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# **The Child Dental Health Survey, Northern Territory 2002**

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**Dental Statistics & Research Unit  
AUSTRALIAN RESEARCH CENTRE  
FOR POPULATION ORAL HEALTH**

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# 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**

This report continues the series of annual reports providing descriptive statistics concerning child dental health in the Northern Territory, and follows the 2000 report. The report contains tables describing the age and sex of children in the sample, their deciduous and permanent caries experience, frequency of fissure sealants, immediate treatment needs, history of school dental service examinations, caries experience of Indigenous and non-Indigenous children, and regional variations in caries experience.

The report also presents selected trends where available for the 5-year period between 1998 and 2002. However, it should be noted that no formal hypothesis tests have been undertaken and difference between years are intended as a guide to the reader rather than a statistical evaluation of trends.

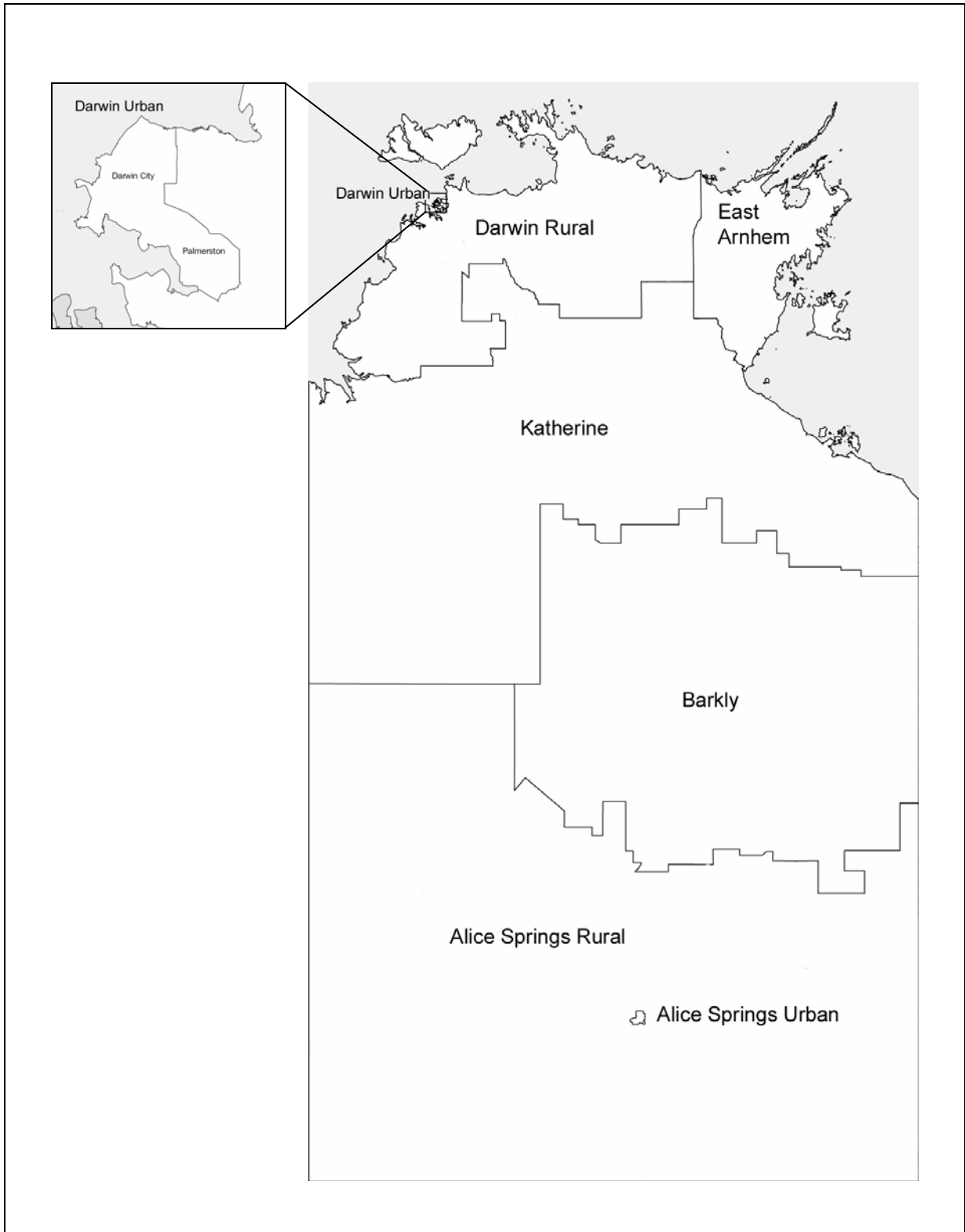
## **Sampling**

The data used for this report were collected during the 2002 calendar year from Northern Territory School Dental Service patients by dental therapists and dentists. A random sampling procedure was used to select approximately one in two (1:1.9) patients living in the Darwin area. In addition, all examined children from other areas were included in the sampling frame. The Darwin sampling procedure was achieved by selecting those children whose birthday was between the 1st and 16th (inclusive) of any month. Provision was also made for inclusion and numerical weighting of data from children whose date of birth was unknown.

The Estimated Resident Population (ERP) of 5-9-year-olds and 10-14-year-olds by Health Areas within the Northern Territory was determined from data available from the Australian Bureau of Statistics as at 30 June 2002. The four areas comprising Operations North (Darwin Urban, Darwin Rural, East Arnhem and Katherine) and the three areas comprising Operations Central (Barkly, Alice Springs Rural, Alice Springs Urban) were matched with the boundaries of Statistical Local Areas from which ERPs could be determined. Assignment of Health Areas to all unit records was based on the location of the clinic that a child attended. A map showing the Health Areas of the Northern Territory is presented in Figure 1.

The actual number of children sampled in comparison to the Estimated Resident Population in the Northern Territory according to the sampling frame by Health Area is shown in Figure 2.

Because the School Dental Service in the Northern Territory predominantly serves primary school children, it is expected that the numbers of 10-14-year-old children sampled would be substantially lower than the ERP of this age group in the Northern Territory. Nonetheless, the pattern shown for 5-9-year-olds is repeated, with Darwin Urban, Katherine and Alice Springs Urban sampling higher percentages of the population in those regions than Darwin Rural, East Arnhem, Barkly and Alice Springs Rural.



**Figure 1: Northern Territory Health Areas**



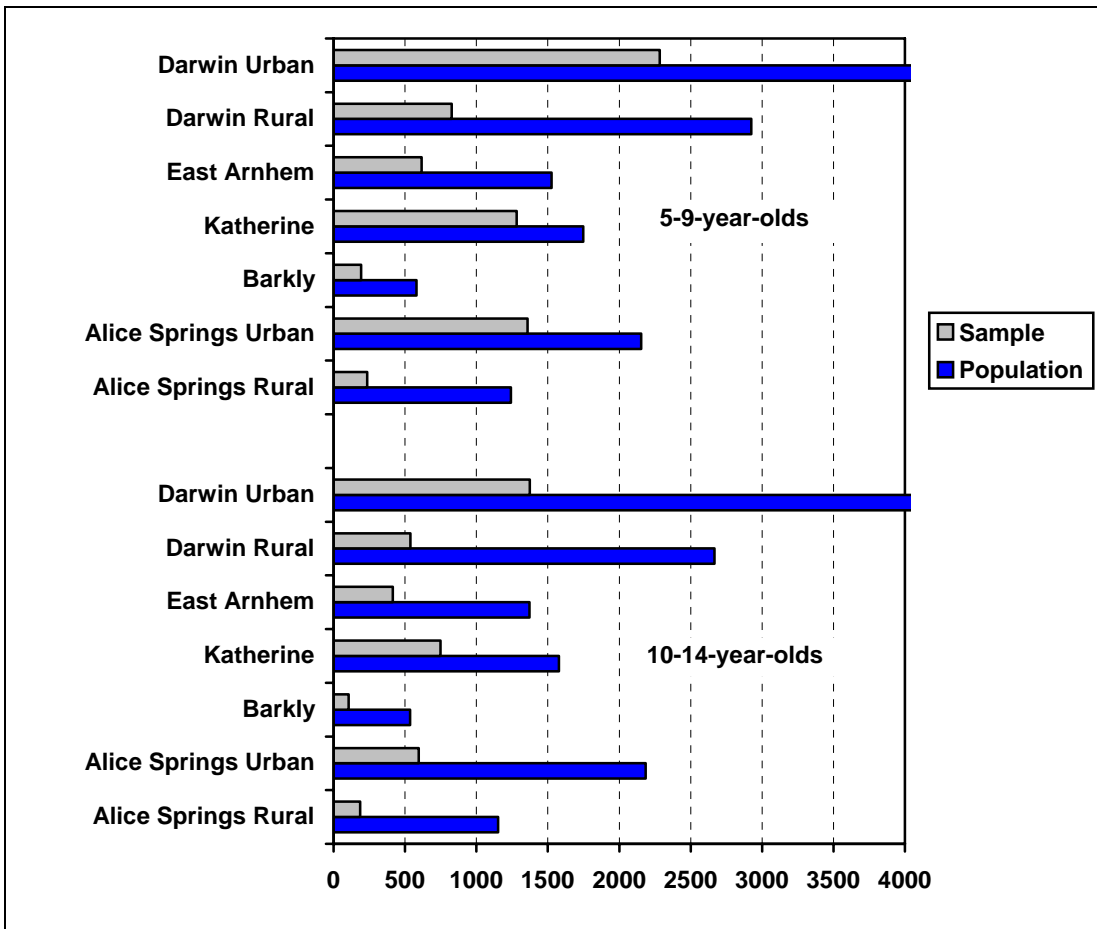
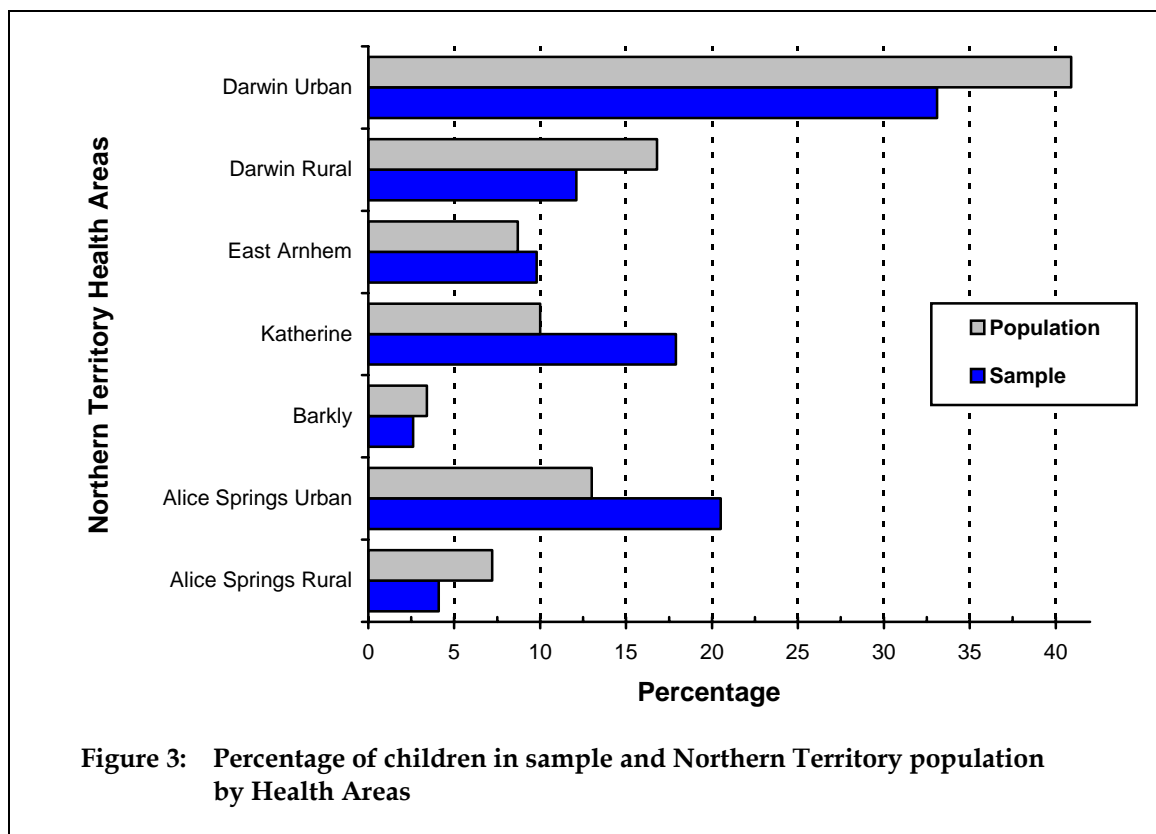


Figure 2: Estimated Resident Populations compared to actual sample obtained.

## Weighting

For 2002, all data were weighted by time since last school dental service examination. This was implemented to counteract potential bias caused by the under-representation of students on longer recall schedules or who receive School Dental Service examinations less frequently for other reasons. Children on shorter recall schedules generally have poorer oral health than children on longer recall schedules. Because only the first examination in a year was used for each child sampled, children with a previous examination within a 12 month period were assigned the same weight.

Unit records were also weighted to reflect the ERP of 5-14-year-olds according to Health Areas within the Northern Territory as at 30 June 2002 as available from the Australian Bureau of Statistics.



The relative sample sizes and population estimates by Health Areas as a percentage of the total sample and Northern Territory 5-14-year-old population are shown in Figure 3. While the results of sampling were mostly consistent with ERP by regions, as a result of sampling Darwin Urban, Darwin Rural, Barkly and Alice Springs Rural were weighted up in the analysis (mean weights = 1.24, 1.39, 1.30 and 1.75 respectively) while East Arnhem, Katherine and Alice Springs Urban received lower weights (mean weights = 0.89, 0.56 and 0.64 respectively). The final unit record weights were applied to all statistics computed for Tables 2 to 10 such that the weighted contribution of each Health Area was proportional to the percentage represented by the Estimated Residential Population in the Northern Territory population.

The purpose of the weighting protocol was to produce estimates that are representative of the population covered by the School Dental Service for 2002. However, the estimates in this report cannot be applied to children who are not enrolled in the Northern Territory School Dental Service. Consequently, the results in this report do not represent the complete Northern Territory child population, but only that portion of the population that is enrolled in the Northern Territory School Dental Service. In the Northern Territory, a very high percentage of 5-12-year-olds but a much lower percentage of 13-15-year-olds are enrolled in the School Dental Service. Hence, estimates for Primary School aged children in this report may not differ substantially from estimates that would be obtained if all children in the State were surveyed, however estimates for Secondary School children may vary from those obtained if all the children in the State were surveyed.

It should be noted that all analyses use the weighted distribution of children to derive results. However, months since last visit was not used to weight the data in Tables 11 and 12 because the results included time since last visit. Also, analyses by Indigenous status (Tables 13–16) and the regional analyses in Tables 17 and 18 received no weighting. Where weighting is applied, weighted numbers are rounded to the nearest whole number for ease of interpretation.

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

## Demographic composition of the sample

Approximately 32% of the obtained and processed records were from the Darwin area (see Table 1). The majority of children in the sample (93.1%) were aged between 4 and 12 years inclusive, with approximately equivalent numbers in individual age groups within this range. Females and males were represented in approximately similar proportions across all ages.

**Table 1: Demographic composition of the sample**

Age	Darwin region, known date of birth			Non-Darwin or age only known			Total number of children in sample (weighted)		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
2	6	4	10	17	15	32	22	15	37
3	16	26	42	125	117	242	123	126	249
4	208	164	372	408	392	800	567	501	1,068
5	209	207	416	464	431	895	637	619	1,256
6	226	216	442	465	419	884	646	613	1,259
7	221	204	425	491	447	938	678	621	1,298
8	231	222	453	471	463	934	693	680	1,373
9	229	224	453	487	468	955	740	673	1,414
10	230	207	437	451	472	923	708	689	1,397
11	212	204	416	453	439	892	682	666	1,347
12	209	200	409	275	289	564	557	532	1,089
13	49	46	95	75	92	167	153	165	317
14	1	0	1	28	30	58	43	40	83
15	1	1	2	12	26	38	17	52	69
16	2	1	3	15	27	42	23	50	77
17	0	1	1	2	10	12	3	17	20
<b>Total</b>	<b>2,050</b>	<b>1,927</b>	<b>3,977</b>	<b>4,239</b>	<b>4,137</b>	<b>8,376</b>	<b>6,293</b>	<b>6,060</b>	<b>12,353</b>

The distribution of the sample was closely related to the main target groups of children served by the School Dental Service in the Northern Territory. The distribution also illustrates that the sample was representative of primary school aged children, rather than all children in the Northern Territory. The small numbers of children aged 13 years or more resulted in less reliability of computed statistics for those ages. It should be noted that those children who are outside the main school dental service target groups may differ on key characteristics and may be less representative of their respective age groups in the Northern Territory population.

## Birthplace of children and mothers

The birthplace of both the sampled child and child's mother is presented in Table 2. The majority of children (95.5%) and mothers (84.2%) were born in Australia. Very small percentages of children were born outside of Australia. A total of 5.3% of mothers were born in South East Asia and a further 5.9% were born in the United Kingdom, Ireland, or another English speaking country.

**Table 2: Birthplace of children and mothers**

	Children		Mothers	
	Number	%	Number	%
Australia	11,790	95.5	10,407	84.2
UK and Ireland	40	0.3	330	2.7
Other English speaking	144	1.2	396	3.2
Southern European	36	0.3	101	0.8
Other European	22	0.2	87	0.7
Middle East	7	0.1	23	0.2
South East Asia	139	1.1	650	5.3
Other Asia	37	0.3	109	0.9
Other	53	0.4	133	1.1
Not recorded	85	0.7	118	1.0

## Indigenous status of children and mothers

A substantial percentage of children and mothers were of Indigenous origin, accounting for 37.8% and 36.1% of the sample respectively (see Table 3).

**Table 3: Indigenous status of children and mothers**

	Children		Mothers	
	Number	%	Number	%
Non-Indigenous	7,603	61.5	7,771	62.9
Indigenous	4,666	37.8	4,465	36.1
Not Known	85	0.7	118	1.0

## Deciduous teeth

The mean number of clinically decayed teeth among children aged 5 to 10 years ranged from 1.86 to 0.71 and was lower among older children (see Table 4). After peaking at age 5, there was a consistent decline in clinically detectable new decay with age. In contrast, the mean number of filled teeth increased from 0.12 among children up to 4 years of age to 0.91 for 8- and 9-year-olds, before declining. The mean number of missing teeth was generally low across all age groups with mean scores peaking at 0.09 for a few age groups. The trend in mean dmft scores with age was similar to that for the filled score, increasing to 2.37 for 7-year-olds before decreasing to 0.31 for 12-year-olds. This decline in caries experience with age should be interpreted in view of the progressive exfoliation of deciduous teeth as children grow older.

The ratio of untreated decayed teeth to the total count of decayed, missing, and filled teeth serves as an indicator of how well a child's dental needs are being met. This is presented in Table 5 as the mean of individual children's d/dmft index. The percentage of caries experience due to decay (mean d/dmft index) showed a strong and consistent age-associated decline from 89.9% among children up to 4 years old to 48.6% among 9-year-olds. By comparison, the percentage of caries-free children (% dmft = 0) showed a more modest reduction from 59.2% among children up to 4 years of age to 38.9% among 8-year-olds, before increasing to 84.9% for 12-year-olds. The considerable increase for children from the age of 10 is a result of counting children with no deciduous teeth as having a dmft score of 0.

The ratio of untreated decayed teeth to the total count of decayed, missing, and filled teeth can also be expressed as the ratio of total decay in the population to total decayed, missing or filled teeth in the population (d/dmft ratio), and this is presented in Figure 4. Unlike the mean d/dmft index, the d/dmft ratio refers to the proportion of teeth with caries in the population. Thus, the ratio for 6-year-olds indicates that, among 100 teeth with caries experience among 6-year-olds, 66.7% had untreated

**Table 4: Deciduous dentition – decayed, missing and filled teeth by age**

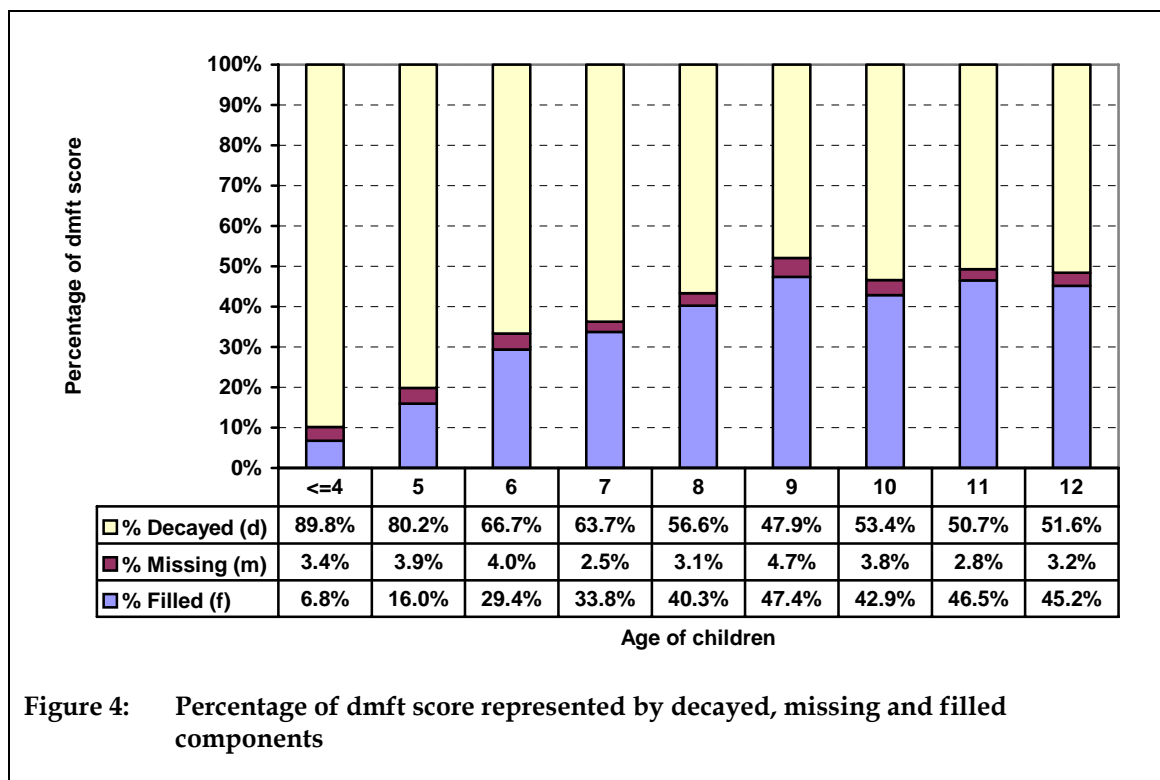
Age	Children <i>n</i>	Decayed (d)		Missing (m)		Filled (f)		dmft	
		mean	SD	mean	SD	mean	SD	mean	SD
≤4	1,354	1.59	2.82	0.05	0.49	0.12	0.71	1.77	2.98
5	1,258	1.86	2.91	0.09	0.54	0.37	1.19	2.32	3.30
6	1,259	1.52	2.54	0.09	0.58	0.67	1.47	2.28	3.14
7	1,298	1.51	2.42	0.06	0.38	0.80	1.55	2.37	2.96
8	1,373	1.28	2.06	0.07	0.41	0.91	1.61	2.26	2.68
9	1,414	0.92	1.66	0.09	0.50	0.91	1.57	1.92	2.43
10	1,397	0.71	1.38	0.05	0.34	0.57	1.27	1.33	1.98
11	1,347	0.36	0.98	0.02	0.20	0.33	0.90	0.71	1.40
12	1,089	0.16	0.62	0.01*	0.15*	0.14	0.57	0.31	0.97

\* relative standard error ≥ 40%

**Table 5: Deciduous dentition - caries experience indices by age**

Age	Mean d/dmft index		dmft = 0	
	n	%	n	%
≤4	552	89.9	1,354	59.2
5	666	80.3	1,258	47.0
6	694	67.1	1,259	44.9
7	761	60.8	1,298	41.4
8	840	57.6	1,373	38.9
9	829	48.6	1,414	41.3
10	668	55.0	1,397	52.2
11	406	52.7	1,347	69.8
12	165	52.0	1,089	84.9

decay. The d/dmft ratio shows a similar pattern to that of the mean dmft index, with the percentage d/dmft reducing across increasingly older age groups, declining from 89.8% for the youngest children to 47.9% among 9-year-olds. The percentage of dmft accounted for by filled teeth shows the opposite trend, increasing from 6.8% for children aged up to including 4 years old to 47.4% for 9-year-olds.



## Permanent teeth

The mean number of clinically decayed permanent teeth was consistently smaller than the mean number of decayed deciduous teeth, and increased across the range of 6 to 14 years from 0.08 to 1.14 (Table 6). The number of teeth missing due to caries remained low across most ages. The mean number of filled permanent teeth ranged from 0.01 for children aged 6 to 0.49 for 14-year-olds. In addition, the mean DMFT increased quite consistently across age groups, from 0.09 for 6-year-olds to 1.77 for children aged 14. The mean DMFT score for 12-year-old children was 0.84, an increase of about 15% from 2001.

The percentage of children with no clinically detectable caries (DMFT = 0) generally declined across age groups (see Table 7) while the percentage of DMFT due to decay (mean D/DMFT index) declined from 90.0% for 5-year-olds to 51.4% for 12-year-olds, before increasing for the two oldest age groups. For children aged 12 or less more than 60% of children in any age group had no caries experience in the permanent dentition.

The D/DMFT ratio, which refers to the proportion of teeth with caries experience in the population having untreated decay, declined from 88.9% for 6-year-olds to 53.6% for 12-year-olds (Figure 5).

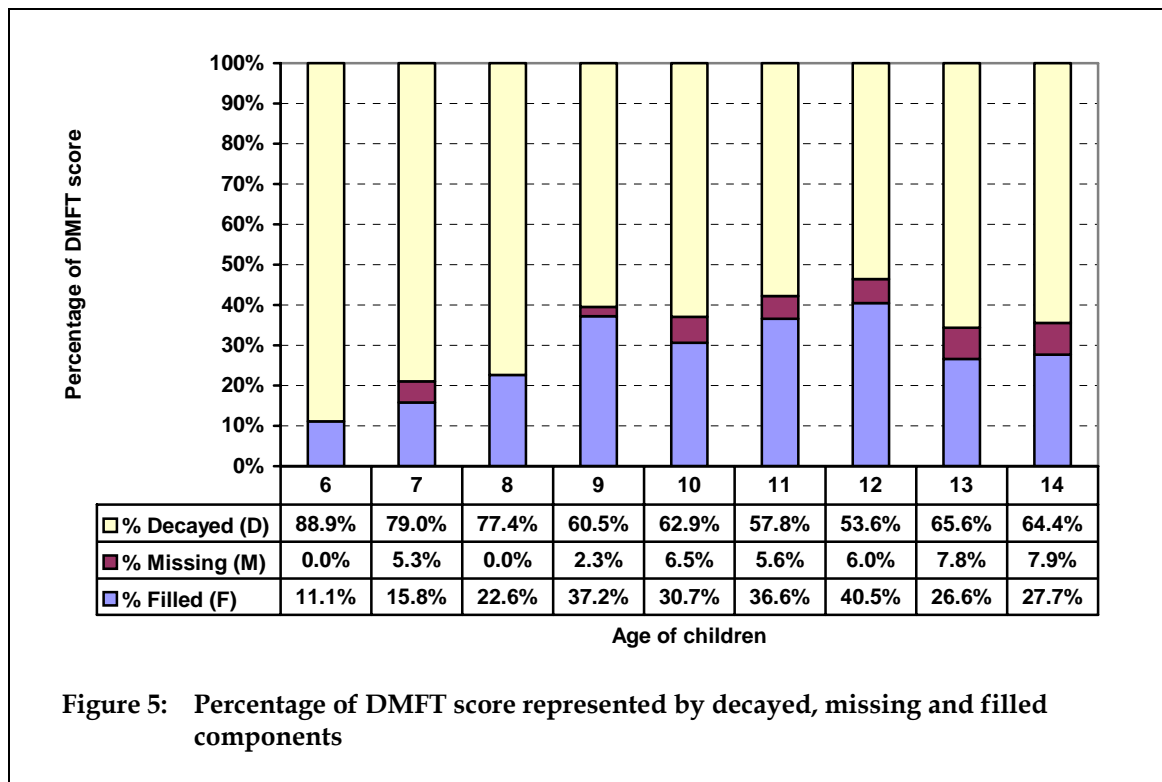
**Table 6: Permanent dentition –decayed, missing and filled teeth by age**

Age	Children <i>n</i>	Decayed (D)		Missing (M)		Filled (F)		DMFT	
		mean	SD	mean	SD	mean	SD	mean	SD
5	1,258	0.02	0.19	–	–	0.01*	0.10*	0.02	0.28
6	1,259	0.08	0.39	0.00	0.04*	0.01*	0.14*	0.09	0.44
7	1,298	0.15	0.54	0.00	0.04*	0.03	0.25	0.19	0.61
8	1,373	0.24	0.72	0.00	0.08*	0.07	0.32	0.31	0.82
9	1,414	0.26	0.73	0.01	0.10	0.16	0.57	0.43	0.94
10	1,397	0.39	0.96	0.04	0.34	0.19	0.60	0.62	1.22
11	1,347	0.41	1.01	0.04	0.29	0.26	0.71	0.71	1.33
12	1,089	0.45	1.12	0.05	0.39	0.34	0.78	0.84	1.49
13	317	0.84	2.16	0.10	0.51	0.34	0.96	1.28	2.45
14	83	1.14	1.72	0.14*	0.65*	0.49	1.08	1.77	2.07

\* relative standard error  $\geq$  40%

**Table 7: Permanent dentition - caries experience indices by age**

Age	Mean D/DMFT index		DMFT = 0	
	<i>n</i>	%	<i>n</i>	%
5	13	90.0	1,258	99.0
6	69	88.2	1,259	94.5
7	151	81.1	1,298	88.4
8	250	73.4	1,373	81.8
9	342	58.2	1,414	75.8
10	417	61.2	1,397	70.2
11	442	55.8	1,347	67.2
12	405	51.4	1,089	62.8
13	139	57.7	317	56.2
14	47	65.2	83	42.6





## All teeth

Untreated clinically detectable caries in the combined deciduous and permanent dentitions (see Table 8) existed for between 30.1% and 51.2% of children in all age groups. The greatest likelihood of untreated decay occurred for children aged 18 years old. However, the most extensive levels of untreated decay (4 or more deciduous or permanent teeth) occur in the younger age groups, with approximately 16–21% of children aged up to 7 years of age being affected to this extent.

More than 92% of children had no deciduous or permanent teeth missing due to caries. However, smaller percentages avoided fillings with between 13.6% and 41.8% of 5–14-year-old children having at least one filling. There was a decline in the percentage of children with no clinically detectable caries experience in either the deciduous or permanent dentition, from 59.0% up to age 4 to 33.5% at age 8. Above the age of 8, the percentage increased to a high of 52.8% for 12-year-olds.

**Table 8: 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	1,354	61.7	7.1	8.4	4.3	5.4	13.1	98.1	95.1	59.0
5	1,258	52.7	11.6	8.9	5.9	5.0	15.8	96.5	86.4	46.6
6	1,259	53.2	14.2	9.5	6.6	4.2	12.2	96.6	74.8	43.3
7	1,298	51.9	14.4	9.6	5.7	4.9	13.5	96.1	68.5	38.3
8	1,373	48.8	18.1	10.5	8.1	4.9	9.5	95.5	63.8	33.5
9	1,414	55.2	19.0	9.5	5.3	3.9	7.1	95.2	58.2	33.8
10	1,397	56.6	17.3	10.3	5.9	3.7	6.2	95.4	67.3	39.1
11	1,347	65.2	14.9	9.8	5.2	2.0	2.9	97.0	70.6	47.8
12	1,089	69.9	16.8	5.7	2.9	1.5	3.2	97.3	73.5	52.8
13	317	64.6	14.1	7.4	5.6	3.3	5.0	94.5	77.4	48.9
14	83	54.2	17.3	8.6	9.4	6.2*	4.3*	92.6	76.6	39.0

\* relative standard error ≥ 40%

## Fissure sealants

The mean number of fissure sealants increased for children up to 13 years of age, before decreasing (see Table 9). There was evidence of preferential use of fissure sealants among those with caries experience: children aged between 7 and 13 years old with some caries experience (DMFT = 1+) were more likely to have fissure sealants than were children with DMFT = 0.

**Table 9: Fissure sealants – age-specific experience**

Age	Children <i>n</i>	Sealants		Children with sealants			
				DMFT = 0		DMFT ≥ 1	
		mean	SD	<i>n</i>	%	<i>n</i>	%
6	1,259	0.07	0.47	1190	1.7	69	15.4
7	1,298	0.31	0.97	1147	9.3	151	24.8
8	1,373	0.56	1.26	1124	17.4	250	27.6
9	1,413	0.87	1.53	1072	25.2	342	38.1
10	1,396	0.95	1.54	979	30.7	417	34.8
11	1,347	1.09	1.73	906	33.8	442	39.9
12	1,088	1.14	1.80	683	30.4	405	46.4
13	317	1.30	2.33	178	26.2	139	41.4
14	83	0.75	1.74	35	15.7	47	25.1

\* relative standard error ≥ 40%

## Immediate treatment needs

Details of immediate treatment needs are shown in Table 10. This classification is accorded to children who have, or who are likely to develop within four weeks, oral pain or infection. Immediate treatment needs were infrequent in the key age groups (5 to 12 years). Fewer than 6% of children in this age range required immediate treatment, with the percentages across age groups ranging from 4.4% to 5.9%. The small group of children with immediate treatment needs had a high mean dmft experience.

**Table 10: Immediate treatment needs: age-specific distribution**

Age	Children		dmft				d+D =				
							0	1	2	3	4+
	<i>n</i>	%	Mean	SD	Mean	SD	%	%	%	%	%
5	74	5.9	4.96	4.03	–	–	3.0*	33.7	8.0	4.6*	50.7
6	68	5.4	5.76	4.44	0.26	0.62	5.9*	22.1	8.7	12.1	51.2
7	77	5.9	5.92	3.73	0.40	0.77	3.6*	9.7	14.5	7.2	65.0
8	80	5.8	4.17	3.05	0.82	1.29	1.5*	24.9	15.5	12.1	45.9
9	65	4.6	4.56	3.36	0.86	1.15	0.0	26.9	12.9	13.4	46.8
10	61	4.4	2.69	2.41	1.57	1.76	5.6*	18.0	23.3	10.3	42.8
11	67	5.0	1.37	2.27	2.21	1.83	7.5	15.0	26.7	22.3	28.4
12	48	4.4	0.63	1.17	2.54	2.20	4.7*	36.4	15.7	23.9	19.3
13	8	2.6	0.30*	0.76*	3.46	3.98	27.9*	29.0*	14.9*	0.0	28.2*
14	6	7.4	–	–	3.91	1.83	0.0	0.0	0.0	77.3	22.7*

\* relative standard error  $\geq 40\%$

## School Dental Service examinations

Table 11 describes the percentage of examinations of children that were initial or non-initial examinations in the Northern Territory School Dental Service. As expected, the percentage of children having initial examinations was highest for the youngest ages, indicating that most children are enrolled during their early school years.

Table 12 refers only to children with known previous examinations and indicates their distribution according to time since last dental examination. Between the ages of 5 and 12 there was a general decline in the percentages of children having received an examination within a year of their previous examination, from 55.1% to 38.0%. About one third of children had been examined last within a 13 to 18 month period. Overall, only about a quarter of children were examined more than 18 months since their previous examination, although among older age groups this became increasingly common. Mean examination intervals ranged from just under one year (10.7 months) for the youngest children to 21 months for children aged 14 years.

**Table 11: School Dental Service examinations – age-specific distribution**

Age	Children examined <i>n</i>	Previous examination in School Dental Service		
		No %	Yes %	Unknown %
≤4	1,500	56.6	20.5	22.9
5	1,411	25.5	47.2	27.3
6	1,405	9.9	68.2	21.9
7	1,435	7.8	74.1	18.1
8	1,462	6.6	73.5	19.9
9	1,463	5.5	79.2	15.4
10	1,420	4.9	77.9	17.2
11	1,348	4.3	80.0	15.7
12	1,110	2.9	79.3	17.8
13	316	3.5	79.1	17.3
14	76	0.7*	68.8	30.4

**Table 12: School Dental Service examinations – time since last visit**

Age	Children <i>n</i>	Months since last visit					mean	SD
		0–6 %	7–12 %	13–18 %	19–24 %	25+ %		
≤4	307	18.6	53.9	17.1	8.1	2.3*	10.67	5.19
5	665	7.9	47.2	32.2	9.3	3.4	13.29	5.71
6	959	5.7	46.1	34.6	8.9	4.6	13.74	5.42
7	1,063	5.5	44.3	30.7	13.5	6.0	14.26	5.80
8	1,075	5.4	41.1	34.8	10.5	8.2	14.96	7.39
9	1,158	5.8	38.0	34.8	12.0	9.4	15.49	8.30
10	1,107	4.7	37.3	33.3	15.1	9.7	16.13	9.29
11	1,079	5.0	36.5	32.8	15.0	10.8	16.20	8.79
12	880	2.4	35.6	37.5	13.3	11.2	16.68	10.15
13	250	3.2	35.6	31.3	13.1	16.9	17.99	11.43
14	52	10.1*	24.2	14.1	21.2	30.3	20.99	12.73

\* relative standard error ≥ 40%

## Deciduous teeth of non-Indigenous and Indigenous children

Tables 13 and 14 describe the age-specific indices of deciduous caries experience for non-Indigenous and Indigenous children respectively. Indigenous children up to the age of 10 years old had between 3 and 4 times more clinically detectable decay and dmft scores 1½ to 3½ times higher than non-Indigenous children. Non-Indigenous children had a higher mean filled score for all age groups, however. Considerably fewer Indigenous children were found to have had no history of caries experience. In addition, the percentage of the dmft index attributed to decay (mean d/dmft index) was substantially higher among Indigenous children.

**Table 13: Deciduous teeth – age-specific caries experience of non-Indigenous children**

Age	Children <i>n</i>	Decayed (d)		Missing (m)		Filled (f)		dmft		d/dmft	dmft = 0
		mean	SD	mean	SD	mean	SD	mean	SD	%	%
≤4	917	0.84	2.09	0.05	0.49	0.13	0.72	1.02	2.33	83.1	72.3
5	812	0.90	1.87	0.05	0.39	0.40	1.24	1.36	2.46	70.1	60.9
6	868	0.81	1.62	0.05	0.42	0.67	1.47	1.53	2.55	57.9	56.2
7	819	0.70	1.37	0.06	0.34	0.86	1.55	1.61	2.31	45.1	51.2
8	817	0.64	1.15	0.08	0.44	1.02	1.67	1.74	2.29	42.8	46.4
9	879	0.53	1.03	0.09	0.51	1.03	1.65	1.65	2.20	35.6	45.8
10	825	0.36	0.87	0.04	0.27	0.65	1.36	1.06	1.77	37.2	60.4
11	823	0.20	0.58	0.02*	0.20*	0.42	1.03	0.64	1.31	35.6	72.3
12	657	0.09	0.44	0.01*	0.18*	0.17	0.61	0.27	0.92	37.0	86.7

\* relative standard error ≥ 40%

**Table 14: Deciduous teeth – age-specific caries experience of Indigenous children**

Age	Children <i>n</i>	Decayed (d)		Missing (m)		Filled (f)		dmft		d/dmft	dmft = 0
		mean	SD	mean	SD	mean	SD	mean	SD	%	%
≤4	432	3.20	3.44	0.06	0.48	0.12	0.70	3.38	3.52	95.6	31.1
5	435	3.65	3.60	0.16	0.75	0.31	1.09	4.12	3.88	89.7	21.7
6	385	3.15	3.36	0.15	0.71	0.66	1.44	3.96	3.63	78.8	19.4
7	475	2.89	3.10	0.08	0.43	0.69	1.53	3.65	3.46	78.4	24.8
8	553	2.23	2.66	0.07	0.35	0.74	1.49	3.04	3.01	73.7	27.5
9	524	1.56	2.21	0.08	0.50	0.71	1.38	2.35	2.71	66.2	33.9
10	563	1.21	1.78	0.07	0.43	0.45	1.12	1.73	2.17	72.1	40.2
11	522	0.62	1.35	0.02*	0.19*	0.18	0.64	0.81	1.54	74.6	65.8
12	428	0.25	0.81	0.00	0.08*	0.11	0.49	0.36	1.04	68.9	81.9

\* relative standard error ≥ 40%

## Permanent teeth of non-Indigenous and Indigenous children

Differences in permanent caries experience among non-Indigenous and Indigenous children are comparable to the profile in the deciduous dentition (see Tables 15 and 16). Indigenous children had a higher mean number of clinically decayed permanent teeth and a higher mean DMFT score. Indigenous children also had a higher percentage of caries experience attributed to decay (D/DMFT) and lower percentages of children with no caries experience in their permanent dentition (DMFT = 0).

**Table 15: Permanent teeth – age-specific caries experience of non-Indigenous children**

Age	Children <i>n</i>	Decayed (D)		Missing (M)		Filled (F)		DMFT		D/DMFT	DMFT=0
		mean	SD	mean	SD	mean	SD	mean	SD	%	%
5	812	0.00	0.06*	–	–	–	–	0.00	0.06*	100.0	99.8
6	868	0.06	0.35	–	–	0.01*	0.10*	0.07	0.36	84.6	95.4
7	819	0.11	0.45	0.00	0.04*	0.04	0.28	0.15	0.55	73.9	90.8
8	817	0.13	0.49	0.00	0.05*	0.07	0.33	0.20	0.63	61.7	87.8
9	879	0.14	0.53	0.01*	0.09*	0.18	0.58	0.33	0.81	39.7	80.2
10	825	0.16	0.55	0.02*	0.25*	0.21	0.60	0.39	0.89	42.9	77.5
11	823	0.20	0.61	0.02	0.21	0.29	0.76	0.51	1.08	40.2	73.8
12	657	0.24	0.73	0.07	0.48	0.36	0.82	0.67	1.28	35.7	68.3
13	168	0.23	0.64	0.12	0.65	0.36	0.90	0.72	1.22	34.4	61.9
14	16	0.68*	1.25*	–	–	0.73*	1.35*	1.41	1.86	51.2	60.0

\* relative standard error  $\geq$  40%

**Table 16: Permanent teeth – age-specific caries experience of Indigenous children**

Age	Children <i>n</i>	Decayed (D)		Missing (M)		Filled (F)		DMFT		D/DMFT	DMFT=0
		mean	SD	mean	SD	mean	SD	mean	SD	%	%
5	435	0.05	0.31	–	–	0.01*	0.17*	0.06	0.46	89.0	97.4
6	385	0.12	0.49	0.00	0.08*	0.01*	0.21*	0.14	0.59	93.0	92.4
7	475	0.23	0.67	0.00	0.04*	0.02	0.19	0.26	0.70	88.0	84.3
8	553	0.40	0.93	0.01*	0.10*	0.07	0.30	0.48	1.01	82.1	72.9
9	524	0.45	0.95	0.01*	0.11*	0.13	0.54	0.59	1.10	77.6	68.3
10	563	0.72	1.29	0.06	0.42	0.17	0.61	0.95	1.49	76.0	59.8
11	522	0.74	1.37	0.06	0.38	0.21	0.63	1.01	1.60	71.4	57.0
12	428	0.78	1.48	0.02*	0.18*	0.30	0.71	1.10	1.74	68.3	54.1
13	148	1.54	2.94	0.06	0.30	0.32	1.03	1.93	3.23	77.5	49.2
14	66	1.25	1.81	0.17*	0.72*	0.43	1.00	1.85	2.12	67.5	38.2

\* relative standard error  $\geq$  40%

## Caries experience by geographical location

Table 17 presents caries experience data for each of the Health Areas used in this report. Considerable variation can be seen in caries experience for both selected age-groups across geographical areas. Among 5- and 6-year-old children, mean clinically detectable decay scores ranged from a low of 1.03 in Darwin Urban to 2.93 in Alice Springs Rural. Teeth missing due to caries were uncommon in most areas, ranging from 0.03 in Alice Springs Urban to 0.17 in Katherine. The number of filled teeth was lowest in the Barkly and Alice Springs Rural areas (means = 0.19 and 0.20 respectively) with the highest score being in Alice Springs Urban and East Arnhem (means = 0.78). Mean dmft scores in the deciduous dentition ranged from 1.70 in Darwin Urban to 3.49 in Katherine. The percentage of children with dmft = 0 was highest in Barkly (55.2%) and lowest in the Darwin Rural Health Area (32.2%).

**Table 17: Deciduous caries experience of 5–6-year-old children by area**

	Children	Decayed (d)		Missing (m)		Filled (f)		dmft		dmft = 0
	<i>n</i>	mean	SD	mean	SD	mean	SD	mean	SD	%
Darwin Urban	950	1.03	1.90	0.07	0.52	0.59	1.37	1.70	2.62	52.2
Darwin Rural	317	2.54	3.21	0.13	0.65	0.67	1.35	3.34	3.72	32.2
East Arnhem	267	2.14	3.55	0.13	0.76	0.78	1.90	3.05	3.88	43.4
Katherine	513	2.84	3.56	0.17	0.82	0.49	1.32	3.49	3.94	34.1
Barkly	67	1.55	2.60	0.06	0.49	0.19	0.86	1.81	2.84	55.2
Alice Springs Urban	528	1.22	2.04	0.03	0.32	0.78	1.69	2.03	2.91	49.2
Alice Springs Rural	81	2.93	2.90	0.01	0.11	0.20	0.81	3.14	3.10	23.5

Only a small number of cases were available for 12-year-olds from Barkly and therefore these results are not likely to be representative of the caries experience of 12-year-olds in this region (see Table 18). Among 12-year-old children from the remaining areas, Alice Springs Rural had the highest mean decay score (mean = 1.10) and this was approximately 4 times higher than that in Darwin Urban (mean = 0.28). The number of filled teeth ranged from a mean of 0.16 in Alice Springs Rural to 0.40 in Darwin Rural. The lowest mean DMFT score among 12-year-olds was in Alice Springs Urban (mean = 0.44) which also had the highest percentage of children with DMFT = 0 (77.0%). The lowest percentage of children with DMFT = 0 was in Alice Springs Rural (53.8%) which also had the highest 12-year-old DMFT (mean = 1.38).

**Table 18: Permanent caries experience of 12-year-old children by area**

	Children	Decayed (D)		Missing (M)		Filled (F)		DMFT		DMFT = 0
	<i>n</i>	mean	SD	mean	SD	mean	SD	mean	SD	%
Darwin Urban	420	0.28	0.78	0.08	0.51	0.37	0.86	0.74	1.36	65.7
Darwin Rural	136	0.61	1.31	0.01	0.12	0.40	0.74	1.02	1.57	57.4
East Arnhem	94	0.41	1.15	0.00	0.00	0.31	0.79	0.72	1.34	68.1
Katherine	198	0.71	1.41	0.07	0.45	0.36	0.89	1.14	1.80	54.0
Barkly	12	0.08	0.29	0.00	0.00	0.25	0.62	0.33	0.65	75.0
Alice Springs Urban	61	0.21	0.58	0.07	0.51	0.16	0.52	0.44	0.94	77.0
Alice Springs Rural	52	1.10	1.99	0.00	0.00	0.29	0.72	1.38	2.39	53.8

## Selected trends, 1998–2002

Presented below is a table and a series of figures of selected 5-year trends across the period 1998–2002. Trends are provided for sample size, deciduous and permanent caries experience, fissure sealants and time since last visit.

**Table 19: Sample size and percentage of total sample by region, 1998–2002**

Region	1998		1999		2000		2001		2002	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Darwin Urban	4405	35.5	4471	35.0	5324	36.6	2124	31.5	4083	33.1
Darwin Rural	1491	12.0	1364	10.7	1896	13.0	803	11.9	1492	12.1
East Arnhem	414	3.3	710	5.6	687	4.7	832	12.3	1210	9.8
Katherine	1533	12.4	1986	15.6	2214	15.2	664	9.9	2212	17.9
Barkly	408	3.3	234	1.8	321	2.2	147	2.2	319	2.6
Alice Springs Urban	3257	26.2	3419	26.8	3254	22.4	1747	25.9	2528	20.5
Alice Springs Rural	903	7.3	576	4.5	835	5.7	424	6.3	507	4.1
<i>Total</i>	<i>12411</i>	<i>100.0</i>	<i>12760</i>	<i>100.0</i>	<i>14531</i>	<i>100.0</i>	<i>6741</i>	<i>100.0</i>	<i>12354</i>	<i>100.0</i>



