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The Child Dental Health Survey
Victoria
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by

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and Research Unit

and

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THE CHILD DENTAL HEALTH SURVEY - VICTORIA 1990

Purpose of this report

This report establishes the series of annual reports providing descriptive statistics concerning child dental health in Victoria, and follows the 1989 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 1990 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 eight patient counted.

The following sections briefly describe each table and provide a simple, summary statement highlighting differences between the 1990 and 1989 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.

Table 1: Demographic composition of the sample

A total number of 4,425 children were sampled during 1990. At the sampling rate of 1:8, this equates to a base of 35,400 examinations during 1990, and would appear to be fewer than the expected number of sampled children.

The age distribution of sampled children has two peaks at six and nine years. These correspond with the delivery of school dental services in Victoria which during 1990 targeted care primarily to children in certain grades (prep, one, three and four). It follows that some age groups are represented in only small numbers, particularly children aged over 10 years. It also illustrates that the sample is representative of primary school aged children, rather than all children in the state. The combination of relatively small numbers of some age groups and the selective nature of children provided with care in those age groups means that caution needs to be used in interpreting findings.

Changes since 1989

The total number of children sampled in 1990 is some 1,670 fewer than 1989, reinforcing the notion that the sample is less than the specified ratio of one in eight. In both years, the target age range (6 and 9 years) accounted for approximately 40 per cent of the sample.

Table 3: Deciduous teeth: age-specific prevalence

The mean number of decayed teeth among children aged 5 to 9 years varies from 1.22 to 0.88 and is lower among older children. The variation in mean dmft in this age range is greater (1.64 to 2.55), although the prevalence is higher among older children. Mean dmft declines over the age of 9, and this is consistent with the exfoliation of deciduous teeth as children grow older.

The percentage of caries experience due to decay (d/dmft) shows an age-associated decline, more than halving from 78.8 per cent among five-year-olds to 35.6 per cent among 9-year-olds. In addition, the percentage of caries-free children (% dmft=0) reduces from 60.0 per cent among 5-year-olds to 37.6 per cent among 9-year-olds. It is noteworthy that less than one half of children are free of deciduous caries experience above the age of five. The percentage of caries free children therefore mirrors the mean dmft prevalence.

Changes since 1989

During 1990 there were very few changes in the mean number of decayed teeth, the d/dmft ratio or the percentage of children with no caries experience.

Table 4: Permanent teeth: age-specific prevalence

The mean number of decayed permanent teeth is consistently smaller than the mean number of decayed deciduous teeth, although it increases across the age groups between 6 and 11 years. The mean DMFT also increases quite consistently across age groups, although the proportional increase is not as great. As a consequence, the percentage of DMFT due to decay (D/DMFT) and the percentage caries free (DMFT=0) declines consistently across age groups. Age-specific D/DMFT percentages are greater than the corresponding d/dmft percentages in the deciduous dentition between the ages of six and ten. In contrast to the deciduous dentition, well over 50 per cent of children aged 10 or less are caries free.

The caries experience of children aged over 10 years requires some special discussion. The mean DMFT for each of those ages appears to be greater than expected based on the age-associated pattern in younger ages. There are also improbable differences in 12-year-old mean DMFT between 1989 (mean=1.54) and 1990 (mean=2.76). As noted already, children aged 11 years or more are outside the main target groups for universal care in Victoria, and in addition, there are small numbers of such children in the sample. For these reasons the data must be regarded as less representative of the population. This is regrettable since 12-year-olds are used as a benchmark age-group in some policies.

Changes since 1989

Among children aged 10 years or less the changes in the caries experience of permanent teeth were inconsequential. In particular, the mean DMFT differs by less than 0.1 teeth across the key age groups (7 to 10 years).

Table 5: All teeth: age-specific prevalence

Untreated caries in the combined deciduous and permanent dentitions exists for between 37 and 48 per cent of children in the age range 5 to 10 years. The greatest likelihood of untreated decay occurs for 8 and 9 year olds where only about one half of children have d+D of zero. It is noteworthy that the most extensive levels of untreated decay (4 or more deciduous or permanent teeth) are relatively consistent among ages, ranging from 9.1 per cent of 10-year-olds to 13.4 per cent of 5 year olds. This age trend suggests that the greatest contribution comes from the deciduous dentition.

While 90 per cent ore more of children have no deciduous or permanent teeth missing due to caries, smaller percentages avoid fillings, and this clearly is associated with age. Similarly, the percentage of children with no caries experience (dmft+DMFT=0) is age associated, tending to reduce and plateau at approximately 30 per cent above the age of 8.

Changes since 1989

The changes during 1990 in distribution of combined deciduous and permanent caries experience are small and reveal no consistent trends.

Table 6: Fissure sealants: age-specific prevalence

Fissure sealants are present in only small numbers in most age groups, and reliable data are confined predominantly to children aged 8 to 10 years. At those ages, the mean number of fissure sealed teeth is similar to the mean number of decayed permanent teeth. There is a fairly similar frequency of fissure sealants among children with no permanent caries experience (DMFT=0) and among those with some caries experience (DMFT=1+) suggesting that permanent caries experience is not a criterion used consistently in selection of patients for such preventive care.

Changes since 1989

For children aged 8 to 10 years, where comparisons can be made between the two years, the mean number of fissure sealants increased noticeably. There were corresponding increases in the frequency of fissure sealants among children who were caries free (DMFT=0) and caries affected (DFMT=1+), although within each year the similarity in frequency between those two years persisted.

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 Victoria School Dental service. As expected, the figure is highest for the youngest ages (5 years or less) with fewer than 20 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 half of children in aged six or less had a previous examination within the previous 12 months. However, fewer than 30 per cent of children aged 8 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 quarter of children aged 8 years or more had a previous examination more than two years previously.

The small number of 12 year-olds precludes reliable estimates of the time since their previous examination. Such information may shed additional light on any special characteristics of those children which may be associated with their high level of permanent caries experience.

Changes since 1989

The changes during 1990 in frequency and timing of examinations are small and reveal no consistent trends.

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 10-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 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.

State/Territory: **Victoria**   Sampling Ratio: **1:8**

Data for period January-December 1990   Date of Report: 7th August 1992

| | NUMBER OF RECORDS PROCESSED | | | |
Age (years)	Males	Females	Not stated	Persons
≤4	8	12	2	22
5	318	390	84	792
6	486	454	118	1058
7	210	190	34	434
8	306	367	81	754
9	428	377	77	882
10	167	144	39	350
11	48	41	8	97
12	19	13	2	34
≥13	2	0	0	2
Total	**1992**	**1988**	**445**	**4425**

TABLE 2: COUNTRY OF BIRTH (INCLUDING ABORIGINALITY)

These data were not collected in Victoria
during the period January-December 1990.

TABLE 3: DECIDUOUS TEETH: AGE-SPECIFIC PREVALENCE[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 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory: **Victoria**   Sampling ratio: **1:8**

Data for period January-December 1990   Date of report: 7th August 1992

Age (years)	Number of children in sample	decayed		dmft		d/dmf %	Children with dmft=0 %
		mean	sd	mean	sd		
≤4	22	*	*	2.45	2.87	71.8	50.0
5	792	1.22	2.26	1.64	2.92	78.8	60.0
6	1058	1.23	2.21	2.10	3.39	62.5	51.1
7	434	1.05	1.80	2.38	3.18	50.2	46.5
8	754	0.90	1.66	2.49	3.61	40.3	43.8
9	882	0.88	1.67	2.55	3.35	35.6	37.6
10	350	0.65	1.20	1.96	2.56	38.2	43.4
11	97	0.52	1.21	1.55	2.43	34.6	59.8
12	34	*	*	*	*	*	67.6

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

TABLE 4: PERMANENT TEETH: AGE-SPECIFIC PREVALENCE[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 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory: **Victoria**   Sampling ratio: **1:8**

Data for period January-December 1990   Date of report: 7th August 1992

Age (years)	Number of children in sample	DECAYED mean	sd	DMFT mean	sd	D/DMFT %	Children with DMFT=0 %
6	1058	0.07	0.39	*	*	82.8	94.5
7	434	0.19	0.58	0.26	0.71	78.6	85.7
8	754	0.35	1.15	0.70	2.94	64.1	74.5
9	882	0.43	1.09	0.89	2.20	54.4	63.0
10	350	0.47	1.06	1.08	2.00	46.1	58.9
11	97	0.81	1.76	1.86	2.19	38.8	35.1
12	34	*	*	2.76	3.59	37.2	*
13	2	3.50	0.71	7.50	0.71	46.4	-

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

TABLE 5: ALL TEETH: AGE-SPECIFIC PREVALENCE[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 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory: **Victoria**   Sampling ratio: **1:8**

Data for period January-December 1990   Date of report: 7th 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
≤4	22	59.1	*	*	-	*	100.0	81.8	50.0
5	792	62.5	11.2	7.4	5.4	13.4	96.8	86.9	58.7
6	1058	59.4	12.9	8.6	5.3	13.9	93.1	75.4	50.0
7	434	56.7	13.8	11.5	6.0	12.0	94.5	65.2	44.5
8	754	52.0	19.5	11.9	6.2	10.3	89.8	54.5	37.5
9	882	51.8	19.0	10.9	7.7	10.5	89.7	44.2	29.9
10	350	54.3	18.3	11.4	6.6	9.1	89.1	47.7	31.7
11	97	50.5	20.6	*	*	*	88.7	41.2	23.7
12	34	61.8	*	-	*	*	88.2	41.2	*

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[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 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory: **Victoria**   Sampling ratio: **1:8**

Data for period January-December 1990   Date of report: 7th 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	1058	*	*	1000	2.3	58	6.9
7	432	*	*	371	3.8	61	16.4
8	752	0.43	1.93	561	10.7	191	9.9
9	878	0.37	1.40	552	11.2	326	12.0
10	349	0.52	1.48	205	15.6	144	20.1
11	97	*	*	34	*	63	19.0
12	34	*	*	9	*	25	*

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[1] 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

This information was not collected in Victoria during the period of this report.

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 25 per cent, and population estimates of these percentages are statistically unreliable.

State/Territory: **Victoria**   Sampling ratio: **1:8**

Data for period January-December 1990   Date of report: 7th August 1992

| | | | | | CHILDREN WITH PREVIOUS EXAMINATION | | | |
| Age (years) | Number of children examined | Previous examination in School Dental Service (%) | | | Months since last examination[1](%) | | | |
		No	Yes	Unknown	0-6	7-12	13-24	25+
≤4	22	90.9	*	-	*	-	*	-
5	792	72.3	16.2	11.5	51.1	22.7	22.7	*
6	1058	55.5	33.0	11.5	26.8	30.5	41.3	*
7	434	35.0	52.8	12.2	14.7	19.4	58.1	7.8
8	754	14.5	72.9	12.6	10.7	11.9	44.0	33.4
9	882	12.0	71.5	16.4	11.1	16.2	33.6	39.1
10	350	13.4	70.9	15.7	9.5	14.2	51.3	25.0
11	97	14.4	66.0	19.6	*	*	62.5	*
12	34	*	61.8	*	-	*	*	*

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[1] Excludes those with no previous examination and where the date of previous examination is unknown.
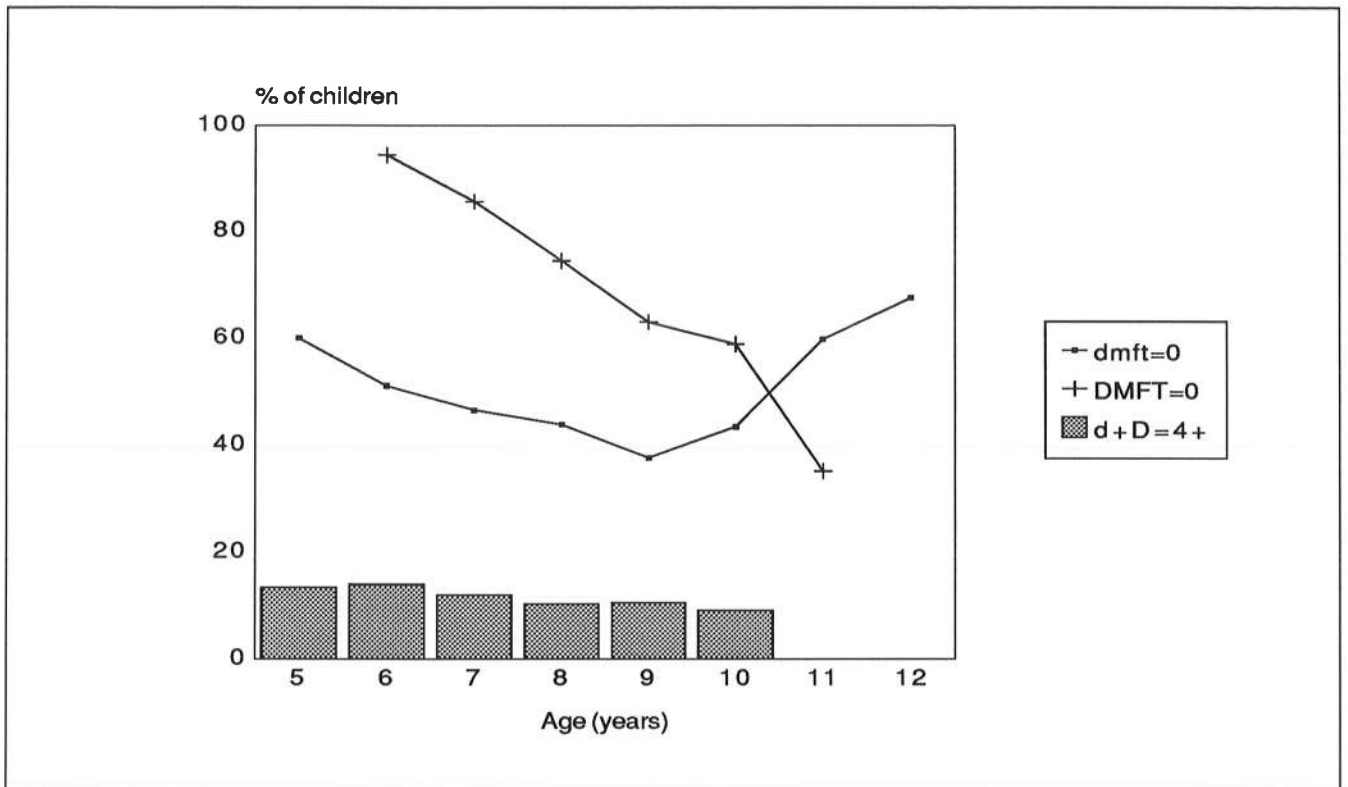
FIGURE 1: PERCENTAGE OF CHILDREN WITH
dmft=0, DMFT=0 and d+D=0

FIGURE 2: TIME SINCE LAST DENTAL EXAMINATION