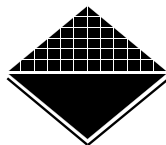


Dental Statistics and Research
Number 1

**The Child Dental
Health Survey
Australia, 1989**

**AIHW Dental Statistics
and Research Unit**



THE UNIVERSITY OF ADELAIDE

Australian Institute of Health and Welfare

The Australian Institute of Health and Welfare is an independent federal statistics and research agency, responsible for developing information on Australia's health, and its health and welfare services. It comprises four major research divisions, four external units, and a supporting corporate services division.

Welfare Division
Health Services Division
Health Technology Division
Health Monitoring Division
National Perinatal Statistics Unit
National Injury Surveillance Unit
Dental Statistics and Research Unit
National Reference Centre for Classification in Health
Corporate Services Division

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.

DSRU Staff:

Head:	Professor John Spencer
Research Officers:	Mr Fearnley Szuster Mr Michael Davies Mr David Brennan
Consultant Oral Epidemiologist:	Dr Gary Slade
Technical Assistant:	Mrs Judy Stewart

Board Chairperson
Professor Fiona J Stanley

Acting Director
Dr David Hailey

© Commonwealth of Australia 1993

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without written permission from the Australian Government Publishing Service. Requests and inquiries concerning reproduction and rights should be directed to the Manager, Commonwealth Information Services, Australian Government Publishing Service, GPO Box 84, Canberra ACT 2601.

This is the first national publication in the Australian Institute of Health and Welfare's Dental Statistics and Research Unit Series. A complete list of the Institute's publications is available from the Publications Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601.

National Library of Australia Cataloguing-in-Publication data

Dental Statistics and Research Unit. *The Child Dental Health Survey for Australia, 1989.*

Bibliography

ISSN 1321-0254

Suggested citation

AIHW Dental Statistics and Research Unit (1993). *The Child Dental Health Survey, Australia 1989*. AIHW Dental Statistics and Research Unit Series No. 1, The University of Adelaide, Adelaide.

Any comments or information relevant to the subject matter of this report would be welcome. Correspondence should be directed to:

The Head
Australian Institute of Health and Welfare
Dental Statistics and Research Unit
The University of Adelaide
SOUTH AUSTRALIA 5005

CONTENTS

Purpose of report	1
Description of survey methods.....	1
Description of national findings	3
References	8

List of tables

Table 1: Number in sample and estimated resident population	9
Table 2: Country of birth (including Aboriginality) – NSW and NT.....	10
Table 3: Deciduous teeth: age-specific prevalence.....	11
Table 4: Permanent teeth: age-specific prevalence	12
Table 5: All teeth: age-specific prevalence	13
Table 6: Fissure sealants: age-specific prevalence.....	14
Table 7: Immediate treatment needs: age-specific distribution.....	15
Table 8: Interstate comparison: Five–six year-old dmft.....	16
Table 9: Interstate comparison: 12 year-old DMFT	17
Table 10: All teeth: Age standardised prevalence.....	18
Table 11: National summary.....	19

Figures

Figure 1: Percentage of children with dmft=0, DMFT=0 and d+D=4+	20
---	----

THE CHILD DENTAL HEALTH SURVEY – AUSTRALIA 1989

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 the 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 the 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 the School Dental Services; with some jurisdictions serving more than 80 per cent of primary school children, and others serving smaller percentages.

Sampling

The data for the Child Dental Health Survey derive from the routine examinations of children enrolled in the 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 seen. 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 1989 collection
NSW	1:16	3rd or 30th	August–December only
Vic	1:8	Systematic	April–December only
Qld	1:5	Systematic	March–December only
SA	1:5	Systematic	March–December only
WA	1:12.5	29th, 30th, 31st	Data collected retrospectively during 1990 from patient records
Tas	1:2.5	Systematic	March–December only
NT	1:1.9 Darwin 1:1 elsewhere	1st to 16th	August–December only
ACT	1:1.9	1st to 16th	August–December only

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 the 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. For example, Queensland collected data from a relatively large number of children to satisfy requirements for intra-state analyses.

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. Country of birth data items are not yet, however, recorded universally by each State or Territory. Data on country of birth reported here have been obtained from Northern Territory and New South Wales. 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 Services) 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). An important criterion is that there must be evidence of premature loss (extraction) rather than exfoliation when coding deciduous teeth as missing because of caries. Consequently, deciduous teeth missing because of caries are uncommon after the age of 10 years. The designation and recording of missing deciduous teeth represented a new data item introduced in most States and Territories in 1989.
- 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 1989 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 112,727 children aged between five and 15 years inclusive reported for the 1989 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, South Australia and Tasmania 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) – NSW and NT

Information about country of birth and Aboriginality was available from New South Wales and the Northern Territory where 92.4 per cent of children were Australian born (including Aboriginal, Torres Strait Islander and non-Aboriginal children). This compares with 79.7 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 only in NSW and NT which have large 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 did not vary substantially across the age range five to nine years (2.07 to 2.38 teeth). 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 1.45 among five year-olds to 0.71 among nine year-olds. As a consequence of both trends, the d/dmft ratio was highest among younger children, and declined to approximately 30 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 pattern suggests 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 nine, undoubtedly reflecting the effectiveness of the School Dental Services in restoring decayed teeth. It is noteworthy that the mean number of decayed teeth exceeded 0.7 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 generally declined across the age range, due to the more substantial increases in mean DMFT. It is noteworthy that over 60 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, 45.1 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 the 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 the School Dental Services.

Untreated decay in the combined deciduous and permanent dentitions existed for between 34 and 43 per cent of children in the age range five to 12 years. The greatest likelihood of untreated decay was observed among seven year-olds (where only 57.1 per cent had $d+D=0$), although the greatest intensity of decay occurred in the youngest ages. For example, 15.1 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.

Missing teeth were relatively uncommon among children aged five to 12 years, although more than 14 per cent of those aged over 13 had at least one missing tooth and undoubtedly those 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 that approximately one third or more of children have no caries experience in either dentition across the key age range of five to 12 year-old.

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 10 year-olds it exceeded the mean number of decayed permanent teeth (Table 4). Within the age range six to 12 years children with permanent caries experience ($DMFT=1+$) had a greater likelihood of sealants than was observed for children with no permanent caries experience ($DMFT=0$). For example, 13.7 per cent of 12 year-old children with $DMFT=1+$ had fissure sealants compared with 10.9 among those with $DMFT=0$. This should be interpreted as a tendency towards preferential use of fissure sealants among children deemed to have a greater likelihood of dental caries. Again it is necessary to be cautious in the interpretation of data from children aged more than 13 years, where the frequency of fissure sealants appeared to be low.

Table 7: Immediate treatment needs: age-specific distribution

Children were designated as needing immediate treatment (within a period of four weeks) only in New South Wales, Tasmania, the Northern Territory and Australian Capital Territory. Consequently, the estimates may not be representative of all School Dental Service children in Australia. The percentage was greatest at both ends of the age spectrum, and smallest (9.8 per cent) for 10 year-olds. There were correspondingly high levels of caries experience among children with immediate treatment needs. Indeed the 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 6.35 (compared with 2.07 in Table 3) and 60.2 per cent had $d+D=4+$ (compared with 15.1 per cent in Table 5).

It should be emphasized that the frequency of immediate treatment reflects both an accumulation of dental disease and the methods of targeting and delivering the 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 the 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 since it represents, predominantly, the dental health status of children new to the School Dental Services. There exists a two fold difference in extremes of mean dmft and there is a striking geographic proximity between the lowest (Australian Capital Territory, mean=1.14) and highest (New South Wales, mean=2.34) jurisdictions. There are historical differences in caries experience 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 the 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 of children caries free (dmft=0), while representing the converse of mean dmft, showed less substantial variation (from 47.6 to 64.4 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 two fold variation in mean DMFT (from 1.06 in Tasmania to 2.11 in Western Australia). This was similar to the amount of variation observed in deciduous teeth, albeit in different jurisdictions. In the case of permanent teeth there was again a general 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 (14.8 per cent in Western Australia to 43.0 per cent in Victoria).

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. An immediate observation is that State-specific caries levels in deciduous teeth (mean dmft) do not necessarily correspond with permanent teeth (mean DMFT). For example, Western Australia had relatively low dmft and the highest DMFT, while New South Wales had the highest dmft and a mean DMFT in the midpoint of the distribution.

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 and Territories 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. (Again, data about missing deciduous teeth in Queensland were not collected, so that State is

excluded). 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 Australian Capital Territory stands out as the jurisdiction with the lowest levels of caries experience, whether expressed as percentage with $d+D=0$, $m+M=0$ or $dmft+DMFT=0$. In contrast, 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. While the Australian Capital Territory again stands out as the site with the lowest burden of caries (both in mean $dmft$ and mean $DMFT$), it is New South Wales, Victoria and Queensland which appear to have the highest levels of caries experience across the age spectrum. This is not particularly surprising when compared with Tables 8 and 9, where these States had relatively high mean $dmft$ and $DMFT$. However it would appear to imply that the data for 12 year-olds for Western Australia (which had the highest mean $DMFT$) were not generally representative of all ages.

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. These data do not include Queensland where missing deciduous teeth were not recorded. It should be noted that the rate of decline across ages in the percentage of children free of caries in the deciduous dentition is attenuated by the pattern of exfoliation of deciduous teeth, which effectively reduces the number of teeth at risk of caries and can reverse the classifying of a child as having had experience of caries in the deciduous dentition.

For further information contact:

Mr Michael Davies or Dr Gary Slade
AIHW Dental Statistics and Research Unit
The University of Adelaide
SOUTH AUSTRALIA 5005

Phone: (08) 303-5027

Fax: (08) 232-4062

References:

- Australian Bureau of Statistics (1986). Census Table CA0029: Age by Aboriginal Origin by Sex [microfiche]. Canberra: ABS.
- Australian Bureau of Statistics (1989). Estimated Resident Population by Sex and Age, June 1989 and Preliminary 1990. Canberra: ABS. Cat. No. 3201.0.
- Australia's Health 1992 (1992). Canberra: Australian Institute of Health and Welfare.
- Foreman EK (1991). Survey Sampling Principles. M Dekker; New York.
- Health Targets and Implementation Committee (1988). Health for All Australians. AGPS: Canberra.
- Palmer JD, Anderson, RJ and Downer MC. Guidelines for prevalence estimates of dental caries. Community Dental Health 1984;1:55-66.
- World Health Organization (1987). Oral Health Surveys. Basic Methods. 3rd Ed. WHO; Geneva.

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 1989

Date of report: 9th April 1993

State/ Territory	No. of processed cases	Estimated resident population	Weighted cases
NSW	3497	927141	38996
Vic	3884	676260	24259
Qld	49647	484958	21234
SA	27635	218240	9559
WA	7510	268960	11790
Tas	11490	77301	3387
NT	5728	31017	1348
ACT	3336	49221	2154
Total	112,727	2,733,098	112,727

TABLE 2: COUNTRY OF BIRTH (INCLUDING ABORIGINALITY)

The country of birth of children is determined from information concerning birthplace of the child and mother. These data relate to New South Wales and Northern Territory.

State/Territory: **Australia (NSW and NT only)**

Data for 1989

Date of report: 9th April 1993

COUNTRY OF BIRTH	CHILDREN		MOTHERS	
	Number ¹	%	Number	%
Australia (non-Aboriginal)	34840	89.5	27345	76.3
Australia (Aboriginal or TSI)	1139	2.9	1230	3.4
United Kingdom and Ireland	537	1.4	1501	4.2
Other English speaking	300	0.8	498	1.4
Southern Europe	174	0.4	1346	3.8
Other Europe	158	0.4	770	2.1
Middle East	263	0.7	1115	3.1
South East Asia	692	1.8	770	2.2
Other Asia	240	0.6	580	1.6
Other	607	1.6	664	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 PREVALENCE¹

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 1989

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	10609	1.45	2.76	2.07	3.35	70.0	52.5
6	10744	1.18	2.18	2.15	3.15	57.1	48.7
7	10747	0.99	1.77	2.38	2.99	43.3	42.8
8	10680	0.79	1.50	2.31	2.82	35.3	40.7
9	10486	0.71	1.36	2.26	2.68	33.5	39.9
10	10411	0.55	1.14	1.88	2.44	30.5	44.5

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 PREVALENCE¹

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 1989

Date of report: 9th April 1993

Age (years)	Number of children in sample ²	DECAYED		DMFT		D/DMFT	Children with
		mean	sd	mean	sd	%	DMFT=0 %
6	10744	0.07	0.37	0.09	0.45	83.7	92.8
7	10747	0.19	0.72	0.26	0.79	72.1	83.9
8	10680	0.27	0.74	0.46	0.98	55.6	74.7
9	10486	0.29	0.81	0.65	1.18	44.7	66.4
10	10411	0.31	0.80	0.83	1.35	36.8	61.2
11	10637	0.46	1.02	1.37	1.86	32.1	48.5
12	10642	0.49	1.10	1.56	2.04	29.7	45.1
13	10906	0.82	1.73	2.43	2.77	32.2	31.9
14	8179	0.78	1.60	2.63	2.79	26.4	34.1
15	8685	0.99	1.65	3.23	2.86	28.3	23.9

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 PREVALENCE¹

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. These data do not include Queensland where missing deciduous teeth were not recorded.

State/Territory: **Australia** (excluding Queensland)

Data for 1989

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	8577	60.2	11.7	8.3	4.7	15.1	96.8	79.9	52.9
6	8610	59.4	14.2	9.1	4.4	12.8	95.7	71.5	48.8
7	8657	57.1	14.5	11.1	5.5	11.8	93.4	60.0	41.3
8	8602	58.3	16.3	10.9	5.0	9.5	94.2	52.5	37.1
9	8462	57.5	17.7	10.8	5.5	8.4	93.7	48.8	33.4
10	8339	61.3	17.8	8.9	4.6	7.5	94.5	47.4	34.4
11	8537	61.7	15.8	10.4	5.8	6.3	95.5	44.5	31.5
12	8522	65.6	17.9	8.7	2.7	5.1	97.0	45.7	35.0
13	8957	61.0	20.4	7.1	4.1	7.5	93.7	45.0	26.1
14	6151	67.8	6.1	8.2	9.1	8.8	86.2	43.2	29.9
15	6575	56.3	12.4	12.2	4.9	14.1	85.0	31.4	19.3

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 PREVALENCE¹

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. These data do not include Queensland where fissure sealants were not recorded.

State/Territory: **Australia** (excluding Queensland)

Data for 1989

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	7660	0.00	0.10	7589	0.1	71	2.7
6	7727	0.04	0.32	7328	1.3	393	7.7
7	7780	0.21	0.78	6665	7.5	1103	11.4
8	7759	0.34	1.01	5921	11.4	1825	14.7
9	7637	0.38	1.07	5145	12.7	2464	14.8
10	7574	0.33	0.97	4806	10.5	2727	16.0
11	7731	0.30	0.97	3825	11.1	3889	10.5
12	7720	0.38	1.18	3597	10.9	4080	13.7
13	8085	0.63	1.55	2396	14.1	5690	21.3
14	5258	0.31	0.96	1707	11.3	3551	14.8
15	5652	0.11	0.66	1037	2.5	4615	5.1

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 DISTRIBUTION¹

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.

State/Territory: **Australia (NSW, Tasmania, NT, ACT)**

Data for 1989

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	4008	698	17.4	6.35	4.55	0.05	0.39	0.0	17.6	15.4	6.9	60.2
6	4088	615	15.0	5.18	4.08	0.10	0.35	5.6	18.3	17.1	11.4	47.5
7	4154	623	15.0	4.82	2.96	0.52	1.00	3.8	27.1	19.6	11.0	38.5
8	4183	591	14.1	4.13	2.91	0.76	1.11	1.5	27.4	26.3	8.6	36.2
9	4109	572	13.9	4.25	2.67	0.96	1.25	1.9	20.7	29.7	17.5	30.1
10	4035	396	9.8	3.68	2.78	1.53	1.55	0.7	27.8	20.1	14.1	37.3
11	4166	514	12.3	2.21	2.45	1.94	2.05	7.8	34.4	28.8	8.6	20.4
12	4154	415	10.0	1.24	1.75	2.97	2.38	8.6	31.8	17.7	10.6	31.4
13	4244	657	15.5	0.23	0.57	4.53	3.67	0.2	23.0	15.3	7.8	53.7
14	4178	637	15.2	0.79	1.16	4.79	2.92	0.1	0.4	19.9	59.7	20.0
15	4564	908	19.9	0.00	0.02	5.70	1.37	0.0	33.3	33.2	0.0	33.5

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 dmft¹

This figure 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 1989

Date of report: 9th April 1993

State/ Territory	Number of children in sample ²	decayed		dmft		d/dmf	Children with dmft=0
		mean	sd	mean	sd	%	%
NSW	6826	1.67	2.95	2.34	3.49	71.3	47.6
Vic	5410	1.50	2.58	2.20	3.39	70.1	49.5
Qld	3856	1.22	2.34	2.19	3.25	58.0	51.0
SA	1792	0.68	1.40	1.87	2.92	41.6	53.8
WA	2199	0.71	1.52	1.57	2.55	46.9	56.1
Tas	627	0.80	1.64	1.62	2.66	51.4	55.7
NT	263	1.35	2.33	1.97	2.91	70.0	48.1
ACT	381	0.78	1.72	1.14	2.23	70.8	64.4
Australia	21354	1.32	2.49	2.11	3.25	63.3	50.6

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

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

TABLE 9: INTERSTATE COMPARISON: 12 YEAR OLD DMFT¹

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.

State/Territory: **Australia**

Data for 1989

Date of report: 9th April 1993

State/ Territory	Number of children in sample ²	Decayed		DMFT		D/DMF %	Children with DMFT=0 %
		mean	sd	mean	sd		
NSW	3544	0.45	1.08	1.33	1.85	32.8	49.4
Vic	2689	0.80	1.30	1.72	2.00	43.0	43.5
Qld	1903	0.43	1.06	1.66	2.08	25.2	43.0
SA	845	0.27	0.70	1.46	1.89	18.8	45.6
WA	1051	0.29	0.67	2.11	2.63	14.8	32.3
Tas	296	0.21	0.58	1.06	1.49	21.4	53.4
NT	116	0.26	0.76	1.10	1.66	24.1	54.8
ACT	198	0.27	1.79	1.12	2.21	18.4	56.7
Australia	10642	0.49	1.10	1.56	2.04	29.7	45.1

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 PREVALENCE¹

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. These data do not include Queensland where missing deciduous teeth were not recorded.

State/Territory: **Australia** (excluding Queensland)

Data for 1989

Date of report: 9th April 1993

State/ Territory	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	38996	56.2	14.9	10.6	5.8	12.6	92.9	55.9	36.4
Vic	22755	52.5	17.0	11.0	6.5	13.0	92.0	55.0	34.0
SA	9559	71.4	16.0	7.1	2.9	2.7	98.6	44.4	37.3
WA	11790	75.1	13.5	7.0	2.2	2.2	92.8	41.4	32.6
Tas	3387	67.8	16.8	8.0	3.6	3.8	97.0	49.7	39.1
NT	1348	63.9	14.8	8.7	5.1	7.5	96.3	62.0	41.5
ACT	2154	80.1	9.4	5.3	2.3	2.9	99.0	60.5	50.9
Australia	89989	60.5	15.3	9.6	5.0	9.7	93.6	52.5	35.9

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 SUMMARY¹

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** (exluding Victoria age 10+ years)

Data for 1989

Date of report: 9th April 1993

State	Number of children in sample ²	dmft			DMFT			dmft+
		mean	sd	dmft=0	mean	sd	DMFT=0	DMF=0
				%			%	%
NSW	38996	1.41	2.50	61.0	1.19	2.13	63.0	56.2
Vic	24259	1.83	2.80	52.6	1.15	2.03	62.9	50.7
Qld	21234	1.55	2.58	60.5	1.16	2.02	61.2	66.1
SA	9559	1.34	2.39	63.5	1.04	1.80	62.1	71.4
WA	11790	1.09	1.98	65.4	1.44	2.24	54.5	75.1
Tas	3387	1.21	2.15	63.3	0.95	1.80	65.1	67.8
NT	1348	1.21	2.21	63.5	0.82	1.74	69.1	63.9
ACT	2154	0.86	1.82	71.3	0.75	1.50	72.2	80.1
Australia	112727	1.46	2.51	60.2	1.17	2.05	62.0	61.1

¹ Legend: dmft - decayed, missing or filled deciduous 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.

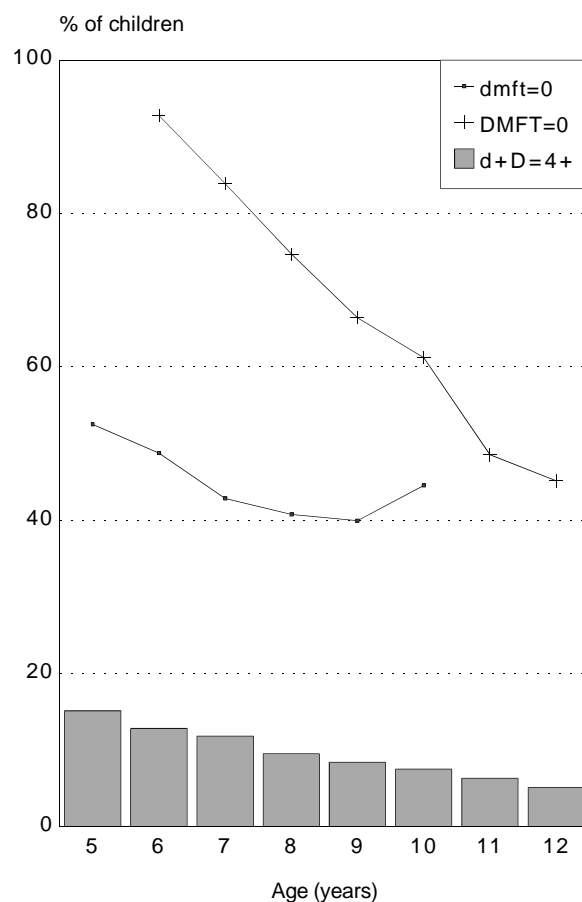
FIGURE 1: PERCENTAGE OF CHILDREN WITH dmft=0, DMFT=0 and d+D=4+¹

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. These data do not include Queensland where missing deciduous teeth were not recorded². 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** (excluding Queensland)

Data for 1989

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.