



# **The Child Dental Health Survey Northern Territory 1999**

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**AIHW Dental Statistics and Research Unit  
Adelaide University**

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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 1998 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 provides summary statements highlighting differences between the 1998 and 1999 findings. However, it should be noted that no formal hypothesis tests have been undertaken and descriptions of 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 1999 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 made for inclusion and numerical weighting of data from children whose date of birth was unknown. 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 1.

The Estimated Residential Population (ERP) of 5–9-year-olds and 10–14-year-olds by Health Areas within the Northern Territory was determined from data published by the Australian Bureau of Statistics (2000) as at 30 June 1999. 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 2.

As can be seen from Figure 1, while in the 5–9-year-old age group the target sample was largely achieved in Darwin Urban, Katherine and Alice Springs Urban, the number of children sampled in the other rural areas was considerably less than the ERP of those regions. This may reflect differences in the periodicity of examinations in these areas, diversity in School Dental Service coverage, or issues peculiar to the population in these regions.

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.

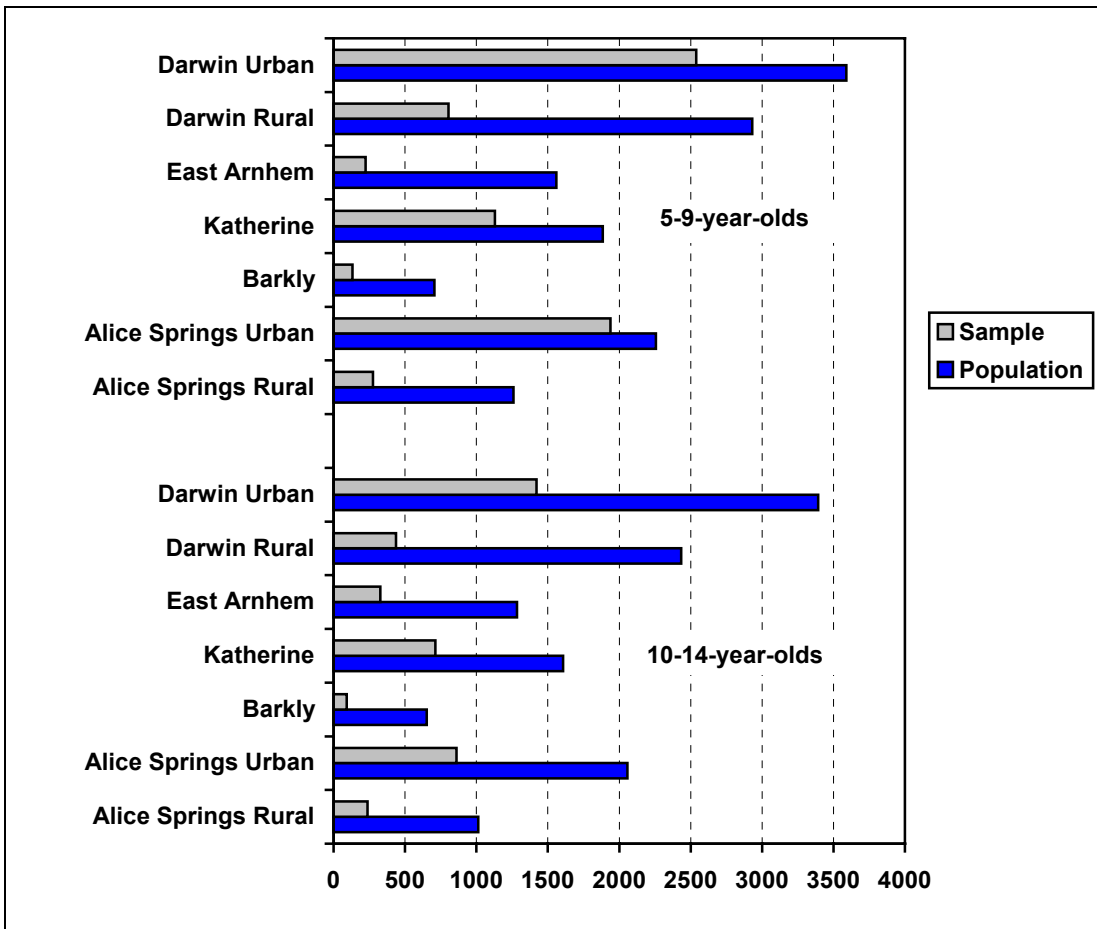


Figure 1. Estimated Residential Populations compared to actual children sampled.

## Weighting

For 1999, 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 1999 as published by the Australian Bureau of Statistics (2000).

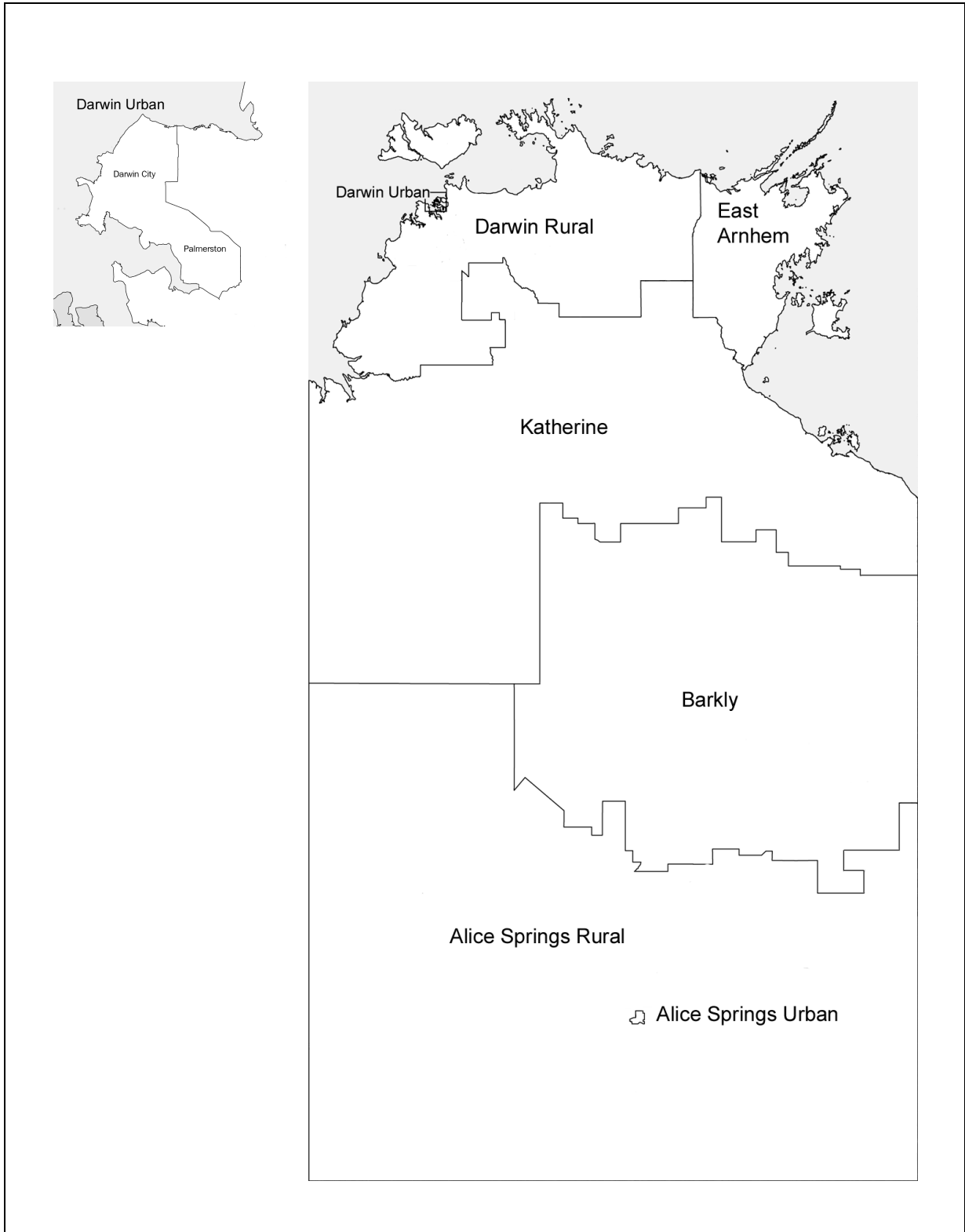


Figure 2: Northern Territory Health Areas



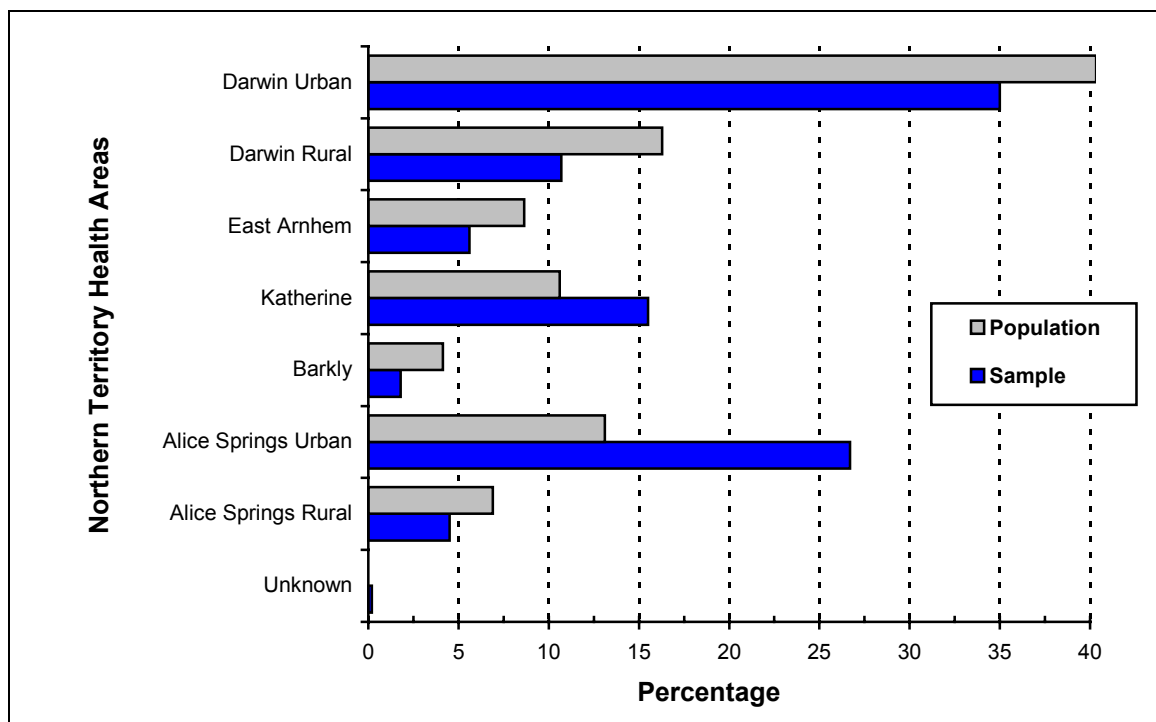


Figure 3: Percentage of children in sample and Northern Territory population by Health Areas

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, East Arnhem, Barkly and Alice Springs Rural were weighted up in the analysis (mean weights = 1.15, 1.52, 1.55, 2.25 and 1.53 respectively) while Katherine and Alice Springs Urban received lower weights (mean weights = 0.68 and 0.49 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 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 1999. 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 S1–S4) and the regional analyses in Tables S5 and S6 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 36% of processed records were obtained from the Darwin area (see Table 1). The majority of children in the sample (92.2%) were aged between 4 and 12 years inclusive, with approximately equivalent numbers in individual age groups within this range. However, children aged 13 years or more and less than 4 years were also represented. Females and males were represented in similar proportions across all ages.

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.

### Changes since 1998

There were no substantial changes in the sampling procedures between the reporting periods. In 1999, 284 more records were reported on than in 1998.

**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	8	7	15	27	27	54	32	30	62
3	28	33	61	78	95	173	94	114	208
4	229	204	433	363	321	684	514	451	966
5	262	213	475	436	425	861	644	581	1,225
6	264	259	523	470	496	966	662	710	1,372
7	277	271	548	466	437	913	719	704	1,424
8	245	243	488	461	446	907	673	664	1,337
9	265	273	538	434	415	849	694	711	1,405
10	246	217	463	414	443	857	676	682	1,358
11	250	234	484	403	405	808	661	673	1,335
12	228	206	434	274	296	570	546	573	1,119
13	44	44	88	107	124	231	173	211	385
14	5	6	11	74	74	148	101	129	230
15	2	0	2	33	62	95	41	98	139
16	1	1	2	31	40	71	55	88	143
17	0	0	0	19	17	36	40	28	68
18	0	1	1	6	2	8	8	5	13
<b>Total</b>	<b>2,354</b>	<b>2,212</b>	<b>4,566</b>	<b>4,096</b>	<b>4,125</b>	<b>8,221</b>	<b>6,335</b>	<b>6,452</b>	<b>12,787</b>

## 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 (95.7%) and mothers (84.2%) were born in Australia. Very small percentages of children were born outside of Australia. A total of 5.1% of mothers were born in South East Asia and a further 6.4% were born in the United Kingdom, Ireland, or another English speaking country.

### Changes since 1998

There were only small differences between 1999 and 1998 in the recorded birthplace of School Dental Service users and their mothers. A slightly smaller percentage of mothers were born outside of Australia in 1999 compared to 1998.

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

	Children		Mothers	
	Number	%	Number	%
Australia	12,242	95.7	10,765	84.2
UK and Ireland	61	0.5	396	3.1
Other English speaking	150	1.2	421	3.3
Southern European	31	0.2	115	0.9
Other European	20	0.2	87	0.7
Middle East	14	0.1	25	0.2
South East Asia	145	1.1	648	5.1
Other Asia	39	0.3	130	1.0
Other	37	0.3	130	1.0
Not recorded	48	0.4	71	0.6

## Indigenous status of children and mothers

A substantial percentage of children and mothers were of Indigenous origin, accounting for 38.1% and 36.8% of the sample respectively (see Table 3).

### Changes since 1998

The percentage of Aboriginal Australian-born children and mothers increased by 2.7% and 3.0% respectively between 1998 and 1999. This may have been partly the result of changes in the weighting of data used in this report.

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

	Children		Mothers	
	Number	%	Number	%
Non-Indigenous	7,869	61.5	7,994	62.6
Indigenous	4,870	38.1	4,701	36.8
Not Known	48	0.4	71	0.6

## Deciduous teeth

The mean number of clinically decayed teeth among children aged 5 to 10 years ranged from 1.45 to 0.52 and was lower among older children (see Table 4). There is a consistent decline in clinically detectable new decay with age. In contrast, the mean number of filled teeth increased from 0.19 among children up to 4 years of age to 0.92 for 8-year-olds, before declining. The mean number of missing teeth was generally low across all age groups with mean scores peaking at 0.14 for 7-year-olds. The trend in mean dmft score with age was similar to that for the decay score, decreasing from 2.14 for 6-year-olds to 0.29 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 percentage of caries experience due to decay (d/dmft) showed a strong and consistent age-associated decline from 84.3% among children up to 4 years old to 43.6% among 10-year-olds (Table 5). By comparison, the percentage of caries-free children (% dmft = 0) showed a more modest reduction from 64.8% among children up to 4 years of age to 43.9% among 8-year-olds, before increasing to 86.0% 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.

**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	1,236	1.10	2.26	0.09	0.61	0.19	0.94	1.37	2.67
5	1,225	1.45	2.51	0.12	0.66	0.45	1.32	2.02	3.16
6	1,372	1.39	2.44	0.10	0.51	0.64	1.51	2.14	3.06
7	1,424	1.13	1.99	0.14	0.78	0.80	1.59	2.07	2.75
8	1,337	0.94	1.68	0.09	0.51	0.92	1.72	1.95	2.51
9	1,405	0.74	1.52	0.08	0.44	0.81	1.50	1.62	2.21
10	1,358	0.52	1.22	0.03	0.30	0.64	1.34	1.19	1.94
11	1,335	0.31	0.89	0.04	0.25	0.36	1.00	0.71	1.47
12	1,119	0.13	0.62	0.00	0.05*	0.15	0.65	0.29	0.96

\* relative standard error ≥ 40%

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

Age	d/dmft		dmft = 0	
	<i>n</i>	%	<i>n</i>	%
≤4	435	84.3	1,236	64.8
5	567	74.0	1,225	53.7
6	718	64.7	1,372	47.7
7	779	56.6	1,424	45.3
8	750	51.2	1,337	43.9
9	717	46.8	1,405	49.0
10	553	43.6	1,358	59.2
11	385	46.9	1,335	71.2
12	156	46.3	1,119	86.0

### Changes since 1998

There were inconsistent changes in the mean number of deciduous teeth with clinically detectable decay between 1998 and 1999, with increases for children aged 6, 7, 8 and 11 and decreases for children aged ≤4, 5 and 9. Similarly, the direction of changes in the mean number of filled teeth was varied, with increases for children aged 8 and up to 6 years, and decreases for children aged 7, 9, 10 and 11. There were increases in dmft scores for children aged between 6 and 8, however 9- and 10-year-olds had lower dmft scores in 1999 than in 1998. All these changes in deciduous caries experience resulted in an increase in the percentage of dmft scores accounted for by decay (d/dmft) for children aged 7, 10 and 11, and a decrease for children aged ≤4, 5 and 12. There were few changes in the percentage of children with dmft = 0 between 1998 and 1999.

### Permanent teeth

As shown in Table 6, 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 0.06 to 1.07. The number of teeth missing due to caries remained low across most ages, but increased to 0.19 for children aged 16 years and older. The mean number of filled permanent teeth ranged from 0.01 for children aged 6 to 0.43 for the oldest age group. In addition, the mean DMFT increased quite consistently across age groups, from 0.08 for 6-year-olds to 1.82 for children aged ≥16. The mean DMFT score for 12-year-old children was 0.86.

The percentage caries free (DMFT = 0) generally declined across age groups while the percentage of DMFT due to decay (D/DMFT) declined from 84.9% in the youngest children to 45.7% for 11-year-olds, before increasing in the older age groups (see Table 7). For children aged 12 or less more than 65% of children in any age group had no caries experience in the permanent dentition.

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

Age	Children	Decayed (D)		Missing (M)		Filled (F)		DMFT	
	<i>n</i>	mean	SD	mean	SD	mean	SD	mean	SD
5	1,225	0.01	0.13	–	–	0.00	0.03*	0.01	0.18
6	1,372	0.06	0.34	0.01*	0.15*	0.01*	0.18*	0.08	0.41
7	1,424	0.17	0.57	0.01*	0.21*	0.05	0.31	0.22	0.70
8	1,337	0.16	0.54	0.01*	0.12*	0.10	0.47	0.27	0.73
9	1,405	0.20	0.63	0.02	0.18	0.16	0.58	0.38	0.90
10	1,358	0.25	0.85	0.03	0.29	0.17	0.53	0.45	1.07
11	1,335	0.29	0.78	0.04	0.31	0.29	0.74	0.63	1.20
12	1,119	0.48	1.17	0.08	0.45	0.31	0.81	0.86	1.54
13	385	0.66	1.35	0.09	0.46	0.34	0.86	1.09	1.81
14	230	1.07	1.87	0.08	0.42	0.19	0.66	1.35	2.07
15	139	0.69	1.10	0.08*	0.38*	0.39	1.19	1.17	1.77
≥16	224	1.20	2.76	0.19	0.82	0.43	1.09	1.82	3.05

\* relative standard error ≥ 40%

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

Age	D/DMFT		DMFT = 0	
	<i>n</i>	%	<i>n</i>	%
5	11	84.9	1,225	99.1
6	65	81.6	1,372	95.2
7	181	76.6	1,424	87.3
8	215	63.2	1,337	83.9
9	290	55.4	1,405	79.3
10	304	51.9	1,358	77.6
11	413	45.7	1,335	69.0
12	419	52.5	1,119	62.5
13	170	60.1	385	55.9
14	110	77.6	230	52.2
15	73	69.2	139	47.2
≥16	93	56.1	224	58.3

### Changes since 1998

There were often large differences in caries experience indices for children aged 14 years and older between 1998 and 1999. This can most likely be attributed to variability resulting from the small numbers of children sampled in these age groups.

For the remainder of the age groups, there were few changes in either the mean number of clinically decayed permanent teeth between 1998 and 1999. However there were increases in DMFT for children aged 7, 8, 9, 12 and 13. There were also decreases in D/DMFT for children aged 8 years and younger. Changes in the percentage of caries free children (DMFT = 0) were few and relatively inconsistent between 1998 and 1999.

## All teeth

Untreated clinically detectable caries in the combined deciduous and permanent dentitions (see Table 8) existed for between 27.2% and 46.2% of children in all age groups. The greatest likelihood of untreated decay occurred for children aged 16 years and over and for children aged 11 and 12. However, the most extensive levels of untreated decay (4 or more deciduous or permanent teeth) occur in the younger age groups, with approximately 15% of children aged up to 6 years of age being affected to this extent. Higher levels of untreated decay were also apparent for children aged 14 and 16 and older.

More than 93% of children aged 5 to 12 years had no deciduous or permanent teeth missing due to caries. However, smaller percentages avoided fillings with between 23.0% and 36.2% of children aged 6 to 12 years old having at least one filling. There is a decline in the percentage of children with no clinical caries experience in either deciduous or permanent dentition, from 64.7% up to age 4 to 39.8% at age 8. Above the age of 8, the percentage increases to a high of 56.2% 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	1,236	67.9	8.6	8.4	3.8	3.7	7.6	97.0	93.8	64.7
5	1,225	59.8	9.8	8.5	5.7	5.2	10.9	95.2	84.4	53.5
6	1,372	56.6	12.7	9.7	5.7	4.6	10.5	93.9	76.3	45.9
7	1,424	53.8	17.2	11.6	4.8	4.2	8.4	94.4	69.2	41.1
8	1,337	56.9	17.3	10.8	5.6	3.7	5.7	94.8	64.7	39.8
9	1,405	62.6	15.3	9.8	4.5	2.7	5.1	94.6	63.8	41.8
10	1,358	68.1	13.3	8.7	4.0	2.7	3.3	96.4	66.1	47.8
11	1,335	70.7	14.8	7.0	2.9	2.8	1.9	95.0	70.7	51.2
12	1,119	72.8	14.2	4.9	3.5	1.9	2.7	96.1	77.0	56.2
13	385	65.4	18.0	7.2	2.6	4.5	2.5	94.6	77.0	51.9
14	230	58.2	17.0	8.0	4.3	4.9	7.6	93.9	89.1	51.2
15	139	56.3	24.7	9.9	3.6*	1.1*	4.4	95.2	83.9	44.7
≥16	224	71.4	9.0	5.2	2.7	4.2	7.6	93.8	78.8	57.3

\* relative standard error ≥ 40%

## Changes since 1998

There were reductions in the percentage of children with  $d+D = 0$  for several age groups between 1998 and 1999. Consistent changes were also found in the percentages of children with  $f+F = 0$ , with all age groups bar two experiencing an increase between 1998 and 1999. The combination of increased detectable decay but reduced numbers of fillings resulted in few and inconsistent changes in the percentage of children with  $dmft+DMFT=0$  between 1998 and 1999.

## Fissure sealants

Fissure sealants increased in prevalence for children up to 11 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 12 years old with some caries experience ( $DMFT = 1+$ ) were between 26.6% and 86.8% more likely to have fissure sealants than were children with  $DMFT = 0$ .

## Changes since 1998

The mean number of fissure sealants in 1999 decreased considerably from 1998, with reductions for most age groups sampled. The decrease occurred both for those with caries experience ( $DMFT \geq 1$ ) and those without ( $DMFT = 0$ ). The only age group to show increased mean sealants were 7-year-olds.

**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	1,372	0.12	0.61	1,306	3.7	65	12.9
7	1,424	0.49	1.18	1,243	15.1	181	28.2
8	1,337	0.80	1.48	1,122	23.6	215	35.3
9	1,405	0.93	1.57	1,114	28.2	290	35.7
10	1,358	1.01	1.62	1,054	30.1	304	42.7
11	1,335	1.06	1.74	921	31.0	413	45.2
12	1,119	1.02	1.80	700	29.3	419	38.1
13	385	0.92	1.97	215	27.0	170	25.4
14	230	0.41	1.28	120	11.9	110	20.9
15	139	0.53	1.62	66	4.9	73	24.9
≥16	224	0.49	1.56	131	16.2	93	3.3



## 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 3% of children in this age range required immediate treatment, with the percentages across age groups ranging from 1.4% to 2.7%. The small group of children with immediate treatment needs had a high mean dmft experience. This was highest in younger children.

### Changes since 1998

The percentage of children with immediate treatment needs decreased slightly between 1998 and 1999.

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

Age	Children		dmft		DMFT		d+D =				
							0	1	2	3	4+
	<i>n</i>	%	Mean	SD	Mean	SD	%	%	%	%	%
5	17	1.4	3.98	2.72	–	–	12.2*	18.8*	13.7*	16.3*	39.0
6	24	1.8	6.51	4.16	0.06*	0.24*	4.8*	4.6*	20.2	20.6*	49.8
7	21	1.4	4.41	3.60	0.31*	1.20*	11.9*	37.0	5.6*	12.9	32.6
8	27	2.0	4.85	2.57	0.72	0.90	7.0*	16.6	34.3	2.5*	39.6
9	37	2.6	3.19	2.68	1.20	1.55	9.7*	16.4	15.5	22.0*	36.4
10	35	2.6	3.60	3.28	1.47	1.82	17.8	9.8*	7.9*	8.0	56.4
11	24	1.8	1.46	2.28	1.98	2.44	8.4*	27.6	36.0	9.1*	18.9
12	30	2.7	0.65*	1.50*	2.57	1.87	4.5*	40.7	7.4*	26.2*	21.1
13	14	3.8	0.40*	1.20*	2.31	1.18	0.0	29.5	41.5	0.0	29.0
14	15	6.6	0.21*	0.63*	4.35	3.48	0.0	24.9*	34.0	0.0	41.1
15	8	6.1	1.20*	4.40*	1.29	0.64	0.0	55.2	36.8*	0.0	8.1*
≥16	12	5.2	–	–	4.26	2.13	0.0	13.2*	26.4*	26.4*	34.0

\* relative standard error ≥ 40%

## School Dental Service examinations

Table 11 describes the percentage of examinations of children which were initial or non-initial examinations in the Northern Territory School Dental Service. As expected, the figure is highest for the youngest ages (6 years or less) with less than 10% of the examinations of those aged 7 to 13 years being initial examinations. This pattern is expected and indicates that most patients are enrolled during their early school years.

Table 12 refers to children with previous examinations only 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 64.9% to 36.4%. About one third of children had been examined last within a 13 to 18 month period. Overall, few 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 8.21 months for the youngest children to 26.55 months for children aged 16 years and older. Time since last dental exam for both 6- and 12-year-old children is shown in Figure 4.

### Changes since 1998

Of those children with previous examinations, reductions occurred for most age groups in the percentage receiving examinations from 7 to 12 months previously while increases were observed in the percentages receiving examinations 25+ months previously. These changes were reflected in an increase for every age group (bar one) in the mean number of months since the last examination.

**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	1,325	58.9	23.2	17.9
5	1,314	29.3	46.9	23.7
6	1,514	15.4	67.0	17.6
7	1,497	9.6	70.3	20.1
8	1,418	6.5	75.3	18.2
9	1,448	5.8	77.3	16.8
10	1,367	5.3	78.2	16.5
11	1,339	4.4	78.8	16.8
12	1,115	4.4	75.9	19.7
13	376	4.3	71.4	24.2
14	186	5.5	58.2	36.3
15	119	6.4	58.1	35.5
≥16	164	2.8*	54.5	42.7

**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	308	50.9	32.9	13.0	1.4*	1.8	8.21	5.56
5	617	24.7	40.2	27.5	5.2	2.4	11.53	6.47
6	1,015	15.6	40.5	32.8	8.4	2.8	12.44	5.43
7	1,053	7.7	37.0	37.6	11.2	6.5	14.20	6.19
8	1,068	12.1	37.0	34.3	10.2	6.4	14.01	7.36
9	1,120	12.2	30.9	36.8	11.3	8.8	14.66	7.67
10	1,068	11.0	33.4	34.8	9.6	11.3	15.23	8.67
11	1,056	7.4	33.0	38.2	11.6	9.8	15.57	8.17
12	846	5.5	30.9	39.6	10.8	13.1	16.29	8.89
13	269	6.2	32.4	30.8	12.2	18.2	17.99	12.48
14	108	4.0*	27.3	14.9	5.8	48.1	26.09	16.72
15	69	8.4	41.2	12.9	2.2*	35.2	22.01	18.68
≥16	90	13.8	19.5	9.7	11.2	45.7	26.55	19.97

\* relative standard error ≥ 40%

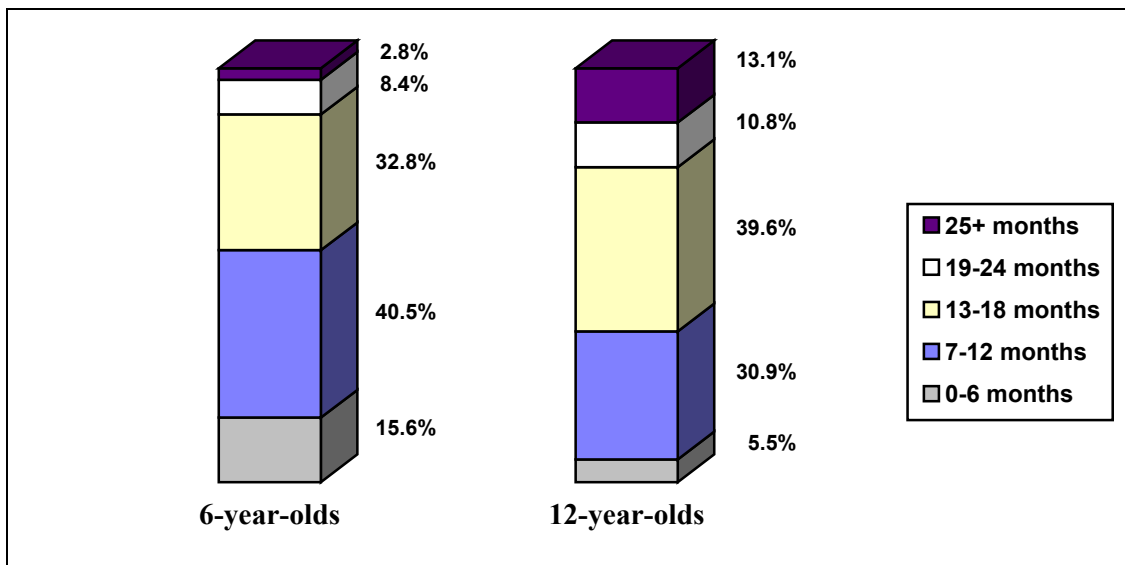


Figure 4: Time since last dental examination for 6- and 12-year-olds

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

Figure 5 presents a summary of data contained in Tables 5, 7 and 8 showing the extent of dental health (represented by percentage with no caries experience) and the extent of more extensive untreated decay. There is a progressive decline across age in the percentage of children with DMFT = 0, and in the percentage of children with dmft+DMFT  $\geq 4$  up to the age of 12.

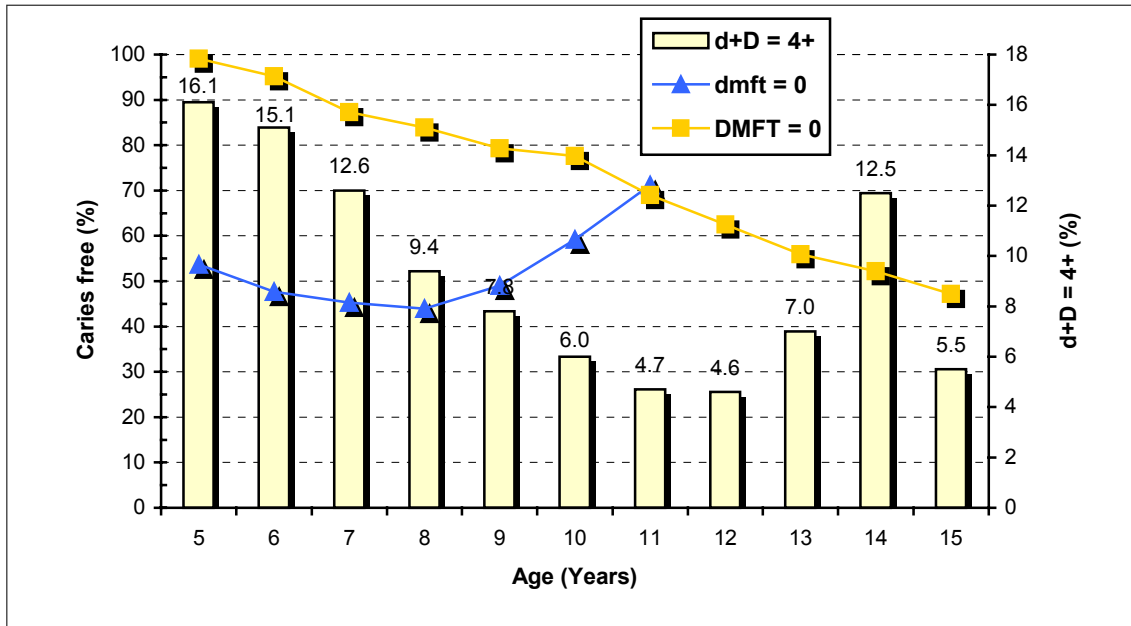


Figure 5: Percentage of children with dmft = 0, DMFT = 0 and d+D  $\geq 4$

## Deciduous teeth of non-Indigenous and Indigenous children

Supplementary Tables S1 and S2 describe the age-specific indices of deciduous caries experience for non-Indigenous and Indigenous children respectively. Indigenous children up to the age of 9 years old had approximately 3 to 4 times more clinically detectable decay and dmft scores  $1\frac{1}{2}$  to  $2\frac{1}{2}$  times higher than non-Indigenous children. Non-Indigenous children had a higher mean filled score for most 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 (d/dmft) was substantially higher among Indigenous children.

**Table S1: 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	953	0.76	1.88	0.06	0.50	0.18	0.92	1.00	2.28	80.9	71.2
5	814	0.80	1.78	0.11	0.63	0.52	1.39	1.43	2.79	59.8	65.7
6	897	0.74	1.60	0.10	0.48	0.63	1.38	1.47	2.45	50.7	57.4
7	931	0.58	1.23	0.11	0.60	0.93	1.73	1.62	2.47	40.2	54.2
8	856	0.51	1.00	0.07	0.43	0.99	1.78	1.58	2.26	39.3	51.4
9	876	0.38	0.81	0.07	0.42	0.97	1.61	1.42	2.06	31.5	54.0
10	837	0.28	0.75	0.04	0.34	0.77	1.45	1.09	1.86	27.2	62.3
11	815	0.16	0.55	0.03	0.22	0.45	1.08	0.64	1.40	27.9	74.5
12	616	0.10	0.48	0.01*	0.07*	0.23	0.78	0.33	1.02	30.2	84.0

**Table S2: 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	283	2.22	2.97	0.18	0.88	0.22	0.99	2.62	3.40	90.1	43.3
5	412	2.74	3.16	0.14	0.71	0.32	1.17	3.20	3.49	87.8	30.0
6	475	2.64	3.16	0.11	0.55	0.66	1.73	3.40	3.66	80.7	29.2
7	493	2.18	2.63	0.21	1.02	0.54	1.25	2.93	3.04	76.5	28.4
8	481	1.69	2.28	0.14	0.63	0.79	1.60	2.61	2.79	65.9	30.4
9	529	1.32	2.11	0.08	0.47	0.55	1.24	1.94	2.40	66.4	40.6
10	521	0.90	1.65	0.03	0.22	0.43	1.11	1.36	2.05	65.3	54.4
11	519	0.54	1.21	0.05	0.29	0.22	0.84	0.81	1.56	69.3	66.0
12	503	0.17	0.75	–	–	0.06	0.43	0.24	0.88	74.0	88.5

\* 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 for deciduous caries experience (see Tables S3 and S4). 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 (DMFT = 0).

**Table S3: 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	814	0.01*	0.12*	–	–	0.00	0.04*	0.02*	0.19*	76.2	99.2
6	897	0.05	0.32	–	–	0.01*	0.16*	0.06	0.36	81.2	96.6
7	931	0.11	0.48	0.00	0.06*	0.05	0.34	0.16	0.60	67.4	90.4
8	856	0.08	0.34	0.01*	0.13*	0.12	0.51	0.20	0.63	42.9	87.9
9	876	0.11	0.44	0.02	0.20	0.18	0.64	0.31	0.84	38.9	83.2
10	837	0.14	0.59	0.03	0.35	0.19	0.58	0.37	0.94	35.4	81.3
11	815	0.13	0.48	0.04	0.32	0.33	0.81	0.50	1.09	25.0	74.7
12	616	0.23	0.76	0.05	0.39	0.31	0.71	0.59	1.14	35.5	70.5
13	140	0.21	0.51	0.05*	0.40*	0.44	0.82	0.70	1.22	33.5	63.8
14	32	0.29*	1.10*	0.16*	0.73*	0.27*	0.68*	0.72	1.43	29.4*	69.6
15	32	0.22*	0.61*	–	–	0.82	1.47	1.04	1.65	20.9*	60.2
≥16	119	0.30	0.83	0.28	1.02	0.37	1.08	0.95	1.53	41.9	64.5

\* relative standard error ≥ 40%

**Table S4: 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	412	0.01*	0.14*	–	–	–	–	0.01*	0.14*	100.0	99.0
6	475	0.08	0.36	0.02*	0.26*	0.01*	0.20*	0.12	0.49	82.0	92.7
7	493	0.27	0.71	0.03*	0.34*	0.03	0.23	0.34	0.85	85.5	81.4
8	481	0.32	0.75	0.01*	0.07*	0.08	0.39	0.40	0.87	81.9	76.7
9	529	0.36	0.83	0.02	0.14	0.12	0.45	0.50	0.99	72.3	72.9
10	521	0.43	1.12	0.03	0.18	0.13	0.46	0.58	1.24	69.3	71.6
11	519	0.55	1.05	0.05	0.29	0.22	0.60	0.82	1.32	66.3	60.2
12	503	0.78	1.49	0.11	0.50	0.32	0.91	1.20	1.87	65.4	52.8
13	245	0.91	1.59	0.11	0.49	0.29	0.88	1.31	2.04	71.4	51.4
14	198	1.20	1.94	0.07	0.34	0.18	0.66	1.45	2.14	82.3	49.4
15	107	0.83	1.17	0.10*	0.44*	0.26	1.07	1.20	1.81	79.4	43.4
≥16	106	2.21	3.68	0.09*	0.51*	0.50	1.10	2.80	3.93	67.9	51.4

\* relative standard error ≥ 40%

## Caries experience by geographical location

Table S5 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 0.86 in the Darwin Urban area to 2.51 in Alice Springs Rural. Teeth missing due to caries were uncommon in most areas, ranging from 0.00 in Alice Springs Rural to 0.29 in Barkly. The number of filled teeth was lowest in the Alice Springs Rural and Darwin Rural area (means = 0.27) with the highest score being in Alice Springs Urban (mean = 0.98). Mean dmft scores in the deciduous dentition ranged from 1.66 in Darwin Urban to 3.08 in East Arnhem. The percentage of children with dmft = 0 was highest in Darwin Urban (56.6%) and Alice Springs Urban (52.7%) and lowest in the Alice Springs Rural (31.5%) and Darwin Rural (36.8%) Health Areas.

**Table S5: 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	1,057	0.86	1.70	0.12	0.58	0.69	1.51	1.66	2.70	56.6
Darwin Rural	307	2.35	2.98	0.11	0.54	0.27	0.84	2.73	3.25	36.8
East Arnhem	101	2.39	3.91	0.10	0.48	0.59	1.38	3.08	4.07	45.5
Katherine	428	1.94	2.83	0.13	0.79	0.54	1.31	2.62	3.38	41.8
Barkly	41	1.49	2.81	0.29	0.60	0.76	2.38	2.54	3.76	41.5
Alice Springs Urban	848	1.06	2.09	0.11	0.61	0.98	1.99	2.15	3.36	52.7
Alice Springs Rural	89	2.51	2.74	0.00	0.00	0.27	1.19	2.78	2.93	31.5

Because so few 12-year-old children were reported on from Barkly (see Table S6), the results for this region are unreliable and will not be reported on in the text of this report. Among 12-year-old children, East Arnhem had the highest mean decay score (mean = 1.21) that was almost 4½ times higher than that in Darwin Urban (mean = 0.27) and Alice Springs Urban (mean = 0.25). The number of filled teeth ranged from a mean of 0.15 in Alice Springs Rural to 0.48 in Katherine. Similar to the deciduous dentition, the lowest mean DMFT score among 12-year-olds was in Darwin Urban (mean = 0.65) which also had the highest percentage of children with DMFT = 0 (69.6%). DMFT scores were highest in East Arnhem (mean = 1.59) which also had the lowest percentage of children with DMFT = 0 (44.1%).

**Table S6: 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	414	0.27	0.88	0.06	0.41	0.33	0.78	0.65	1.27	69.6
Darwin Rural	126	0.57	1.21	0.02	0.20	0.34	0.97	0.94	1.66	59.5
East Arnhem	68	1.21	1.93	0.10	0.43	0.28	0.71	1.59	2.11	44.1
Katherine	201	0.38	0.96	0.12	0.57	0.48	0.95	0.98	1.55	57.7
Barkly	14	0.36	0.50	0.00	0.00	0.00	0.00	0.36	0.50	64.3
Alice Springs Urban	128	0.25	0.77	0.15	0.60	0.34	0.88	0.73	1.26	64.1
Alice Springs Rural	52	0.48	1.04	0.17	0.79	0.15	0.46	0.81	1.30	61.5