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AIHW

Northern Territory Remote Aboriginal Investment: Oral Health Program

July 2012 to December 2017

Northern Territory Remote Aboriginal Investment: Oral Health Program

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Contents

Summary

Oral health is an important component of overall health and quality of life. Poor oral health can affect adults and children alike, causing pain, embarrassment, and even social marginalisation. For children, the effects can be long term and carry through to adulthood.

Aboriginal and Torres Strait Islander children are more likely than non-Indigenous children to experience tooth decay. A number of factors contribute towards the poorer oral health of Indigenous children in general, such as poverty, social disadvantage, diet and lack of access to dental services.

For the past 10 years, the Australian Government has helped fund oral health services for Indigenous children under the age of 16 in the Northern Territory. The Northern Territory Remote Aboriginal Investment Oral Health Program (NTRAI OHP) provides preventive (application of full-mouth fluoride varnish and fissure sealants) and clinical (tooth extractions, diagnostics, restorations and examinations) services.

This report presents data from the NTRAI OHP for 2017, and includes long-term analyses from 2009 to 2017.

How many children received services?

In 2017, over 11,000 services were delivered to Indigenous children in the Northern Territory under the NTRAI OHP:

- Almost 5,000 children received 5,600 full-mouth fluoride varnish services. This was an increase of around 400 children from 2016.
- 1,600 children received 1,800 fissure sealant services. This was a decrease of nearly 400 children from 2016.
- 3,300 children received 4,200 clinical services, such as dental assessments, fillings, extractions or orthodontic services. This was a slight decrease of around 100 children from 2016.

4,900 children received **fluoride varnish** services

1,600 children received **fissure sealant** services

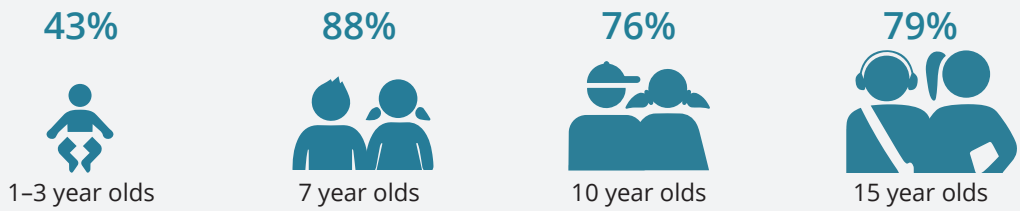
3,300 children received **clinical** services

Sources: tables S2.1, S2.3, S2.6.

Almost 9 in 10 Indigenous 6–9 year olds had tooth decay

Tooth decay varied by age, and in 2017, children aged 6–9 had the highest percentage of tooth decay (86–88%). In comparison, less than half of children aged 1–3 had tooth decay (43%).

The proportion of children with tooth decay varied by age in 2017:



Source: Table S3.1.

While the oral health of children in the program has generally improved since 2009, the proportion of 11 year olds with tooth decay has increased (from 69% to 75%).

How many decayed, missing or filled teeth?

A widely used indicator to measure oral health status is a count of the number of decayed, missing or filled teeth.

On average, in 2017, children in the NTRAI OHP aged 5 had the highest average number of decayed, missing or filled baby teeth (dmft = 6) while children aged 15 had the highest average number of decayed, missing or filled permanent teeth (DMFT = 3).

Source: Table S3.1.

Is the NTRAI Oral Health Program meeting its benchmarks?

The NTRAI OHP has performance indicators and benchmarks to monitor its outcomes. In 2017, all of the clinical and preventive service delivery targets were met (Table S1).

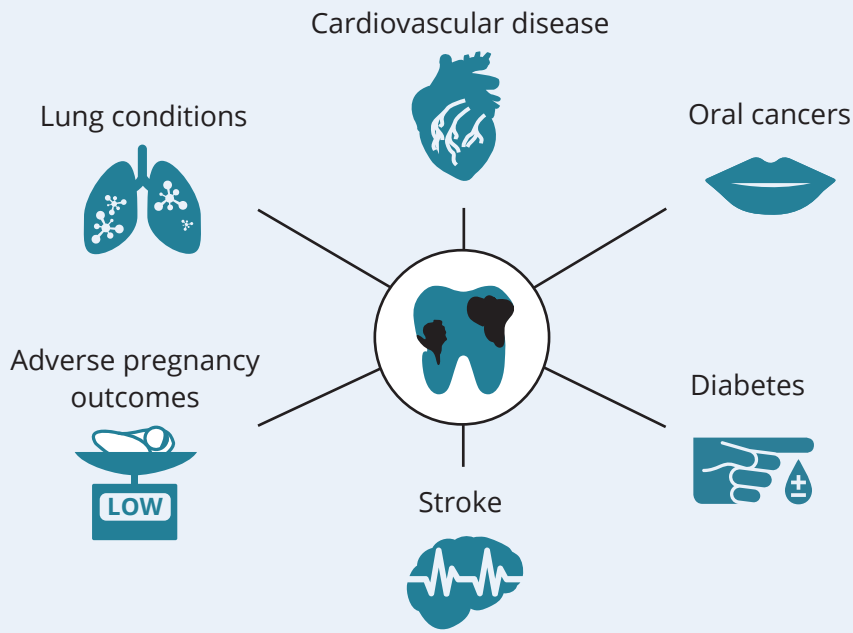
Table S1: Progress against benchmarks, 2017

Service delivery targets	Outcomes
At least 3,800 occasions of clinical service per year	4,274 occasions of clinical services in 2017
At least 5,531 fluoride varnish applications in 2017	5,627 fluoride varnish applications provided in 2017
Fissure sealant applications to at least 4,500 teeth in 2017	Fissure sealant applications to 7,695 teeth in 2017
Health outcome targets	
At least 50% of total service items are preventive services	82% of total service items were preventive in 2017

1 Introduction

Oral health plays a vital role in one's overall health and can impact quality of life. Good oral health allows people to socialise and speak without pain, disease, discomfort or embarrassment. Good oral health can even prevent children from experiencing social marginalisation and embarrassment associated with oral diseases and their consequences (NACDH 2012). Oral health revolves around the health of the tissues in the mouth—bones, gums, muscles and teeth—with the most common oral diseases affecting the gums (periodontal disease) and teeth (tooth decay). Poor oral health has been linked to a number of chronic conditions (Figure 1.1).

Figure 1.1: Links between poor oral health and chronic diseases



Poor oral health can affect adults and children alike, but poor oral health in children can have long-term negative effects that carry through to adulthood. As such, encouraging and maintaining good childhood oral health habits, and having access to oral health services, are important for the prevention of dental disease (NACDH 2012).

Among Australian children, oral diseases (mainly tooth decay) accounted for 7.8%, 4.2% and 3.3% of the non-fatal burden of disease among those aged 5–9, 10–14 and 15–19, respectively (AIHW 2016). Indigenous Australians are less likely to receive preventive dental care and have a higher likelihood of having untreated dental disease or having oral health hospitalisations (Jamieson et al. 2010; Kruger & Tennant 2015).

Oral health in the Northern Territory

The proportion of Aboriginal and Torres Strait Islander people in the Northern Territory is 26%, and is the highest proportion compared with other states and territories (ABS 2018). Additionally, children in the Northern Territory have higher levels of tooth decay compared with other states and territories (AIHW 2018b) and Indigenous children experience twice as much tooth decay as non-Indigenous children (AIHW 2018a). There are several factors that contribute to the poorer oral health of Indigenous children in general, including in the Northern Territory:

- poverty and social disadvantage
- diet, specifically the consumption of processed sugary foods and drinks
- lower use of fluoridated toothpaste and lack of fluoridated water
- limited or no access to dental services, especially in rural and remote areas.

Australian Government oral health programs in the Northern Territory

The Northern Territory Remote Aboriginal Investment Oral Health Program (NTRAI OHP) is funded by the Australian Government and implemented by the Northern Territory Department of Health. It is designed to enhance existing public dental services. It began in July 2015, and will be funded until 2022. Funded activities aim to decrease the prevalence, incidence, severity and impact of oral health problems of Indigenous children in the Northern Territory (CFFR 2016). The program works with primary health-care providers to incorporate primary prevention into their services and deliver clinical oral health treatments to Indigenous children.

The NTRAI OHP supersedes the Child Health Check Initiative – Closing the Gap [CHCI(CtG)] (2007 to mid-2012) and the Stronger Futures in the Northern Territory (SFNT) (July 2012 to June 2015) programs. This report focuses on data collected from the SFNT and NTRAI programs, but also includes some long-term analyses from 2009 to 2017 for an examination of the change in oral health over time. For more information on the history of the program, refer to Appendix A.

About this report

This report presents information on oral health services provided by the NTRAI OHP and SFNT OHP to Aboriginal and Torres Strait Islander children under the age of 16 in the Northern Territory. This report is an update of the *Northern Territory Remote Aboriginal Investment: Oral Health Program July 2012 to December 2016* report (AIHW 2018a).

Supplementary tables are available at <https://www.aihw.gov.au/reports/indigenous-health-welfare-services/nt-oral-health-program-2012-2017/data>.

The data include over 16,000 children under the age of 16 who came through the SFNT/NTRAI OHP between July 2012 and December 2017. Table 1 contains a breakdown of the age groups in the NTRAI OHP, and how the numbers relate to the Northern Territory Indigenous population of the same age groups. Services provided under the SFNT/NTRAI OHP are available territory-wide to Indigenous children under the age of 16, but mainly focus on remote areas (where they are most needed).

Children and young people who receive services through the NTRAI OHP are not a random sample of the population and, as such, the data may not be representative of the general population of Indigenous children in the Northern Territory. Additionally, not all dental services provided in the Northern Territory are captured within this report, as the report includes only oral health services funded by the Australian Government through the NTRAI OHP.

Table 1: Age distribution of children whose families provided consent in the NTRAI OHP, and relationship to the Northern Territory Indigenous population[(a)], 2017

	Age group		
	0–5	6–11	12–15
Number of NTRAI OHP children	1,080	2,087	720
Percentage of the Northern Territory Indigenous population in the corresponding age group	12	23	8

(a) Children whose parent or guardian provided consent to share information with the AIHW as a proportion of the entire Northern Territory Indigenous population within the corresponding age group.

Sources: NTRAI OHP Data Collection; ABS 2018.

2 Dental service delivery

Key findings

In 2017:

- almost 5,000 children received full-mouth fluoride varnish services
- over 1,600 children received fissure sealants
- children aged 12–15 had the highest average number of fissure sealants (5.3 per child)
- almost 3,400 children received clinical services, such as plaque removal, extractions and orthodontic procedures. Half (51%) of the children were aged 6–11.

There are 2 main types of services delivered through the NTRAI OHP: preventive and clinical (Box 2.1).

Box 2.1: Types of services

Service: An appointment at a dental clinic on a specific date. A single occasion of service can involve the provision of multiple types of services within that 1 occasion.

Preventive services

Preventive service: Includes the removal of plaque and calculus, oral hygiene instruction, application of fissure sealants, application of full-mouth fluoride varnish (FV) and other preventive services. The NTRAI OHP provides a variety of preventive services; however, only full-mouth FV and fissure sealant data are available for analysis in this report.

Full-mouth fluoride varnish: The application of a pea-sized amount of FV (a concentrated form of fluoride) to as many teeth as possible in 1 service.

Fissure sealants: The application of a protective adhesive to grooves in the biting surfaces of teeth at the back of the mouth, usually as soon as adult molars erupt. The sealants prevent dental plaque and acid build-up, and can last for many years, but require regular check-ups to see if the sealant is intact.

Clinical services

Clinical service: An occasion of service where at least 1 clinical service was delivered (excluding occasions where *only* full-mouth FV application and/or fissure sealants were delivered).

What services are provided?

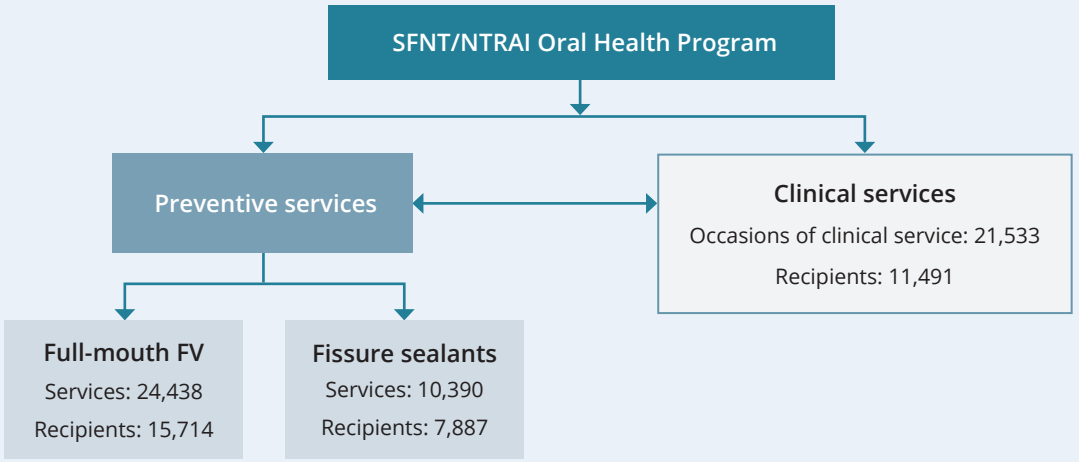
The NTRAI OHP provides clinical, preventive and oral health promotion services to Indigenous children in the Northern Territory. Figure 2.1 contains a broad overview of the services and the number of clinical and preventive services provided.

Preventive services are part of routine care in all dental clinics, and are provided as part of an individual's dental treatment plan. Specific preventive services include the application of full-mouth fluoride varnish (FV) and fissure sealants.

General dental services that are provided in all NTRAI OHP settings include:

- examinations
- restorative fillings
- extractions
- emergency care
- preventive services.

Figure 2.1: Services provided under the SFNT/NTRAI OHP from July 2012 to December 2017



Note: The 2-way arrows mean that a child can receive multiple types of services; for example, clinical services and preventive services, and services within the 2 categories.

How many children had preventive services?

A preventive service is a service where full-mouth FV applications and/or fissure sealants are delivered. Preventive services are provided in all NTRAI OHP locations. Although general oral health education can be considered as a preventive service, these instances are not included in the numbers in this section.

The NTRAI OHP provides a variety of oral health preventive services; however, only full mouth FV and fissure sealant data are supplied to the AIHW and are available for analysis for this report.

Consent rates

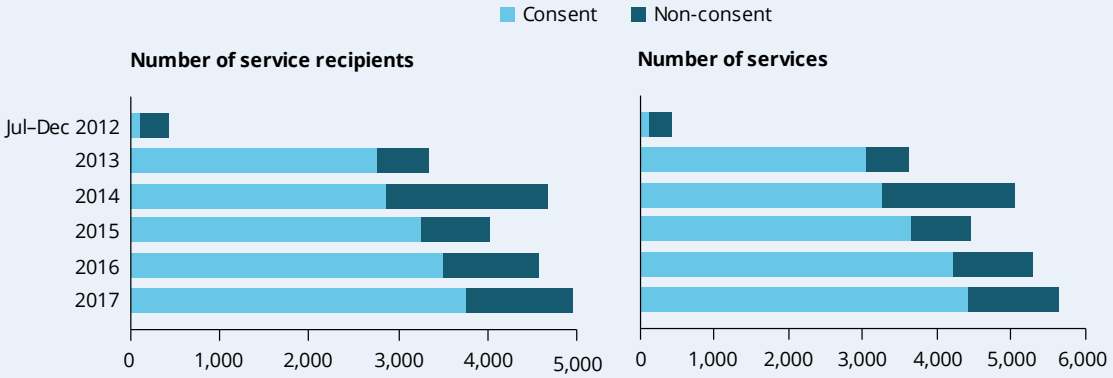
Parents or guardians of service recipients must provide their consent to share information with the AIHW. The demographic information in this report, apart from the number of services and service recipients, represents only children whose parent or guardian provided consent to share their information. When a child's parent or guardian does *not* provide consent to share information, only a limited amount of aggregate information is provided to the AIHW. See Appendix A for more information.

Full-mouth fluoride varnish

Full-mouth FV has been shown to decrease the incidence of tooth decay by up to 25%–45% when professionally applied 2–4 times per year, and is considered to be a valuable public health intervention (Bonetti & Clarkson 2016; Marinho et al. 2013):

- In 2017, 4,951 children received 5,627 full-mouth FV services (Figure 2.2).
- Between July 2012 and December 2017, 15,714 children received 24,438 full-mouth FV services.
- Since July 2012, the overall number of children in the program has increased. There was a decrease in 2015; however, the number increased again in 2016 and 2017.

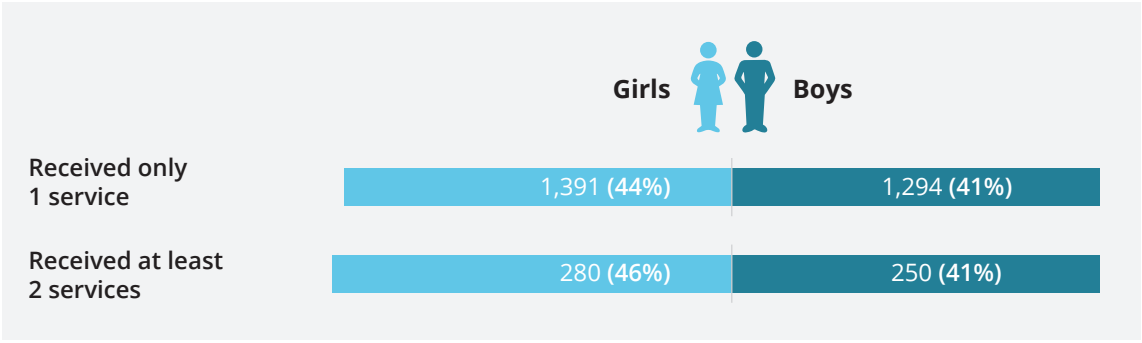
Figure 2.2: Number of full-mouth FV services and service recipients over time



Source: Table S2.1.

Consent rates to share information have fluctuated over the years, and while there has been an overall improvement over time, the consent rate decreased from 83% in 2013 to 76% in 2017.

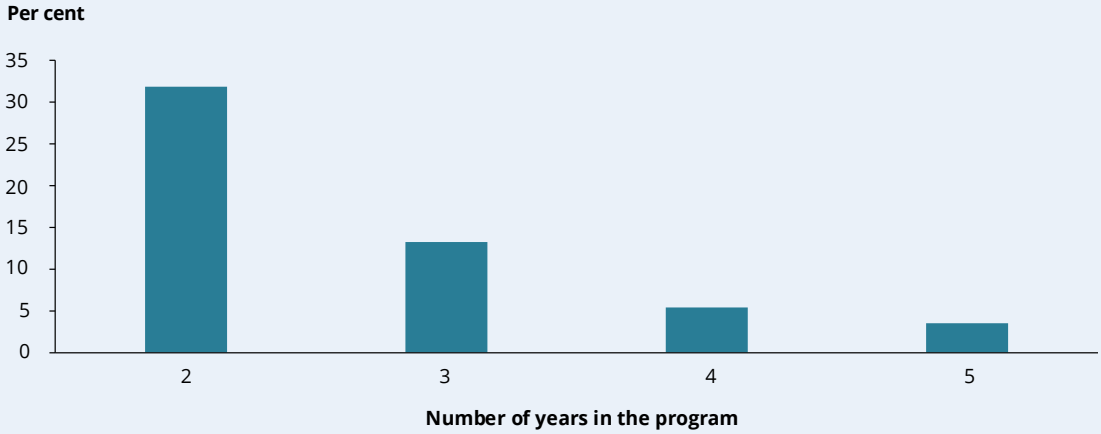
In 2017, a slightly higher percentage of girls received full-mouth FV services than boys (numbers over page do not add up to 100% due to missing information).



Ideally, full-mouth FV services should be provided at least twice per year, but some studies have shown that 1 application per year can provide a small reduction in tooth decay (Arruda et al. 2011; Weintraub et al. 2006).

Since 2013, the proportion of service recipients receiving an annual FV service decreased the longer children stayed in the program (Figure 2.3). Among children who received their first service in 2013 (5 years in the program), only 3.5% had an annual FV service.

Figure 2.3: Proportion of service recipients who received an annual FV service since entering the SFNT/NTRAI OHP



Notes

1. Only includes service recipients who were still eligible (aged 15 or under) for services through the NTRAI OHP in 2017.
2. Excludes service recipients whose parent or guardian did not consent to share information.

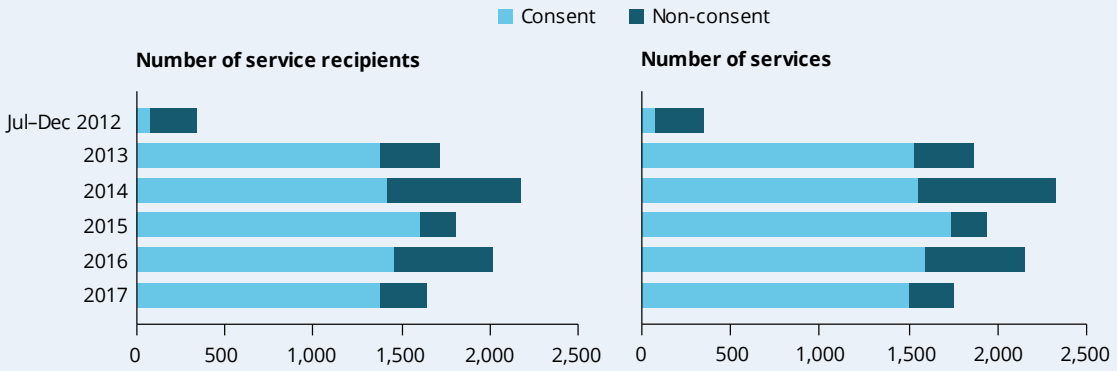
Source: Table S2.12.

Each year, around 20%–39% of parents or guardians of children who received FV services did not give consent to share their information with the AIHW. Therefore, it was difficult to follow up children accurately. Due to the small number of children receiving an annual FV service, it is difficult to measure the effectiveness of receiving an annual FV service through the NTRAI OHP in preventing tooth decay.

Fissure sealants

- In 2017, 1,638 children received 1,760 fissure sealant services (Figure 2.4).
- Between July 2012 and December 2017, 7,887 children received 10,390 fissure sealant services.
- Since July 2012, the number of children in the program has increased overall. However, there have been fluctuations over the years, and in 2017, both the number of services and service recipients decreased.
- Consent rates to share information have improved overall since 2012, where the numbers of non-consent were much higher than the numbers of consent. However, the rate of consent decreased slightly from 89% in 2015 to 85% in 2017.

Figure 2.4: Number of fissure sealant services and service recipients over time



Source: Table S2.3.

A fissure sealant can be applied to numerous teeth during 1 occasion of service. In 2017, the average number of teeth with fissure sealant applications per recipient was 4.2.

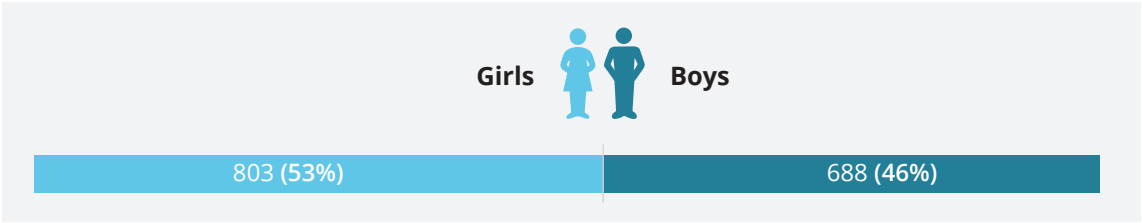
In 2017, 571 children who had fissure sealant applications had existing caries

Children with no existing caries had an average of **5.7 teeth with fissure sealants**

Children who had existing caries had an average of **4.0 teeth with fissure sealants**

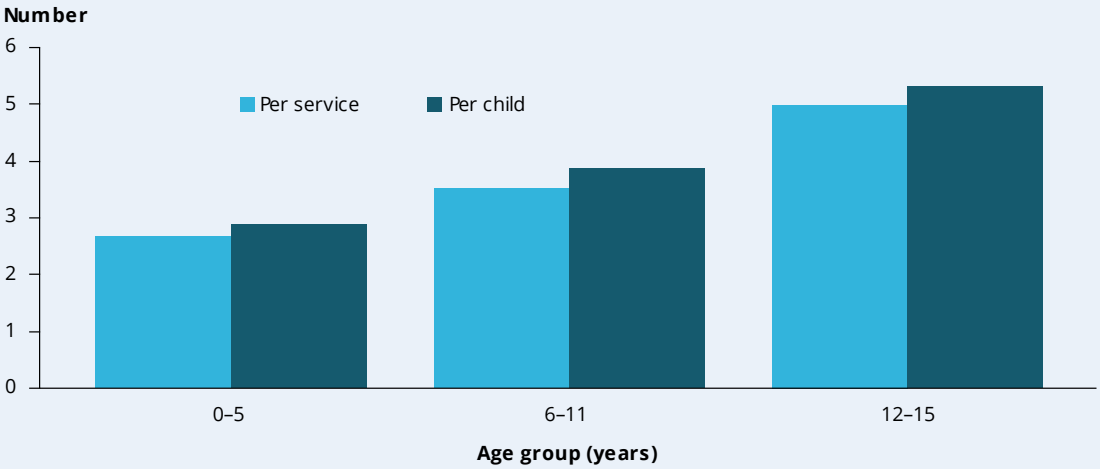
Source: Table S2.4.

More girls than boys received fissure sealant services in 2017. The numbers below do not sum to 100% due to missing information.



Children aged 6–11 made up the largest proportion (70%) of those who received fissure sealants in 2017. However, children aged 12–15 had the highest average number of fissure sealants with 5.3 per child (Figure 2.5). The lower averages for younger children is expected because fissure sealants should be applied to permanent teeth.

Figure 2.5: Average number of fissure sealants, by age group, 2017



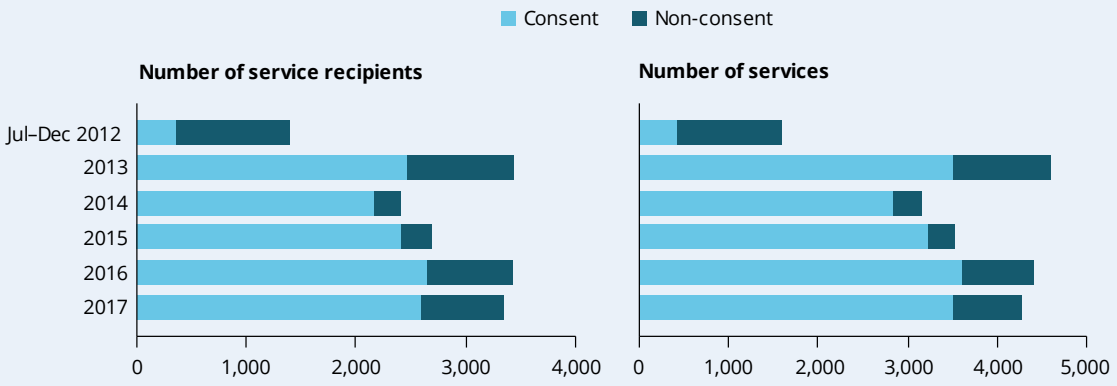
Source: Table S2.5.

How many children had clinical services?

Clinical services can include restorative services, endodontics, tooth extractions, diagnostic services or assessments, orthodontic services and periodontic services (treatment of gums).

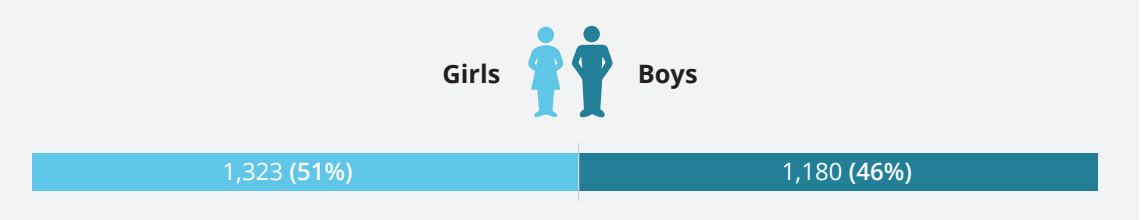
- In 2017, 3,353 children received 4,274 clinical services (Figure 2.6).
- Between July 2012 and December 2017, 11,491 children received 21,533 clinical services. The numbers decreased in 2014 and 2015, but increased in the years since.
- Consent rates have fluctuated over time, and were quite low at the beginning of the period (July to December 2012), before decreasing in 2014 and 2015. However, there was an increase in non-consent numbers in 2016 and 2017.

Figure 2.6: Number of clinical services and service recipients over time



Source: Table S2.6.

Overall, more girls than boys received clinical services. The numbers below do not sum to 100% due to missing information.

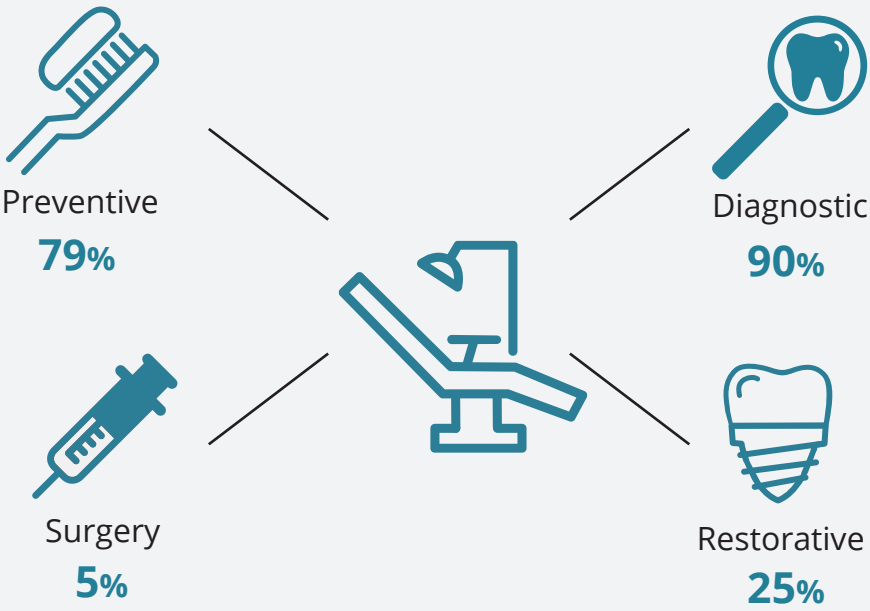


In 2017, the highest percentage of children who received a clinical service was in the 6–11 age group (51%), followed by those aged 0–5 (31%) and 12–15 (18%).

What services were provided?

Almost all children received diagnostic (assessment) services and preventive services other than full-mouth FV and fissure sealants in 2017—see diagram below. Preventive services include dental prophylaxis (for example, removal of plaque and calculus) and providing dietary advice, oral hygiene instruction and mouthguards. The proportions below for the types of services provided equate to over 100% as children can receive multiple types of services during 1 occasion of service.

Types of services provided through the NTRAI OHP



Source: Table S2.8.

How are services delivered?

The NTRAI OHP services are provided across the Northern Territory, in multi-chair community clinics, as well as single-chair clinics found in urban and regional primary schools. To improve access to oral health services in remote areas, single-chair clinics are also found in remote community health centres and delivered through mobile dental trucks.

Dental services provided under general anaesthetic are carried out by Oral Health Services Northern Territory staff in the Northern Territory. Since 2015, data related to these services have not been provided to the AIHW; hence, the services are not included in this report.

Mobile dental trucks are used to reach remote communities in Central Australia. Outreach dental services teams comprising a dentist or a dental/oral health therapist and dental assistant travel to remote communities in Central Australia for 1–3 weeks at a time. These teams also travel to remote clinics.

Remote community health centres are primarily used for service delivery in the Top End—the northern region of the Northern Territory—where dental teams utilise a single-chair clinic to provide dental services for 1–3 weeks at a time.

Distance, transport, unpredictable weather, cost and accommodation availability are all factors that challenge service delivery in remote areas of the Northern Territory. However, the NTRAI OHP provides funding to expand services in remote areas, allowing for more visits and more equitable access to oral health services.

3 Oral health status

Key findings

In 2017:

- children aged 6–9 had the highest proportion of tooth decay (between 86% and 88%)
- 5 year olds had the highest average number of decayed, missing and filled teeth
- generally, the proportion of children in the NTRAI OHP with tooth decay decreased over time
- children aged 5–6 and 12–14 in the NTRAI OHP have almost double the number of decayed, missing or filled teeth compared with other children in Australia.

Decayed, missing and filled teeth

Tooth decay is the most prevalent oral disease among children and adults. Hence, a widely used indicator to measure oral health status is a count of the number of decayed, missing or filled teeth. The decayed, missing or filled teeth (dmft or DMFT) score is a measure of the number of such teeth a child has (Box 3.1).

Box 3.1: The dmft and DMFT score

The dmft or DMFT score counts the number of teeth that are decayed, missing or filled. Lower case 'dmft' refers to deciduous or baby teeth, while upper case 'DMFT' refers to permanent or adult teeth.

For example, a dmft score of 5 means that a child has 5 decayed, missing or filled deciduous teeth.

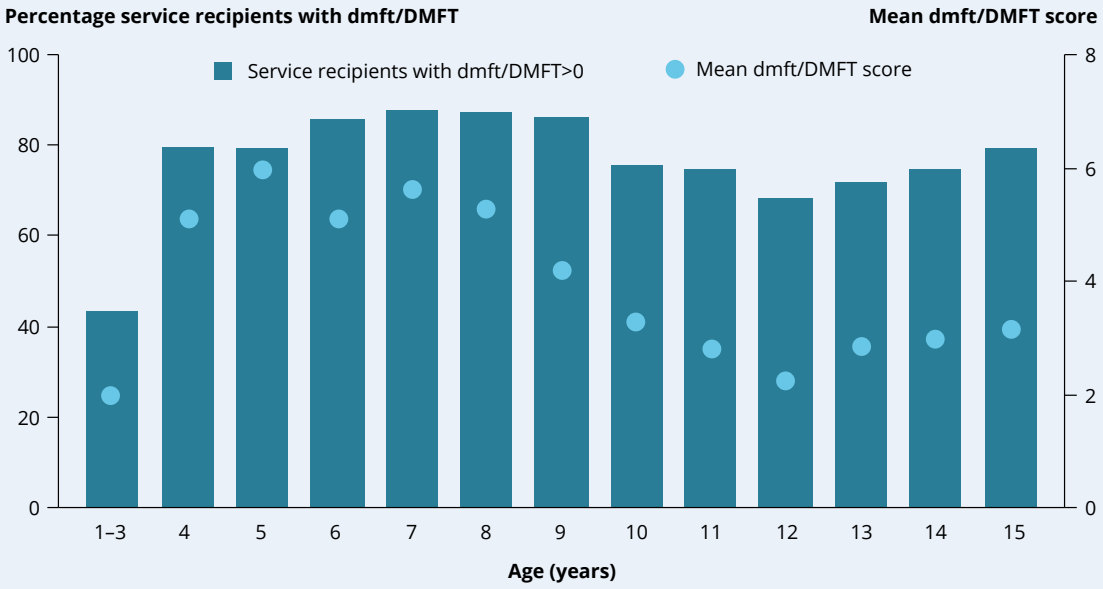
When children have a dmft/DMFT score that is greater than 0, this is known as having caries or tooth decay experience.

The proportion of children with tooth decay experience (dmft/DMFT >0) varied with age (Figure 3.1). Children aged 6–9 had the highest percentages of tooth decay experience in 2017:

- 86% of 6 and 9 year olds experienced tooth decay.
- 88% of 7 and 8 year olds experienced tooth decay.

The highest mean dmft/DMFT scores were among children aged 5 (score of 6.0) and aged 7 (score of 5.6).

Figure 3.1: Proportion of children with tooth decay experience in 2017, by age



Source: Table S3.1.

In general, mean dmft scores were higher than mean DMFT scores, meaning that more decayed, missing and filled teeth were found among children's baby teeth:

- Children aged 5 had the highest average dmft score (6.0).
- Children aged 15 had the highest average DMFT score (3.1).

Between 2013 and 2017, there was a reduction in mean dmft/DMFT among 1–3 year olds, and among 14 and 15 year olds:

- A 23% reduction in average dmft was found among 1–3 year olds.
- A 27% reduction in average DMFT was found among 15 year olds.

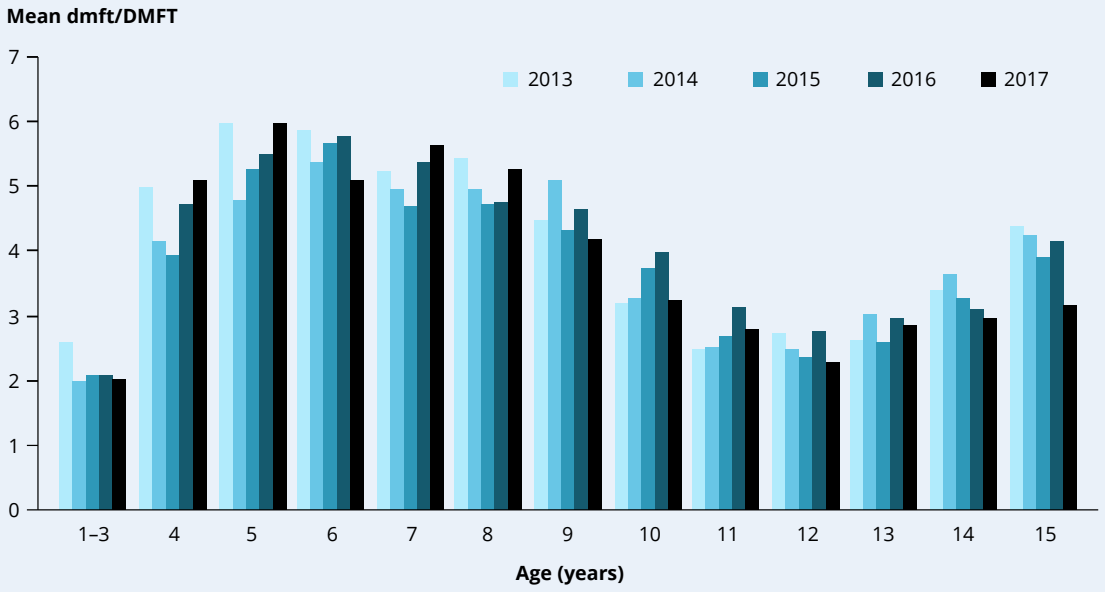
***Find out more** in Table S3.1.*

The proportion of children who experienced tooth decay fluctuated with age and over time between 2013 and 2017 (Figure 3.2).

For children aged 4 and 7, 10–11 and 13, mean dmft/DMFT increased over time:

- There was a 12% increase in average dmft/DMFT found among 11 and 13 year olds.
- There was a 2% increase in average dmft/DMFT for 4 year olds and an 8% increase for 7 year olds.
- There was no overall change in average dmft among 5 year olds over time.

Figure 3.2: Mean dmft/DMFT among children, 2013 to 2017, by age



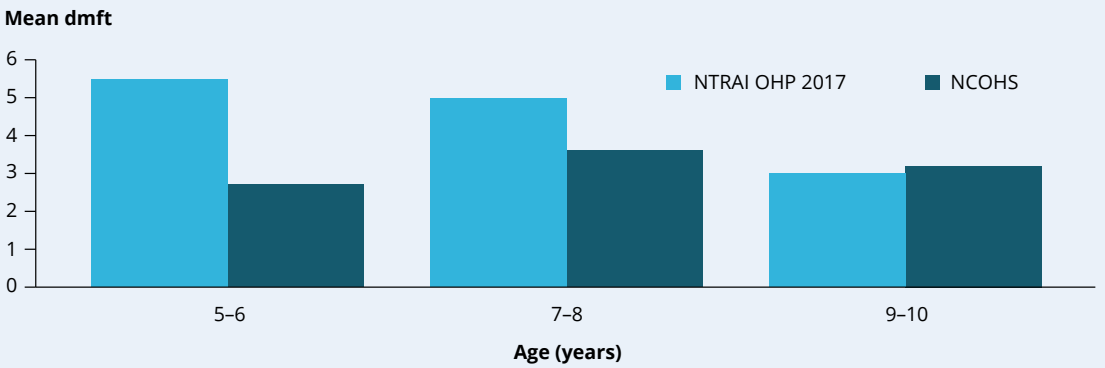
Sources: tables S3.1, S3.2, S3.3, S3.4, S3.5.

How do children in the NTRAI OHP compare with other Australian children?

The National Child Oral Health Study 2012–14 (NCOHS) provides a descriptive 'snapshot' of oral health in the child population of Australia. Data were collected from children aged 5–14, residing in all Australian states and territories. The NCOHS also included Indigenous children, and 5.5% of the total respondents were Indigenous (Ha et al. 2016).

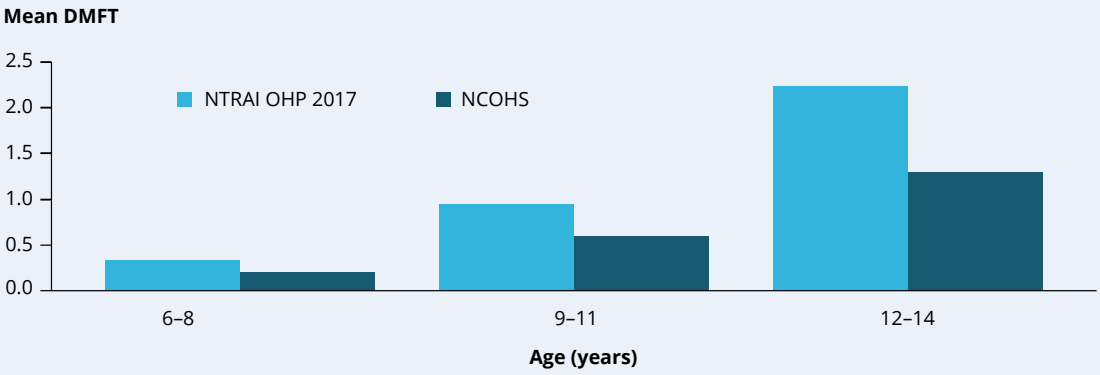
Children aged 5–6 in the NTRAI OHP had almost double the mean dmft of all children in Australia (Figure 3.3). For children with permanent teeth, this disparity is also seen, particularly for children aged 12–14 (Figure 3.4).

Figure 3.3: Mean dmft score among children in the NTRAI OHP and in the NCHOS



Sources: Table S3.1; NCOHS.

Figure 3.4: Mean DMFT score among children in the NTRAI OHP and in the NCOHS



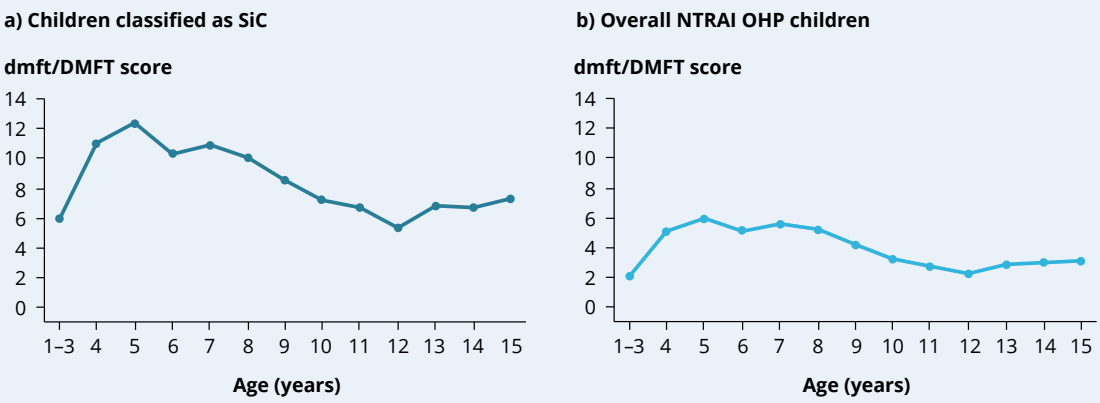
Sources: Table S3.1; NCOHS.

Significant Caries Index

The Significant Caries Index (SiC) is used to pinpoint children who have the worst tooth decay experience in a group. The SiC value is the average number of dmft/DMFT among children who are in the highest 30% of dmft/DMFT scores.

Figure 3.5 shows the difference between the mean dmft/DMFT scores among children with SiC values (Figure 3.5a) versus all the children in the program (Figure 3.5b). In 2017, children with SiC values had 2 to 3 times higher dmft/DMFT scores than in the NTRAI OHP overall.

Figure 3.5: SiC and mean total dmft/DMFT scores, 2017, by age



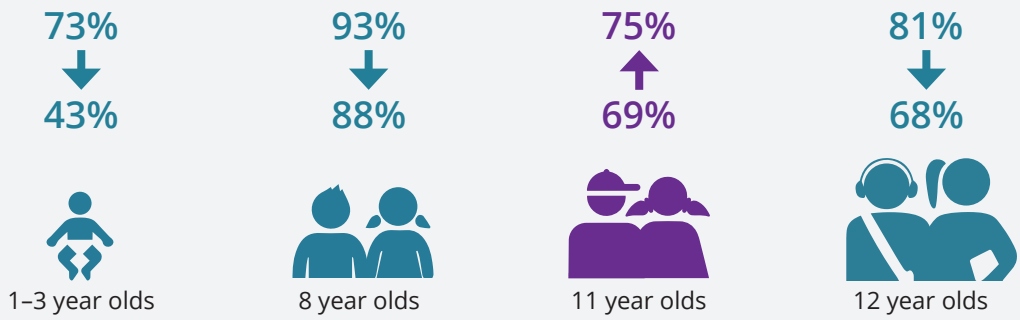
Note: The SiC value is the mean dmft/DMFT among children who have the highest 30% of dmft/DMFT scores.

Source: Table S3.1.

Changes in tooth decay over time

From March 2009 to December 2017, the proportion of children who experienced tooth decay decreased for the majority of ages. However, the proportion increased by over 5 percentage points for 11 year olds.

Tooth decay experience from March 2009 to December 2017



Source: Table S3.6.

It is important to note that changes over time could either be associated with changes in the sample of children who were in the program at different times, or actual changes in tooth decay experience of children through the program. Results are based on data made available to the AIHW periodically, and are not representative of the whole population.

Changes over time and differences across CHCI(CtG) and NTRAI OHP

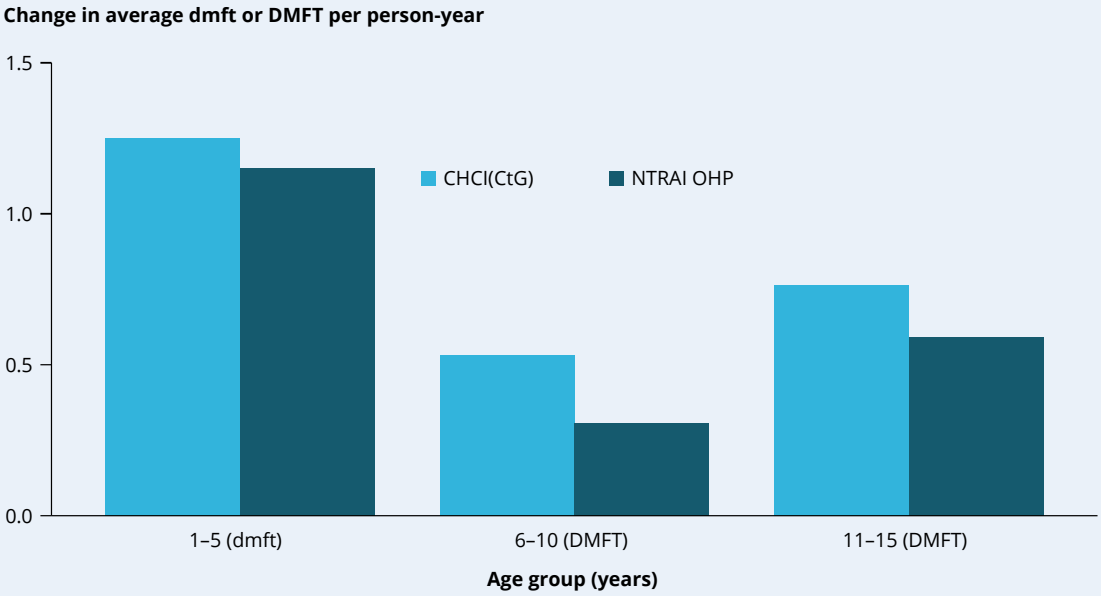
Another method of looking at the changes in children's oral health among the oral health programs is to compare tooth decay experience for the same children across multiple services. Data from the CHCI(CtG) are available from August 2008 to June 2012, and can be compared with the SFNT/NTRAI OHP from July 2012 to December 2017.

The change in dmft/DMFT was examined for children who had at least 2 dmft/DMFT records in 1 of the CHCI(CtG) or SFNT/NTRAI OHP time periods. A time gap of at least 3 months between services was included to allow for enough time to see changes in oral health. Additionally, to truly compare the programs, children who had received services in both programs were excluded.

Through both programs, tooth decay increased over time, measured by an increment in dmft or DMFT per person-year (as seen in Figure 3.6):

- For baby teeth in children aged 1–5 and for permanent teeth in children aged 6–10 and 11–15, increases in tooth decay were lower in the NTRAI OHP.
- Tooth decay among children decreased for all age groups from the CHCI (CtG) to the NTRAI OHP:
  - by 7% for 1–5 year olds
  - by 43% for 6–10 year olds
  - by 22% for 11–15 year olds.

Figure 3.6: Changes in average dmft or DMFT among children who had at least 2 services



Source: Table S3.7.

Changes observed over time could be explained by a number of factors:

- Preventive interventions (for example, full-mouth FV) introduced at the population level through the SFNT/NTRAI OHP could decrease the presence of tooth decay.
- The CHCI(CtG) cohort is relatively small, and the smaller sample size could cause variability in the findings.
- Children aged 6–10 have fewer teeth because their permanent teeth are still developing after they have lost their baby teeth. This could be a reason for this age group having the smallest increase in dmft/DMFT over time.

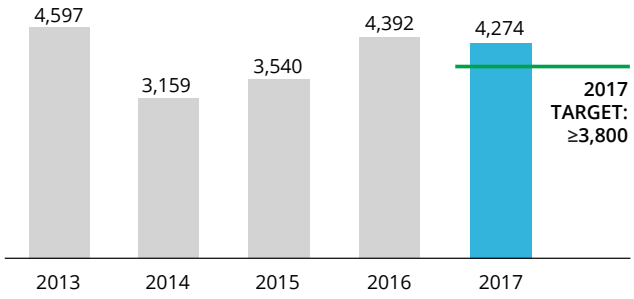
4 Progress against benchmarks

The NTRAI OHP (previously the SFNT OHP) has performance indicators and benchmarks to monitor the outcomes achieved through the program. The targets are set jointly by the Australian and Northern Territory departments of health through the Northern Territory Health Implementation Plan (CFFR 2016).

Service delivery targets

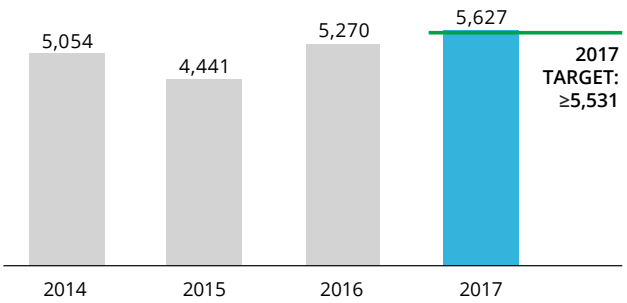
Indicator
Clinical services provided

3,800 occasions of **clinical service** per year



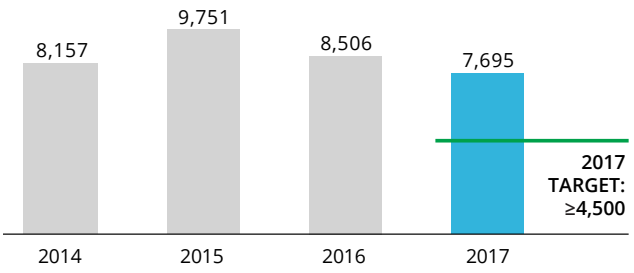
Indicator
Fluoride varnish applications

5,531 **fluoride varnish** applications in 2017



Indicator
Fissure sealant applications

Fissure sealant applications to 4,500 teeth in 2017



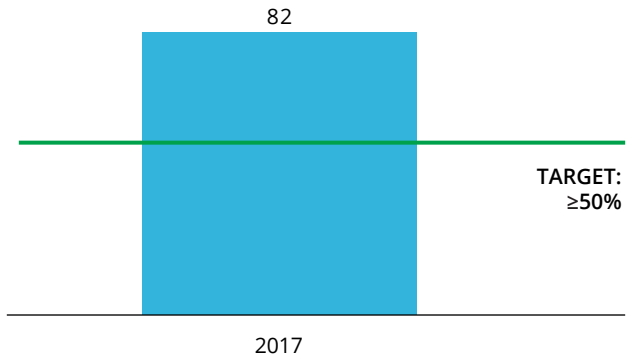
Notes

1. The fissure sealant target is based on the number of teeth that had a fissure sealant application. The target is different from the data presented elsewhere in this report on the number of fissure sealant application services.
2. Primary care team data for clinical services, fluoride varnish and fissure sealants for 2014 and 2015 are not included in the above performance measures.

Health outcome targets

Indicator
Prioritisation of preventive services

At least 50% of total service items are preventive services



Note: The 'Healthy Smiles training target' benchmark included in previous versions of this report is no longer reported. Funding for the Healthy Smiles training program has ceased and the training package is now included in general dental training for remote clinical staff.

The data for the preventive services target above include fissure sealants and full-mouth FV services that were provided during clinical occasions of service. Only data where consent was obtained to share information were used. Previous editions of this report included preventive services other than fissure sealants and full-mouth FV in the reporting of this target, so results between editions may not be comparable.

Appendix A: About the Northern Territory Remote Aboriginal Investment Oral Health Program data collection

Data collection, management and reporting

The Department of Health commissioned the Australian Institute of Health and Welfare (AIHW) to collect, manage and report on oral health services data provided through the Northern Territory Remote Aboriginal Investment Oral Health Program (NTRAI OHP). The data are extracted from an electronic information system where dental professionals record clinical information, and the data are then sent electronically to the AIHW.

Children who receive oral health services under the NTRAI OHP are not a random sample of Indigenous children in the Northern Territory. As well, not all dental services provided in the Northern Territory are captured in the NTRAI dental data collection because it includes only oral health services funded by the Australian Government through the NTRAI OHP. Services provided through other funding sources (for example, the Northern Territory Government or private sector) are not included in this report. Therefore, findings in this report are not representative of all Indigenous children in the Northern Territory.

The data that the AIHW receives rely on parents or guardians of service recipients providing their consent to share individual information. Detailed information on dental services are only sent to the AIHW when consent is given. In cases where that consent is not given, the AIHW receives aggregate information on only the number of services and service recipients. Therefore, apart from the total number of services and service recipients, other information in this report is representative of children for whom consent was obtained, rather than of all service recipients.

History of the program

The NTRAI OHP began as a part of the Child Health Check Initiative (CHCI), a response to the poor oral health found among Indigenous children in the Northern Territory National Emergency Response prescribed areas in mid-2007. The program later continued under the Closing the Gap (CtG) initiative in the Northern Territory National Partnership Agreement from mid-2009 to mid-2012. These 2 programs, from 2007 to mid 2012, are collectively referred to as the CHCI(CtG). Improvements were seen in the oral health of children who received services through CHCI(CtG) oral health programs, thus demonstrating their importance.

As a result of the improvements in oral health, the Australian Government continued to fund, and also expanded, the program under the Stronger Futures in the Northern Territory Oral Health Program (SFNT OHP) from July 2012 to June 2015. This program has been continued through the Northern Territory Remote Aboriginal Investment Oral Health Program (NTRAI OHP) since July 2015, and will be funded until 2022.

Appendix B: Data Quality Statement

SFNT/NTRAI OHP dental data collection summary

- This data collection included over 16,000 Indigenous children and adolescents who were aged between 0 and 15 and who received oral health services under the Stronger Futures in the Northern Territory Oral Health Program (SFNT OHP) and, later, under the Northern Territory Remote Aboriginal Investment Oral Health Program (NTRAI OHP).
- Data collected as part of the SFNT/NTRAI OHP are a by-product of a clinical process. Dental professionals who provide clinical services document the results on standard data collection forms or in a computer-based data collection system.
- In the first 6 months of the SFNT OHP (July to December 2012), the consent rate to share data with the AIHW was low, at 27% for clinical service recipients, 26% for full mouth fluoride varnish (FV) recipients and 22% for fissure sealant recipients; data collected in this period are not representative of all SFNT dental services and service recipients. However, consent rates improved substantially after the initial period to 89% for clinical service recipients, 81% for full-mouth FV recipients and 89% for fissure sealant recipients in 2015, but have decreased to 77%, 76% and 85%, respectively, in 2017.

A full Data Quality Statement for the SFNT/NTRAI dental data collection can be found online at <https://meteor.aihw.gov.au/content/index.phtml/itemId/711536>.

Acknowledgments

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The authors acknowledge the families of the children who consented to share their information with the AIHW for this report.

Abbreviations

AIHW	Australian Institute of Health and Welfare
CHCI(CtG)	Child Health Check Initiative/Closing the Gap program
dmft	decayed, missing or filled deciduous (baby) teeth
DMFT	decayed, missing or filled permanent (adult) teeth
FV	fluoride varnish
NCOHS	National Child Oral Health Study 2012–14
NTRAI	Northern Territory Remote Aboriginal Investment
NTRAI OHP	Northern Territory Remote Aboriginal Investment Oral Health Program
SFNT	Stronger Futures in the Northern Territory
SFNT OHP	Stronger Futures in the Northern Territory Oral Health Program
SiC	Significant Caries Index

Symbols

>	greater than

Glossary

deciduous (baby) teeth: Primary teeth that develop during the embryonic stage of human development and erupt (that is, become visible in the mouth) during infancy. They are usually lost and replaced by permanent teeth, but in the absence of permanent replacements, they can remain functional for many years.

dental caries: An infectious disease that can lead to cavities (small holes) in the tooth structure that compromise both the structure and the health of the tooth, commonly known as tooth decay.

diagnostic services: Services that include examinations (initial, periodic and emergency oral examinations; consultations; written reports; and referrals), radiographical examination and interpretation (intraoral radiographs and skull radiographs) and other diagnostic services (including bacteriological examinations, antibiotic sensitivity tests, biopsies and models).

dmft: Decayed, missing or filled deciduous (or baby) teeth.

DMFT: Decayed, missing or filled permanent (or adult) teeth.

dmft/DMFT: The score for deciduous and permanent teeth combined (that is, dmft + DMFT).

endodontics: Pulp or nerve treatments (pulp capping, pulpotomy, extirpation or debridement of root canal).

extraction: Removal of permanent or deciduous tooth or tooth fragment.

fissure sealants: Thin adhesive coatings that are applied to the grooves on the chewing surfaces of the back teeth to protect them from tooth decay.

full-mouth fluoride varnish (FV): A concentrated form of fluoride that is applied in 1 service to all dentition.

Indigenous: A person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which they live.

permanent teeth: Adult or secondary teeth that start to erupt at around 6 years of age. By about age 21, a person usually has 32 permanent teeth.

preventive services: Services including dental prophylaxis (removal of plaque, removal of calculus, recontouring of existing restorations), topical fluoride (application of fluoride solution or gel, instruction on self-application) and other preventive services (including dietary advice, oral hygiene instruction, fissure sealing and provision of mouthguards).

restorative services: Removal of diseased tooth structures and replacement with amalgams, glass ionomer, silicate and composite resins (filling of 1, 2, 3+ surfaces).

Significant Caries Index (SiC): Mean **dmft/DMFT** score among children who have the highest 30% of dmft/DMFT scores.

tooth decay experience: a dmft/DMFT score greater than 0.

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Related publications

The following Australian Institute of Health and Welfare (AIHW) publications on Stronger Futures in the Northern Territory (SFNT) and Northern Territory Remote Aboriginal Investment (NTRAI) oral health programs may be of interest:

AIHW 2018. Northern Territory Remote Aboriginal Investment: Oral Health Program July 2012 to December 2016. Cat. no. IHW 190. Canberra: AIHW.

AIHW 2017. Northern Territory Remote Aboriginal Investment: Oral Health Program July 2012 to December 2015. Cat. no. IHW 175. Canberra: AIHW.

AIHW 2014. Stronger Futures in the Northern Territory: Oral Health Program July 2012 to December 2013. Cat. no. IHW 144. Canberra: AIHW.

AIHW 2012. Northern Territory Emergency Response Child Health Check Initiative—follow-up services for oral and ear health: final report, 2007–2012. Cat. no. DEN 223. Canberra: AIHW.

AIHW 2011. Dental health of Indigenous children in the Northern Territory: findings from the Closing the Gap Program. Cat. no. IHW 41. Canberra: AIHW.

These reports can be downloaded for free from the AIHW website <http://www.aihw.gov.au/publications>. The website also includes information on ordering printed copies.

This report presents information on oral health outreach services provided to Aboriginal and Torres Strait Islander children and young people in the Northern Territory. It shows that in 2017, 5,600 full-mouth fluoride varnish, 1,800 fissure sealant and 4,200 clinical services were provided. Improvements were seen in the oral health of younger children, with the proportion of tooth decay in children aged 1–3 decreasing by 30 percentage points over time.

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