DENTAL STATISTICS AND RESEARCH

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The Child Dental Health Survey, Australia 1998

JM Armfield, KF Roberts-Thomson
AJ Spencer

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Abbreviations

d	deciduous decayed teeth
D	permanent decayed teeth
dift	deciduous decayed, indicated for extraction and filled teeth
dmft	deciduous decayed, missing (due to caries) and filled teeth
DMFT	permanent decayed, missing (due to caries) and filled teeth
f	deciduous filled teeth
F	permanent filled teeth
m	deciduous teeth missing due to caries
M	permanent teeth missing due to caries
SD	standard deviation

Purpose of the 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 that monitors the dental health of children in each State and Territory of Australia. The tables and figures contained in this report describe the demographic composition of the sample, deciduous and permanent caries experience, extent of immediate treatment needs, prevalence of fissure sealants and other relevant information. State/Territory comparisons follow the national tables and precede an examination of selected national trends and international comparisons. The report also presents a description of the survey methods and discussion of the findings presented in the national tables.

Description of survey methods

Source of subjects

Data for the report have been derived from the Child Dental Health Survey, which monitors the dental health of children enrolled in school dental services operated by the health departments or authorities of Australia's six State and two Territory governments. In New South Wales the School Dental Service has adopted a targeted Statewide screening program termed Save Our Kids Smiles (SOKS). Whereas SOKS involves screening children every two years from Kindergarten to Year 8, the other school dental services provide dental care principally to primary school aged children. The care typically provided by the school dental services 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 enrolment in school dental services, with some jurisdictions serving more than 80% of primary school children and others serving lower percentages.

Sampling

The data for the Child Dental Health Survey are derived for all States and Territories, except New South Wales, from the routine examinations of children enrolled in the school dental service. At the time of examination children are sampled at random by selecting those born on specific days of the month. Victoria and Tasmania adopt other systematic sampling procedures based on selecting every *n*th case. In New South Wales full enumeration of all available consenting children is carried out. To maintain consistency with previous Child Dental Health Survey reports, the sampling frame previously adopted for New South Wales has been retained for the present analyses: that is, of the available children those born on either the 1st or the 30th day of the month have been selected.

Different sampling ratios, and consequently different days of birth, are used across the States and Territories according to the scheme presented in Table 1. 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 service or not consenting to participate in the SOKS program are not represented in the sample.

Table 1: Sampling ratios for Australian States and Territories

State	Sampling Ratio[a]	Days of Birth
New South Wales	1:16	1st and 30th
Victoria	1:8	Systematic
Queensland	1:15	1st and 6th
	1:5	1st to 6th[b]
	1:1	Any[c]
Western Australia	1:12.5	29th, 30th, 31st
South Australia	1:12	13th, 30th, 31st
	1:5	13th, 26th to 31st[d]
Tasmania	1:2.5	Systematic
Australian Capital Territory	1:2.5	1st to 16th
Northern Territory	1:1.9	1st to 16th[e]
	1:1	Any[f]

(a) Sampling ratios are approximate only.
(b) Includes Bayside region.
(c) Includes Innisfail region.
(d) From non-metropolitan clinics who have previously participated in the Child Fluoride Study.
(e) Includes Darwin.
(f) Includes all Northern Territory outside of Darwin.

The intention of stratification is to provide approximately equivalent numbers of children from each State or Territory, although differences in administration and local data requirements of the services have created some variation.

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 older children tends to be restricted in comparison with access for younger children. Often the older children must meet special eligibility criteria with the consequence that they may be less representative of their respective age groups within the Australian population than is the case for younger children. Also, in New South Wales and Victoria no children aged older than 14 years are included in the analysis, so current estimates for 15-year-old children do not take those States into account.

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 encompass demographic information, including the child's age and sex and the birthplace of both child and mother.

The birthplace and the Indigenous status of both patient and mother are considered to be two items essential to a health monitoring survey (Health Targets and Implementation Committee, 1988) and were obtained here from information from the patient's treatment card or medical history. Birthplace categories have been derived from the Australian Bureau of Statistics (1994) in order to ensure the comparability of data obtained from this survey and

other sources such as the Census. Maternal birthplace was chosen as the preferred parental data item. However, birthplace data items are not yet recorded uniformly by each State and Territory: the data reported here for children have been obtained only from the Northern Territory, New South Wales and Queensland, while parental information has been obtained only in Queensland and the Northern Territory. Other States did not collect these data items in 1998.

Service provision information includes the date of current and previous examination (if the child had been examined previously within the school dental service) and is dealt with in detail within State- and Territory-specific reports. Information on last examinations was not collected in New South Wales (where screenings take place every two years).

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

1. Deciduous caries experience is recorded as the number of deciduous teeth that 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 that are decayed, missing because of dental caries or filled because of dental caries, and is based on the World Health Organization 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). In New South Wales immediate treatment needs are indicated for children assessed as requiring treatment within a 24–48 hour period. Data collected for the current study on immediate treatment needs do not include children from Victoria, Western Australia, Tasmania or the Australian Capital Territory.

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 by all States and Territories. Consequently, some of the tables in this report refer only to specific States and Territories.

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 and weighting of data

National data contained in this report consist of counts, means, standard deviations and percentages that have been weighted to represent the relevant State- and Territory-specific population of children aged 4–15 years. Where computed State or Territory age-specific indices resulted in a relative standard error exceeding 40% the age group for that jurisdiction was excluded from the analysis. As a result, 15-year-old children from New South Wales (sample $n = 19$) were excluded, as were both 4-year-old and 15-year-old children from Victoria (sample ns = 34 and 4 respectively).

The weighting procedure is necessary since the Australian sample is stratified by State and Territory to provide approximately equivalent numbers of cases in each jurisdiction. Unweighted estimates would result in over-representation by children from less populous States or Territories and under-representation by those from more populous jurisdictions. The relative sample sizes and population estimates by State and Territory as a percentage of the total sample and Australian population (4–15 years of age) are shown in Figure 1.

The weighting method follows standard procedures for weighting stratified samples using external data sources (Foreman, 1991). State and Territory estimates (ABS, 1999) of the 1998 Estimated Resident 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 and Territories. Hence, observations from more populous States achieve relatively greater weight. The stratum-specific weights are further divided by the national Estimated Resident Population and total sample size to achieve numerical equivalence between the weighted sample and the original number of processed records.

Within each State and Territory, data were also weighted according to either sampling frame or region of sampling, this being consistent with statistical analyses presented in State- and Territory-specific reports. In 1998 data within Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory were weighted on the basis of area of sampling and sampling frame so as to give a more representative result for that State or Territory. Details of these weighting procedures are provided in the relevant State and Territory reports.

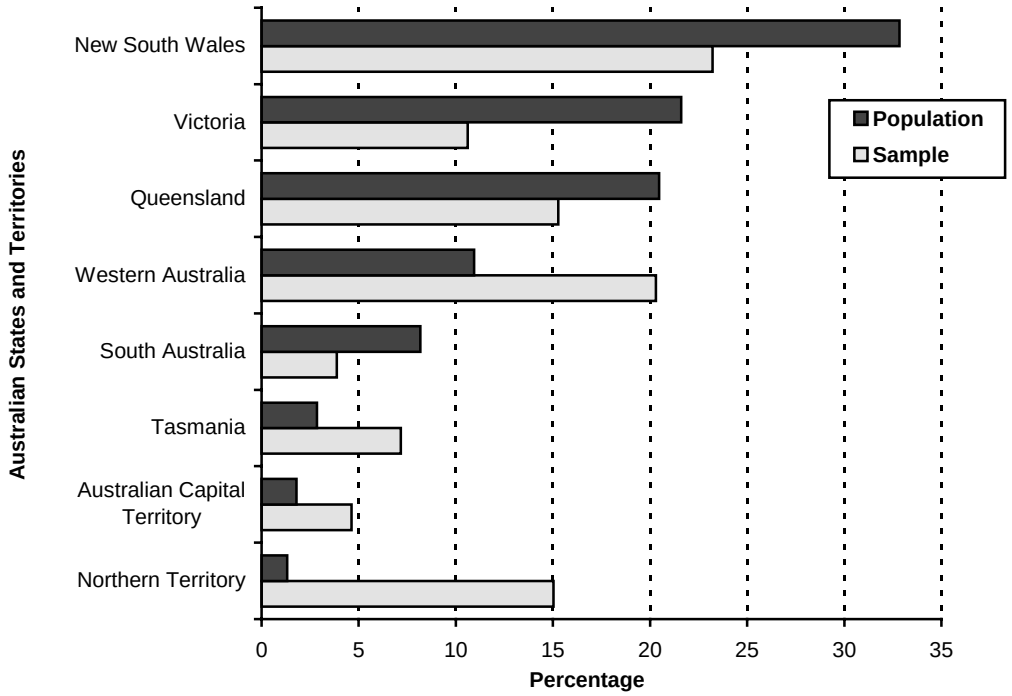

Figure 1: Percentage of children by State and Territory for sample and for State and Territory population

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 has been excluded.

Adjustments for the under-reporting of decay in New South Wales

In 1996, the New South Wales Health Department implemented the Save Our Kids Smiles (SOKS) program, with the three main components of oral health education, risk assessment and clinical care. A major change accompanying the program was the move from clinic-based examinations to oral assessments in the field as the primary environment for data collection. In the clinic, better lighting and the availability of other facilities such as compressed air optimise conditions for assessing oral health.

Between 1995 and 1996, at the time the SOKS program was introduced, there was an apparent substantial improvement in the oral health of children in NSW. There was, for example, a 44% reduction in 5-6-year-old mean decay, a 57% reduction in 12-year-old mean decay, and a 12% increase in the percentage of 5-6-year-old children free of caries experience (dmft = 0) in their deciduous dentition.

In 1999 NSW Health commenced a wide-ranging review of SOKS, with one aspect being a quality assurance project aimed at assessing the reliability and validity of data collected under SOKS assessment conditions. The technical report (NSW Health Department, 2001) found that while there were no statistically significant differences in the reporting of missing and filled teeth between a field SOKS-style assessment and a clinical examination, there was a persistent and statistically significant under-reporting of the number of decayed teeth under field compared to clinic conditions. In deciduous teeth, the mean decay score for the SOKS assessment was 36% lower than that collected in the clinic, while the mean decay score for permanent teeth was 41% lower. Such an underestimation of decay also resulted in a significant underestimation in the dmft and DMFT indices.

As a result of these findings, and the consistency of the results with the reported reductions in caries experience in NSW between 1995 and 1996, the current report has included in Appendix A (Tables A1–A4, pp 34–35) national figures adjusted for the under-estimation of decay in NSW. For children in NSW an additional weight of 1.56 was given for calculations of deciduous decay and 1.68 for calculations of permanent decay. Although it is believed that these adjusted figures may represent a more accurate estimation of caries experience in NSW and therefore Australia, for the purpose of consistency with previous reports the data obtained via the SOKS assessments from NSW are retained for calculations in the body of this report.

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 as an evaluation of the Australian School Dental Scheme. In 1989 responsibility for the national data collection was transferred to the Australian Institute of Health and Welfare's Dental Statistics and Research Unit at The University of Adelaide.

Description of national findings

Number in sample and Estimated Resident Population

There were a total of 80,893 children aged between 4 and 15 years reported for the 1998 calendar year. Children aged 3 years or less and those aged 16 years or more were excluded from this sample as the small number of children receiving care in those age groups across Australia results in poor 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 Table 2. The relatively large numbers of reported cases from Tasmania, the Australian Capital Territory and the Northern Territory receive substantially lower weights compared with other States and Territories. Therefore, the weighted cases, which were used for estimates listed in subsequent tables, represent smaller numbers of children from those jurisdictions. Consequently, the national sample was representative of the relative populations of States and Territories, rather than the number of reported cases.

Table 2: Number in sample and Estimated Resident Population

State/Territory	Processed cases	Estimated Resident Population (ERP)	Weight	Weighted cases
	n	*n*		*n*
New South Wales [(a)]	18,769	968,807.05	1.40	26,342.51
Victoria [(b)]	8,575	637,151.66	2.02	17,324.15
Queensland	12,347	603,962.29	1.38	17,078.99
Western Australia	16,399	322,761.17	0.54	8,797.44
South Australia	3,127	241,337.66	2.07	6,474.35
Tasmania	5,785	83,943.75	0.40	2,304.81
Australian Capital Territory	3,743	53,177.35	0.39	1,445.45
Northern Territory	12,148	39,015.17	0.09	1,125.30
Total	**80,893**	**2,950,156.10**	**1.00**	**80,893.00**

(a) Excludes 15-year-old children.

(b) Excludes 4-year-old and 15-year-old children.

Birthplace of children and mothers

Information concerning the birthplace of children (see Table 3) was available only for New South Wales, Queensland and the Northern Territory, with 94.0% of these children being born in Australia. For children not born in Australia, the predominant regions of birth were South-East Asia (e.g. Indonesia, Philippines, Vietnam), other countries in Asia (e.g. China, Hong Kong, India) and other English-speaking countries (e.g. New Zealand, USA).

Birthplace of mothers was collected only in Queensland and the Northern Territory. A reported 95.9% of mothers were born in Australia. For mothers not born in Australia, the predominant regions of birth were the Middle East, the United Kingdom and Ireland, and other English-speaking countries, although none of these categories exceeded 1.4%.

Table 3: Birthplace of children and mothers

Birthplace	Children		Mothers	
	n	%	*n*	%
Australia	31,039	94.0	4,216	95.9
United Kingdom and Ireland	156	0.5	38	0.9
Other English-speaking	277	0.8	17	0.4
Southern Europe	136	0.4	8	0.2
Other Europe	98	0.3	3	0.1
Middle East	144	0.4	62	1.4
South-East Asia	378	1.1	28	0.6
Other Asia	559	1.7	18	0.4
Other	235	0.7	7	0.1
Total	**33,021**	**100.0**	**4,396**	**100.0**

Indigenous status of children and mothers

Information concerning Indigenous status was available for New South Wales, Queensland and the Northern Territory, where for recipients of school dental service care, 3.3% of children were of Indigenous origin (see Table 4). Information on mothers (collected from Queensland and the Northern Territory only) shows that 18.7% were of Indigenous origin. The difference in percentages between children and mothers is principally due to the difference in the source of data, there being a relatively small percentage of Indigenous people within the New South Wales population compared to the Northern Territory (which was the source of most of the data for the Indigenous status of mothers).

Table 4: Indigenous status of children and mothers

Indigenous status	Children		Mothers	
	n	%	*n*	%
Non-Indigenous	31,918	96.7	3,574	81.3
Indigenous	1,103	3.3	822	18.7
Total	**33,021**	**100.0**	**4,396**	**100.0**

Deciduous teeth – age-specific caries experience

Caries experience in the deciduous dentition is expressed as the mean number of decayed, missing (due to caries) and filled teeth. The means and standard deviations for each of these components for the ages 4–12 years are given in Table 5. There was a steady decline in the presence of clinically detectable decay with increasing age, from 1.03 among 4-year-olds to 0.15 among 12-year-olds. A different pattern was shown by the mean number of filled teeth, increasing from 0.21 at age 4 to 1.04 at age 9, before declining rapidly to 0.26 at age 12. Across all age groups the number of teeth indicated as missing due to caries was small, with scores ranging from 0.02 to 0.08. The mean number of decayed, missing (due to caries) and filled teeth (dmft) increased from 1.10 to 1.78 between the ages of 4 and 8 years before declining to 0.49 for 12-year-olds.

Table 5: Deciduous dentition – decayed, missing and filled teeth

Age (years)	Children	Teeth present	Decayed (d)		Missing (m)		Filled (f)		dmft	
	n	mean	mean	SD	mean	SD	mean	SD	mean	SD
4	5,161	19.88	1.03	2.13	0.02	0.31	0.21	0.95	1.27	2.49
5	7,008	19.47	1.01	2.11	0.06	0.49	0.30	1.12	1.37	2.62
6	6,791	17.38	0.93	1.89	0.07	0.48	0.52	1.37	1.51	2.62
7	7,397	14.69	0.76	1.53	0.08	0.55	0.77	1.66	1.62	2.57
8	7,539	12.24	0.72	1.38	0.08	0.47	1.02	1.79	1.81	2.53
9	7,459	10.83	0.58	1.15	0.08	0.44	1.04	1.75	1.70	2.35
10	7,492	8.01	0.47	1.02	0.05	0.36	0.89	1.56	1.40	2.10
11	7,331	4.52	0.26	0.73	0.03	0.27	0.53	1.26	0.82	1.69
12	6,912	2.16	0.15	0.53	0.02	0.21	0.26	0.83	0.43	1.18

The decayed, missing and filled components as a percentage of the dmft index are shown in Figure 2. In the youngest age groups the dmft score is composed principally of clinically detectable decay. However, with the accumulation of restorations placed over time, the majority of the dmft index from the age of 8 years is represented by the presence of fillings. Relative stability in the percentages of decayed, missing and filled teeth occurs between the ages of 9 and 12 years.

Patterns in deciduous caries experience must be interpreted in light of the exfoliation of deciduous teeth with age. Table 5 shows the steady decline in the mean number of deciduous teeth present as children increase in age. From the age of 5 years, children exfoliate on average 2 to 3 deciduous teeth per year, reducing from 19.47 teeth on average at age 5 to an average of 2.16 teeth at age 12.

Figure 3 shows caries experience, expressed in terms of clinically detectable decay, fillings and the mean dmft score, after controlling for the number of deciduous teeth present. Although the mean number of clinically decayed teeth was shown to decrease consistently with age, Figure 3 indicates that this is principally a product of the exfoliation of deciduous teeth. Indeed, the rate of untreated decay increases slightly with age, from 5.18 teeth per 100 teeth at age 4 to 6.94 teeth per 100 teeth at age 12. The percentage of deciduous teeth with fillings also increases with age and together these caries experience indicators combine to produce a substantial increase in the dmft index per 100 teeth. The percentage of deciduous teeth that were decayed, missing or filled increased from 6.4% at age 4 to 19.9% at age 12.

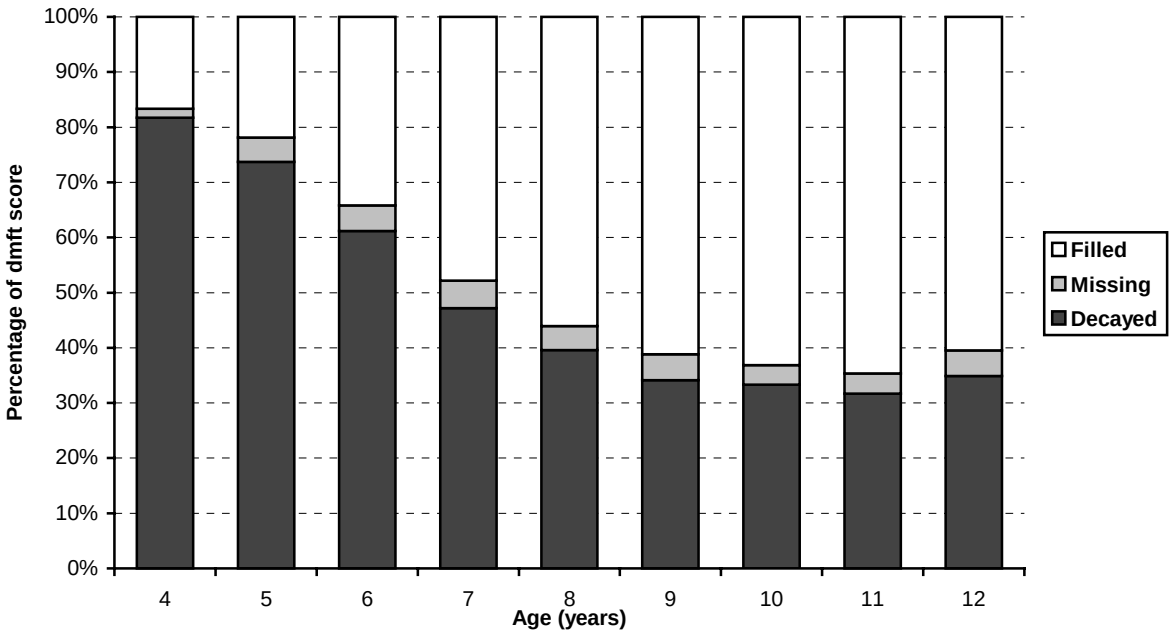

Figure 2: Decayed, missing and filled deciduous teeth as a percentage of dmft score by age

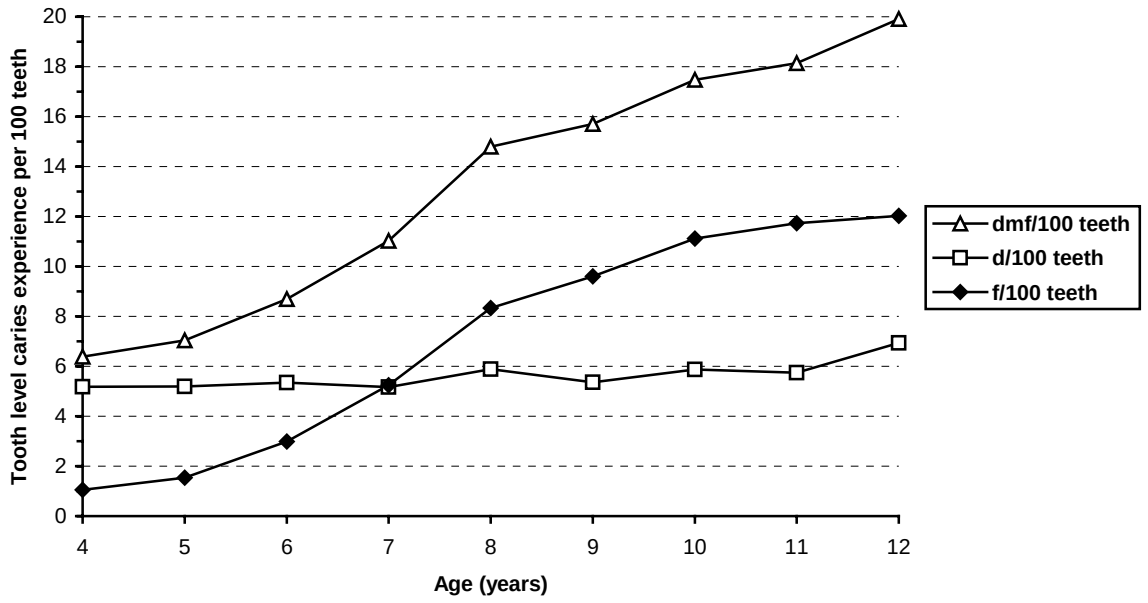

Figure 3: Tooth level deciduous caries experience per 100 deciduous teeth by age

The percentage of children with no deciduous caries experience (dmft = 0) steadily declined across the age range 4–9 years, from 65.2% to 49.4%; however, this subsequently increased and at 12 years of age 81.8% of children had no evidence at their examination of caries experience in their deciduous dentition (see Figure 4). The d / dmft ratio was highest among younger children and declined to 34.2% for children aged 11 years.

The patterns in deciduous caries experience suggest that children enter their school years with moderate caries experience in the deciduous dentition – a large proportion of it manifested as clinically detectable untreated decay (approximately 80% at 4 years of age). With continued treatment in the school dental services, decay experience becomes predominantly represented by past experience, indicated by the presence of fillings, rather than current experience. Despite increasing rates of decay and the accumulation of fillings with age, the exfoliation of teeth results in a reduction in the absolute number of untreated decayed teeth with age and increased numbers of children presenting with no deciduous caries experience.

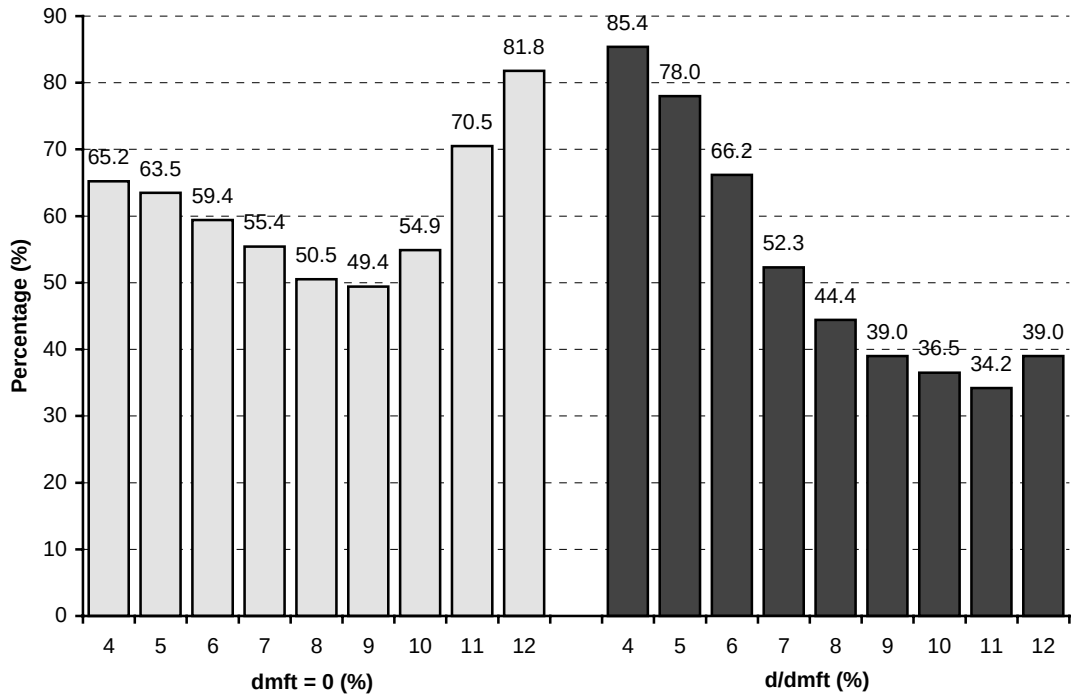

Figure 4: Deciduous dentition – dmft = 0 and d/dmft

Permanent teeth – age-specific caries experience

The mean numbers of clinically detectable untreated decayed permanent teeth were smaller than the corresponding means for deciduous teeth across the age range of 5–10 years (see Table 6). This primarily reflects reduced time-at-risk of those teeth present and, at younger ages, the low number of permanent teeth present. Mean decay for permanent teeth increased with age and continued to increase among older ages even though the number of permanent teeth present stabilised by about 13 years of age. The mean number of teeth indicated as missing due to caries was very low for most ages but increased slightly to 0.09 for 15-year-old children. The pattern with filled teeth was a more consistent increase across the age ranges, from 0.00 for 5-year-olds to 1.09 for 15-year-olds. Mean DMFT scores increased consistently with age, from 0.02 at age 5 (when less than 1 permanent tooth on average was present) to 1.84 at age 15 (when an average of 27.34 teeth were present). The mean DMFT score for 12-year-old children was 0.83.

The mean number of decayed, missing and filled permanent teeth expressed as percentages of the DMFT index is shown in Figure 5. The pattern is similar to that shown in the deciduous dentition. In the youngest ages the DMFT score is primarily represented by the presence of clinically detectable decay. By the age of 10 years, however, more than 50% of the DMFT score was attributable to filled teeth.

Table 6: Permanent dentition – decayed, missing and filled teeth

Age (years)	Children	Teeth present	Decayed (D)		Missing (M)		Filled (F)		DMFT	
	n	mean	mean	SD	mean	SD	mean	SD	mean	SD
5	7,008	0.91	0.02	0.21	0.00	0.01	0.00	0.10	0.02	0.24
6	6,791	4.59	0.06	0.34	0.00	0.04	0.01	0.11	0.07	0.36
7	7,397	8.24	0.16	0.55	0.00	0.08	0.04	0.32	0.21	0.67
8	7,539	11.15	0.22	0.64	0.01	0.11	0.10	0.44	0.32	0.81
9	7,459	12.82	0.25	0.68	0.01	0.13	0.16	0.53	0.41	0.90
10	7,492	16.02	0.27	0.73	0.02	0.19	0.29	0.75	0.58	1.14
11	7,331	20.42	0.32	0.83	0.02	0.19	0.31	0.78	0.64	1.22
12	6,912	24.00	0.40	0.97	0.04	0.29	0.39	0.92	0.83	1.48
13	7,225	26.14	0.52	1.15	0.06	0.40	0.55	1.15	1.13	1.82
14	7,296	27.22	0.53	1.16	0.06	0.36	0.71	1.38	1.29	1.97
15	3,283	27.34	0.66	1.52	0.09	0.53	1.09	1.64	1.84	2.47

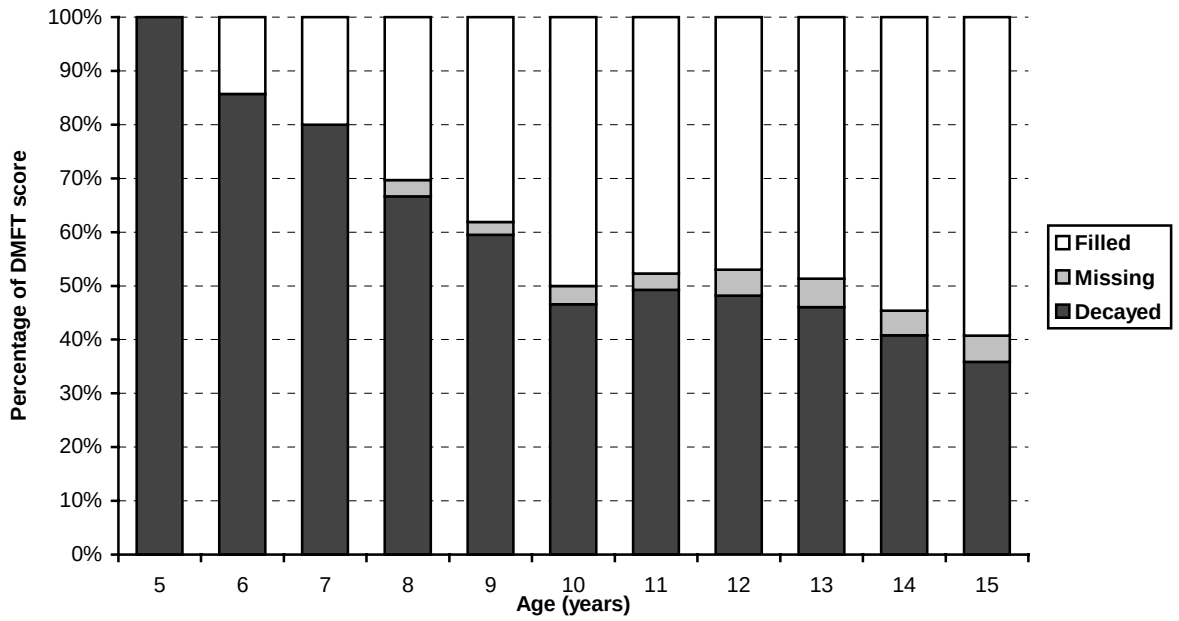

Figure 5: Decayed, missing and filled permanent teeth as a percentage of DMFT score by age

In excess of 80% of children in each age group 8 years old or less had no permanent tooth caries experience (DMFT = 0) and even by the end of their primary school years 63.3% of 12-year-olds had no permanent caries experience (see Figure 6). However, by the age of 15 only 42.4% of children presented as caries-free in their permanent dentition.

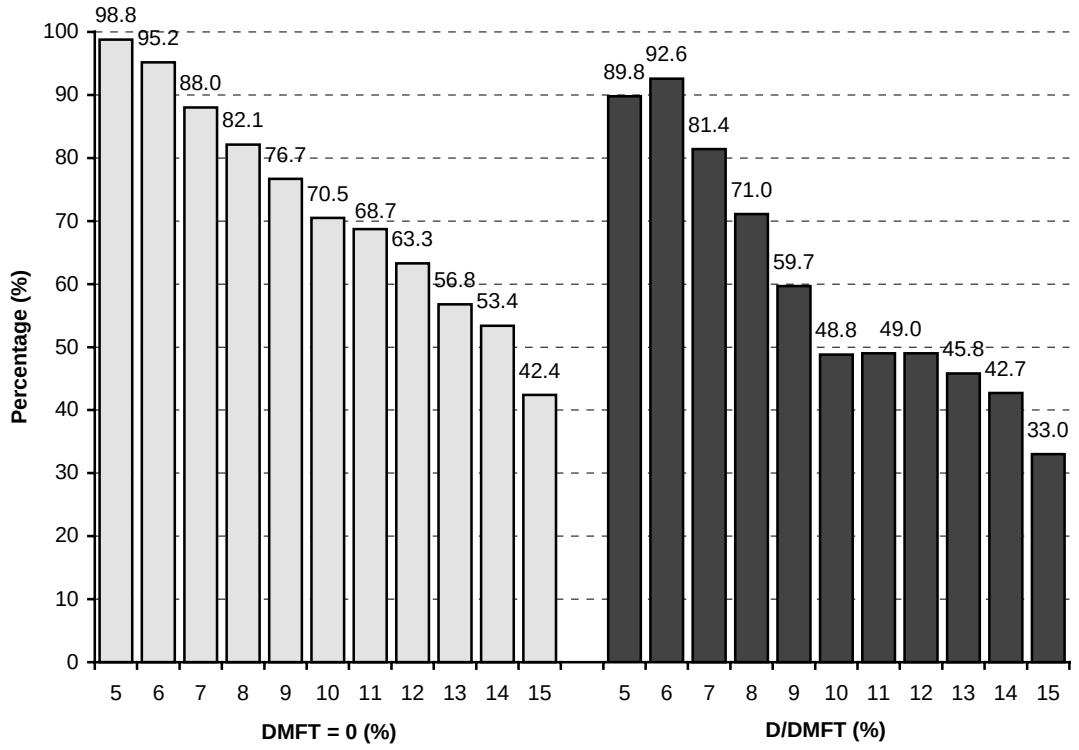

Figure 6: Permanent dentition – DMFT = 0 and D/DMFT

After controlling for the number of permanent teeth present, there could be seen an increase in the rate of caries experience with age, although the trend is not consistent (see Figure 7). Between the ages of 8 and 11 years, clinical detection of new decay decreases from 1.97 to 1.57 teeth per 100 permanent teeth present, before increasing to 2.41 for 15-year-olds. From the age of 11 years DMFT per 100 teeth begins to climb sharply, increasing from 3.13% to 6.73% of teeth at age 15.

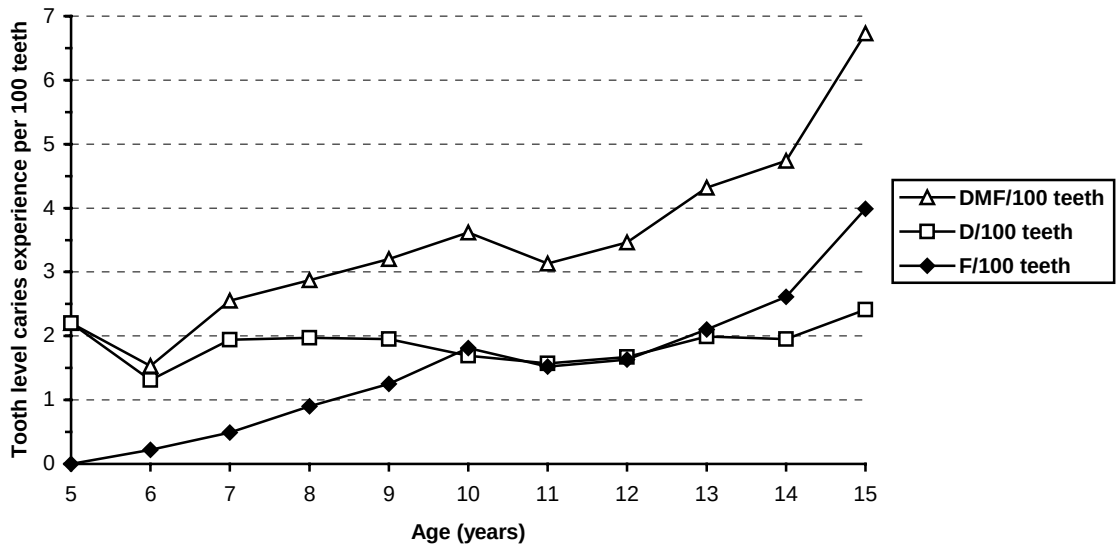

Figure 7: Tooth level permanent caries experience per 100 permanent teeth by age

All teeth – age-specific caries experience

Table 7 combines components of caries experience from both the deciduous and permanent dentition to provide an indicator of the total burden of disease among children receiving care within school dental services.

Untreated clinically detectable decay (d+D ≥ 1) in the combined deciduous and permanent dentition was present for between 27.3% and 38.8% of children in the age range 5–15 years. The highest prevalence of untreated decay was observed among 8-year-olds (where only 61.2% had d+D = 0) while the greatest severity of clinically detectable untreated decay occurred in the youngest ages (e.g. 10.2% of 5-year-olds had 4 or more teeth with clinically detectable untreated decay). Based on observations from previous tables the largest contribution to caries experience among younger children came from deciduous teeth.

Missing teeth due to caries were relatively uncommon among children aged 5–15 years. The percentage of children with no fillings (f+F = 0) and no caries experience (dmft+DMFT = 0) showed a bimodal distribution, driven by changes in caries experience resulting from the exfoliation of deciduous teeth and the subsequent eruption of the permanent dentition. Among the key age range of 5–12 years, at least 42% of children in any age group had no caries experience in either dentition.

Table 7: All teeth – age-specific caries experience

Age (years)	Children	d+D = 0	1	2	3	4	5+	m+M = 0	f+F = 0	dmft+ DMFT = 0
	n	%	%	%	%	%	%	%	%	%
5	7,008	67.3	10.2	8.3	3.9	3.2	7.0	97.9	89.1	63.0
6	6,791	65.1	12.5	8.2	4.8	3.4	6.0	97.1	81.6	57.8
7	7,397	63.8	14.5	8.3	5.4	3.2	4.8	95.9	72.3	52.0
8	7,539	61.2	16.0	9.8	5.1	3.3	4.6	95.9	63.4	45.6
9	7,459	62.4	17.3	9.3	4.8	2.5	3.5	95.2	58.7	42.4
10	7,491	63.9	17.7	9.3	3.9	2.5	2.7	96.3	57.4	42.8
11	7,331	70.8	14.7	7.6	3.4	1.8	1.6	97.2	65.1	51.7
12	6,912	71.0	15.3	7.1	3.2	2.0	1.4	97.0	70.7	54.0
13	7,225	71.0	14.7	6.7	3.0	2.4	2.2	96.7	68.7	52.6
14	7,296	72.7	13.7	6.8	3.0	1.5	2.3	96.7	67.6	51.6
15	3,283	70.0	15.0	6.1	4.3	2.5	2.0	95.8	54.2	41.1

Fissure sealants – age-specific experience

The mean number of fissure sealants present increased with increasing age (see Table 8) and from the age of 7 years exceeded the mean number of decayed permanent teeth for each respective age group. Children aged 6–14 years with permanent caries experience (DMFT ≥ 1) were from 33.3% to 222.0% more likely to have a fissure sealant than children with no permanent caries experience (DMFT = 0), and this is presented graphically in Figure 8.

Table 8: Fissure sealants – age-specific experience

Age (years)	Children	Sealants		DMFT = 0		DMFT ≥ 1	
				Children	With fissure sealants	Children	With fissure sealants
	n	mean	SD	*n*	%	*n*	%
6	6,791	0.06	0.48	6,465	2.0	326	6.4
7	7,397	0.23	0.87	6,510	7.0	888	15.1
8	7,539	0.52	1.25	6,190	17.3	1,348	24.0
9	7,459	0.71	1.38	5,721	22.7	1,737	33.1
10	7,491	0.84	1.53	5,285	27.0	2,206	36.0
11	7,331	0.87	1.57	5,037	26.4	2,294	39.4
12	6,912	0.91	1.69	4,375	27.0	2,537	38.5
13	7,225	0.90	1.79	4,105	24.0	3,121	39.4
14	7,296	1.14	2.13	3,897	23.5	3,399	43.3
15	3,283	1.04	2.19	1,390	26.7	1,892	37.8

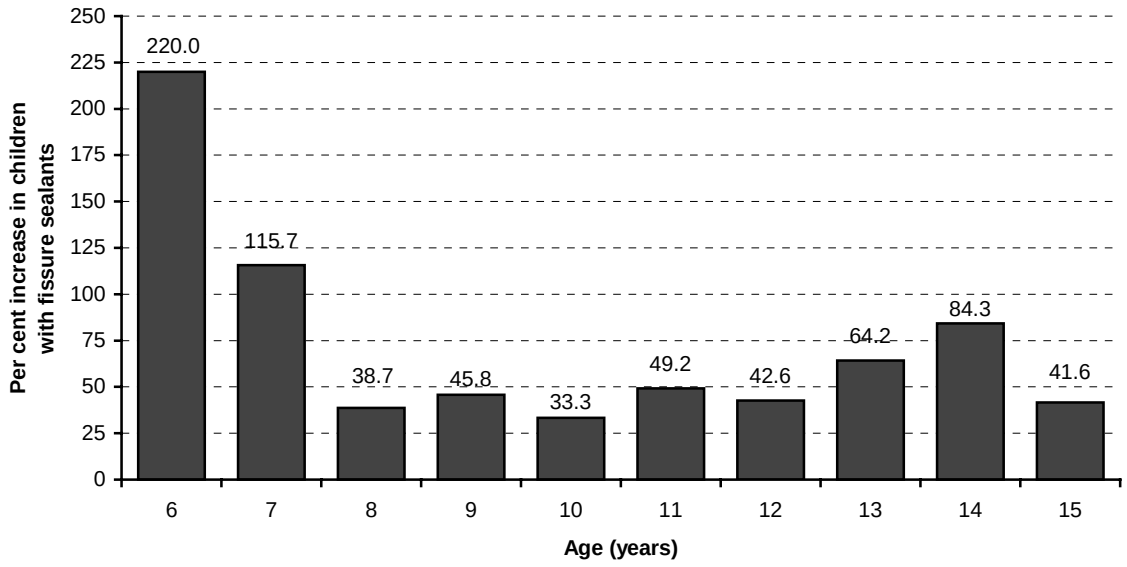

Figure 8: Per cent increase in number of children with fissure sealants between children with DMFT = 0 and children with DMFT ≥ 1

As an example, 38.5% of 12-year-old children with DMFT ≥ 1 had fissure sealants compared with 27.0% among those with DMFT = 0. This can be interpreted as a tendency towards the preferential provision of fissure sealants to children deemed to have a greater likelihood of developing dental caries.

Immediate treatment needs – age-specific distribution

Immediate treatment need was not recorded in Victoria, Western Australia or the Australian Capital Territory in 1998. Additionally, the protocol for assigning immediate treatment needs in New South Wales differs from other States and Territories with a more imminent expectation of pain required for this classification (24–48 hours, in contrast to a four-week period adopted in other States and Territories). The percentage of children with immediate needs was highest for 8-year-olds (13.5%) and 4-year-olds (13.1%) and lowest for children aged 10 years or older (see Table 9).

Children with immediate treatment needs were found to have greater caries experience in comparison to children judged not to be in immediate need. Age-specific means for dmft and DMFT tended to be approximately 1½–2 times higher than the national averages listed in previous tables. For example, 5-year-olds with immediate treatment needs had a mean dmft of 2.75 (compared with 1.39 in Table 5) and 12.5% had d+D ≥ 5 (compared with 7.0% in Table 7).

Table 9: Immediate treatment needs – age-specific distribution

Age (years)	Children	Children in need of immediate treatment										
				dmft		DMFT		d+D =				
								1	2	3	4	5+
	n	*n*	%	mean	SD	mean	SD	%	%	%	%	%
4	1,541	201	13.1	3.03	4.11	0.00	0.00	6.0	11.9	0.0	15.4	22.1
5	1,499	166	11.1	2.75	3.78	0.07	0.55	11.2	17.1	7.6	6.5	12.5
6	1,163	107	9.2	3.81	4.23	0.13	0.45	12.0	14.1	9.4	3.9	18.7
7	1,586	162	10.2	3.54	3.68	0.41	0.93	15.7	11.4	11.1	4.2	8.2
8	1,648	222	13.5	2.79	2.86	0.38	0.79	20.9	13.1	7.1	5.3	4.5
9	1,628	172	10.5	2.20	2.86	0.42	0.77	15.6	8.4	9.6	2.9	2.8
10	1,711	131	7.6	1.97	2.41	1.01	1.46	26.7	6.1	8.6	0.2	9.4
11	1,580	132	8.4	1.69	2.56	1.39	2.32	22.1	8.4	13.0	3.9	3.9
12	1,132	79	7.0	0.54	1.40	1.18	1.73	21.8	5.9	7.9	2.0	2.5
13	1,462	110	7.5	0.19	0.73	1.76	2.59	24.3	6.4	6.4	1.7	1.5
14	1,453	122	8.4	0.16	0.69	2.71	2.42	15.8	10.1	13.9	4.4	4.0
15	1,533	130	8.5	0.00	0.00	2.15	2.17	24.0	11.0	8.4	5.0	0.0

It should be emphasised that the percentage of those deemed to be requiring immediate treatment reflects both the accumulated amount of dental disease and the methods of targeting 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 need than other clinics which have universal coverage of all children on a constant recall basis.

Perhaps the most important interpretation of Table 9 is that a subgroup of children with a substantial burden of dental caries can be identified within school dental services. Their state of poor dental health contrasts with the previous observation that approximately 40–60% of 5- to 14-year-olds have no caries experience.

Differences in caries experience by geographic classification

There is increasing concern over health differentials between people living in rural and remote areas and those residing in Australia's cities. People living in rural and remote areas have been found to experience disadvantage with respect to several health indicators (AIHW, 1998). Information on these differentials in oral health is a necessary first step towards targeting services to meet priority needs.

Figures 9 and 11 use the Rural, Remote and Metropolitan Areas (RRMA) classification jointly developed by the Commonwealth Department of Primary Industries and Energy and the then Department of Human Services and Health (1994). The RRMA is based on the distance of Statistical Local Areas from a four-level hierarchy of urban centres and comprises seven categories across three zones. For the purpose of these results, the zone classifications remote, rural and metropolitan were used.

Figures 10 and 12 use the Accessibility / Remoteness Index of Australia (ARIA) developed by the Commonwealth Department of Health and Aged Care and the National Key Centre for Social Applications of Geographical Information Systems (GISCA) (1999). ARIA interprets remoteness as road distance (accessibility) from 201 specific service centres that are grouped into four categories according to population size. Population is taken as a proxy for service availability. Remoteness values range from 0 (high accessibility) to 12 (high remoteness) and represent a continuous variable. These values are grouped into 5 categories:

1. Highly Accessible (ARIA score 0–1.84) – relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction;
2. Accessible (ARIA score >1.84–3.51) – some restrictions to accessibility of some goods, services and opportunities for social interaction;
3. Moderately Accessible (ARIA score >3.51–5.80) – significantly restricted accessibility of goods, services and opportunities for social interaction;
4. Remote (ARIA score >5.80–9.08) – very restricted accessibility of goods, services and opportunities for social interaction;
5. Very Remote (ARIA score >9.08–12) – very little availability of goods, services and opportunities for social interaction.

Results are presented in Figures 9 and 10 for deciduous caries experience according to geographic classification. Children from metropolitan areas showed fewer decayed, missing and filled teeth across all age groups than did children from rural and remote areas.

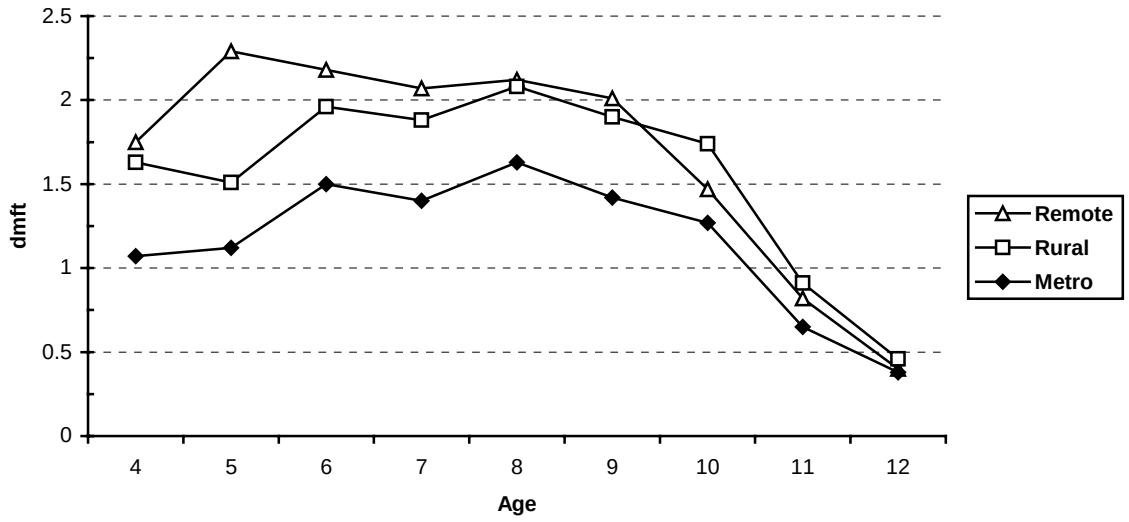

Figure 9: Deciduous caries experience by RRMA by age

Children from remote regions had the highest dmft scores up to the age of 9 years. In general, differentials in mean dmft scores decreased between the three groups with increasing age as deciduous teeth were exfoliated. A similar pattern is shown in Figure 10 where remoteness is represented according to ARIA classifications. Especially in the younger age groups, children from very remote locations experienced appreciably higher levels of caries compared with children from areas with more access to goods and services. Increases in remoteness were associated with increases in caries experience in the deciduous dentition. Again, only from the age of 10 years did these inequalities reduce, as a result of the exfoliation of deciduous teeth.

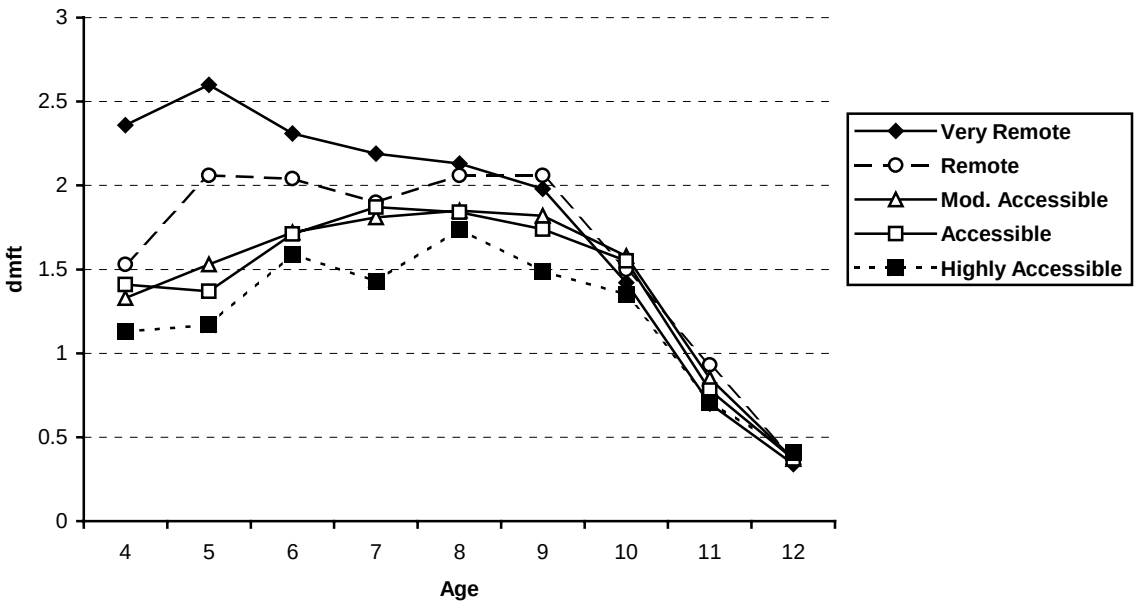

Figure 10: Deciduous caries experience by ARIA by age

Permanent caries experience by geographic area is presented for each age group in Figures 11 and 12. The pattern for the RRMA index (Figure 11) is similar to that seen in the deciduous dentition with children from metropolitan areas having the least caries experience. Differences were smaller in the younger age groups where fewer permanent teeth are present in the mouth. Using the ARIA index (Figure 12), the differentials by remoteness are not as clearly defined. Although children from very remote and highly accessible areas generally have the highest and lowest DMFT scores respectively, there is often considerable variation from one age group to the next.

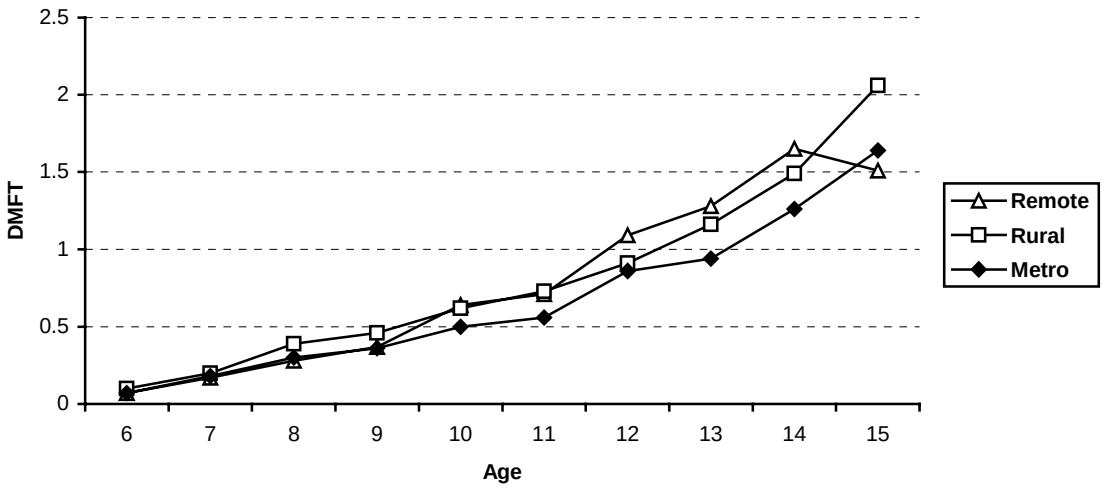

Figure 11: Permanent caries experience by RRMA by age

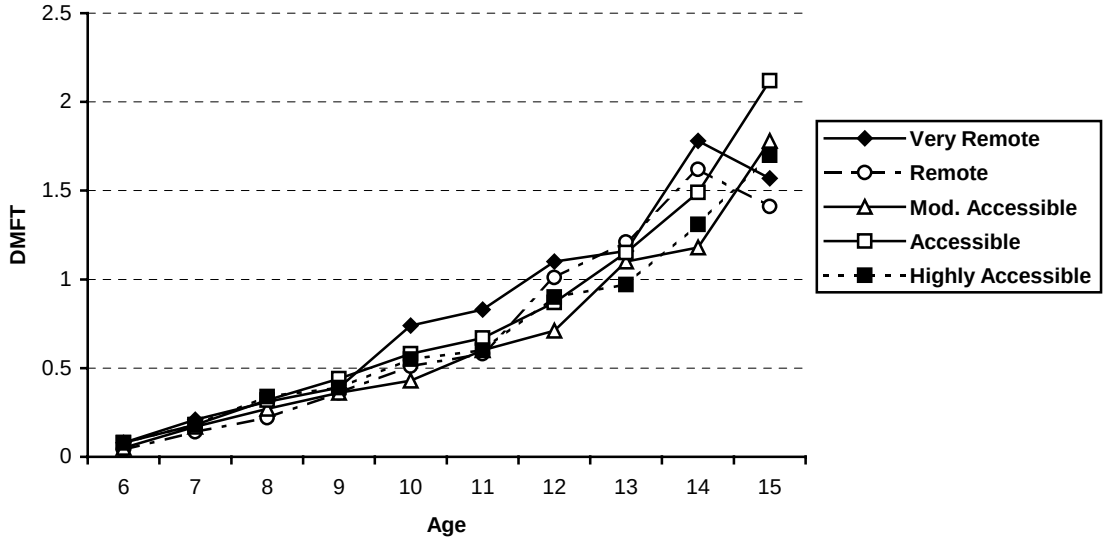

Figure 12: Permanent caries experience by ARIA by age

Interstate comparison – 5- to 6-year-old dmft

Combined 5- and 6-year-olds represent a standard age group (cited, for example, within World Health Organization publications); this group is, moreover, a useful one to consider in relation to school dental services since it represents, predominantly, the dental health status of children new to these services. Table 10 shows that considerable differences existed across the States and Territories between the lowest mean dmft (New South Wales, mean = 0.87) and the highest mean dmft score (Northern Territory, mean = 2.00). In assessing these differences it should be noted that there are historical differences in caries prevalence, as well as marked variations in population density, demography and levels of water fluoridation between these two jurisdictions. As well, there are differences in the organisation and delivery of school dental services between different States and Territories and these differences have increased with the introduction of the SOKS program in New South Wales. All of these factors also affect other State and Territory comparisons.

There are other notable characteristics of the statistics contained in Table 10. In general, the mean dmft was correlated with the mean number of deciduous teeth with clinically detectable untreated decay but not with the mean number of fillings present.

Considerable variation existed in the percentage of dmft attributable to clinically detectable untreated decay, ranging from a low of 49.9% in South Australia up to 80.6% in Victoria (see Figure 13). The variation in the percentage of children with no caries experience (dmft = 0), while representing to some degree the converse of mean dmft, showed less variation than that for mean dmft, ranging from 52.0% for the Northern Territory to 70.6% for New South Wales. In other words, while less than one-half of 5- to 6-year-old children in any jurisdiction had caries experience, the amount of accumulated disease (mean dmft) was variable across States and Territories.

Table 10: Interstate comparison – 5- to 6-year-old dmft

State/ Territory	Children	Decayed (d)		Missing (m)		Filled (f)		dmft	
	n	mean	SD	mean	SD	mean	SD	mean	SD
NSW	4,821	0.61	1.45	0.03	0.34	0.22	0.89	0.87	1.84
Vic	3,478	1.47	2.45	0.12	0.70	0.39	1.21	1.98	3.10
Qld	2,530	1.16	2.28	0.06	0.45	0.67	1.66	1.89	3.07
WA	1,367	0.87	1.88	0.03	0.36	0.49	1.35	1.38	2.50
SA	835	0.54	1.20	0.06	0.42	0.60	1.43	1.19	2.15
Tas	350	0.92	1.99	0.05	0.54	0.46	1.25	1.43	2.72
ACT	235	0.74	1.61	0.00	0.12	0.48	1.30	1.22	2.28
NT	182	1.45	2.69	0.09	0.53	0.47	1.30	2.00	3.18
Australia	**13,799**	**0.97**	**2.00**	**0.06**	**0.49**	**0.41**	**1.25**	**1.44**	**2.62**

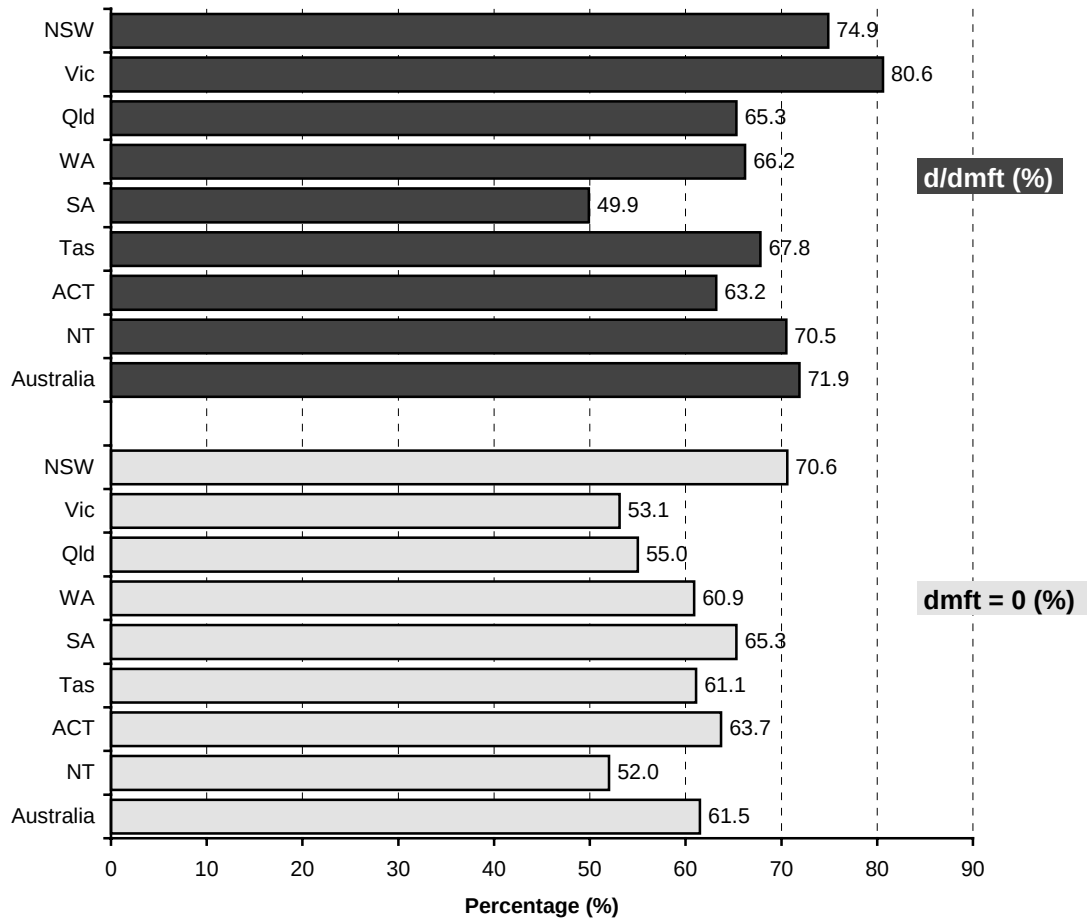

Figure 13: Interstate comparison – 5- to 6-year-old d/dmft and dmft = 0

Figure 14 shows deciduous caries experience for combined 5- and 6-year-old children in Australia. Within each State and Territory regions are based on either statistical subdivisions or health division areas established by the relevant government organisation within that jurisdiction. It is apparent that there is considerable variation within Australia and within each State and Territory. It should be noted that caries experience data for some areas are based on a small number of sampled children. This is most evident for some areas in South Australia (i.e. Eyre and the South East) where few children were sampled.

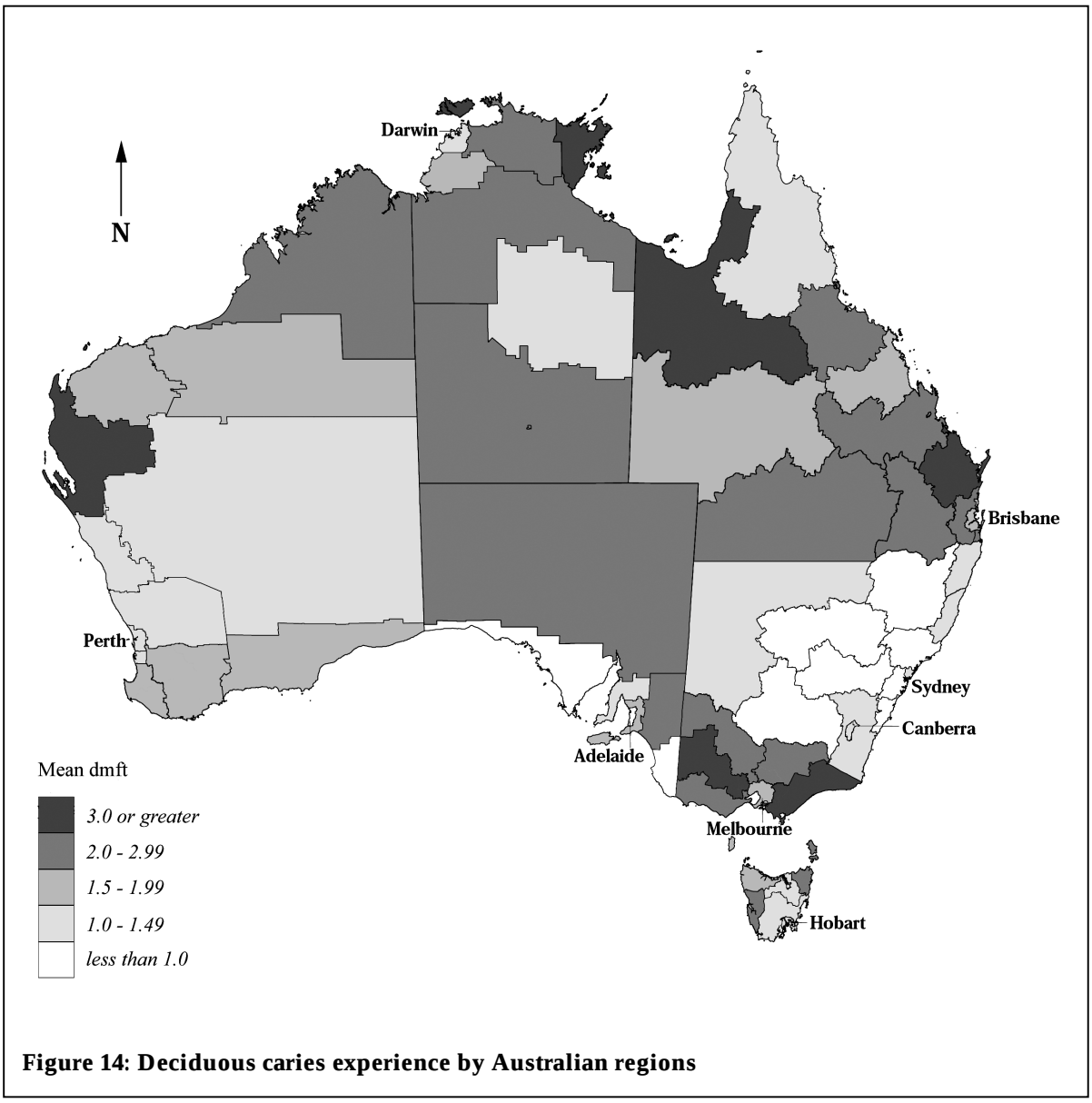

Figure 14: Deciduous caries experience by Australian regions

Interstate comparison – 12-year-old DMFT

There was substantial variation in the mean DMFT scores between States and Territories (see Table 11) with the highest mean score (1.39 in Tasmania) being more than two and a half times that of the lowest (0.52 in New South Wales). This was similar to the extent of variation observed for deciduous teeth. In the case of permanent teeth there was only moderate correspondence between mean DMFT and the mean number of decayed teeth. There was also quite large variation in the ratio of D / DMFT, percentages ranging from 34.9% in Western Australia to 64.6% in Victoria (see Figure 10).

New South Wales had the highest percentage of children with no caries experience, having over 75% of children with DMFT = 0 (see Figure 15). By contrast, Tasmania and Victoria had the lowest percentages of children with DMFT = 0, with 45.9% and 50.9% respectively.

Table 11: Interstate comparison – 12-year-old DMFT

State/ Territory	Children	Decayed (D)		Missing (M)		Filled (F)		DMFT	
	n	mean	SD	mean	SD	mean	SD	mean	SD
NSW	2,379	0.23	0.72	0.02	0.21	0.24	0.69	0.49	1.05
Vic	1,723	0.70	1.14	0.05	0.33	0.40	0.91	1.15	1.63
Qld	1,050	0.45	1.03	0.06	0.39	0.71	1.30	1.22	1.90
WA	759	0.29	0.77	0.06	0.35	0.42	0.90	0.77	1.33
SA	596	0.21	0.62	0.00	0.04	0.31	0.75	0.52	1.06
Tas	186	0.68	2.04	0.05	0.35	0.67	1.04	1.39	2.36
ACT	121	0.25	0.83	0.02	0.22	0.41	1.03	0.68	1.29
NT	99	0.41	1.19	0.07	0.44	0.31	0.80	0.79	1.58
Australia	**6,912**	**0.40**	**0.97**	**0.04**	**0.29**	**0.39**	**0.92**	**0.83**	**1.48**

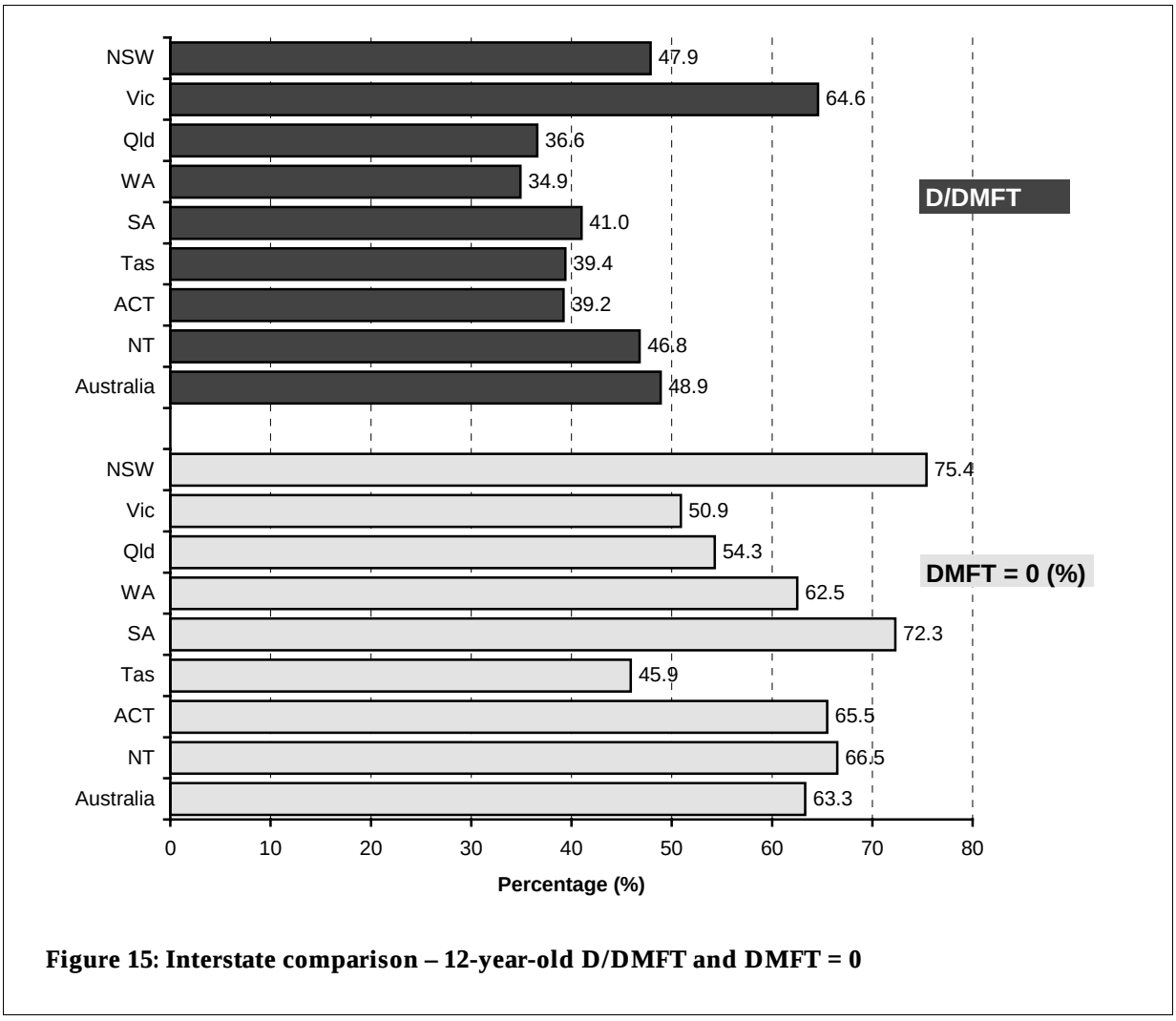

Figure 15: Interstate comparison – 12-year-old D/DMFT and DMFT = 0

Figure 16 shows permanent caries experience for combined 11- and 12-year-old children in Australia. Within each State and Territory regions are the same as those presented in Figure 14 and are based on either statistical subdivisions or defined health areas. Again, there is considerable variation within Australia and within each State and Territory. The darkest areas, indicating the highest mean caries levels, are most observable in Queensland, Victoria and Tasmania. Again, it should be noted that caries experience data for some areas are based on small numbers of sampled children and, although the random sampling ensures no systematic bias, sampled children may not accurately reflect the entire age-group population within an area.

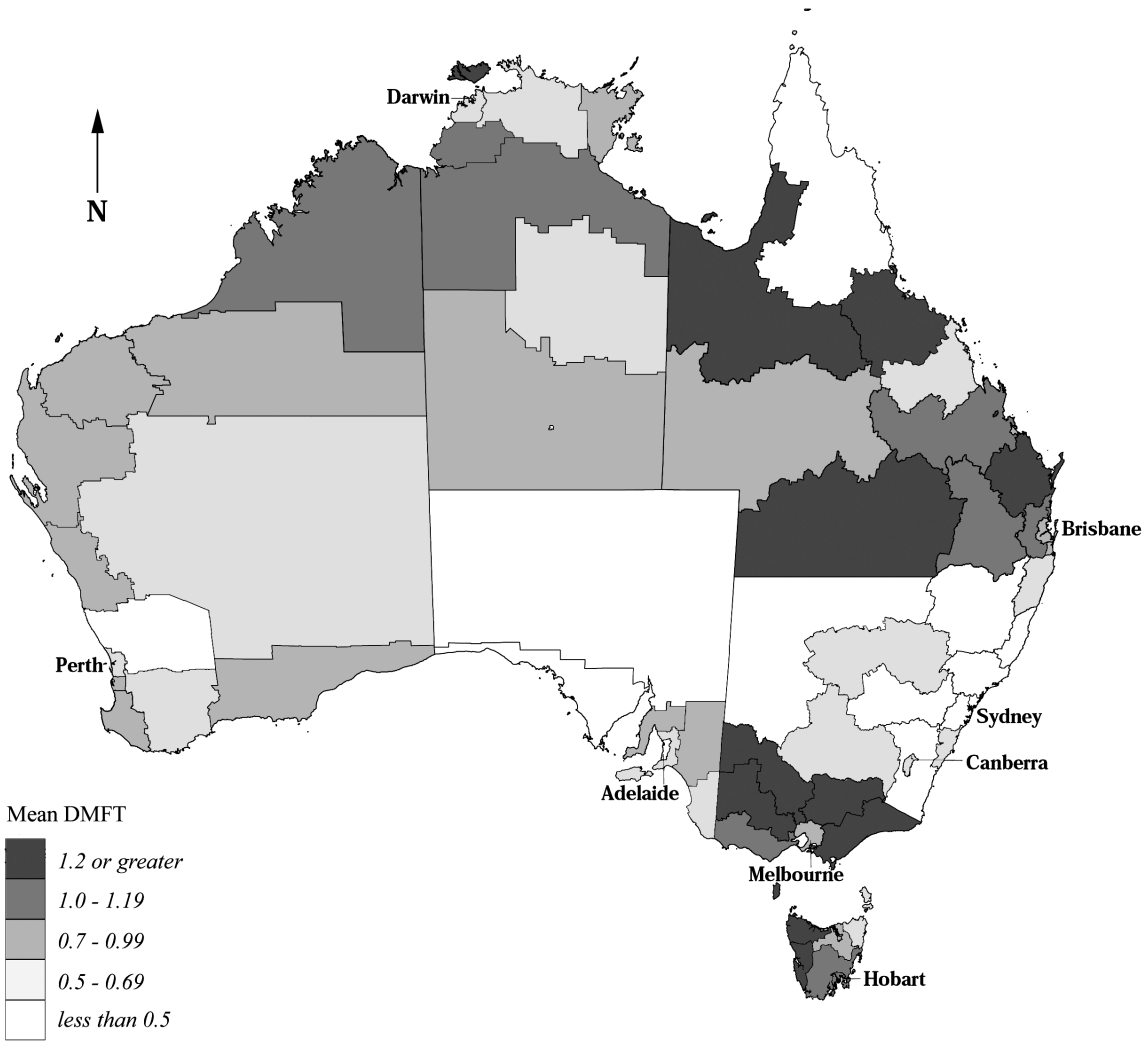

Figure 16: Permanent caries experience by Australian regions

Interstate comparison – all teeth age-standardised caries experience

Age-standardised data were used for Table 12 in order to bring together data from all ages (children aged between 5 and 12 years) in all jurisdictions. This is useful in the event that any age-specific statistics (for example, for 5- to 6-year-olds) provide an unrepresentative picture of conditions in a specific State or Territory. The purpose of age-standardisation 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.

Table 12 illustrates further areas of interstate variation in caries experience. For example, there are appreciable differences in the percentage of children with 5 or more decayed teeth (d+D ≥ 5). Victoria, the Northern Territory, Tasmania and Queensland have the highest levels of untreated decay (d+D) whereas South Australia, the Australian Capital Territory, Western Australia and New South Wales have the lowest levels of clinically detectable untreated decay. The percentage of children with no caries experience (dmft+DMFT = 0) was highest in New South Wales (63.7%). Consistent with Tables 10 and 11, the lowest percentage of children with no caries experience was found in Victoria (39.9%).

Table 12: Interstate comparison – all teeth age-standardised caries experience

State/		Children with d+D =								dmft+
Territory	Children	0	1	2	3	4	5+	m+M = 0	f+F = 0	DMFT = 0
	n	%	%	%	%	%	%	%	%	%
NSW	19,183	74.6	11.9	6.5	2.8	1.9	2.4	97.9	81.1	63.7
Vic	13,889	50.4	18.0	11.7	7.0	4.9	7.9	92.8	66.8	39.9
Qld	11,396	64.1	15.9	9.0	4.7	2.6	3.6	96.8	57.7	43.4
WA	5,800	69.1	15.5	7.8	3.4	1.7	2.5	97.7	64.0	48.7
SA	4,479	73.8	14.2	6.7	2.9	1.5	1.0	98.7	66.9	54.4
Tas	1,489	64.3	15.4	9.5	4.6	2.5	3.7	98.1	64.5	47.3
ACT	960	69.1	15.2	7.7	3.4	2.0	2.6	99.2	67.7	51.5
NT	732	64.3	13.6	8.8	4.3	3.2	5.8	96.1	70.0	47.5
Australia	**57,928**	**65.6**	**14.8**	**8.5**	**4.3**	**2.7**	**3.9**	**96.5**	**69.5**	**51.0**

National summary

Age-standardised data were used for Table 13 in order to bring together data from all children aged between 5 and 12 years in all jurisdictions. Again, Victoria is shown to have the highest levels of caries experience for deciduous teeth (mean dmft = 1.88, 51.7% dmft = 0), while children in New South Wales were found to have the least caries experience (mean dmft = 0.79, 71.4% dmft = 0). The highest levels of permanent caries experience were found in Victoria (mean DMFT = 0.56, 72.2% DMFT = 0) and Tasmania (mean DMFT = 0.51, 75.9% DMFT = 0) while the lowest levels were seen in South Australia (mean DMFT = 0.23, 85.3% DMFT = 0) and New South Wales (mean DMFT = 0.24, 86.9% DMFT = 0).

Figure 17 uses Australia-wide data to describe the combined dmft and DMFT indices and their components for individual age groups. It should be noted that the rate of decline and subsequent increase across age groups in the percentage of children free of caries in the deciduous dentition is set against a pattern of exfoliation of deciduous teeth.

Table 13: National summary of caries experience of 5- to 12-year-old children

State/ Territory	Children in sample	dmft		dmft = 0	DMFT		DMFT = 0	d+D = 0
	n	mean	SD	%	mean	SD	%	%
NSW	19,183	0.79	1.64	71.4	0.24	0.74	86.9	74.6
Vic	13,889	1.83	2.70	51.7	0.56	1.13	72.2	50.4
Qld	11,396	1.82	2.72	53.0	0.49	1.16	77.6	64.1
WA	5,800	1.24	2.06	59.1	0.36	0.91	80.0	69.1
SA	4,479	1.14	1.97	61.9	0.23	0.67	85.3	73.8
Tas	1,489	1.31	2.26	59.8	0.51	1.27	75.9	64.3
ACT	960	1.14	1.95	60.6	0.31	0.84	82.1	69.1
NT	732	1.47	2.46	57.5	0.35	0.98	82.4	64.3
Australia	**57,928**	**1.34**	**2.30**	**60.4**	**0.39**	**0.98**	**80.3**	**65.6**

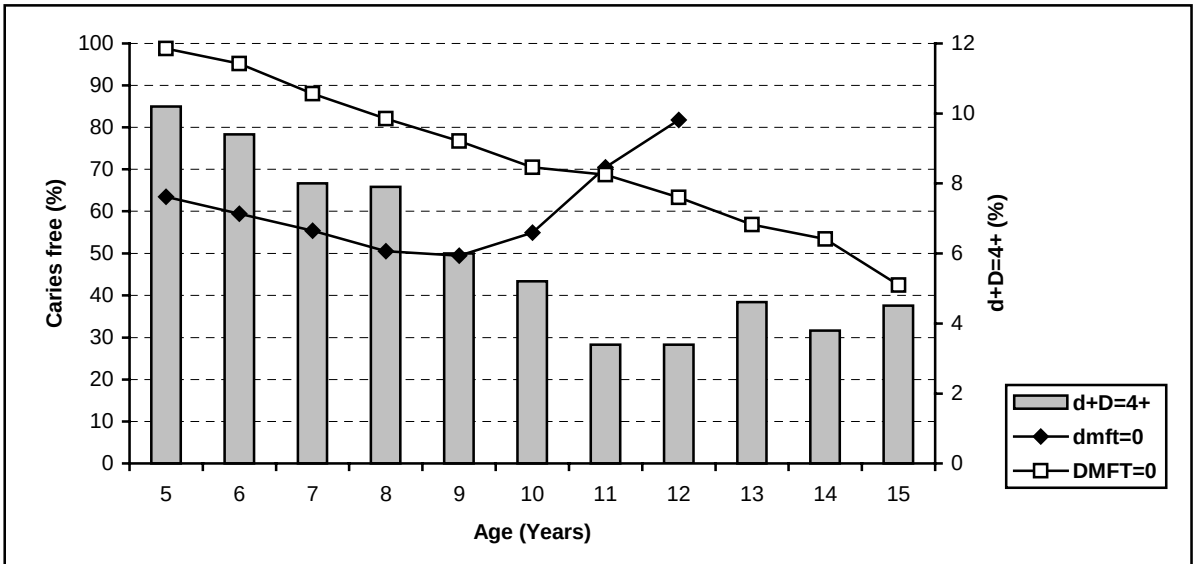

Figure 17: Percentage of children nationally with dmft=0, DMFT =0 and d+D=4+ by age

National trends

Caries experience indices, 1977–1998

Figures 18 and 19 show the trends in national dift / dmft and DMFT scores across the 21-year period from 1977 to 1998. Over this time period mean dift / dmft scores for 6-year-old children have reduced by 51.8% from 3.13 in 1977 to 1.51 in 1998. This trend has been mirrored by a reduction in clinically detectable decay across the same period from 1.95 to 0.93, a reduction of 52.3%. The disruption of the downwards trend in caries experience evidenced in 1989 can be seen as representing a change in reporting of caries experience from dif teeth (decayed, indicated for extraction due to caries and filled) to dmf teeth (decayed, missing due to caries and filled). The observed increase in caries experience between 1988 and 1989 may also reflect a change in statistical analyses (especially the use of weighting by State and Territory) following from the Dental Statistics and Research Unit taking over administration of the survey from the Commonwealth Department of Health in 1989.

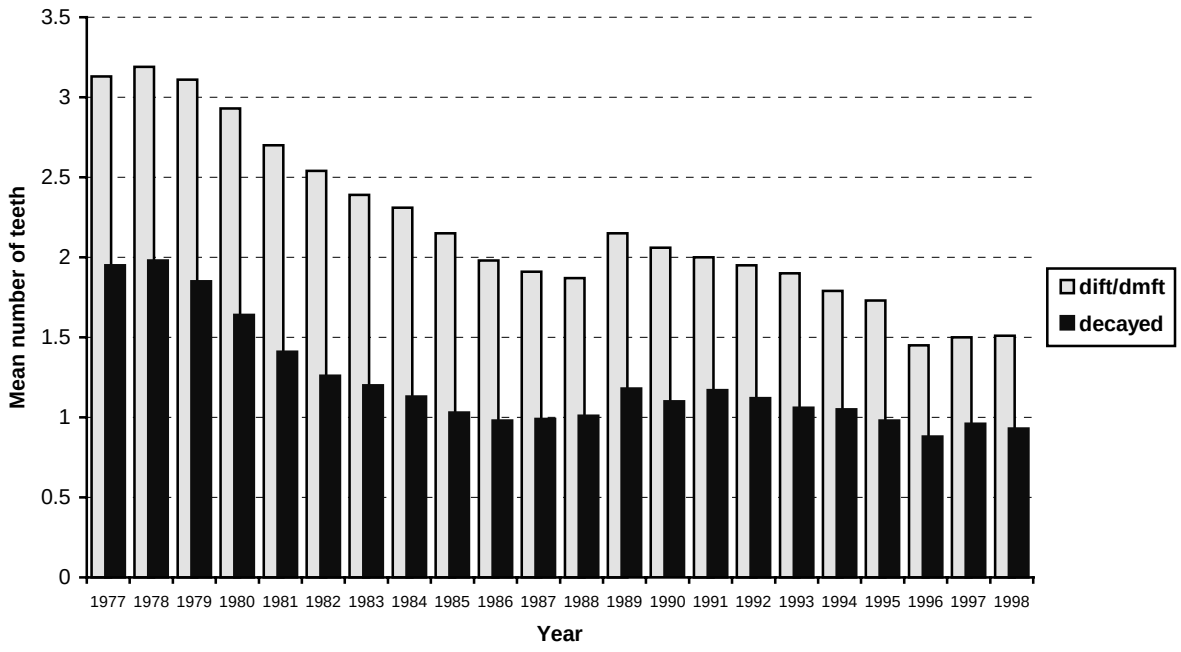

Figure 18: Mean dift/dmft and decayed component for 6-year-old children in Australia from 1977 to 1998

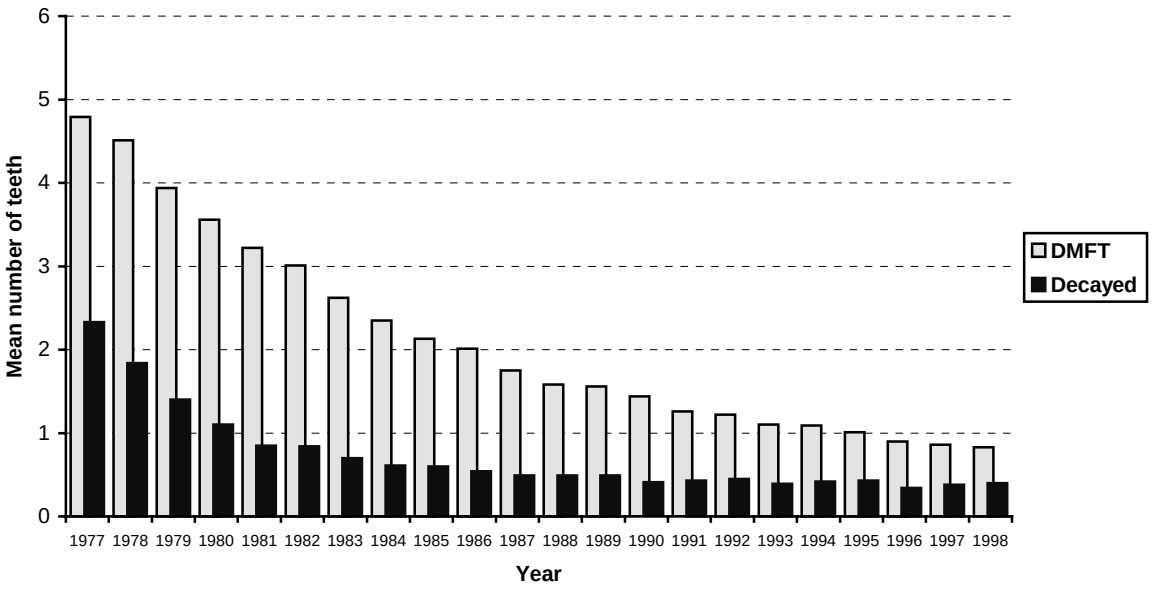

Figure 19: Mean DMFT and decayed component for 12-year-old children in Australia from 1977 to 1998

There has also been a dramatic decrease in caries experience in the permanent dentition with mean DMFT scores falling consistently between 1977 and 1998 (see Figure 19). Mean DMFT for 12-year-old children has fallen by 82.7% between these years, from 4.79 in 1977 to 0.83 in 1998. A similar pattern is observable in the decline in clinically detectable decay, although since 1987 reductions in decay levels have generally been small. The decayed component of the mean DMFT score has fallen from 2.33 in 1977 to 0.40 in 1998; however the period between 1990 and 1998 has seen mean detectable decay scores fairly stable at around 0.4 mean decayed teeth per child.

Children presenting with no caries experience, 1977–1998

Figure 20 shows the national trends in the percentage of 6-year-old children without caries experience in the deciduous dentition (dmft = 0) and the percentage of 12-year-old children without caries experience in the permanent dentition (DMFT = 0) between 1977 and 1998. In 1977, 33.5% of 6-year-olds presented with no caries experience in their deciduous teeth while only 10.4% of 12-year-old children were indicated as having DMFT = 0. By 1987 the percentage of 6-year-old children with dmft = 0 had increased to 51.7% and in 1998 it was 59.4%. In 12-year-old permanent dentition the percentage of children without caries experience was 41.4% in 1987, an increase of 298%, and 63.3% in 1998, an increase of approximately 509% from 1977. Again, a disruption of the general upward trend can be seen when the Dental Statistics and Research Unit took over administration of the survey from the Commonwealth Department of Health in 1989.

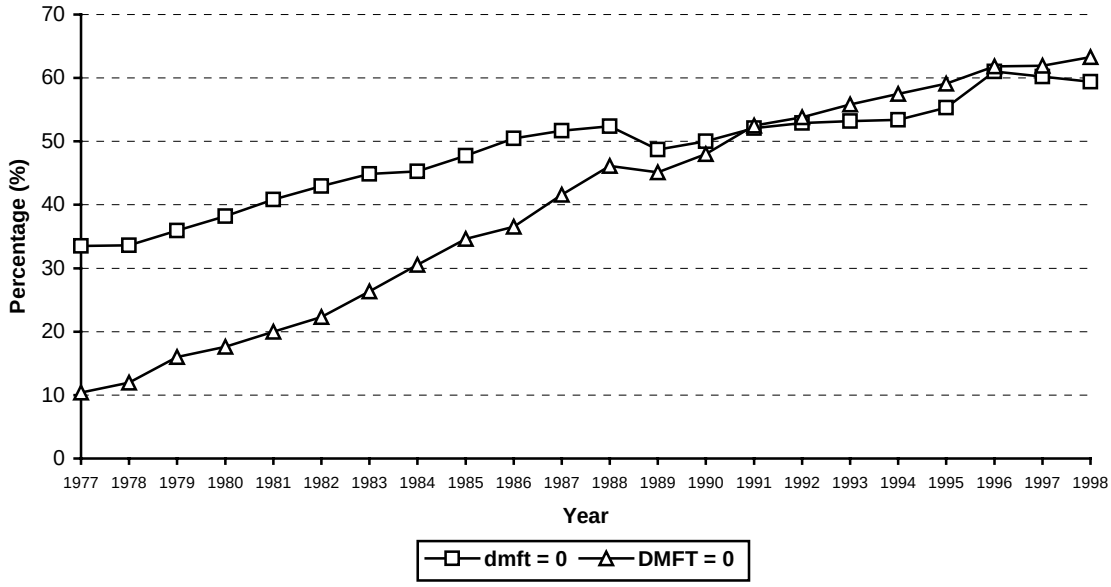

Figure 20: Percentages of 6- and 12-year-old children with dmft = 0 and DMFT = 0 respectively in Australia from 1977 to 1998

International comparisons

Children's oral health has improved in most developed countries and many developing countries over the last quarter of a century. A comparison of 12-year-old DMFT scores from 34 countries and 15 of the 30 OECD countries is presented in Table 14. For comparative purposes, only countries with DMFT data within two years of that presented for Australia have been included. The table shows that Australia has the second lowest 12-year-old DMFT score, with only Luxembourg (DMFT = 0.7) having a lower score. Of those countries with available data, Australia has the lowest percentage of 12-year-old children with caries experience.

Table 14: DMFT scores and percentage with caries for 12-year-old children by country

Country	Year	DMFT	Rank	% Affected	Rank
Luxembourg *	1998	0.7	1	–	–
Australia *	1998	0.8	2	36.4	1
Sweden *	1998	1.0	3	38.0	2
Denmark *	1998	1.1	4	–	–
United Kingdom *	1996/97	1.1	4	44.0	3
Niger	1997	1.3	6	–	–
Cuba	1998	1.4	7	50.0	4
Uzbekistan	1996	1.4	7	59.3	10
Fiji	1998	1.5	9	60.0	12
Iceland *	1996	1.5	9	–	–
New Zealand [(a)]*	1996	1.5	9	55.0	7
Portugal *	1999	1.5	9	53.0	6
Belgium *	1998	1.6	13	50.0	4
Austria *	1997	1.7	14	56.0	8
Germany *	1997	1.7	14	58.2	9
Slovenia	1998	1.8	16	59.9	11
France *	1998	1.9	17	61.0	14
Malaysia	1997	1.9	17	60.9	13
Italy *	1996	2.1	19	63.5	15
Venezuela	1997	2.1	19	–	–
Japan *	1999	2.4	21	–	–
Morocco	1999	2.5	22	72.0	16
Nicaragua	1997	2.8	23	79.2	20
Ecuador	1996	3.0	24	77.6	18
Brazil	1996	3.1	25	–	–
Tonga	1998	3.1	25	77.5	17
Panama	1997	3.6	27	77.9	19
Honduras	1997	3.7	28	83.4	21
Hungary *	1996	3.8	29	84.5	22
Chile [(b)]	1996	4.1	30	–	–
Latvia	1998	4.2	31	–	–
Dominican Republic	1997	4.4	32	–	–
Philippines	1998	4.6	33	91.7	23
Costa Rica	1996	4.8	34	–	–

* Member of the Organization for Economic Co-operation and Development (OECD).
(a) Statistics for 12- and 13-year-old children.
(b) Includes only 6 regions in Chile.

Sources: World Health Organization (WHO) Oral Health Country / Area Profile Programme.
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Appendix A

The following tables present National and State and Territory results with adjustments for the estimated under-reporting of decay in New South Wales (see page 5). For children in NSW, an additional weight of 1.56 was given for calculations of deciduous decay and 1.68 for calculations of permanent decay.

Table A1: Deciduous dentition caries experience (adjusted for NSW)

Age (years)	Children	Decayed (d)		dmft		d/dmft
	n	mean	SD	mean	SD	%
4	5,161	1.21	2.52	1.44	2.83	85.6
5	7,008	1.14	2.37	1.50	2.83	78.4
6	6,791	1.04	2.10	1.63	2.77	66.8
7	7,397	0.88	1.78	1.73	2.72	53.0
8	7,539	0.83	1.63	1.92	2.67	45.0
9	7,459	0.66	1.33	1.78	2.44	39.5
10	7,492	0.52	1.17	1.46	2.17	37.0
11	7,331	0.28	0.80	0.84	1.72	34.5
12	6,912	0.17	0.61	0.45	1.22	39.4

Table A2: Permanent dentition caries experience (adjusted for NSW)

Age (years)	Children	Decayed (D)		DMFT		D/DMFT
	n	mean	SD	mean	SD	%
5	7,008	0.02	0.23	0.02	0.25	89.8
6	6,791	0.07	0.38	0.08	0.41	92.8
7	7,397	0.18	0.64	0.23	0.74	81.4
8	7,539	0.26	0.78	0.36	0.92	71.3
9	7,459	0.29	0.81	0.45	1.01	60.0
10	7,492	0.32	0.85	0.62	1.22	49.1
11	7,331	0.36	0.96	0.69	1.32	49.4
12	6,912	0.45	1.12	0.89	1.58	49.4
13	7,225	0.58	1.32	1.19	1.92	46.3
14	7,296	0.61	1.40	1.38	2.12	43.2
15	3,283	0.66	1.52	1.84	2.47	33.1

Table A3: Interstate comparison – 5- to 6-year-old and 12-year-old caries experience (adjusted for NSW)

State/ Territory	5–6-year-old deciduous					12-year-old permanent				
	Children	Decayed (d)		dmft		Children	Decayed (D)		DMFT	
	n	mean	SD	mean	SD	*n*	mean	SD	mean	SD
NSW	4,821	0.96	2.27	1.21	2.57	2,379	0.39	0.89	0.65	1.45
Vic	3,478	1.47	2.45	1.98	3.10	1,723	0.70	1.21	1.15	1.63
Qld	2,530	1.16	2.28	1.89	3.07	1,050	0.45	1.66	1.22	1.90
WA	1,367	0.87	1.88	1.38	2.50	759	0.29	1.35	0.77	1.33
SA	835	0.54	1.20	1.19	2.15	596	0.21	1.43	0.52	1.06
Tas	350	0.92	1.99	1.43	2.72	186	0.68	1.25	1.39	2.36
ACT	235	0.74	1.61	1.22	2.28	121	0.25	1.30	0.68	1.29
NT	182	1.45	2.69	2.00	3.18	99	0.41	1.30	0.79	1.58
Australia	**13,799**	**1.09**	**2.24**	**1.56**	**2.81**	**6,912**	**0.45**	**1.12**	**0.89**	**1.58**

Table A4: National summary of caries experience of 5- to 12-year-old children (adjusted for NSW)

State/ Territory	Children in sample	dmft		DMFT	
	n	mean	SD	mean	SD
NSW	19,183	1.03	2.17	0.34	1.04
Vic	13,889	1.83	2.70	0.56	1.13
Qld	11,396	1.82	2.72	0.49	1.16
WA	5,800	1.24	2.06	0.36	0.91
SA	4,479	1.14	1.97	0.23	0.67
Tas	1,489	1.31	2.26	0.51	1.27
ACT	960	1.14	1.95	0.31	0.84
NT	732	1.47	2.46	0.35	0.98
Australia	**57,928**	**1.42**	**2.43**	**0.42**	**1.06**

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