



The Child Dental Health Survey Western Australia 1998

AIHW Dental Statistics and Research Unit
The University of Adelaide

in collaboration with
Dental Services
Health Department of Western Australia

AIHW Catalogue No. DEN 78

AIHW Dental Statistics and Research Unit
The University of Adelaide
SOUTH AUSTRALIA 5005

Phone: (08) 8303 4051
(08) 8303 5027
Fax: (08) 8303 4858

The Australian Institute of Health and Welfare (AIHW) is an independent health and welfare statistics and information agency in the Commonwealth Health and Family Services portfolio. The Institute's mission is to inform community discussion and decision making through national leadership in the development and provision of authoritative and timely information on the health and welfare of Australians.

The AIHW Dental Statistics and Research Unit (DSRU) is a collaborative unit of the AIHW established in 1988 at The University of Adelaide. The DSRU aims to improve the oral health of Australians through the collection, analysis and reporting of dental statistics and research on the dental workforce, dental health status, dental practices and use of dental services.

Suggested citation

AIHW Dental Statistics and Research Unit (2000). *Child Dental Health Survey, Western Australia 1998*.

Acknowledgments

The data used for this report were collected in collaboration with Dental Services, Health Department of Western Australia. The support of Dental Services and its staff was crucial to the successful collection of data for this survey.

DSRU Staff:

Director:	Professor John Spencer
Acting Deputy Director:	Dr Kaye Roberts-Thomson
Senior Research Fellow:	Dr David Brennan
Research Officers:	Mr Jason Armfield Mr Knute Carter Dr Jane Chalmers Ms Liana Luzzi Mrs Judy Stewart
Research Associates:	Ms Kelly Jones Dr Suzanna Mihaildis
General Staff:	Mrs Leonie Jeffery Mrs Lorna Lucas Mrs Ruth Wass
Consultants:	Dr Mike Morgan (<i>University of Melbourne</i>) Dr Gary Slade (<i>University of North Carolina</i>)

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

The Director
AIHW Dental Statistics and Research Unit
The University of Adelaide
SOUTH AUSTRALIA 5005

Tel: (08) 8303 4051
Fax: (08) 8303 4858
E-mail: aihw.dsru@adelaide.edu.au
Website: <http://www.adelaide.edu.au/socprev-dent/dsru>

Contents

Purpose of this report	1
Source of subjects and sampling	1
Data preparation.....	1
Data analysis	1
Demographic composition of the sample	4
Deciduous teeth: age-specific caries experience	5
Permanent teeth: age-specific caries experience	7
All teeth: age-specific experience	8
Fissure sealants: age-specific experience	9
School Dental Service examinations.....	10
Percentage of children with dmft=0, DMFT=0 and d+D≥4	11
Caries experience by geographical location	12

Tables

Table 1: Sample size and assigned weight by Health Zone	3
Table 2: Demographic composition of the sample	5
Table 3: Deciduous teeth – decayed, missing and filled teeth by age.....	6
Table 4: Deciduous teeth – caries experience indices by age	6
Table 5: Permanent teeth – decayed, missing and filled teeth by age	7
Table 6: Permanent teeth – caries experience indices by age	8
Table 7: All teeth – age-specific experience	9
Table 8: Fissure sealants – age-specific experience.....	9
Table 9: School Dental Service examinations – age-specific distribution.....	10
Table 10: School Dental Service examinations – time since last visit.....	11
Table 11: Deciduous caries experience for 5–6-year-old children by Health (Analysis) Zone	12
Table 12: Permanent caries experience for 12-year-old children by Health (Analysis) Zone	13

Figures

Figure 1: Western Australia Health (Analysis) Zones	2
Figure 2: Percentage of children by region for sample and Western Australian population (aged 5–14).....	7
Figure 3: Percentage of children with dmft=0, DMFT=0 and d+D≥4.....	11

Abbreviations

d	deciduous decayed teeth
m	deciduous missing teeth
f	deciduous filled teeth
dmft	deciduous decayed, missing and filled teeth
D	permanent decayed teeth
M	permanent missing teeth
F	permanent filled teeth
DMFT	permanent decayed, missing and filled teeth
SD	standard deviation

Purpose of this report

Information listed in the tables of this report includes: the age and sex of children in the sample, their deciduous and permanent caries experience, frequency of fissure sealants, history of school dental service examinations, and regional statistics.

The following sections briefly describe each table and provide a simple summary statement highlighting differences between the 1998 and 1997 data. It is necessary to be cautious in drawing inferences concerning changes between the years. No formal hypothesis tests have been undertaken and descriptions of difference between years are intended as a guide to the reader rather than an evaluation of trends.

Source of subjects and sampling

The data used for this report were collected during the 1998 calendar year from Western Australia School Dental Service patients by dental therapists and dentists. A random sampling procedure was used to select approximately 1 in 11 patients. This was achieved by selecting those children whose birthday was on the 28th, 29th, 30th or 31st day of any month. Consequently, the data constitute a simple random sample. In 1998 there were 196,961 examinations in Western Australia and the number of records returned ($n = 16,911$) represented 75.6% of the target sample of 22,256 persons.

Data preparation

Data were collected on Optical Mark Reader (OMR) forms for scanning by Dental Services WA and then forwarded to the AIHW Dental Statistics and Research Unit (DSRU) for analysis.

The data were cleaned prior to analyses, both before and after it was received by DSRU, to correct data recording errors. In addition to a visual check of a number of cases with erroneous data, a series of linear regressions of age on the number of deciduous, permanent and total teeth revealed numerous outliers with standardised residuals greater than 3 standard deviations from the mean. A visual check allowed many of these cases to be corrected where it was evidently a data recording error. Five cases with apparent errors that could not be reconciled were deleted from the data set.

Data analysis

In contrast to previous Child Dental Health Survey Western Australia reports, data were weighted for the analyses to more accurately reflect the child population (5–14 years old) in Western Australia for 1998. A map showing the Health (Analysis) Zones of Western Australia is presented in Figure 1. Although the Health Department of Western Australia incorporates 32 individual Health Service areas, larger subdivisions of Western Australia are used for routine analytical purposes, each comprising a number of Health Services. The regions used here include six from rural areas (North West, Midwest, Midlands, Goldfields, Great Southern and South West) and three from metropolitan Perth and surrounds (North Metropolitan, East Metropolitan, and South Metropolitan – for the purpose of this report South East and South West Metropolitan have been combined).

All data were firstly weighted by months since last visit (which was used due to the under-representation of students on longer recall schedules in the sample). Unit records were further weighted to reflect the Estimated Residential Population (ERP) of 5–14-year-olds according to Statistical Divisions within Western Australia as at 30 June 1998 as published by the Australian Bureau of Statistics (1999). Statistical Divisions were mapped to the Health Zones as shown in Figure 1. Assignment of Health Zones to all unit records was based on the location of the clinic to which a child attended.

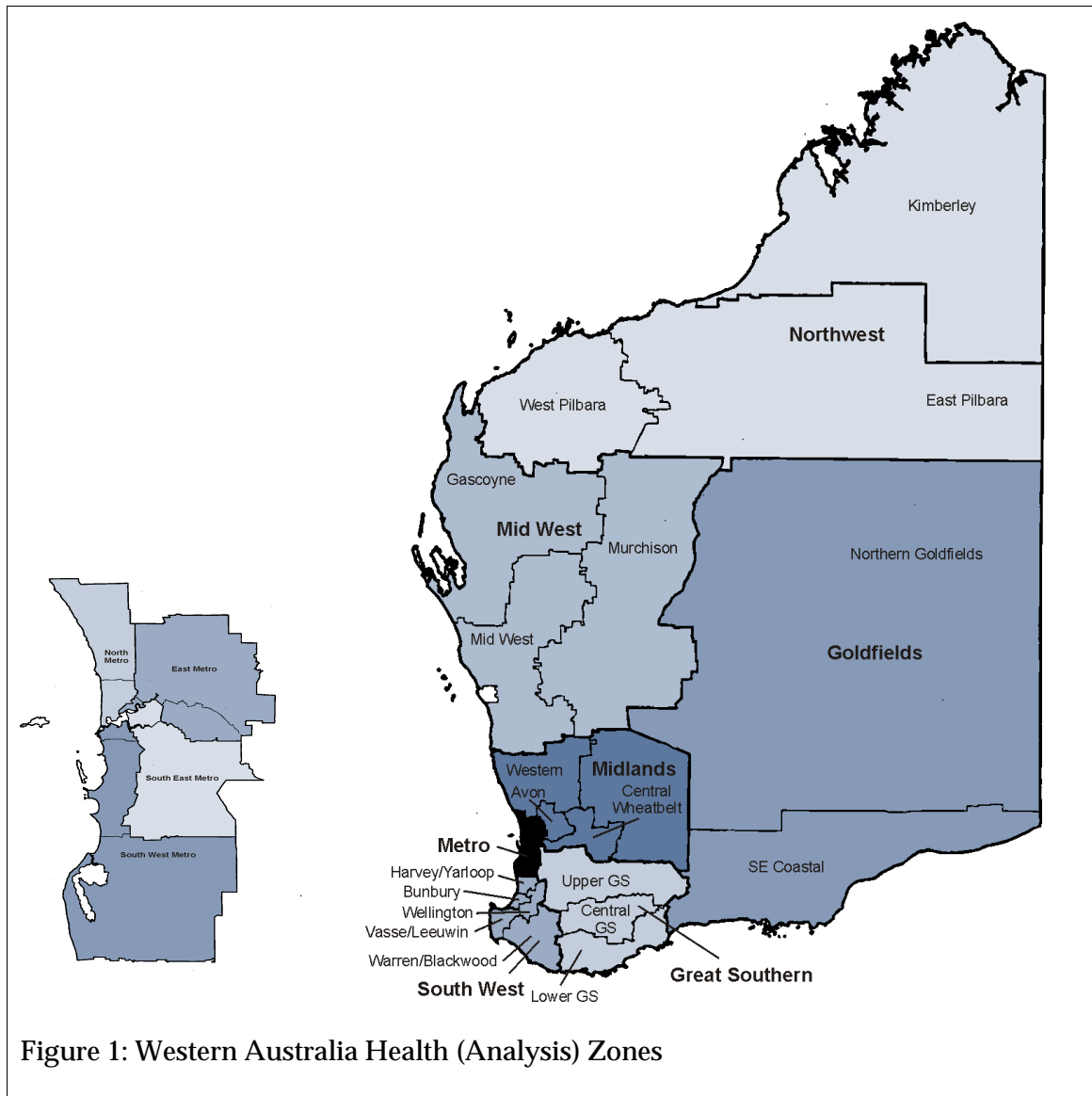
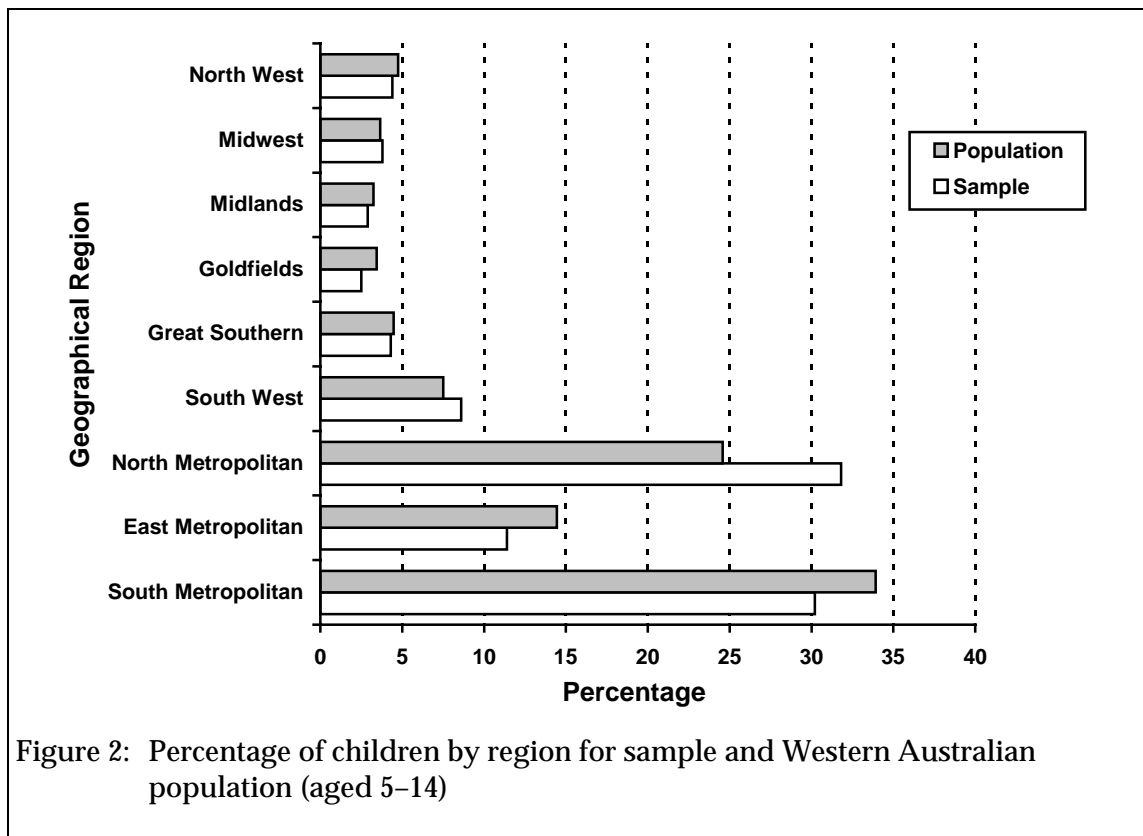


Figure 1: Western Australia Health (Analysis) Zones



The relative sample sizes and population estimates by Health Zone as a percentage of the total sample and of the Western Australian 5-14-year-old population are shown in Figure 2. While the results of sampling were relatively consistent with ERP by Health Zone, some differences are evident. Table 1 shows that as a result of weighting the North West, Midlands, Goldfields, East Metropolitan and South Metropolitan zones were weighted up in the analysis (mean weights = 1.07, 1.11, 1.37, 1.27 and 1.12 respectively) while Midwest, South West and North Metropolitan zones were weighted down (mean weights = 0.95, 0.87 and 0.77 respectively). The final unit record weights were applied such that the weighted contribution of each Health (Analysis) Zone was proportional to the percentage represented by that Health Zone in the Western Australian population.

The intended purpose of the weighting protocol was to obtain a sample with characteristics representative of those of the student population covered by the School Dental Service for 1998. It should be noted that all analyses up to and including Table 10 use the weighted distribution of children to derive results. However, months since last visit was not used to weight the data in Tables 9 and 10 because the results included time since last visit. Weighted numbers are rounded to the nearest whole number for ease of interpretation. No weighting is applied to regional analyses.

Table 1: Sample size and assigned weight by Health Zone

Region	Number Sampled	Weight
North West	746	1.07
Mid West	645	0.95
Midlands	494	1.11
Goldfields	424	1.37
Great Southern	729	1.03
South West	1,455	0.87
North Metropolitan	5,363	0.77
East Metropolitan	1,923	1.27
South Metropolitan	5,093	1.12

Previous Western Australian CDHS reports have included children with no deciduous teeth in the analyses of deciduous caries experience, effectively giving these children scores of 0 for decayed, missing and filled teeth. Including children with no deciduous teeth in analyses understates the total level of caries experience of children aged between 10 and 12. Similarly, children with no permanent teeth have previously been included in analyses of permanent caries experience, understating the level of permanent caries experience in younger children. As a result, these children are no longer included in the particular analyses, so comparisons of the deciduous caries experience of 10–12-year olds and the permanent caries experience of 4–6-year-olds between 1997 and 1998 should be interpreted with due appreciation of the change in caries experience calculations.

Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 40% and population estimates of these indices are considered to be statistically unreliable and should be interpreted with due care.

Demographic composition of the sample

The majority of children in the sample (74.3%) were aged between 5 and 12 years inclusive, with between 1,300 and 1,700 children in each individual age group within this range (see Table 2). However, children aged between 13 and 16 years, and those aged 5 were also represented in substantial numbers. Females and males were represented in similar proportions in most age groups although males were over-represented in the 5- and 7-year-old age groups, while females were over-represented in the 6-year-old age group.

The relatively small numbers of children aged either less than 4 years or greater than 16 years result in less reliability of computed statistics for those ages. Because of this and the small numbers of these children sampled they have been included in the adjacent age group for the purpose of analyses in this report.

Changes since 1997

There has been an appreciable increase of 5,756 students sampled in 1998 from 1997. The increase occurred across all principal age groups

Table 2: Demographic composition of the sample

Age (years)	Children in sample (unweighted)			Children in sample (weighted)		
	Males	Females	Persons	Males	Females	Persons
	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>
3	16	14	30	16	14	30
4	467	433	900	467	434	901
5	812	769	1,581	792	745	1,537
6	794	856	1,650	770	828	1,599
7	850	736	1,586	844	723	1,567
8	779	806	1,585	781	803	1,583
9	851	820	1,671	851	812	1,663
10	818	850	1,668	821	858	1,678
11	737	728	1,465	734	726	1,460
12	676	660	1,336	682	670	1,352
13	555	593	1,148	568	613	1,181
14	503	485	988	522	505	1,027
15	411	417	828	418	427	845
16	217	194	411	222	196	417
17	15	10	25	13	11	24
Total	8,501	8,371	16,872	8,501	8,365	16,866

Deciduous teeth: age-specific caries experience

The mean number of clinically detectable decayed teeth among children aged 5 to 12 years old declined steadily with age from 1.09 to 0.15 (see Table 3). In contrast, the mean number of filled teeth climbed to a peak for 9-year-olds of 1.21 before declining. In a similar trend, mean dmft increased from 1.21 for the youngest children to 1.68 for 9-year-old children before declining. These findings must be interpreted in view of the exfoliation of deciduous teeth as children grow older. On average, children with deciduous teeth present at age 10 had only 44% of the deciduous teeth as they had at age 4, and by age 12 this has declined to approximately 25%. From the age of 10 onwards increasingly higher proportions of children are without deciduous dentition. The number of teeth deemed missing due to caries was low for all age groups.

The percentage of caries experience due to decay (d/dmft) showed an age-associated decline, reducing from 91.6% for children less than 5 years old to 25.4% among 11-year-olds (Table 4). By comparison, the percentage of caries-free children (% dmft=0) shows a more modest reduction, from 65.1% among children up to 5 years old to 44.9% among 9-year-olds, before increasing to 68.2% for 12-year-olds.

Table 3: Deciduous dentition – decayed, missing and filled teeth by age

Age	Children	Teeth	Decayed (d)		Missing (m)		Filled (f)		dmft	
			n	mean	mean	SD	mean	SD	mean	SD
≤4	931	19.88	1.09	2.21	0.02	0.24	0.10	0.69	1.21	2.35
5	1,537	19.41	0.94	2.04	0.04	0.46	0.35	1.25	1.33	2.58
6	1,599	17.37	0.79	1.70	0.02	0.22	0.62	1.42	1.43	2.40
7	1,567	14.51	0.62	1.29	0.02	0.25	0.92	1.64	1.56	2.27
8	1,583	12.19	0.56	1.14	0.01	0.17	0.98	1.64	1.55	2.15
9	1,663	10.69	0.46	0.97	0.01	0.28	1.21	1.77	1.69	2.11
10	1,575	8.76	0.39	0.93	0.00	0.07	0.98	1.48	1.38	1.85
11	1,129	6.32	0.21	0.57	0.01	0.25	0.76	1.36	0.98	1.54
12	682	4.88	0.15	0.47	0.00	0.03	0.51	1.12	0.66	1.26

Table 4: Deciduous teeth – caries experience indices by age

Age	Teeth	d/dmft		dmft=0	
		mean	n	%	n
≤4	19.88	325	91.6	931	65.1
5	19.41	555	74.8	1,537	63.9
6	17.37	672	58.8	1,599	58.0
7	14.51	745	42.2	1,567	52.5
8	12.19	798	39.4	1,583	49.6
9	10.69	917	30.6	1,663	44.9
10	8.76	809	27.6	1,575	48.6
11	6.32	474	25.4	1,129	58.0
12	4.88	217	26.0	682	68.2

Changes since 1997

Between 1997 and 1998 there were increases in both clinically decayed and dmft teeth for children in most age groups. Up to the age of 10, only 6-year-olds did not experience an increase in clinically detectable decay. Despite this, the percentage of dmft expressed as decay was only higher for children up to the age of 4, 6-year-olds and 8-year-olds. The percentage of children with dmft=0 decreased for most age groups between 1997 and 1998.

Permanent teeth: age-specific caries experience

Clinically detectable decay in the permanent dentition generally increased with increasing age, although it remained relatively constant between the ages of 8 and 10 (Table 5). As in the deciduous dentition, permanent teeth judged as missing due to caries were few. The mean number of filled teeth rose steadily however, and from the age of 9 exceeded the mean number of decayed teeth across each age group. The mean DMFT also increased consistently across age groups, from 0.03 for children aged 5 years to 1.86 for children aged 16 years and older. The mean DMFT score for 12-year-old children was 0.77.

The percentage of DMFT due to decay (D/DMFT) and the percentage with no evidence of caries experience (DMFT=0) both declined across age groups (Table 7). More than 60% of children in all age groups up to 12 years of age were caries free although less than half the children aged over 14 had a DMFT score of zero.

Changes since 1997

Similar to changes in the deciduous dentition, the mean number of clinically detectable decayed teeth increased for several age groups between 1997 and 1998. However, apart from some of the younger ages, children aged 10 and over experienced a decrease in mean DMFT and from the age of 13 these decreases were substantial. Reflecting these trends, the percentage of DMFT scores expressed as clinically detectable decay increased for most age groups. However, the percentage of children with DMFT=0 remained relatively stable between 1997 and 1998, albeit increasing for children aged 14 years and over.

Table 5: Permanent dentition – decayed, missing and filled teeth by age

Age	Children <i>n</i>	Teeth			Decayed (D)		Missing (M)		Filled (F)		DMFT	
		mean	mean	SD	mean	SD	mean	SD	mean	SD		
5	583	3.64	0.03	0.21	0.00	0.04*	0.00	0.04*	0.03	0.23		
6	1,351	5.54	0.07	0.34	0.00	0.08*	0.00	0.06*	0.08	0.37		
7	1,546	8.50	0.13	0.47	0.00	0.06*	0.04	0.29	0.17	0.58		
8	1,580	11.22	0.19	0.54	0.02	0.16	0.13	0.47	0.33	0.76		
9	1,663	12.92	0.18	0.50	0.02	0.22	0.19	0.56	0.39	0.83		
10	1,678	15.87	0.18	0.51	0.05	0.35	0.25	0.71	0.47	0.98		
11	1,460	20.35	0.25	0.81	0.05	0.31	0.33	0.82	0.63	1.24		
12	1,352	24.09	0.29	0.77	0.06	0.35	0.42	0.90	0.77	1.33		
13	1,181	26.01	0.35	0.83	0.10	0.53	0.63	1.33	1.08	1.77		
14	1,027	27.03	0.41	1.05	0.13	0.65	0.77	1.37	1.30	1.92		
15	845	27.22	0.43	1.00	0.15	0.70	0.98	1.63	1.55	2.05		
≥16	441	27.26	0.58	1.56	0.18	0.81	1.10	1.71	1.86	2.66		

* relative standard error ≥ 40%

Table 6: Permanent dentition – caries experience indices by age

Age	Teeth	D/DMFT		DMFT=0	
	mean	<i>n</i>	%	<i>n</i>	%
5	3.64	11	95.3	583	98.1
6	5.54	80	90.8	1,351	94.1
7	8.50	167	78.2	1,546	89.2
8	11.22	324	58.3	1,580	79.5
9	12.92	404	47.0	1,663	75.7
10	15.87	448	41.5	1,678	73.3
11	20.35	465	39.1	1,460	68.2
12	24.09	507	34.9	1,352	62.5
13	26.01	531	35.2	1,181	55.1
14	27.03	494	30.7	1,027	51.9
15	27.22	468	29.3	845	44.6
≥16	27.26	257	27.7	441	41.8

All teeth: age-specific experience

Untreated clinically detectable caries in the combined deciduous and permanent dentitions existed for between 21.9% and 36.7% of children in all age ranges (see Table 7). The greatest likelihood of untreated decay occurred for 8-year-olds. The most extensive levels of untreated decay (4 or more deciduous or permanent teeth) occur in the younger age groups, with more than 5% of children aged 7 years or less being affected to this extent.

While no more than 4% of children aged 5 to 12 years had at least one deciduous or permanent tooth missing due to caries, much larger percentages presented with fillings, for which there is a consistent age-associated increase in children up to 9 years of age (51.6% with 1 or more fillings) followed by a decline to age 13 (33.3%) and a subsequent increase into the oldest age group sampled (44.8%). There was also an increase in the percentage of children with some caries experience in the combined deciduous and permanent dentition, from 35.2% for children aged up to 4 years old to 62.6% at age 9. From age of 9 there was an increase in the percentage of children with $dmft+DMFT=0$ to age 12, with a subsequent decline in percentages into the oldest age groups.

Changes since 1997

Despite earlier observations of increases in deciduous and permanent caries experience, there was a lack of consistent change in the percentages of children with decay experience between 1997 and 1998. However, decreases in caries experience were clearly evident for children age 14 years and older, with fewer children having teeth missing due to caries, fewer children having filled teeth and increased percentages of children with $dmft+DMFT=0$.

Table 7: All teeth – age-specific caries experience

Age	Children <i>n</i>	d + D =						m+M=0	f+F=0	dmft+ DMFT=0
		0	1	2	3	4	5+			
		%	%	%	%	%	%	%	%	
≤4	931	66.7	10.1	7.8	3.8	4.7	6.8	99.3	96.4	64.8
5	1,537	69.0	10.5	7.8	3.5	3.1	6.1	98.7	86.9	63.6
6	1,599	65.5	14.6	8.6	4.8	2.5	4.1	99.0	76.1	56.1
7	1,567	66.3	16.0	7.6	4.9	2.0	3.3	98.7	64.4	48.9
8	1,583	63.3	18.2	9.3	4.6	2.2	2.4	98.0	58.8	43.3
9	1,663	65.5	19.1	9.3	2.6	1.6	1.9	97.8	49.4	37.4
10	1,677	69.6	17.5	7.2	3.3	1.0	1.4	96.8	52.3	41.2
11	1,460	74.7	15.2	6.8	1.9	0.7	0.6	96.5	60.6	48.1
12	1,352	78.1	12.7	5.6	2.1	0.9	0.6	96.3	66.3	52.7
13	1,181	75.8	14.8	6.3	2.0	0.3*	0.8	94.8	66.7	51.6
14	1,027	77.8	12.3	5.5	1.5	0.8	2.0	95.1	63.7	50.0
15	845	75.1	14.5	5.5	2.7	1.3	0.8	93.7	59.5	42.9
≥16	441	74.4	11.9	6.9	3.0	1.4	2.2	93.2	55.2	41.7

Fissure sealants: age-specific experience

The age-specific experience with fissure sealants is shown in Table 8. Prevalence increased with age, ranging from 0.08 for 6-year-olds to 0.53 for 14-year-olds. There is some evidence of preferential use of fissure sealants among those with caries experience, indicated by the percentage of children with fissure sealants among those with caries experience compared to those with no caries experience. However, the percentages of children with fissure sealants by caries status do not differ appreciably.

Table 8: Fissure sealants – age-specific experience

Age	Children <i>n</i>	Sealants		Students with sealants			
		mean	SD	DMFT=0		DMFT≥1	
				<i>n</i>	%	<i>n</i>	%
6	1,650	0.08	0.64	1,565	2.2	85	3.5
7	1,586	0.13	0.83	1,410	4.6	176	5.7
8	1,585	0.30	1.36	1,258	9.3	327	11.6
9	1,671	0.31	1.24	1,258	11.8	413	11.9
10	1,667	0.32	1.63	1,209	9.7	458	12.7
11	1,465	0.26	1.51	998	9.5	467	12.2
12	1,336	0.40	2.36	830	10.6	506	12.5
13	1,148	0.47	2.48	621	9.8	527	17.1
14	988	0.53	2.71	514	12.3	474	15.6
15	828	0.49	2.69	366	11.7	462	13.0
16	436	0.43	2.16	181	12.7	255	15.3

Changes since 1997

The mean number of fissure sealants in 1998 was higher than that observed in 1997 for most age groups, with the extent of these increases being moderate to large for children aged between 12 and 15. However, despite the increase in mean number of fissure sealants present, there was a general decline in the percentage of children with fissure sealants between 1997 and 1998. The reduction was most apparent for children with some caries experience (DMFT \geq 1), occurring for 7 of the 11 age groups.

School Dental Service examinations

Table 9 demonstrates that the majority (at least 68%) of children 6 years of age or older had previously received examinations within the School Dental Service. A number of children in each age group were recorded as either having their first examination but were given a date of last examination or as not having their first examination but did not have a last examination date recorded. These children were not classified as either having had a previous examination or as having their first examination, and were not included in the results presented in Table 10.

Of those children known to have had a previous examination the majority had been 13–18 months previously (Table 10). A considerable minority of children also had their last examination 7–12 months previously. Few children had had their previous examination either less than 6 months or more than 18 months previously. The mean time since last visit increased slightly with age, ranging from 12.71 for 5-year-olds to 14.50 for children aged 14.

Changes since 1997

There are only small differences between 1997 and 1998 in the frequency of first examinations. Information on time since last examination was not available in 1997.

Table 9: School Dental Service examinations – age-specific distribution

Age	Children examined <i>n</i>	Previous examination in School Dental Service		
		Yes %	No %	Unsure %
≤4	931	2.6	94.4	3.0
5	1,582	30.7	90.6	8.7
6	1,644	70.8	13.4	15.8
7	1,579	72.2	8.5	19.3
8	1,587	68.7	7.2	24.0
9	1,654	71.5	5.3	23.2
10	1,673	70.5	5.2	24.3
11	1,457	69.4	5.6	24.9
12	1,326	74.1	4.6	21.3
13	1,148	73.1	2.8	24.1
14	998	74.8	3.1	22.1
15	830	76.3	2.4	21.4
16	435	84.4	2.7	12.9

Table 10: School Dental Service examinations – time since last visit

Age	Children	Months since last visit					mean	SD
		0-6	7-12	13-18	19-24	25+		
	<i>n</i>	%	%	%	%	%		
≤4	24	4.4*	47.3	45.1	0.0	3.2*	12.98*	4.27*
5	486	2.7	47.6	48.1	1.2	0.4*	12.71	2.78
6	1,164	1.7	38.6	55.6	3.4	0.7	13.45	2.93
7	1,140	1.6	34.6	56.6	5.8	1.4	13.84	3.41
8	1,091	0.7	35.7	56.2	5.8	1.5	13.92	3.24
9	1,182	0.9	33.1	58.1	6.1	1.8	14.10	3.35
10	1,179	0.5*	32.3	61.1	4.5	1.6	14.06	3.10
11	1,011	1.0	34.9	56.6	5.8	1.7	14.00	3.39
12	983	0.4*	31.0	59.6	7.6	1.4	14.31	3.25
13	839	0.4*	31.7	58.5	7.0	2.5	14.49	3.60
14	747	1.0	28.6	60.5	7.3	2.6	14.50	3.60
15	633	1.1	34.1	55.4	6.1	3.2	14.30	3.82
16	367	0.8*	37.8	51.2	6.5	3.6	14.20	3.87

* relative standard error ≥ 40%

Percentage of children with dmft=0, DMFT=0 and d+D≥4

Figure 3 presents data contained in Tables 4, 6 and 7 to summarise the extent of dental health (represented by percentage with no caries experience) and the extent of more extensive clinically detectable untreated decay.

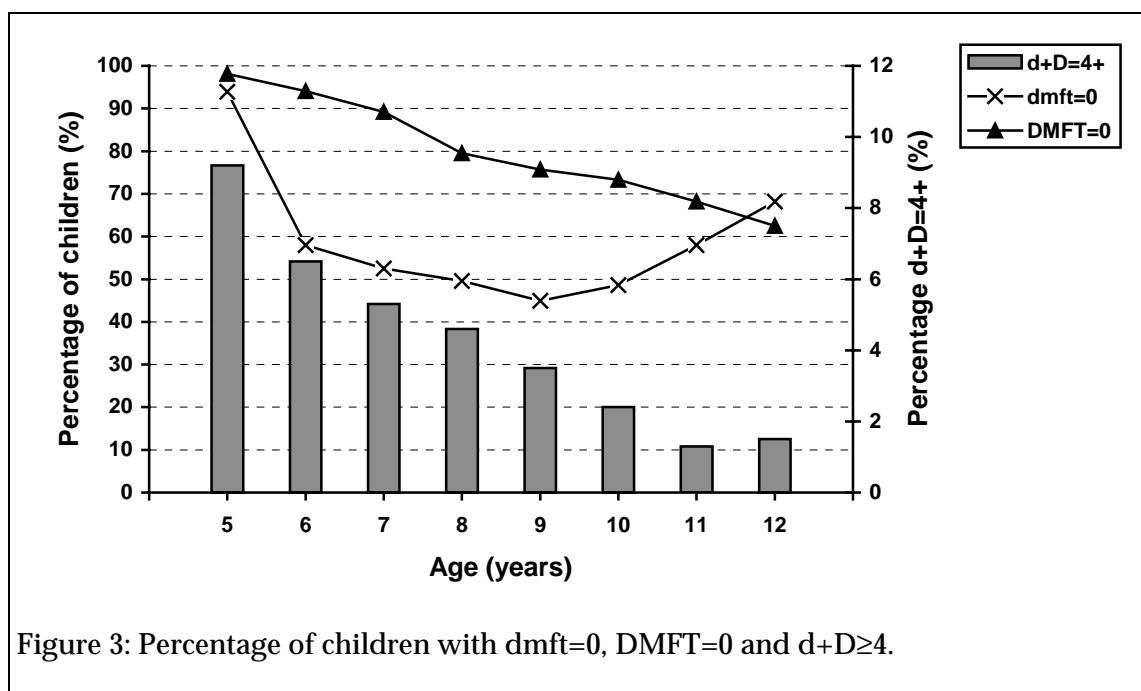


Figure 3: Percentage of children with dmft=0, DMFT=0 and d+D≥4.

Caries experience by geographical location

Table 11 presents deciduous caries experience data for each of the Health (Analysis) Zones used in this report. Considerable variation can be seen in caries experience for the selected 5–6-year-old age group across geographical areas. Among these children, mean decay scores in the deciduous dentition ranged from 0.70 in North Metropolitan to 1.26 in the North West zone. The mean number of teeth missing due to caries was also highest in the North West zone. However, the mean number of filled teeth was highest in the Midwest Health Zone, the lowest being in the Goldfields (mean = 0.32) and North Metropolitan (mean = 0.38) zones. Mean dmft scores were highest in the North West (mean = 1.91) and lowest in the North Metropolitan (mean = 1.10) zone. Consistent with these findings the percentage of children with dmft=0 was highest in North Metropolitan (65.8%) and lowest in the South West (49.7%), Great Southern (52.1%) and North West (53.0%) zones. The three metropolitan zones had the highest percentage of 5–6-year-old children with no history of caries experience in the deciduous dentition.

Table 11: Deciduous caries experience for 5-6-year-old children by Health (Analysis) Zone

	Children	Decayed (d)		Missing (m)		Filled (f)		dmft		dmft=0
	<i>n</i>	mean	SD	mean	SD	mean	SD	mean	SD	%
North West	151	1.26	2.20	0.07	0.49	0.57	1.37	1.91	2.94	53.0
Midwest	136	0.79	2.02	0.03	0.34	0.88	1.81	1.70	2.81	57.4
Midlands	95	0.92	1.95	0.06	0.46	0.47	1.09	1.45	2.50	60.0
Goldfields	82	1.10	2.25	0.00	0.00	0.32	0.95	1.41	2.47	59.8
Great Southern	142	0.93	1.95	0.03	0.20	0.63	1.48	1.59	2.51	52.1
South West	294	1.13	1.94	0.03	0.25	0.71	1.46	1.86	2.58	49.7
North Metropolitan	1,019	0.70	1.70	0.02	0.29	0.38	1.15	1.10	2.23	65.8
East Metropolitan	375	0.86	2.04	0.03	0.39	0.63	1.73	1.52	2.85	61.6
South Metropolitan	937	0.83	1.71	0.02	0.40	0.46	1.26	1.31	2.35	60.3

The mean number of clinically detectable decayed teeth in 12-year-olds (see Table 12) was also highest in the North West Health Zone, however, contrary to trends in the deciduous dentition, mean scores were lowest in the Midwest and Midlands zones. Again, the mean number of filled teeth were highest in the North West (mean = 0.52) and lowest in the Midlands zone (mean = 0.17) and this pattern was replicated in mean DMFT scores. Almost 80% of 12-year-olds in Midlands had no history of caries experience in their permanent dentition, while only 47.8% of 12-year-old children in the North West zone had a DMFT score of zero.

Table 12: Permanent caries experience for 12-year-old children by Health (Analysis) Zone

	Children	Decayed (D)		Missing (M)		Filled (F)		DMFT		DMFT=0
	<i>n</i>	mean	SD	mean	SD	mean	SD	mean	SD	%
North West	46	0.63	1.29	0.02	0.15	0.52	0.89	1.17	1.57	47.8
Midwest	53	0.15	0.46	0.06	0.30	0.47	0.80	0.68	0.98	54.7
Midlands	29	0.10	0.56	0.03	0.19	0.17	0.47	0.31	0.71	79.3
Goldfields	34	0.24	0.55	0.06	0.34	0.44	0.93	0.74	1.24	64.7
Great Southern	64	0.22	0.60	0.02	0.13	0.50	1.11	0.73	1.46	65.6
South West	129	0.26	0.66	0.09	0.45	0.44	0.90	0.79	1.26	58.9
North Metropolitan	434	0.25	0.72	0.06	0.37	0.45	0.99	0.76	1.41	65.2
East Metropolitan	150	0.31	0.77	0.04	0.23	0.44	0.84	0.77	1.22	60.0
South Metropolitan	397	0.33	0.79	0.08	0.42	0.43	0.93	0.84	1.40	61.2