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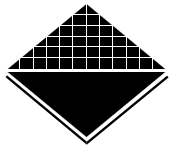
The Child Dental Health Survey Australia, 1990

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. The Child Dental Health Survey is conducted in collaboration with dental authorities in each State and Territory of Australia.

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THE CHILD DENTAL HEALTH SURVEY – AUSTRALIA 1990

Purpose of this report

This report provides descriptive epidemiological and service provision data concerning children's dental health in Australia. Data for the report have been derived from the Child Dental Health Survey, which monitors dental health of children enrolled in School Dental Services. The tables and figure contained in this report describe the demographic composition of the sample, deciduous and permanent caries experience, extent of immediate treatment needs, and prevalence of fissure sealants. State/Territory comparisons follow the national tables. The remainder of this introduction present a description of the Survey methods and discussion of the findings for the national tables.

Description of Survey methods

Source and sampling of subjects for the Child Dental Health Survey

Data for the report have been derived from the Child Dental Health Survey, which monitors dental health of children enrolled in School Dental Services operated by the health departments or authorities of the six State and two Territory governments. The School Dental Services provide dental care principally to primary school aged children. The care typically provided includes dental examinations, preventive services and restorative treatment as required. However, there are some variations among State and Territory programs with respect to priority age groups and the nature of services. As a consequence, there are variations in the extent of enrollment in School Dental Services, with some jurisdictions serving more than 80 per cent of primary school children, and others serving smaller percentages. (For this reason the tables exclude data from Victorian children aged 10 years and above, due to small and selective sampling. Consequently, the numbers of children involved reduce across age groups.)

Sampling

The data for the Child Dental Health Survey derive from the routine examinations of children enrolled in School Dental Services. At the time of examination, children are sampled at random by selecting those born on specific days of the month. Some States adopt another systematic sample based, for example, on selecting every eighth case. Different sampling ratios, and consequently different days of birth, are used among the States and Territories according to the following scheme:

State	Ratio	Days of birth	Comments for 1990 collection
NSW	1:16	3rd or 30th	January–December
Vic	1:8	Systematic	No data for children aged 10+ years
Qld	1:5	1st to 6th	January–December
SA	1:16	13th, 30th, 31st	January–December
WA	1:12.5	29th, 30th, 31st	January–December
Tas	1:2.5	Systematic	January–December
NT	1:1.9 Darwin 1:1 elsewhere	1st to 16th	January–December
ACT	1:1.9	1st to 16th	January–December

National data for the Child Dental Health survey therefore constitute a stratified random sample of children from the School Dental Services. Children not enrolled with School Dental Services are not represented in the sample. The intention of stratification is to provide approximately equivalent numbers of children from each State or Territory, although variations in administration and local data requirements of the Services creates some variation. This was a particularly apparent for Victoria for 1990, where due to sampling difficulties, the number of children aged 10 years and above included in the survey were very small, resulting in high standard errors for prevalence estimates. The Victorian children sampled were not necessarily representative of all primary school children, with all 12 year-old childen selected being recipients of Commonwealth Government health concession cards. As a consequence, any tables following that include reference to ages 10 and above do not include data from Victoria.

Data items

Data items in the Child Dental Health Survey are collected at the time of routine clinical examinations conducted by dental therapists and dentists. The recorded characteristics of sampled children consists of demographic information, including the child's age, sex and country of birth (both of child and mother). The country of birth, and the Aboriginality of both patient and mother, are considered to be two items essential to a health monitoring survey (*Health Targets and Implementation Committee*, 1988). Country of birth categories have been derived from those employed by the Australian Bureau of Statistics, in order to ensure the comparability of data obtained from this Survey to other sources, such as the Census. Maternal status was chosen as the preferred parental data item. Country of birth data items are not yet, however, recorded universally by each State or Territory. The data reported here have been obtained from Northern Territory, New South Wales, South Australia and Victoria. The analysis of variations in health status, with particular regard to variations by Aboriginality, have been pursued in other analyses and are not reported here. (See *Australia's Health*, 1992.) Service provision information includes the date of current and previous examination (if the child previously had been examined within the School Dental Service) and is dealt with in detail within state and territory specific reports.

The dental health status of sampled children covers four areas listed below:

1) Deciduous caries experience is recorded as the number of deciduous teeth which are decayed, missing because of dental caries, or filled because of dental caries, and is based on the coding scheme of Palmer *et al* (1984).

2) Permanent caries experience is recorded as the number of permanent teeth which are decayed, missing because of dental caries, or filled because of dental caries, and is based on the WHO protocol (WHO, 1987).

3) Immediate treatment needs are designated if, in the opinion of the examiner, the child has, or is likely to develop within four weeks, pain, infection or a life-threatening condition (WHO, 1987). This data item was introduced in most States and Territories in 1989.

4) Fissure sealants are recorded as the number of teeth, otherwise sound and not restored, which have a fissure sealant. This data item was introduced in most States and Territories in 1989.

Some data items are not collected uniformly among States and Territories. Consequently, some of the tables in this report refer only to some States and Territories, where indicated.

The diagnostic criteria employed are based on the clinical judgement of the examining dental therapist or dentist. They follow written criteria for the data items described above; however, there are no formal sessions of calibration or instruction in diagnosis undertaken for the purpose of the Survey, and there are no repeat examinations for the purpose of assessing inter- or intra-examiner reliability.

Data analysis

National data contained in this report consist of counts, means and percentages which have been weighted to represent the relevant State / Territory specific population of children aged 5–15 years. The weighting procedure is necessary, since the National sample is stratified by State / Territory to provide (generally) equivalent numbers of cases in each jurisdiction. Unweighted estimates would be over-represented by children from less populous States / Territories and under-represented by those from more populous jurisdictions.

The method follows standard procedures for weighting stratified samples using external data sources (Foreman, 1991). State / Territory estimates (ABS, 1989) of the 1990 child population within individual ages are used to provide numerators for weights which are divided by the age specific number of cases in the sample from respective states. Hence, observations from more populous states achieve relatively greater weight. However, the stratum specific weights are further divided by the national estimated population and total sample size to achieve numerical equivalence between the weighted sample and the original number of processed records.

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.

Administration of the Survey

The Child Dental Health Survey has been conducted since 1977. Between 1977 and 1988 it was managed centrally by the Commonwealth Department of Health. In 1989 responsibility for the national data collection was transferred to the Australian Institute of Health's Dental Statistics and Research Unit at The University of Adelaide.

Description of national findings

Table 1: Number in sample and estimated resident population

There was a total of 99,157 children aged between five and 15 years inclusive reported for the 1990 calendar year. Children aged four years or less and those aged 16 years or more were excluded from this sample, as the small numbers of children receiving care in these age groups across Australia results in less reliability of computed statistics for those ages. Furthermore, children in those ages are outside the main target group of many of the School Dental Services, and it is likely that they have some special characteristics which make them less representative of their respective age groups within the Australian population.

The effects of the statistical weighting procedure can be appreciated from examining this table. The relatively large numbers of reported cases from Queensland, Tasmania and the Northern Territory receive relatively lower weights compared with other States and Territories. The weighted cases, which are used for estimates listed in subsequent tables, therefore represent smaller numbers of children from those three States. The national sample,

consequently, is representative of the populations of all States and Territories, rather than the number of reported cases.

Table 2: Country of birth (including Aboriginality) – SA, NSW and NT

Information about country of birth and Aboriginality was available from South Australia, New South Wales and the Northern Territory where 94.6 per cent of children were Australian born (including Aboriginal, Torres Strait Islander and non-Aboriginal children). This compares with 81.7 per cent of Australian born mothers. Southern Europe, the Middle East, United Kingdom and Ireland were the other main countries of birth among mothers, although none of them exceeded five per cent. The distribution of children is similar to the figure of 91.2 per cent Australian born reported for the Australian population aged 5–14 years (ABS, 1989). The sample has a slightly larger percentage of Aboriginal/Torres Strait Islander children compared with the 1986 Census estimate of 1.8 per cent (ABS, 1986). However it should be noted that the survey data were recorded in NSW, NT and South Australia which have substantial Aboriginal populations. Furthermore, the 1986 census may have under-enumerated Aboriginal and Torres Strait Islander people.

Table 3: Deciduous teeth: age-specific prevalence

Total caries experience in the deciduous dentition is expressed as the mean dmft prevalence and varied from 1.85 to 2.31 among five to nine year-olds. The noticeable decline among older children is a natural consequence of exfoliation of deciduous teeth. There was a greater amount of variation in the mean number of decayed deciduous teeth decreasing from 1.30 among five year-olds to 0.64 among nine year-olds. As a consequence of both trends, the d/dmft ratio was highest among younger children, and declined to approximately 29 per cent by the age of 10. The percentage of children with no deciduous caries mirrored the age variations in mean dmft by reducing across the age range five to nine years.

The patterns suggest that children enter their school years with moderate caries experience in the deciduous dentition – a large proportion of it manifested as untreated decay. The d/dmft ratio decreased up to the age of 10, undoubtedly reflecting the effectiveness of the School Dental Services in restoring decayed teeth. It is noteworthy that the mean number of decayed teeth exceeded 0.60 through to nine years, despite the relative constancy of mean dmft. This may suggest that much of the untreated decay occurred in previously filled teeth. However there could be more complex interactions with tooth exfoliation and rates of caries progression which influence the pattern of deciduous caries.

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 five to 10 years. In addition, the means for permanent teeth continued to increase among older ages. Despite the relatively high mean number of permanent teeth with untreated decay among those aged over 12 years, the D/DMFT ratio did not change considerably, due to the substantial increases in mean DMFT. It is noteworthy that over 64 per cent of children aged 10 years or less had no caries experience (DMFT=0), and even by the end of their primary school years, 48 per cent of 12 year-olds had no permanent caries experience.

It is necessary to be cautious in drawing inferences from age related trends – particularly among those aged over 12 years. In most States and Territories, access to School Dental Services for those older children tends to be restricted in comparison with access for younger children. Often the older children have special eligibility criteria, with the consequence that

they may be less representative of the respective age groups within the Australian population than is the case for younger children reported in Table 4.

Table 5: All teeth: age-specific prevalence

This table combines components of caries experience from the deciduous and permanent dentitions to provide an indicator of the total burden of disease among children receiving care within School Dental Services.

Untreated decay in the combined deciduous and permanent dentitions existed for between 28 and 41 per cent of children in the age range five to 12 years. The greatest likelihood of untreated decay was observed among eight year-olds (where only 59.2 per cent had d+D=0), although the greatest intensity of decay occurred in the youngest ages. For example, 13.7 per cent of five year-olds had four or more teeth with untreated decay. Based on observations from previous tables, the greatest contribution among younger children came from deciduous teeth. However, the oldest group also featured with high frequency and intensity of decay.

Missing teeth were relatively uncommon among children aged five to 14 years, although 10 per cent of those aged 15 years had at least one missing tooth (and undoubtedly that would be dominated by missing permanent teeth). Again, it is important to recognize that the oldest ages may be less representative of the Australian population. Both the percentage of children with no fillings (f+F=0) or caries experience (dmft+DMFT=0) declined quite consistently across the age range contained in Table 5. The latter figure demonstrates among the key age range of five to 12 year-olds that one third or more of children have no caries experience in either dentition.

Table 6: Fissure sealants: age-specific prevalence

The mean number of fissure sealants was substantial among those aged seven years or more, and through to 12 year-olds it exceeded the mean number of decayed permanent teeth (Table 4). Children with permanent caries experience (DMFT=1+) had a greater likelihood of sealants than children with no permanent caries experience (DMFT=0). For example, 20.4 per cent of 12 year-old children with DMFT=1+ had fissure sealants compared with 17.6 among those with DMFT=0. This should be interpreted as a slight tendency towards preferential utilization of fissure sealants among children deemed to have a greater likelihood of dental caries.

Table 7: Immediate treatment needs: age-specific distribution

Immediate treatment (within a period of four weeks) was not recorded in Victoria or Western Australia in 1990. Consequently, the estimates may not be representative of all children. The percentage was greatest at both ends of the age spectrum, and smallest (6.1 per cent) for 13 year-olds. However, the high percentage among 15 year-olds is likely to be unrepresentative of the school population. There were correspondingly high levels of caries experience among children with immediate treatment needs. Indeed for age specific means for dmft and DMFT tended to be at least twice the national averages listed in previous tables. For example, five year-olds with immediate treatment needs had a mean dmft of 5.76 (compared with 1.85 in Table 3) and 52.8 per cent had d+D=4+ (compared with 13.7 per cent in Table 5).

It should be emphasized that the frequency of immediate treatment reflects both the accumulated amount of dental disease and the methods of targetting and delivering School Dental Services. For example, clinics which provide care for a relatively small proportion of a

population, and which assign priority to treating those with symptoms, will almost certainly record higher percentages of immediate treatment needs than other clinics which have universal coverage of all children on a constant recall basis.

Perhaps the most important interpretation from Table 7 is that a sub-group of children with a substantial burden of dental caries can be identified within School Dental Services. Their state of poor dental health constitutes a useful contrast with the previous observation that approximately one third of five to 12 year-olds have no caries experience at all.

Table 8: Interstate comparison: Five–six year-old dmft

This represents a standard age group (cited, for example, within World Health Organization publications) and is useful for School Dental Services since it represents, predominantly, the dental health status of children new to School Dental Services. There exists a two fold difference between the lowest dmft (Australian Capital Territory, mean=1.08) and highest dmft (Queensland, mean=2.32). There are historical differences in caries prevalence as well as marked variations in population density and demography between the two which are significant. As well, there are differences in organization and delivery of both School Dental Services between these two jurisdictions, and all of these influential factors affect other state / territory comparisons.

There are other notable characteristics of the statistics contained in Table 8. In general, the mean number of deciduous teeth with active decay is correlated with the mean dmft – a relationship which may not be surprising but which need not necessarily exist. In addition, the variation in percentage caries free (dmft=0), while representing the converse of mean dmft, shows less substantial variation (from 47.4 to 66.4 per cent) than the two fold difference in mean dmft. In other words, while approximately one half of five to six year-olds in all jurisdictions have caries experience, the amount of accumulated disease (mean dmft) is more variable across jurisdictions.

Table 9: Interstate comparison: 12 year-old DMFT

There was a 70 per cent variation in mean DMFT (from 1.03 in Australian Capital Territory to 1.75 in Western Australia). This was less than the amount of variation observed in deciduous teethm, albeit in different jurisdictions. In the case of permanent teeth there was again some correlation between mean DMFT and mean number of decayed teeth, although this was less consistent than the case for deciduous teeth. Consequently, there was quite large variation in the ratio of D / DMFT (16.4 per cent in South Australia to 32.8 per cent in New South Wales).

Again, it is necessary to consider the range of factors (historical, demographic, use of fluorides and service provision) influencing caries experience when examining variations among states and territories. The Australian Capital Territory stands out with the lowest mean dmft and lowest mean DMFT. In contrast, Queensland has the highest mean dmft and second highest mean DMFT.

Table 10: All teeth: Age standardised prevalence

Age standardized data are used for this table in order to bring together data from all ages in all jurisdictions. This is useful in the event that any age-specific statistics (for example, five–six year-olds) provide a somewhat unrepresentative picture of conditions in a specific state or territory. The purpose of age-standardization is to adjust among states for possible differences in the proportion of specific age groups, which is important because of the age-relatedness of most dental caries measures.

This table adds further dimensions to the extent of inter-state variation in caries experience. For example, there are quite profound differences in percentage of children with four or more decayed teeth (d+D=4+) despite relative consistency in percentage of children with no caries experience (dmft+DMFT=0). The most populous states of New South Wales and Victoria have the largest levels of untreated decay (d+D). As noted from previous tables, that appears to arise from the relatively high levels of decayed teeth observable in deciduous teeth among children in their early school years.

Table 11: National summary

Age standardized data are used for this table in order to bring together data from all ages in all jurisdictions.

In comparison with previous tables, the data in Table 11 reveal different profiles of caries experience among the states and territories. Victoria and Queensland appear to have the highest levels of caries experience for deciduous caries. Western Australia and New South Wales have the highest estimates for permanent caries experience. This is reasonably consistent with Tables 8 and 9, where States with high standardised means had relatively high mean dmft and DMFT scores. It should be noted that the DMFT figure for Victoria is artificially low, due to the exclusion of children aged over 10 years.

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

This figure uses Australia-wide data to describe the combined dmft and DMFT indices and their components for individual (year of birth) ages. It should be noted that the rate of decline across ages in the percentage of children free of caries in deciduous dentition is attenuated by the pattern of exfoliation of deciduous teeth, which effectively reduces the number of teeth at risk of caries.

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TABLE 1: NUMBER IN SAMPLE AND ESTIMATED RESIDENT POPULATION

Data for the Child Dental Health Survey are collected from a stratified random sample of children in all Australian States and Territories. Within each State or Territory, sampling involves selection of a constant proportion of children for whom date of birth is known by including only those children born on particular dates. Data presented here are weighted by the estimated resident population in each age and State/Territory stratum to permit the calculation of Australia-wide prevalence estimates. The number of weighted cases excludes cases outside the age range of five to 15 years inclusive.

State/Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

State	Number of processed cases	Estimated resident population	Weighted cases
NSW	8009	927103	34418
Vic	4075	676260	21326
Qld	34256	484997	18587
SA	4745	218240	8404
WA	10280	268960	10364
Tas	16467	77301	2977
NT	14200	31014	1185
ACT	7125	49221	1895
Total	**99157**	**2733096**	**99156**

TABLE 2: COUNTRY OF BIRTH (INCLUDING ABORIGINALITY)

The country of birth of children is determined from information concerning birthplace of the child and mother. The number and percentage of children in each group is provided in this table. These data relate to South Australia, New South Wales and Northern Territory.

State / Territory: **SA, NSW and NT**

Data for 1990 Date of report: 9th April 1993

COUNTRY OF BIRTH	CHILDREN		MOTHERS	
	Number[1]	%	Number	%
Australia (non-Aboriginal)	37394	91.8	30164	78.7
Australia (Aboriginal or TSI)	1154	2.8	1144	3.0
United Kingdom and Ireland	343	0.8	1679	4.4
Other English speaking	360	0.9	537	1.4
Southern Europe	136	0.3	1213	3.2
Other Europe	90	0.2	561	1.5
Middle East	185	0.5	1025	2.7
South East Asia	477	1.2	682	1.8
Other Asia	253	0.6	594	1.6
Other	323	0.8	726	1.9

[1] Data are weighted to reflect the sampling scheme by correcting for the over-representation in the sample of children with an unknown date of birth. Data relating to second or subsequent examinations of children within this reporting period are eliminated.

TABLE 3: DECIDUOUS TEETH: AGE-SPECIFIC PREVALENCE[1]

This table uses Australia-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.

State/Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

Age (years)	Number of children in sample[2]	decayed		dmft		d/dmf	Children with dmft=0
		mean	sd	mean	sd	%	%
5	9374	1.30	2.49	1.85	3.13	71.4	56.0
6	9512	1.10	2.09	2.06	3.12	55.4	50.0
7	9442	0.87	1.69	2.20	2.97	42.8	45.9
8	9378	0.76	1.44	2.31	2.89	35.7	41.5
9	9248	0.64	1.26	2.28	2.82	31.1	39.6
10	6873	0.45	0.98	1.78	2.38	28.6	46.5

[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. Weighted data are presented.

TABLE 4: PERMANENT TEETH: AGE-SPECIFIC PREVALENCE[1]

This table uses Australia-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. Data from Victoria for children aged 10 and above have been excluded due to high standard errors.

State / Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

Age (years)	Number of children in sample[2]	DECAYED mean	DECAYED sd	DMFT mean	DMFT sd	D / DMFT %	Children with DMFT=0 %
6	9512	0.07	0.38	0.10	0.74	88.3	95.3
7	9442	0.16	0.53	0.24	0.68	71.3	86.1
8	9378	0.22	0.70	0.42	1.27	57.1	77.9
9	9248	0.26	0.77	0.63	1.47	43.6	69.5
10	6873	0.24	0.71	0.76	1.31	32.2	64.7
11	6970	0.29	0.78	1.00	1.52	28.8	57.0
12	6902	0.41	0.99	1.44	1.97	26.6	48.0
13	7074	0.68	1.57	2.14	2.61	26.5	36.5
14	7398	0.85	1.81	2.45	2.87	32.0	35.1
15	7497	1.04	1.95	3.49	3.46	30.5	30.8

[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. Weighted data are presented.

TABLE 5: ALL TEETH: AGE-SPECIFIC PREVALENCE[1]

This table uses Australia-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. Data from Victoria for children aged 10 and above have been excluded due to high standard errors.

State / Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

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
5	9374	62.4	11.3	8.0	4.6	13.7	97.0	82.8	55.5
6	9510	61.3	13.2	9.1	4.7	11.8	96.2	70.3	48.9
7	9442	60.7	14.7	10.3	5.4	8.8	95.2	60.4	43.1
8	9367	59.2	17.1	10.8	5.2	7.7	94.2	51.6	36.9
9	9242	60.2	19.0	9.2	5.2	6.4	94.6	44.7	32.5
10	6873	65.7	17.3	8.7	4.3	3.9	96.4	44.7	33.6
11	6970	70.9	15.4	7.6	2.8	3.3	96.6	48.0	37.8
12	6902	71.7	14.8	7.2	2.7	3.6	96.0	48.7	38.3
13	7074	68.9	15.4	6.1	3.3	6.3	95.9	41.2	32.4
14	7398	65.3	16.2	8.0	2.3	8.2	96.3	44.4	30.3
15	7497	60.2	18.8	7.2	2.5	11.3	90.0	35.5	25.7

[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. Weighted data are presented.

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

This table uses Australia-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. Data from Victoria for children aged 10 and above have been excluded due to high standard errors.

State / Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

Age (years)	Number of children in sample[2]	Number of sealants		CHILDREN WITH DMFT=0		CHILDREN WITH DMFT=1+	
		mean	sd	number of children	% with fissure sealants	number of children	% with fissure sealants
5	9374	0.02	0.46	9254	0.2	120	9.5
6	9512	0.08	0.73	9061	2.2	451	6.6
7	9430	0.24	0.95	8124	7.0	1306	17.3
8	9374	0.41	1.28	7309	13.4	2065	17.8
9	9236	0.45	1.21	6414	14.8	2822	21.8
10	6873	0.50	1.19	4445	18.1	2428	21.6
11	6970	0.45	1.14	3972	15.1	2998	20.2
12	6902	0.54	1.42	3316	17.6	3586	20.4
13	7074	0.66	1.49	2581	16.5	4493	26.0
14	7398	0.64	1.62	2598	12.7	4799	23.4
15	7497	0.52	1.39	2308	15.3	5189	18.1

[1] Legend: 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. Weighted data are presented.

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

This table, based on Australia-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. These data do not include Western Australia and Victoria. Data from Victoria for children aged 10 and above have been excluded due to high standard errors.

State / Territory: **Australia** (excluding Western Australia and Victoria)

Data for 1990 Date of report: 9th April 1993

Age (years)	Number of children in sample[2]	CHILDREN IN NEED OF IMMEDIATE TREATMENT										
		No.	% of all children	dmft mean	dmft sd	DMFT mean	DMFT sd	% with d+D= 0	1	2	3	4+
5	6035	731	12.1	5.76	4.20	0.08	0.46	1.8	18.4	15.4	11.6	52.8
6	6162	690	11.2	4.96	3.86	0.22	0.69	5.6	20.5	20.6	11.2	42.1
7	6095	688	11.3	4.65	3.43	0.50	0.88	5.9	22.8	26.0	16.9	28.4
8	6077	635	10.5	4.42	3.06	0.67	1.02	9.1	26.2	24.2	10.3	30.2
9	6003	549	9.2	3.59	2.63	0.88	1.27	9.4	41.1	18.3	8.4	22.8
10	5955	540	9.1	3.37	2.84	1.35	1.78	10.6	34.7	21.6	14.4	18.8
11	6038	390	6.5	2.16	2.42	1.88	1.94	11.6	35.0	22.9	10.4	20.1
12	5978	374	6.2	1.10	1.63	2.90	2.32	20.0	29.6	19.7	8.3	22.4
13	6134	376	6.1	0.62	1.77	4.68	3.92	6.5	38.8	3.1	18.3	33.4
14	6449	580	9.0	0.11	0.45	4.46	2.69	34.5	11.4	18.3	0.7	35.1
15	6541	1267	19.4	0.00	0.00	5.66	4.04	1.8	37.3	24.5	0.0	36.4

[1] Legend: dmft - decayed, missing or filled deciduous teeth
DMFT - decayed, missing or filled permanent teeth
d - decayed deciduous teeth
D - decayed permanent teeth

[2] Data relating to second or subsequent examinations of children within this reporting period are eliminated. Weighted data are presented.

TABLE 8: INTERSTATE COMPARISON: FIVE–SIX YEAR-OLD dmft[1]

This table presents the age-standardised dmft for five and six year-old children for each State and Territory in Australia. The table also presents the decayed component as a percentage of the dmft index, and the percentage of children with a dmft score of zero.

State / Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

State	Number of children in sample[2]	decayed mean	decayed sd	dmft mean	dmft sd	d / dmf %	Children with dmft=0 %
NSW	6135	1.52	2.70	2.12	3.26	71.1	50.5
Vic	4756	1.25	2.27	1.85	3.17	71.3	55.8
Qld	3369	1.26	2.33	2.32	3.36	57.4	48.8
SA	1575	0.61	1.32	1.84	2.85	36.9	51.4
WA	1933	0.62	1.40	1.43	2.48	45.3	59.2
Tas	551	0.76	1.66	1.46	2.52	52.4	58.4
NT	231	1.41	2.35	2.03	2.90	70.1	47.4
ACT	336	0.78	1.73	1.08	2.20	75.1	66.4
Australia	18886	1.20	2.30	1.96	3.13	62.8	53.0

[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. Weighted data are presented.

TABLE 9: INTERSTATE COMPARISON: 12 YEAR-OLD DMFT[1]

This table presents the DMFT for 12 year-old children in each State and Territory in Australia. The table also presents the D component of the DMFT index, D as a percentage of DMFT, and the percentage of children with a DMFT score of zero. Data from Victoria have been excluded due to high standard errors.

State / Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

State	Number of children in sample[2]	Decayed mean	Decayed sd	DMFT mean	DMFT sd	D / DMF %	Children with DMFT=0 %
NSW	3034	0.47	1.14	1.32	1.87	32.8	52.5
Qld	1664	0.46	1.01	1.69	2.06	26.3	41.3
SA	743	0.22	0.58	1.26	1.68	16.4	51.0
WA	924	0.30	0.74	1.75	2.43	17.4	40.6
Tas	260	0.30	0.75	1.11	1.60	27.3	52.4
NT	102	0.37	0.95	1.18	1.72	31.3	52.3
ACT	175	0.27	0.70	1.03	1.43	25.6	52.9
Australia	6902	0.41	0.99	1.44	1.97	26.6	48.0

[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. Weighted data are presented.

TABLE 10: ALL TEETH: AGE-STANDARDISED PREVALENCE[1]

This table presents measures of the distribution of decayed, missing and filled teeth for each State and Territory in Australia. Indicated are the percentages of children with d+D scores of zero, one, two, three and four or more. Also listed are the percentages of children with m+M of zero, f+F of zero and dmft+DMFT of zero.

The number of children has been standardised using the Australian Estimated Populations for each State and Territory for ages between five and 12 years inclusive. Data from Victoria for children aged 10 and above have been excluded due to high standard errors.

State / Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

State	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
NSW	34418	59.0	15.7	9.6	4.1	11.7	94.5	56.3	37.6
Vic	11818	55.8	15.5	10.0	6.3	12.4	92.7	65.9	43.9
Qld	18587	64.1	17.6	7.9	4.6	5.8	96.7	46.5	35.9
SA	8404	77.1	13.4	6.0	1.9	1.7	98.7	45.4	39.3
WA	10364	74.0	14.6	6.6	2.4	2.4	94.3	45.1	36.1
Tas	2977	69.6	15.6	8.0	3.3	3.6	97.6	54.3	42.8
NT	1185	65.0	14.4	8.6	4.4	7.6	95.5	60.1	40.7
ACT	1895	70.0	14.0	9.0	3.6	3.3	98.9	58.6	44.2
Australia	89648	63.7	15.7	8.5	4.0	8.0	95.3	53.2	38.4

[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. Weighted data are presented.

TABLE 11: NATIONAL SUMMARY[1]

This table presents the age standardised dmft and DMFT scores for each State and Territory in Australia.

The number of children has been standardised using the Australian Estimated Populations for each State and Territory for children aged between five and 12 years inclusive. Data from Victoria for children aged 10 and above have been excluded due to high standard errors.

State / Territory: **Australia**

Data for 1990 Date of report: 9th April 1993

	Number of children in	dmft mean	dmft sd	dmft=0	DMFT mean	DMFT sd	DMFT=0	dmft+ DMF=0
State	sample[2]			%			%	%
NSW	34418	1.32	2.44	62.8	1.22	2.34	64.6	59.0
Vic	11836	2.21	3.24	47.6	0.40	1.61	83.3	55.8
Qld	18587	1.64	2.66	58.4	1.17	2.06	62.4	64.1
SA	8404	1.26	2.26	63.8	0.91	1.66	65.4	77.1
WA	10364	1.00	1.92	66.8	1.31	2.30	58.7	74.0
Tas	2977	1.09	2.04	65.8	0.86	1.64	66.8	69.6
NT	1185	1.27	2.28	62.5	0.76	1.58	69.5	65.0
ACT	1895	0.92	1.81	67.9	0.89	1.81	68.2	70.0
Australia	89667	1.45	2.54	60.6	1.06	2.11	66.2	63.7

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

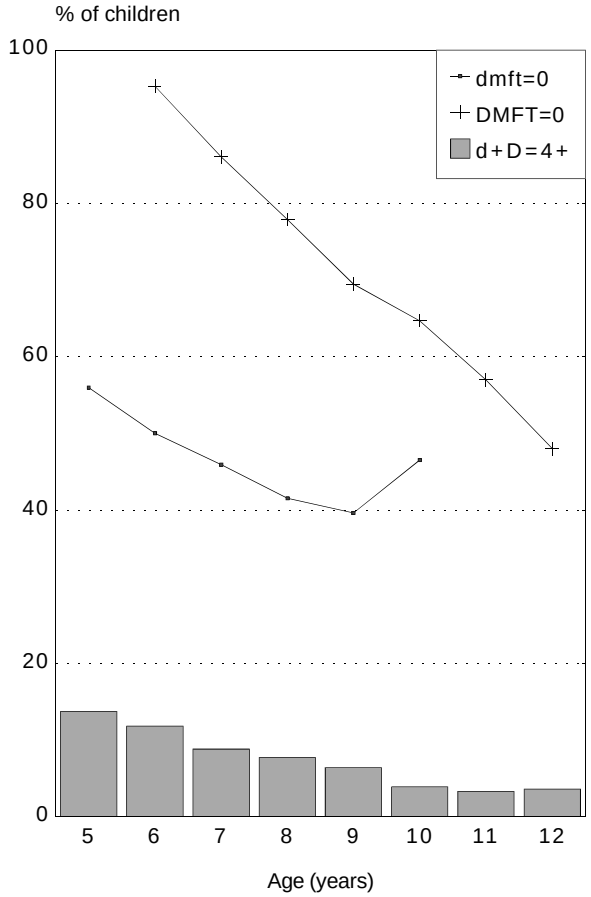
[2] Data relating to second or subsequent examinations of children within this reporting period are eliminated. Weighted data are presented.

FIGURE 1: PERCENTAGE OF CHILDREN WITH dmft=0, DMFT=0 and d+D=4+[1]

This figure uses Australia-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[2]. It should be noted that the rate of decline across ages in the percentage of children free of caries in deciduous dentition is attenuated by the pattern of exfoliation of deciduous teeth, which effectively reduces the number of teeth at risk of caries.

State / Territory: **Australia**

Data for period January-December 1990 Date of report: 9th April 1993



[1] Legend:
d - decayed deciduous teeth
D - decayed permanent teeth
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. Weighted data are presented.