5	98.8	90.3	60.4
6	1581	62.6	11.1	8.7	5.8	11.9	97.8	78.1	54.5
7	1749	60.4	14.6	9.5	5.3	10.2	97.5	70.7	49.1
8	1502	60.3	13.7	9.8	6.2	10.0	97.0	61.5	43.3
9	1668	63.7	14.8	8.6	4.3	8.6	97.3	62.5	45.1
10	1430	65.2	18.9	7.3	3.8	4.8	97.8	61.7	46.6
11	1335	70.6	15.2	7.4	3.7	3.1	98.7	66.5	52.1
12	715	71.9	13.8	6.3	2.8	5.2	98.9	72.3	55.7
13	487	68.0	12.3	10.3	3.9	5.5	98.8	65.5	46.8
14	339	66.4	13.9	9.4	4.1	6.2	98.2	62.2	44.8

[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 6: FISSURE SEALANTS: AGE-SPECIFIC PREVALENCE[1]

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: **New South Wales** Sampling ratio: **1:16**

Data for period January–December 1996 Date of report: 25th October 1996

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+
6	1581	0.19	1.58	1493	3.4	88	9.1
7	1749	0.33	1.80	1548	6.4	201	17.4
8	1502	0.52	1.85	1230	12.8	272	19.5
9	1668	0.45	1.45	1331	13.2	337	16.9
10	1430	0.54	1.54	1090	15.8	340	20.6
11	1335	0.63	1.81	926	18.9	409	19.1
12	715	0.75	1.76	461	20.6	254	26.0
13	487	0.85	1.93	252	23.4	235	24.3
14	339	0.96	2.09	161	28.0	178	25.3

[1] Legend: DMFT - decayed, missing or filled permanent teeth

[2] Legend: F/S - number of fissure sealed teeth
sd - standard deviation

TABLE 7: IMMEDIATE TREATMENT NEEDS: AGE-SPECIFIC DISTRIBUTION[1]

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: **New South Wales** Sampling ratio: **1:16**

Data for period January–December 1996 Date of report: 25th October 1996

		CHILDREN IN NEED OF IMMEDIATE TREATMENT										
Age (years)	Number of children in sample	No.	% of all children	dmft mean	dmft sd	DMFT mean	DMFT sd	% with d+D= 0	1	2	3	4+
4	422	79	18.7	5.10	4.49	—	—	7.6	20.3	15.2	7.6	49.4
5	1663	247	14.9	4.43	3.64	*	*	8.1	15.8	18.6	12.1	45.3
6	1581	260	16.4	3.91	3.50	0.26	0.77	15.8	20.4	17.7	12.3	33.8
7	1749	280	16.0	3.84	3.31	0.48	0.99	15.7	24.6	16.4	11.1	32.1
8	1502	247	16.4	3.44	2.69	0.65	1.08	17.0	22.7	18.6	14.2	27.5
9	1668	213	12.8	3.32	2.66	0.86	1.20	16.0	23.9	19.2	8.9	31.9
10	1430	163	11.4	2.29	2.39	1.02	1.44	22.1	33.7	14.1	12.9	17.2
11	1335	151	11.3	1.48	2.01	1.38	1.56	25.2	31.8	17.9	9.9	15.2
12	715	77	10.8	0.78	1.61	2.43	3.03	29.9	28.6	11.7	7.8	22.1
13	487	57	11.7	*	*	3.16	3.12	12.3	29.8	22.8	10.5	24.6
14	339	51	15.0	*	*	2.69	2.72	23.5	27.5	23.5	*	17.6

[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

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: **New South Wales** Sampling ratio: **1:16**

Data for period January–December 1996 Date of report: 25th October 1996

Age (years)	Number of children examined	Previous examination in School Dental Service (%)		CHILDREN WITH PREVIOUS EXAMINATION Months since last examination[1] (%)		
		No	Yes	0-6	7-12	13-24	25+
4	433	67.4	32.6	28.8	50.8	13.6	*
5	1732	55.6	44.4	25.0	49.6	20.6	4.8
6	1670	32.3	67.7	11.9	54.0	31.7	2.4
7	1869	20.8	79.2	11.1	44.9	37.5	6.5
8	1630	12.3	87.7	9.2	42.2	37.6	11.0
9	1763	13.4	86.6	10.3	39.5	39.4	10.8
10	1560	11.5	88.5	11.8	41.2	35.2	11.8
11	1434	10.0	90.0	10.1	36.0	41.6	12.3
12	780	8.8	91.2	9.6	31.8	44.5	14.1
13	519	9.6	90.4	9.4	27.6	43.3	19.7
14	368	6.3	93.8	8.3	33.0	30.3	28.4

[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=4+

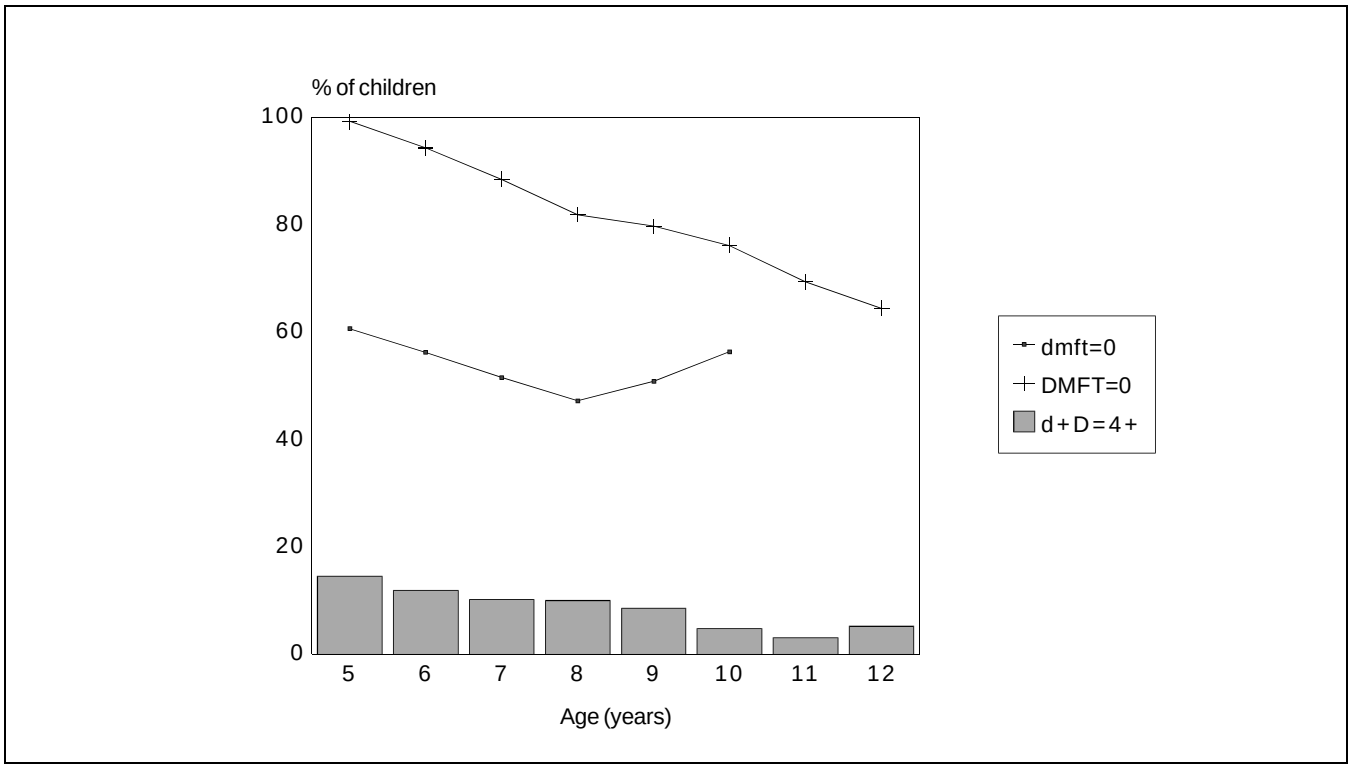

FIGURE 2: TIME SINCE LAST DENTAL EXAMINATION