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# **The Child Dental Health Survey, Northern Territory 2000**

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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 1999 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 1999 and 2000 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.

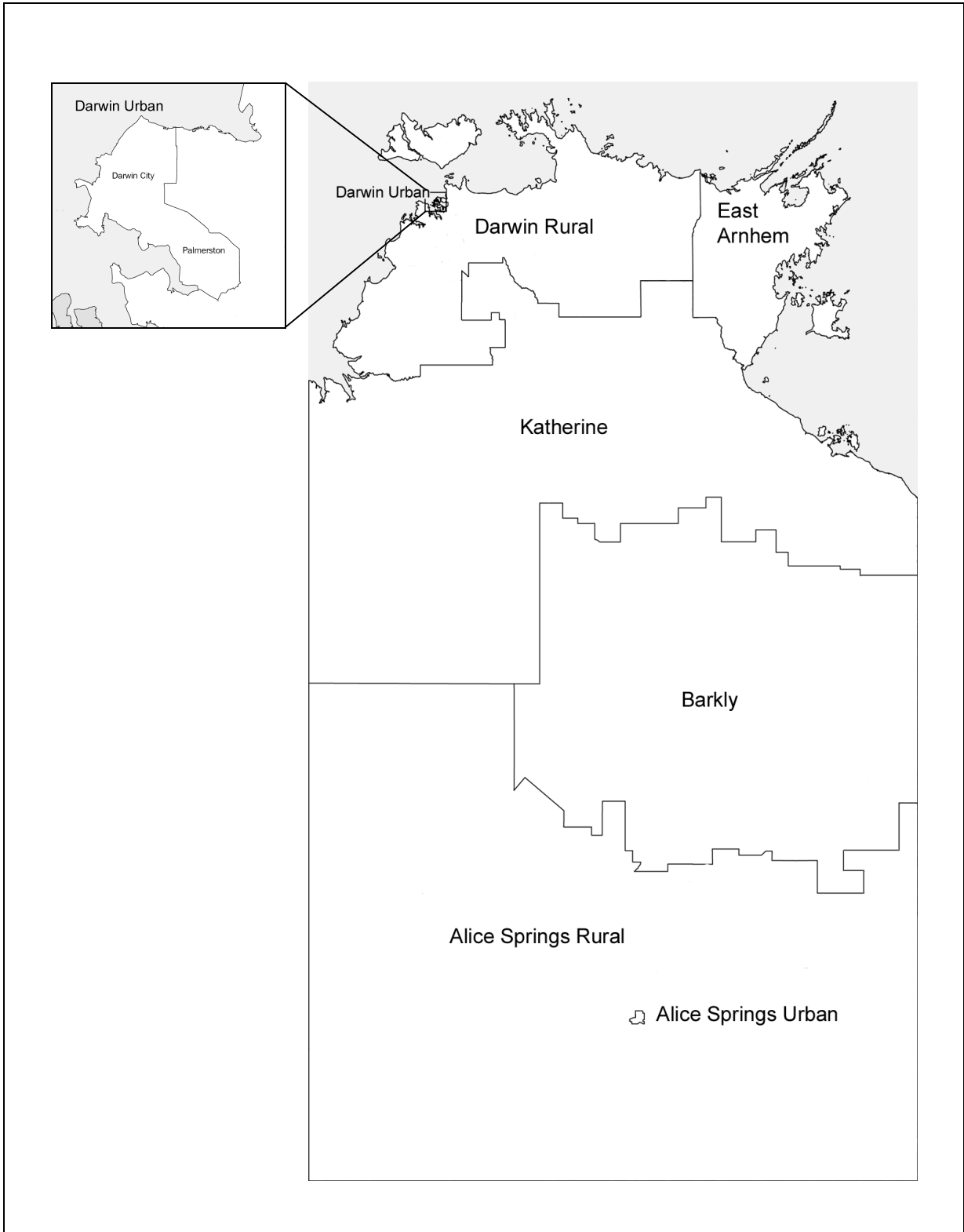
## **Sampling**

The data used for this report were collected during the 2000 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.

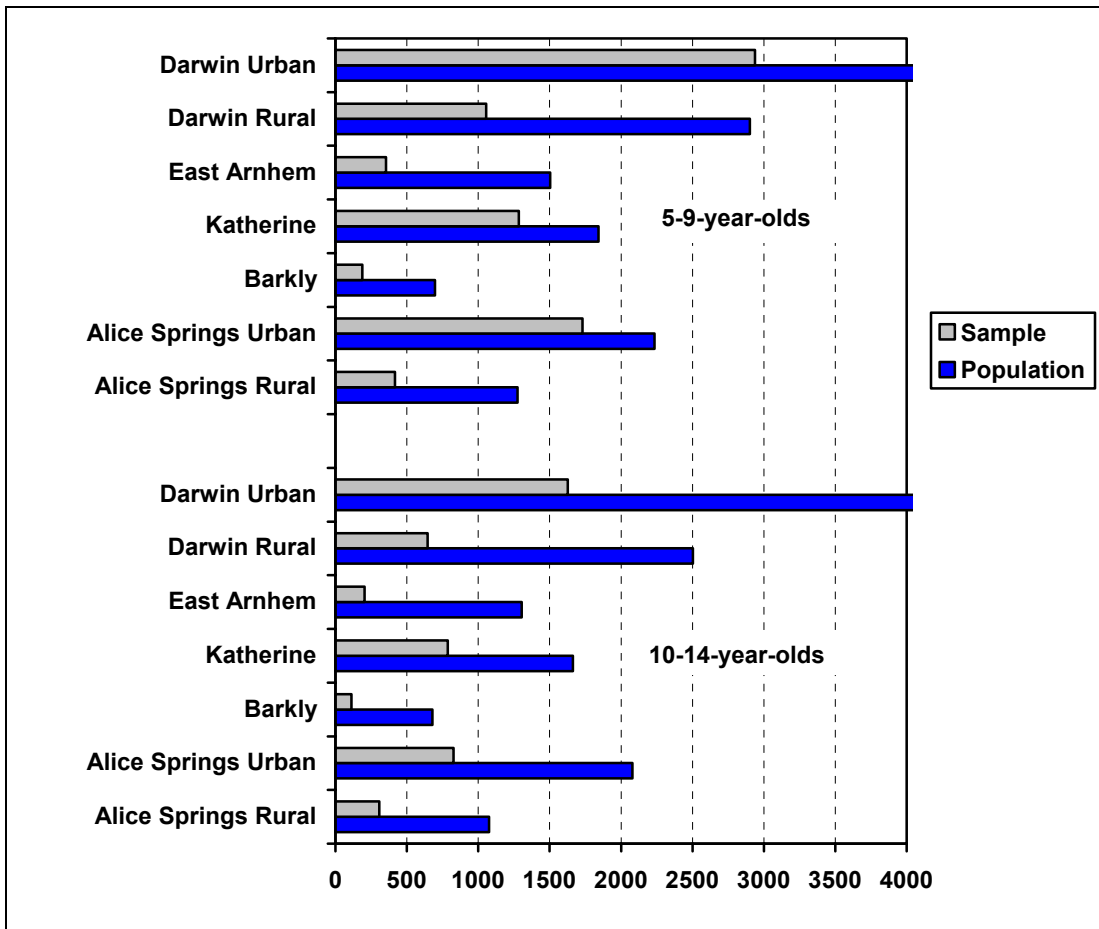
The Estimated Resident Population (ERP) of 5–9-year-olds and 10–14-year-olds by Health Areas within the Northern Territory was determined from data published by the Australian Bureau of Statistics (2000) as at 30 June 2000. The four areas comprising Operations North (Darwin Urban, Darwin Rural, East 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. 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: Northern Territory Health Areas**

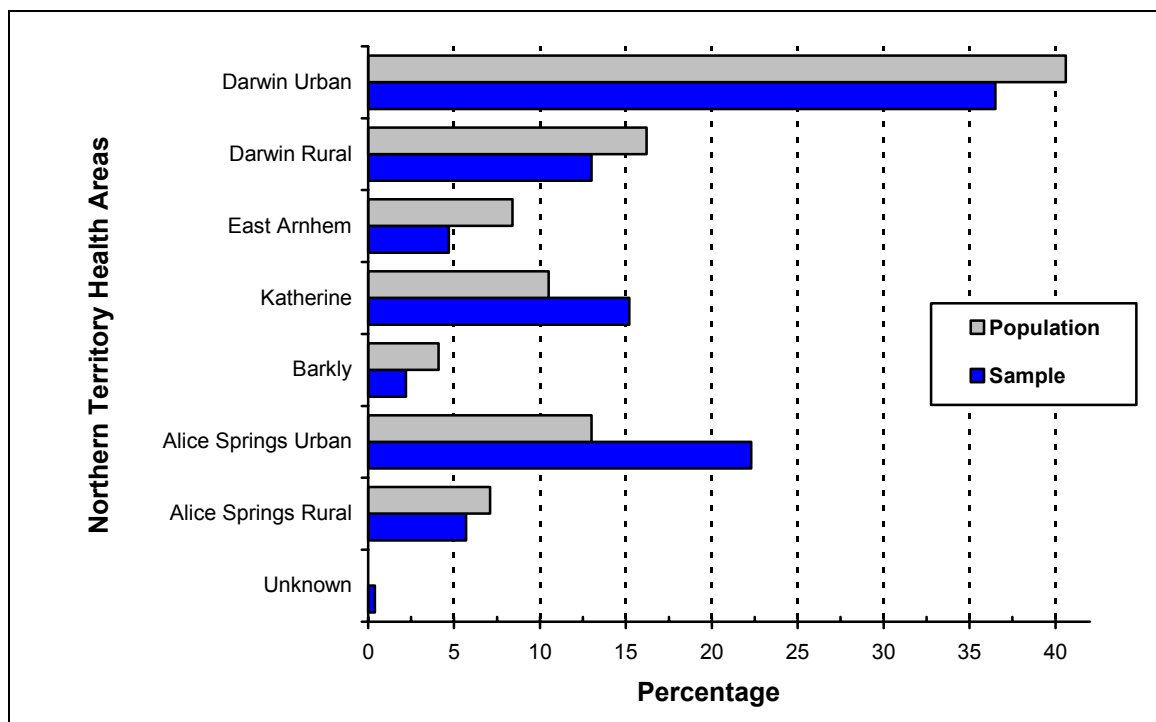


**Figure 2: Estimated Resident Populations compared to actual children sampled.**

## Weighting

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



**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 = 1.11, 1.24, 1.78, 1.87 and 1.23 respectively) while Katherine and Alice Springs Urban received lower weights (mean weights = 0.69 and 0.57 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 2000. 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 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 32% of processed records were obtained from the Darwin area (see Table 1). The majority of children in the sample (93.4%) 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.

**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	5	11	16	39	48	87	37	54	91
3	28	17	45	91	85	176	108	91	199
4	285	263	548	573	465	1,038	820	691	1,512
5	311	266	577	532	518	1,050	836	768	1,604
6	284	256	540	523	536	1,059	773	787	1,561
7	260	286	546	554	545	1,099	773	802	1,574
8	261	224	485	513	530	1,043	770	739	1,509
9	277	256	533	482	588	1,070	770	852	1,622
10	261	274	535	531	522	1,053	797	816	1,612
11	232	206	438	470	490	960	701	725	1,426
12	194	173	367	351	333	684	572	534	1,106
13	38	26	64	144	146	290	195	202	397
14	6	0	6	56	72	128	88	90	178
15	4	3	7	33	42	75	41	61	103
16	1	2	3	13	27	40	20	38	58
17	3	0	3	8	10	18	19	10	28
18	0	0	0	1	4	5	0	5	5
20	0	0	0	0	1	1	0	3	3
<b>Total</b>	<b>2,450</b>	<b>2,263</b>	<b>4,713</b>	<b>4,914</b>	<b>4,962</b>	<b>9,876</b>	<b>7,322</b>	<b>7,267</b>	<b>14,589</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.

### Changes since 1999

There were no substantial changes in the sampling procedures between the reporting periods. In 2000, 1,802 more individual records are reported on than in 1999.

### 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 (84.8%) were born in Australia. Very small percentages of children were born outside of Australia. A total of 5.2% 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.

### Changes since 1999

There were only small differences between 2000 and 1999 in the recorded birthplace of School Dental Service users and their mothers.

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

	Children		Mothers	
	Number	%	Number	%
Australia	13,955	95.7	12,372	84.8
UK and Ireland	48	0.3	434	3.0
Other English speaking	148	1.0	426	2.9
Southern European	44	0.3	126	0.9
Other European	32	0.2	106	0.7
Middle East	15	0.1	35	0.2
South East Asia	188	1.3	765	5.2
Other Asia	31	0.2	107	0.7
Other	65	0.4	140	1.0
Not recorded	62	0.4	78	0.5

## Indigenous status of children and mothers

A substantial percentage of children and mothers were of Indigenous origin, accounting for 38.4% and 37.2% of the sample respectively (see Table 3).

### Changes since 1999

The percentage of Aboriginal Australian-born children and mothers increased only slightly between 1999 and 2000.

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

	Children		Mothers	
	Number	%	Number	%
Non-Indigenous	8,928	61.2	9,087	62.3
Indigenous	5,599	38.4	5,424	37.2
Not Known	62	0.4	78	0.5

## Deciduous teeth

The mean number of clinically decayed teeth among children aged 5 to 10 years ranged from 1.66 to 0.62 and was lower among older children (see Table 4). After peaking at age 6, there was a consistent decline in clinically detectable new decay with age. In contrast, the mean number of filled teeth increased from 0.10 among children up to 4 years of age to 0.85 for 8-year-olds, before declining. The mean number of missing teeth was generally low across all age groups with mean scores peaking at 0.12 for 5-year-olds. The trend in mean dmft scores with age was similar to that for the decay score, increasing to 2.41 for 6-year-olds before decreasing to 0.33 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 87.4% among children up to 4 years old to 49.9% among 11-year-olds. By comparison, the percentage of caries-free children (% dmft = 0) showed a more modest reduction from 61.7% among children up to 4 years of age to 42.3% among 8-year-olds, before increasing to 83.7% 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	Decayed (d)		Missing (m)		Filled (f)		dmft	
	<i>n</i>	mean	SD	mean	SD	mean	SD	mean	SD
≤4	1,801	1.25	2.30	0.06	0.42	0.10	0.60	1.41	2.49
5	1,604	1.64	2.72	0.12	0.64	0.35	1.15	2.11	3.18
6	1,561	1.66	2.67	0.10	0.60	0.66	1.50	2.41	3.30
7	1,574	1.38	2.28	0.08	0.47	0.83	1.65	2.29	2.96
8	1,509	1.13	1.83	0.08	0.47	0.85	1.60	2.07	2.53
9	1,622	0.96	1.69	0.06	0.41	0.81	1.55	1.83	2.37
10	1,612	0.62	1.23	0.03	0.24	0.57	1.23	1.22	1.86
11	1,426	0.35	0.96	0.01	0.18	0.35	0.91	0.71	1.42
12	1,106	0.16	0.62	0.01*	0.12*	0.16	0.64	0.33	0.98

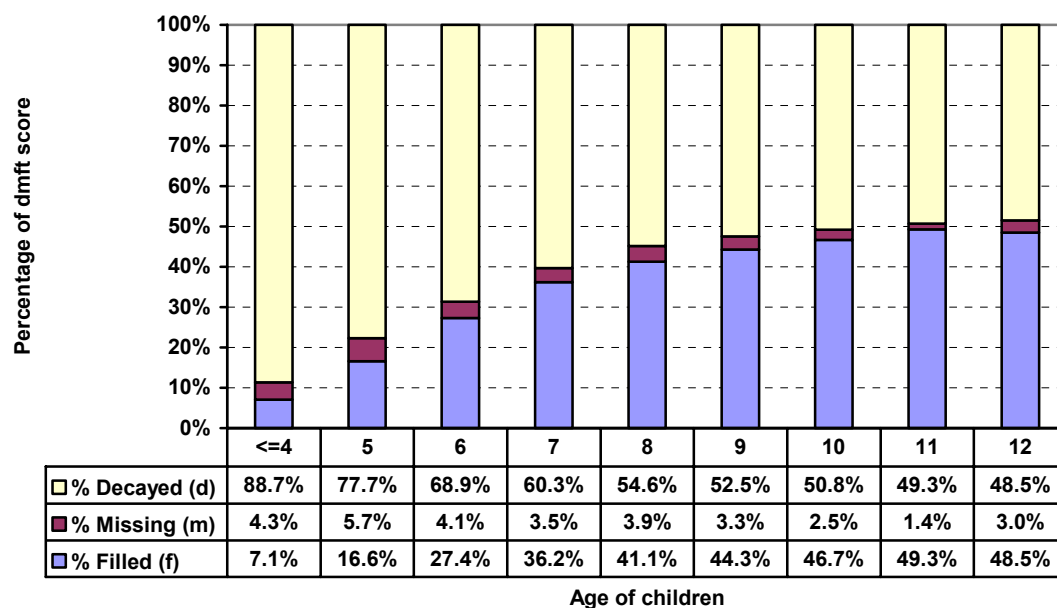
\* relative standard error ≥ 40%

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

Age	Mean d/dmft index		dmft = 0	
	<i>n</i>	%	<i>n</i>	%
≤4	690	87.4	1,801	61.7
5	787	77.6	1,604	50.9
6	870	69.7	1,561	44.2
7	906	60.6	1,574	42.4
8	871	56.5	1,509	42.3
9	898	53.9	1,622	44.7
10	726	50.8	1,612	55.0
11	422	49.9	1,426	70.4
12	180	52.0	1,106	83.7

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, 68.9% had untreated 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 88.7% for the youngest children to 50.8% among 10-year-olds. The percentage of dmft accounted for by filled teeth shows the opposite trend, increasing from 7.1% for children aged up to including 4 years old to 46.7 for 10-year-olds.





**Figure 4: Percentage of dmft score represented by decayed, missing and filled components**

### Changes since 1999

There were increases for all age groups in the mean number of deciduous teeth with clinically detectable decay between 1999 and 2000. Changes were most pronounced for children aged up to 10 years, with increases ranging from 0.10 teeth for 10-year-olds (+19.3%) to 0.27 teeth for 6-year-olds (+19.4%). In contrast, the direction of changes in the mean number of filled teeth was varied, with increases only for children aged 6, 7 and 12, and decreases for the other age groups. Reflecting the considerable increases in deciduous decay, there were increases in dmft scores for all children with the smallest increase being for 10-year-olds (+2.5%, from 1.19 to 1.22) and the biggest for 6-year-olds (+12.6%, from 2.14 to 2.41). All these changes in deciduous caries experience resulted in an increase in the percentage of dmft scores accounted for by decay (mean d/dmft index). There were also reductions in the percentage of children with dmft = 0 between 1999 and 2000 for all age groups, with declines ranging from -0.8% (11-year-olds) to -4.3% (9-year-olds).

## 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 16 years from 0.06 to 1.27. The number of teeth missing due to caries remained low across most ages, but increased to 0.63 for children aged 16 years and older. The mean number of filled permanent teeth ranged from 0.00 for children aged 6 to 1.12 for the oldest age group. In addition, the mean DMFT increased quite consistently across age groups, from 0.06 for 6-year-olds to 3.02 for children aged  $\geq 16$ . The mean DMFT score for 12-year-old children was 0.97.

The percentage caries free (DMFT = 0) generally declined across age groups (see Table 7) while the percentage of DMFT due to decay (mean D/DMFT index) declined from 92.1% for 6-year-olds to 50.7% for 12-year-olds, before increasing for some of the older 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, showed a similar trend to the mean D/DMFT index, declining from 100.0% for 6-year-olds to 54.6% for 12-year-olds, increasing to 68.5% for 13-year-olds, before declining again (Figure 5).

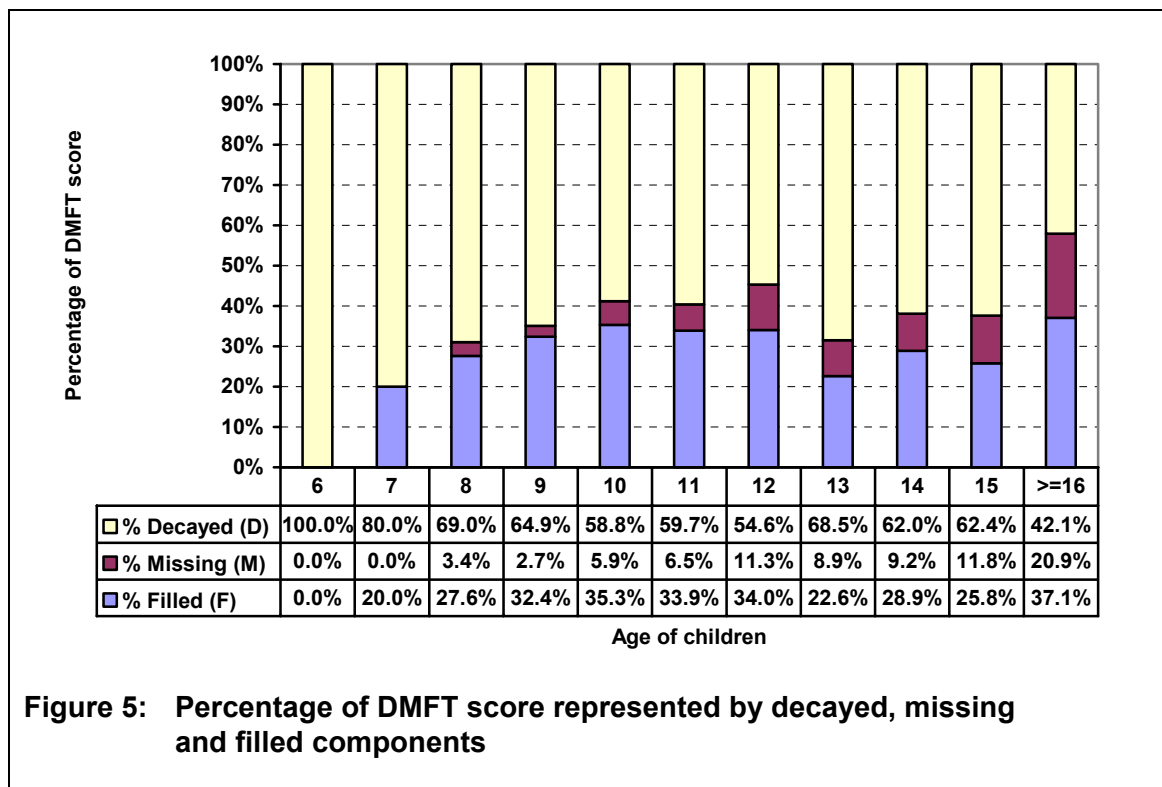
**Table 6: Permanent dentition –decayed, missing and filled teeth by age**

Age	Children <i>n</i>	Decayed (D)		Missing (M)		Filled (F)		DMFT	
		mean	SD	mean	SD	mean	SD	mean	SD
5	1,604	0.01*	0.21*	0.00	0.04*	0.01*	0.15*	0.02	0.27
6	1,561	0.06	0.32	–	–	0.00	0.07*	0.06	0.33
7	1,574	0.12	0.47	0.00	0.06*	0.03	0.23	0.15	0.54
8	1,509	0.20	0.69	0.01*	0.11*	0.08	0.40	0.29	0.82
9	1,622	0.24	0.72	0.01	0.14	0.12	0.48	0.37	0.89
10	1,612	0.30	0.84	0.03	0.22	0.18	0.59	0.51	1.07
11	1,426	0.37	1.08	0.04	0.29	0.21	0.62	0.62	1.32
12	1,106	0.53	1.30	0.11	0.60	0.33	0.85	0.97	1.78
13	397	0.85	1.62	0.11	0.50	0.28	0.77	1.24	1.95
14	178	0.88	1.96	0.13	0.55	0.41	1.06	1.42	2.43
15	103	1.16	2.13	0.22	0.64	0.48	1.09	1.86	2.63
$\geq 16$	95	1.27	2.57	0.63	1.44	1.12	1.92	3.02	3.75

\* 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	16	58.8	1,604	99.0
6	70	92.1	1,561	95.5
7	146	82.8	1,574	90.7
8	249	69.9	1,509	83.5
9	350	63.3	1,622	78.4
10	419	57.5	1,612	74.0
11	414	55.9	1,426	71.0
12	415	50.7	1,106	62.5
13	176	63.7	397	55.6
14	86	53.3	178	51.8
15	59	59.5	103	42.1
≥16	66	39.8	95	30.8



## Changes since 1999

There were increases in caries experience indices for most children between 1999 and 2000, with the largest increases for children aged 13 years and older. For the remainder of the age groups, there were only small to moderate increases in the mean number of clinically decayed permanent teeth between 1999 and 2000 and small variations in the mean number of filled and DMF teeth. Increases in DMFT for children aged 12 years or older ranged from +5.2% for 14-year-olds to +65.9% for the oldest children. There were also increases in D/DMFT for children aged 11 years and younger, while decreases occurred among the older age groups. Changes in the percentage of children without clinically detectable caries (DMFT = 0) were few and relatively inconsistent between 1999 and 2000.

## All teeth

Untreated clinically detectable caries in the combined deciduous and permanent dentitions (see Table 8) existed for between 30.5% and 49.0% of children in all age groups. The greatest likelihood of untreated decay occurred for children aged 12 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 15–19% of children aged up to 7 years of age being affected to this extent. Higher levels of untreated decay were also apparent for children aged 14 and 16 and older.

**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	1,801	64.7	8.2	8.0	4.0	5.2	9.9	97.1	95.0	61.5
5	1,604	57.6	9.1	8.2	6.0	6.4	12.7	94.6	86.5	50.5
6	1,561	51.0	13.8	11.1	7.2	4.5	12.5	96.0	76.2	42.5
7	1,574	52.2	14.5	11.0	6.9	6.0	9.4	95.4	70.4	40.0
8	1,509	53.5	16.4	10.7	7.0	3.2	9.2	95.0	66.2	38.2
9	1,622	55.5	18.1	9.2	5.9	4.1	7.1	95.8	65.2	38.6
10	1,612	61.4	17.4	8.4	4.1	3.5	5.2	96.4	67.6	43.0
11	1,426	67.7	14.4	7.1	3.8	1.6	3.4	97.0	72.9	51.4
12	1,106	69.5	15.0	5.8	3.7	2.8	3.1	94.6	75.3	52.8
13	397	64.7	13.0	8.9	4.9	3.4	5.1	93.9	81.3	52.7
14	178	63.9	9.3	12.2	5.3	1.7*	7.6	88.2	76.7	44.4
15	103	56.4	18.5	10.5	3.4*	1.9*	9.3	84.3	73.0	36.6
≥16	95	55.3	13.5	20.3	0.0	3.3*	7.6	76.8	56.9	29.1

\* relative standard error ≥ 40%

More than 94% of children aged 5 to 12 years had no deciduous or permanent teeth missing due to caries. However, smaller percentages avoided fillings with between 18.7% and 34.8% of children aged 6 to 14 years old 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 61.5% up to age 4 to 38.2% at age 8. Above the age of 8, the percentage increased to a high of 52.8% for 12-year-olds.

### Changes since 1999

There were reductions in the percentage of children with  $d+D = 0$  for all but two age groups (14- and 15-year-olds) between 1999 and 2000, with decreases ranging from -0.7% (13-year-olds) to -7.1% (9-year-olds). In contrast, increases in  $d+D = 3$  and  $d+D = 5$  were experienced by most age groups. Small increases in the percentages of children with  $f+F = 0$  occurred for most age groups although children aged 14 years and over experienced fairly large reductions between 1999 and 2000. The increases in detectable decay resulted in consistent decreases in the percentage of children with  $dmft+DMFT = 0$  between 1999 and 2000, with only 11- and 13-year-olds showing increases and these being small.

### Fissure sealants

Fissure sealants increased in prevalence for children up to 12 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 4.6% and 122.5% more likely to have fissure sealants than were children with  $DMFT = 0$ .

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**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	1,561	0.10	0.56	1,491	3.0	70	17.9
7	1,574	0.34	1.02	1,429	10.2	146	22.7
8	1,509	0.68	1.38	1,260	19.8	249	34.4
9	1,622	0.91	1.52	1,272	27.7	350	37.4
10	1,612	0.98	1.64	1,194	30.2	419	31.6
11	1,426	1.08	1.80	1,012	32.0	414	37.1
12	1,106	1.09	1.84	691	32.5	415	37.6
13	397	0.76	1.58	221	23.0	176	23.5
14	178	0.66	1.72	92	15.1	86	22.0
15	103	0.64	2.06	43	10.7	59	14.5
≥16	95	0.75	1.90	29	20.4	66	16.5

## Changes since 1999

The mean number of fissure sealants in 2000 decreased from 1999 for children aged up to 10, but increased for most of the older age groups. The increase occurred primarily for those with no caries experience (DMFT = 0).

## 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 1.5% 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 1999

The percentage of children with immediate treatment needs changed little between 1999 and 2000.

**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	32	2.0	3.74	3.37	0.21*	1.10*	11.0*	16.6	24.6	9.2*	38.5
6	32	2.0	5.20	4.21	0.04*	0.20*	4.4*	28.0	16.4	19.7	31.5
7	43	2.7	4.09	3.19	0.41	0.73	10.8	30.7	10.1*	18.1	30.3
8	33	2.2	4.26	3.35	0.93	1.29	3.9*	44.9	9.1*	12.7*	29.5
9	33	2.0	3.59	3.21	0.85	1.40	5.4*	36.3	16.4	10.0*	31.9
10	32	2.0	2.40	2.49	1.63	1.72	9.7*	33.4	21.9	3.3*	31.7
11	21	1.5	1.63	2.13	1.64	1.66	14.3*	29.6	24.0	0.0	32.1
12	28	2.5	0.76	1.18	1.89	2.26	19.6	29.1	2.1*	40.3	8.9*
13	8	2.0	0.17*	0.40*	1.49	1.48	0.0	88.9	11.1*	0.0	0.0
14	4	2.5*	–	–	4.45	1.68	41.2*	18.7*	0.0	40.0*	0.0
15	1	0.6*	–	–	7.00	–	0.0	0.0	0.0	0.0	100.0
≥16	2	2.6*	–	–	7.50	1.95	0.0	0.0	0.0	0.0	100.0

\* relative standard error ≥ 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 (6 years or less) with less than 10% of the examinations of those aged 8 years or older being initial examinations. This pattern is expected and indicates that most patients 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 53.7% to 38.8%. 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 (11.43 months) for the youngest children to over two years (24.84 months) for children aged 14 years.

### Changes since 1999

Of those children with previous examinations, reductions occurred for most age groups in the percentage receiving examinations from 0–6 months and 13–18 months previously while increases were observed in the percentages receiving examinations 7–12 months, 19–24 months and 25+ months previously. These changes were reflected in an increase for every age group up to and including 13 years 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	1,917	62.1	18.4	19.5
5	1,758	35.1	39.6	25.3
6	1,675	16.0	58.4	25.6
7	1,686	13.0	66.6	20.4
8	1,559	6.5	72.5	21.0
9	1,615	9.1	70.2	20.7
10	1,620	7.3	70.7	22.0
11	1,434	5.7	75.3	18.9
12	1,115	4.8	75.4	19.7
13	375	3.0	70.6	26.4
14	150	2.0*	73.3	24.7
15	89	3.9*	64.4	31.7
≥16	85	6.8	61.9	31.3

**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	352	17.5	45.5	29.0	5.0	3.0	11.43	5.42
5	696	11.6	47.3	32.1	5.8	3.2	12.58	5.79
6	978	6.2	47.5	32.9	9.1	4.3	13.51	5.62
7	1,123	5.7	42.8	33.8	10.5	7.2	14.27	6.04
8	1,130	5.0	39.5	31.8	13.2	10.6	15.24	7.28
9	1,134	4.8	40.2	29.8	12.1	13.2	15.98	8.77
10	1,145	5.3	40.5	31.5	10.6	12.1	15.75	8.85
11	1,080	4.4	39.1	32.3	11.9	12.3	16.20	8.68
12	841	2.8	36.0	36.0	13.3	11.8	16.51	9.07
13	265	2.5	31.6	27.9	13.5	24.4	19.62	12.82
14	110	0.0	21.1	26.0	17.4	35.5	24.84	16.38
15	57	0.0	26.8	28.6	13.7	30.9	21.84	13.17
≥16	52	3.6*	28.4	26.0	14.6	27.5	22.32	17.29

\* relative standard error ≥ 40%

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

Figure 6 presents a summary of data contained in Tables 5, 7 and 8 showing the extent of dental health (represented by percentage with no clinically detectable 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 ≥ 4 up to the age of 11 years.



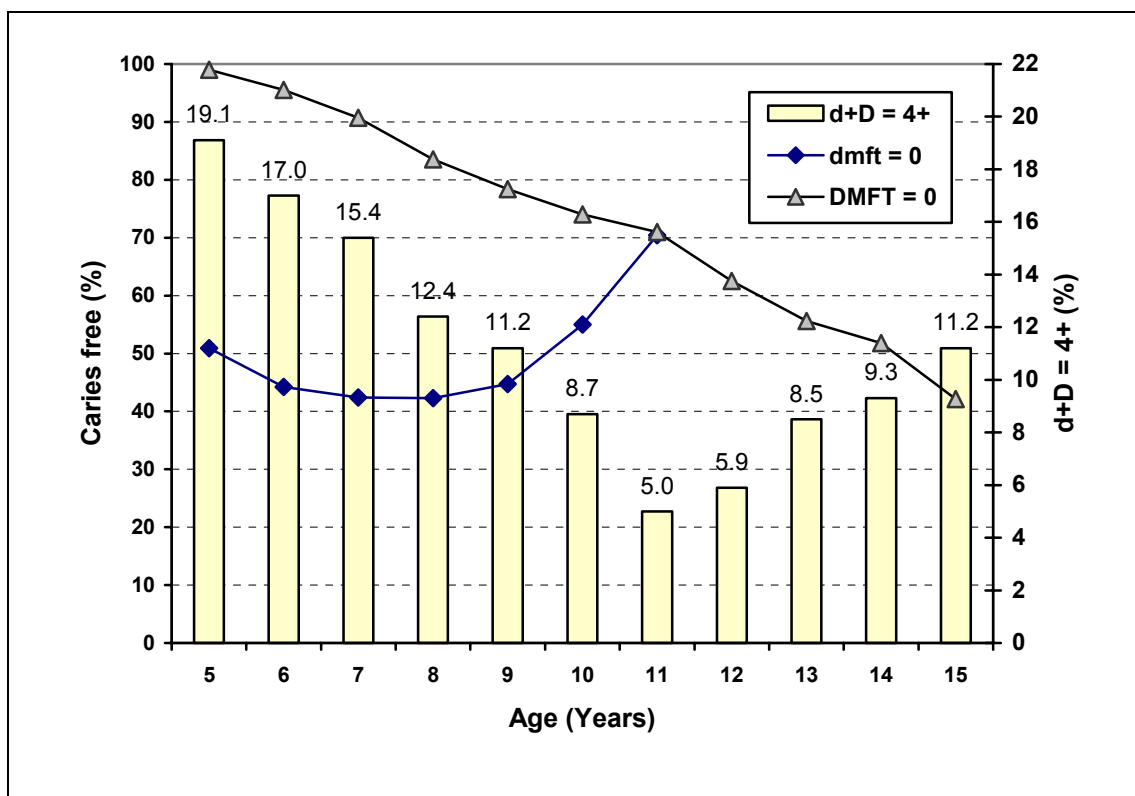


Figure 6: Percentage of children with dmft = 0, DMFT = 0 and d+D ≥ 4

## 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 1½ to 2½ 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 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	1,305	0.71	1.62	0.04	0.35	0.10	0.58	0.86	1.85	82.4	71.9
5	1,063	0.97	2.00	0.10	0.59	0.37	1.15	1.44	2.63	68.8	61.9
6	1,009	0.80	1.56	0.06	0.53	0.70	1.57	1.56	2.56	58.1	55.0
7	998	0.72	1.45	0.07	0.42	0.87	1.65	1.65	2.48	45.2	53.2
8	919	0.58	1.15	0.07	0.44	0.99	1.72	1.64	2.36	40.6	50.9
9	995	0.54	1.18	0.05	0.40	0.98	1.71	1.56	2.28	37.6	51.3
10	1,015	0.37	0.83	0.03	0.24	0.74	1.34	1.15	1.81	35.1	56.5
11	838	0.19	0.58	0.01*	0.18*	0.46	1.05	0.67	1.32	31.2	71.6
12	640	0.10	0.37	0.01*	0.15*	0.19	0.67	0.30	0.91	37.3	85.4

**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	496	2.67	3.10	0.10	0.56	0.10	0.64	2.87	3.26	93.1	34.8
5	541	2.94	3.39	0.16	0.72	0.32	1.15	3.43	3.72	87.0	29.5
6	552	3.22	3.46	0.17	0.72	0.57	1.36	3.96	3.90	82.2	24.6
7	577	2.52	2.92	0.10	0.54	0.76	1.63	3.38	3.38	77.0	23.8
8	590	2.00	2.31	0.11	0.52	0.64	1.38	2.74	2.63	73.7	28.8
9	627	1.63	2.10	0.08	0.43	0.53	1.21	2.24	2.44	73.1	34.1
10	597	1.03	1.62	0.03	0.24	0.29	0.92	1.35	1.93	75.4	52.4
11	588	0.57	1.30	0.02*	0.17*	0.19	0.64	0.77	1.55	73.4	68.7
12	466	0.26	0.85	0.01*	0.08*	0.12	0.60	0.38	1.07	67.9	81.5

\* 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 in their permanent dentition (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	1,063	0.01*	0.19*	0.00	0.04*	0.01*	0.18*	0.03	0.28	57.8	98.7
6	1,009	0.06	0.31	–	–	0.01*	0.08*	0.06	0.33	88.7	95.7
7	998	0.10	0.42	0.00	0.03*	0.03	0.25	0.13	0.52	76.5	92.0
8	919	0.13	0.49	0.00	0.11*	0.10	0.46	0.24	0.71	58.4	86.1
9	995	0.14	0.49	0.01	0.10	0.15	0.53	0.30	0.73	48.9	81.0
10	1,015	0.14	0.49	0.01*	0.16*	0.21	0.64	0.37	0.86	41.7	79.4
11	838	0.17	0.55	0.04	0.33	0.25	0.68	0.45	0.97	39.8	75.3
12	640	0.24	0.73	0.11	0.56	0.36	0.84	0.71	1.39	33.7	68.8
13	131	0.28	0.84	0.13	0.58	0.28	0.60	0.69	1.22	35.7	66.7
14	33	0.17*	0.54*	0.16*	0.81*	0.60*	1.43*	0.94	1.72	18.2*	67.9
15	25	0.32*	0.72*	0.24*	0.93*	0.54	0.70	1.10	1.34	22.9	51.2
≥16	18	0.08*	0.27*	1.17	1.80	1.85*	3.25*	3.09	4.74	0.8*	44.0

\* 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	541	0.01*	0.24*	–	–	0.00	0.05*	0.01*	0.24*	63.4*	99.4
6	552	0.06	0.34	–	–	0.00	0.03*	0.07	0.34	97.8	95.3
7	577	0.17	0.54	0.00	0.10*	0.02*	0.18*	0.19	0.58	90.4	88.5
8	590	0.31	0.90	0.01*	0.12*	0.05	0.29	0.37	0.96	81.9	79.3
9	627	0.40	0.95	0.02	0.18	0.07	0.39	0.49	1.08	80.2	74.3
10	597	0.57	1.17	0.05	0.30	0.13	0.47	0.75	1.31	73.2	64.9
11	588	0.66	1.51	0.04	0.24	0.15	0.50	0.85	1.67	71.9	64.8
12	466	0.92	1.74	0.12	0.65	0.29	0.85	1.33	2.15	66.5	53.9
13	266	1.12	1.83	0.10	0.46	0.29	0.84	1.51	2.17	72.9	50.2
14	145	1.05	2.13	0.12	0.48	0.36	0.96	1.53	2.56	58.3	48.1
15	77	1.44	2.36	0.21	0.52	0.45	1.20	2.11	2.90	69.2	39.2
≥16	77	1.56	2.78	0.50	1.32	0.94	1.42	3.00	3.51	47.0	27.7

\* 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 1.07 in the Darwin Urban area to 2.78 in Darwin Rural. Teeth missing due to caries were uncommon in most areas, ranging from 0.03 in Alice Springs Rural to 0.21 in Darwin Rural. The number of filled teeth was lowest in the East Arnhem area (mean = 0.12) with the highest score being in Alice Springs Urban (mean = 0.99). Mean dmft scores in the deciduous dentition ranged from 1.77 in Darwin Urban to 3.48 in Darwin Rural. The percentage of children with dmft = 0 was highest in Barkly (56.6%) and Darwin Urban (52.8%) and lowest in the Alice Springs Rural (32.3%) and Darwin Rural (33.0%) 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	1,243	1.07	2.02	0.08	0.44	0.61	1.41	1.77	2.76	52.8	
Darwin Rural	448	2.78	3.38	0.21	0.84	0.48	1.30	3.48	3.99	33.0	
East Arnhem	180	2.06	3.14	0.16	0.73	0.12	0.51	2.34	3.43	46.1	
Katherine	496	1.70	2.65	0.16	0.93	0.65	1.58	2.50	3.37	46.4	
Barkly	83	1.61	2.86	0.02	0.15	0.17	0.68	1.81	3.02	56.6	
Alice Springs Urban	695	1.13	2.14	0.04	0.39	0.99	1.97	2.16	3.17	49.4	
Alice Springs Rural	124	2.53	2.81	0.03	0.36	0.18	0.60	2.74	2.90	32.3	

Among 12-year-old children (Table S6), East Arnhem had the highest mean decay score (mean = 1.51) and this was approximately 5½ times higher than that in Darwin Urban (mean = 0.27). The number of filled teeth ranged from a mean of 0.12 in East Arnhem to 0.54 in Katherine. The lowest mean DMFT score among 12-year-olds was in Alice Springs Urban (mean = 0.71) which also had the second highest percentage of children with DMFT = 0 (67.2%). The highest percentage of children with DMFT = 0 was in Darwin Urban (67.6%) while the lowest percentage of children with DMFT = 0 was in Darwin Rural (53.0%). DMFT scores were highest in East Arnhem (mean = 1.80).

**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	432	0.27	0.77	0.12	0.64	0.36	0.90	0.75	1.49	67.6
Darwin Rural	149	0.68	1.50	0.10	0.42	0.36	0.77	1.14	1.70	53.0
East Arnhem	41	1.51	2.53	0.17	0.95	0.12	0.46	1.80	2.91	56.1
Katherine	213	0.39	0.99	0.11	0.51	0.54	1.13	1.05	1.83	61.5
Barkly	24	1.04	1.88	0.00	0.00	0.29	0.81	1.33	1.99	58.3
Alice Springs Urban	131	0.36	1.05	0.09	0.44	0.26	0.63	0.71	1.37	67.2
Alice Springs Rural	59	0.75	1.21	0.00	0.00	0.27	0.91	1.02	1.62	54.2