# Oral health and dental care in Australia

## Tranche 4 (19 March 2021)

## Blurb

This report presents key data, information and trends over time, via a suite of interactive data visualisations, describing the oral health status of Australians and their use of dental care services. It is added to and updated as data becomes available. In 2019, the Australian Government paid benefits averaging \$60 per service provided under the Child Dental Benefits Schedule. Around one-fifth of dentate adults aged 15 years and over avoided or delayed dental care due to cost in 2019–20. Adults aged 15 years and over had an average of 11.2 decayed, missing and filled teeth in 2017–18. In 2017–18, about 72,000 hospitalisations for dental conditions may have been prevented with earlier treatment.

This report was last updated on 23 March 2021. Refer to Notes for further explanation.

## Latest findings

- 1. In 2017–18, private health insurers paid benefits for around 31.8 million dental services provided across Australia
- 2. In 2017–18, more then 1 in 2 Australians (56%) had seen a dentist or dental professional in the last 12 months
- 3. About 7 in 10 children aged 5–14 brush their teeth with toothpaste at least twice a day
- 4. In 2017–18, about 72,000 hospitalisations for dental conditions may have been prevented with earlier treatment
- 5. Over 1 million dental prescriptions were dispensed in Australia each year (2013–2019)
- 6. On average, Australians spent \$7.62 per week on dental fees in 2015–16
- 7. In 2019–20, around 9 in 10 Australians reported that the dental professionals they saw always showed them respect
- 8. In 2019, there were 58.7 dentists per 100,000 population in Australia

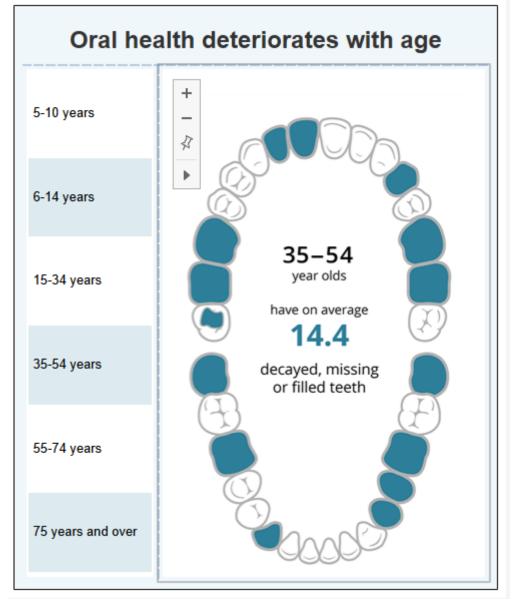
## Topic/s

Dental and oral health

## Introduction

Good oral health is fundamental to overall health and wellbeing (COAG 2015). Without it, a person's general quality of life and the ability to eat, speak and socialise is compromised, resulting in pain, discomfort and embarrassment.

Oral health refers to the condition of a person's teeth and gums, as well as the health of the muscles and bones in their mouth (AHMAC 2017). Poor oral health—mainly tooth decay, gum disease and tooth loss—affects many Australian children and adults, and contributed 4.5% of all the burden that non-fatal burden diseases placed on the community in 2015. Oral health generally deteriorates over a person's lifetime (Infographic 1).



Many factors contribute to poor oral health (NACDH 2012), including:

- consumption of sugar, tobacco and alcohol
- a lack of good oral hygiene and regular dental check-ups
- a lack of fluoridation in some water supplies

- access and availability of services, including:
  - o affordability of private dental care
  - long waiting periods for public dental care.

## What is the impact of poor oral health?

The most common oral diseases affect the teeth (tooth decay, called 'caries') and gums (periodontal disease). Oral disease can destroy the tissues in the mouth, leading to lasting physical and psychological disability (NACDH 2012). Tooth loss can reduce the functionality of the mouth, making chewing and swallowing more challenging, which in turn can compromise nutrition. Poor nutrition can impair general health and exacerbate existing health conditions (NACDH 2012). Poor oral health is also associated with a number of chronic diseases, including stroke and cardiovascular disease (DHSV 2011) (Figure 1).

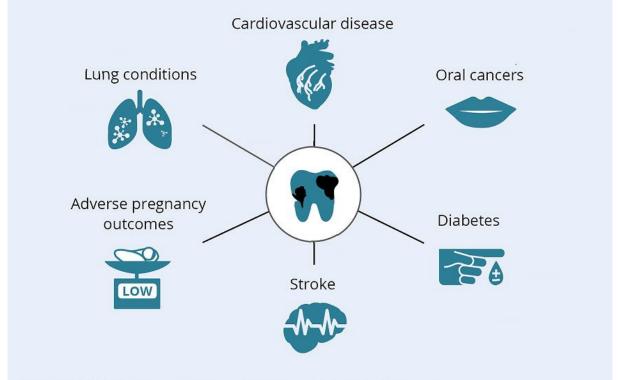


Figure 1: Links between poor oral health and chronic diseases

Poor oral health can also affect a person's wellbeing. Dental disease can impair a person's appearance and speech, eroding their self-esteem, which in turn can lead to restricted participation at school, the workplace, home and other social settings (NACDH 2012).

### Some groups are at greater risk of poor oral health

The National Oral Health Plan identifies four priority population groups that have poorer oral health than the general population and also experience barriers to accessing oral health care—either in the private or public sector. State and territory governments are the current providers of most public dental services, and access is largely targeted towards people on low incomes or holders of concession cards. Eligibility requirements can vary between states and territories (AIHW 2018).

The four priority population groups identified in the plan are:

**People who are socially disadvantaged or on low incomes:** This group has historically been identified as those on a low income and/or receiving some form of government income assistance, but now extends to include people experiencing other forms of disadvantage including refugees, homeless people, some people from culturally and linguistically diverse backgrounds, and people in institutions or correctional facilities (COAG 2015). Poorer oral health results from infrequent dental care. Barriers include cost, appropriateness of service delivery and lower levels of health literacy, including oral health (COAG 2015).

**Aboriginal and Torres Strait Islander Australians:** Indigenous Australians are more likely than other Australians to have multiple caries and untreated dental disease, and less likely to have received preventive dental care (AHMAC 2017). The oral health status of Indigenous Australians, like all Australians, is influenced by many factors and a tendency towards unfavourable dental visiting patterns, broadly associated with accessibility, cost and a lack of cultural awareness by some service providers (COAG 2015; NACDH 2012).

**People living in regional and remote areas:** Overall, this group has poorer oral health than those in *Major cities* (COAG 2015), and oral health status generally declines as remoteness increases. Rural Australians have access to fewer dental practitioners than their city counterparts, which, coupled with longer travel times and limited transport options to services, affects the oral health care that they can receive (COAG 2015; Bishop & Laverty 2015). People living in *Remote* and *Very remote* areas are also more likely to smoke and drink at risky levels. They have reduced access to fluoridated drinking water and face increased costs of healthy food choices and oral hygiene products. These risk factors contribute to this population's overall poorer oral health (COAG 2015).

**People with additional and/or specialised health care needs:** This group includes people living with mental illness, people with physical, intellectual and developmental disabilities, people with complex medical needs and frail older people. These people can be vulnerable to oral disease; for example, some medications for chronic diseases can cause a dry mouth, which increases the risk of tooth decay (Queensland Health 2008). A number of factors make accessing dental care more difficult for this group, including:

- a shortage of dental health professional with skills in special-needs dentistry
- difficulties in physically accessing appropriate dental treatment facilities
- the cost of treatment. People with additional and/or specialised health care needs often have their earning capacity eroded by ill health (COAG 2015).

## Why does oral health vary across Australia?

People in some states and territories have generally poorer oral health than others. For example, the National Child Oral Health Study found that the prevalence of caries in the deciduous teeth of children was significantly higher in Northern Territory and Queensland than in all other states and territories (Do & Spencer 2016). Oral health status is influenced by a complex interaction of factors, as outlined above. These factors should be considered when looking at results by state and territory. For example:

- all people living in the Northern Territory were located in *Outer regional*, *Remote* or *Very remote* areas, whereas the majority of the Victorian population were located in *Major cities* in 2016 (ABS 2018a)
- the Northern Territory has Australia's highest proportion of Aboriginal and Torres Strait Islander people (26% of its population) which is much higher than the next highest state, Tasmania (4.6% of its population) (ABS 2017)
- Tasmania has the highest proportion of people living in the lowest socioeconomic areas (37%) (refer to Technical notes for explanation of SEIFA) (ABS 2018b).

The variations observed in oral health status between state and territory populations may also be partly explained by differences in individual state and territory oral health care funding, service models and eligibility requirements, which can result in varied patterns of dental visiting among residents (AIHW 2018). Oral health campaigns and policies can also make an impact. For example, water fluoridation coverage in Queensland has reduced since the Queensland Government transferred the decision whether to fluoridate water supplies from state to local governments in 2012, despite evidence that access to fluoridated drinking water has been shown to reduce tooth decay (Queensland Health 2015; NHMRC 2017).

#### **References:**

ABS (Australian Bureau of Statistics) 2017. Census of Population and Housing: Reflecting Australia – Stories from the Census, 2016. Aboriginal and Torres Strait Islander Population. ABS cat.no. 2071.0. Canberra: ABS.

<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~201 6~Main%20Features~Aboriginal%20and%20Torres%20Strait%20Islander%20Po pulation%20Data%20Summary~10>

ABS 2018a. Census of Population and Housing – Counts of Aboriginal and Torres Strait Islander Australians, 2016. ABS cat. no. 2075.0. Canberra: ABS. <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/2075.0Main+Features202 016?OpenDocument>

ABS 2018b. Census of Population and Housing: Reflecting Australia - Stories from the Census, 2016. Socio-economic advantage and disadvantage. ABS cat. no. 2071.0. Canberra: ABS.

<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~201 6~Main%20Features~Socio-

Economic%20Advantage%20and%20Disadvantage~123>

AHMAC (Australian Health Ministers Advisory Council) 2017. Aboriginal and Torres Strait Islander Health Performance Framework 2017 Report. Canberra: AHMAC.

AIHW (Australian Institute of Health and Welfare) 2018. A discussion of public dental waiting times information in Australia: 2013–14 to 2016–17. Cat. no. DEN 230. Canberra: AIHW.

Bishop, L.M. & Laverty, M.J. (2015), Filling the gap: Disparities in oral health access and outcomes between metropolitan and remote and rural Australia. Canberra: Royal Flying Doctor Service of Australia.

COAG (Council of Australian Governments) Health Council 2015. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

DHSV (Dental Health Services Victoria) 2011. Links between oral health and general health - the case for action: Dental Health Services Victoria. <a href="https://www.dhsv.org.au/\_\_data/assets/pdf\_file/0013/2515/links-between-oral-health-and-general-health-the-case-for-action.pdf">https://www.dhsv.org.au/\_\_data/assets/pdf\_file/0013/2515/links-between-oral-health-and-general-health-the-case-for-action.pdf</a>

Do LG & Spencer AJ (editors) 2016. Oral health of Australian children: the National Child Oral Health Study 2012–14. Adelaide: University of Adelaide Press.

NACDH (National Advisory Council on Dental Health) 2012. Report of the National Advisory Council on Dental Health 2012. Canberra: Department of Health and Ageing.

NHMRC (National Health and Medical Research Council) 2017. NHMRC Public Statement 2017, Water Fluoridation and Human Health in Australia. Canberra: NHMRC.

http://www.nhmrc.gov.au/\_files\_nhmrc/file/publications/17667\_nhmrc\_-\_public\_statement-web.pdf

Queensland Health 2008. Healthy Teeth for Life fact sheet – Dry mouth. Viewed 26 September

2018.<http://www.health.qld.gov.au/\_\_data/assets/pdf\_file/0023/154076/htfl\_d ry\_mouth\_v2.pdf>

Queensland Health 2015. Water fluoridation. Viewed 26 September 2018.<https://www.health.qld.gov.au/public-health/industry-environment/environment-land-water/water/fluoridation>

## **Healthy teeth**

Healthy teeth are an integral part of good oral health and enable people to eat, speak and socialise without pain, discomfort or embarrassment.

## Key terms

- **Deciduous teeth:** Primary or 'baby' teeth that erupt (that is, become visible in the mouth) during infancy. A child usually has 20 deciduous teeth.
- **Permanent teeth:** Secondary or 'adult' teeth that start to erupt at around 6 years of age. A person usually has 32 permanent teeth.
- **Dental caries:** A disease process 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.
- **The dmft and DMFT score:** A score that counts the number of teeth that are decayed (d), missing due to caries (m) or filled because of caries (f)— 'dmft' refers to deciduous teeth, 'DMFT' refers to permanent teeth.
- **Dental caries experience:** When a person has a dmft or DMFT score that is greater than zero, this is known as having dental caries experience.

## How healthy are children's teeth?

Data in this section were sourced from the National Child Oral Health Study 2012–14 (Do & Spencer 2016). This nationally representative population-based survey involved data from almost 25,000 children aged 5–14 from across Australia. Information was collected via a parental questionnaire and a detailed dental examination by trained dental professionals.

In 2011, oral diseases accounted for 8.1% and 4.1% of the non-fatal burden of disease among Australia children aged 5–9 and 10–14, respectively. Almost all (99%) non-fatal burden is due to dental caries making it the most prevalent oral disease in Australian children (AIHW 2019).

#### How many teeth are affected by decay?

The average number of teeth affected by decay gives an indication of the severity of disease.

Australian children aged 5–10 had an average of 1.5 decayed, missing and filled deciduous teeth

Dental caries experience for deciduous teeth of 5-10 year olds varied between states and territories. Interactive 1 shows that dmft:

- was highest in Northern Territory children with an average of 2.4 affected teeth per person, followed by Queensland children (2.1)
- was lowest for children in the Australian Capital Territory (1.0).

Australian children aged 6–14 had an average of 0.5 decayed, missing and filled permanent teeth

Dental caries experience for permanent teeth in 6–14 year olds varied between states and territories. Interactive 1 shows that DMFT:

- was highest in Northern Territory and Queensland children with an average of 0.8 affected teeth per person
- was lowest for children in the Australian Capital Territory (0.2).

<u>The data for this section was presented in Healthy teeth Interactive 1 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

#### How does tooth decay vary for different populations?

Oral health is determined by a complex interaction of factors, including social, economic, environmental and cultural factors, as described in the Introduction. Some populations face greater challenges in accessing oral health care and experience the greatest burden of poor oral health. A key indicator of the oral health status of a population is the dental caries experience (Interactive 2).

Children aged 5–10 with dental caries in their deciduous teeth were more likely to have last visited the dentist for a dental problem (68%) than for a check-up (36%)

Around 4 in 10 (42%) children aged 5–10 had experienced dental caries in their deciduous teeth. The proportion was:

- 1.5 times as high for Indigenous children (61%) as non-Indigenous children (41%)
- higher for those from low-income households (50%) than those from medium-income households (40%) and high-income households (33%)
- 1.4 times as high for those living in *Remote and very remote* areas as those living in *Major cities*.

Indigenous children (44%) aged 5–10 were more likely to have had at least one deciduous tooth with untreated decay than non-Indigenous children (26%)

Around 1 in 4 (27%) children aged 5–10 had at least one deciduous tooth with untreated decay. The proportion was:

- lower for children from high-income households (18%) than those from medium-income households (25%) and low-income households (36%)
- higher for those living in *Remote and very remote* locations (38%) than those living in all other locations
- almost twice as high for those whose reason for their last dental visit was for a dental problem (42%) than for those who went for a check-up (22%).

Children aged 6-14 with dental caries in their permanent teeth were more likely to have last visited the dentist for a dental problem (32%) than for a check-up (22%)

Around 1 in 4 (24%) children aged 6–14 had experienced dental caries in their permanent teeth. The proportion was:

- higher for Indigenous children (36%) than non-Indigenous children (23%)
- higher for those from low-income households (28%) than those from medium-income (22%) and high-income (19%) households
- higher for those living in *Remote and very remote* areas (28%) than those living in *Major cities* (22%).

Indigenous children (23%) aged 6–14 were more likely to have had at least one permanent tooth with untreated decay than non-Indigenous children (10%)

Around 1 in 10 (11%) children aged 6–14 had at least one permanent tooth with untreated decay. The proportion was:

- higher for those from low-income households (15%) than those from medium-income (9.2%) and high-income (6.6%) households
- twice as high for those living in *Remote and very remote* areas (22%) than those living in *Major cities* (9.9%)
- higher for those who last visited the dentist for a dental problem (15%) than those who last visited the dentist for a check-up (9.3%).

<u>The data for this section was presented in Healthy teeth Interactive 2 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

#### How does tooth decay vary across states and territories?

Levels of dental caries in Australian children varies across states and territories. This is partly related to differences in dental programs and policies implemented in each jurisdiction, and varying sociodemographic and socioeconomic profiles (Interactive 3).

Just over half (53%) of children aged 5–10 in the Northern Territory had dental caries in their deciduous teeth, and around 4 in 10 (40%) have at least one deciduous tooth with untreated decay

Around 4 in 10 (42%) Australian children aged 5–10 had dental caries in their deciduous teeth, and around 1 in 4 (27%) had at least one deciduous tooth with untreated decay.

The proportion of children with dental caries was lowest in the Australian Capital Territory (32%), while the proportion of children with untreated decay was lowest in South Australia (17%).

Around one-third (33%) of Northern Territory children aged 6–14 had dental caries experience in their permanent teeth, and around 1 in 5 (20%) had at least one permanent tooth with untreated decay

Around 1 in 4 (24%) Australian children aged 6–14 had dental caries in their permanent teeth, and around 1 in 10 (11%) had at least one permanent tooth with untreated decay.

The proportion of children with dental caries was lowest in the Australian Capital Territory (13%), while the proportion of children with untreated decay was lowest in South Australia (3.5%).

<u>The data for this section was presented in Healthy teeth Interactive 3 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

### How healthy are adult's teeth?

Data in this section were sourced from the National Survey of Adult Oral Health 2004–06 (Slade et al. 2007; AIHW 2008a–h) and the National Study of Adult Oral Health 2017–18 (Do & Luzzi, 2019). Each of these population-based surveys collected data from around 15,000 adults aged 15 years and over across Australia. Information was collected via interview and around one-third of participants underwent a dental examination.

In 2017–18, the survey found that most Australian adults have some experience of dental decay—fewer than 1 in 9 (11%) adults had no experience of dental decay in their permanent teeth.

#### How many teeth are affected by decay?

Australian adults aged 15 years and over had an average of 11.2 decayed, missing and filled teeth in 2017–18

The number of decayed, missing and filled teeth (DMFT) reflects a person's lifetime experience of dental caries in their permanent teeth. The DMFT index is a cumulative score (that is, it measures all evidence of decayed, missing and filled teeth over a person's life) and is therefore strongly associated with age.

The average number of teeth affected by dental caries per person in Australia increased with age, from an average of 4.1 in 15–34 year olds to 10.3 in 35–54 year olds19.4 in 55–74 year olds and 24.4 in people aged 75 and older in 2017–18

In 2017–18, the average DMFT per person was:

- lowest in the Australian Capital Territory (9.7) and the Northern Territory (9.7)
- ranged from an average of 3.3 affected teeth in 15–34 year olds to 24.9 affected teeth in those aged 75 years and over in the Australia Capital Territory

 ranged from an average of 5.2 affected teeth in 15–34 year olds to 21.7 affected teeth in those aged 75 years and over in the Northern Territory.

<u>The data for this section was presented in Healthy teeth Interactive 4 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

#### Whose teeth are affected by tooth decay?

In addition to age, DMFT scores also reflect different exposures to risk factors and protective factors a person has during their life (Interactive 5).

On average, females aged 15 and over had slightly more teeth with caries experience than males, 12.0 and 10.4 respectively in 2017-18

In 2017-18:

- Adults who completed Year 10 or less of schooling had a higher average number of decayed, missing and filled teeth (15.6) compared with those who had completed additional schooling (9.7). For those who had completed Year 10 or less, the number of teeth affected increased with age from an average of 3.7 teeth in 15–34 year olds, 12.2 teeth in 35–54 year olds, 19.7 in 55–74 year olds and 24.5 in people aged 75 and over.
- Adults who were eligible for public dental care had a higher average number of decayed, missing and filled teeth (15.7) compared with those who were ineligible for public dental care (9.3). For those eligible for public dental care, the number of teeth affected increased with age, from an average of 4.5 in 15–34 year olds to 12.6 in 35–54 year olds, 20.0 in 55–74 year olds and 24.5 in those aged 75 and over.
- Adults who usually visit a dentist for a check-up had a lower average number of decayed, missing or filled teeth (10.1) compared with those who usually visit the dentist for a dental problem (13.2).

<u>The data for this section was presented in Healthy teeth Interactive 5 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

# How does untreated tooth decay vary across states and territories?

Untreated tooth decay reflects both the prevalence of dental decay in the population and access to dental care for treatment (Interactive 6).

Around 1 in 3 (32%) adults aged 15 and over with their own teeth have at least one tooth with untreated dental decay.

The percentage of adults with untreated dental decay was highest in Western Australia (40%) in 2017–18

<u>The data for this section was presented in Healthy teeth Interactive 6 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

#### Who has untreated tooth decay?

The prevalence of untreated tooth decay is more closely related to socioeconomic and sociodemographic factors than to age (Interactive 7).

Adults aged 15 and over who usually visited the dentist for a problem were nearly twice as likely as those who usually visited for a check-up to have at least one tooth with untreated dental decay (44% compared with 24%) in 2017–18

- More adults eligible for public dental care (35%) had at least one tooth with untreated dental decay than those ineligible for public dental care (31%).
- Fewer adults with private dental insurance (24%) had at least one tooth with untreated dental decay than those without dental insurance (39%).

<u>The data for this section was presented in Healthy teeth Interactive 7 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

#### References

AIHW (Australian Institute of Health and Welfare) Dental Statistics and Research Unit 2008a. The National Survey of Adult Oral Health 2004–06: Australian Capital Territory. Cat. no. DEN 175. Dental Statistics and Research Series no. 39. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008b. The National Survey of Adult Oral Health 2004–06: New South Wales. Cat. no. DEN 176. Dental Statistics and Research Series no. 40. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008c. The National Survey of Adult Oral Health 2004–06: Northern Territory. Cat. no. DEN 177. Dental Statistics and Research Series no. 41. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008d. The National Survey of Adult Oral Health 2004–06: Queensland. Cat. no. DEN 178. Dental Statistics and Research Series no. 42. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008e. The National Survey of Adult Oral Health 2004–06: South Australia. Cat. no. DEN 179. Dental Statistics and Research Series no. 43. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008f. The National Survey of Adult Oral Health 2004–06: Tasmania. Cat. no. DEN 180. Dental Statistics and Research Series no. 44. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008g. The National Survey of Adult Oral Health 2004–06: Victoria. Cat. no. DEN 181. Dental Statistics and Research Series no. 45. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008h. The National Survey of Adult Oral Health 2004–06: Western Australia. Cat. no. DEN 182. Dental Statistics and Research Series no. 46. Canberra: AIHW. Australian Institute of Health and Welfare 2019. Australian Burden of Disease Study: impact and causes of illness and death in Australia 2015. Cat. no. BOD 22. Canberra: AIHW. doi:10.25816/5ebca2a4fa7dc

Do LG & Spencer AJ (Editors) 2016. Oral health of Australian children: the National Child Oral Health Study 2012–14. Adelaide: University of Adelaide Press.

Do L & Luzzi L 2019. *Oral Health Status. p38-96.* In: ARCPOH. Australia's Oral Health: National Study of Adult Oral Health 2017–18. Adelaide: The University of Adelaide, South Australia.

Slade GD, Spencer AJ, Roberts-Thomson KF (Editors) 2007. Australia's dental generations: the National Survey of Adult Oral Health 2004–06. Dental Statistics and Research Series no. 34. AIHW cat. no. DEN 165. Canberra: Australian Institute of Health and Welfare.

## **Healthy mouths**

Maintaining a healthy mouth relies upon practising good oral hygiene. Regular toothbrushing removes and controls the build-up of plaque, and helps to prevent tooth decay, gum disease and tooth loss. In Australia, it is recommended that people brush their teeth twice a day using fluoride toothpaste (DoH 2018).

## Key terms

- **Plaque:** A biofilm containing bacteria and food debris that adheres to the tooth surface.
- Plaque index: A measure of plaque from 0–3, devised by Loe & Silness (1964), where:
  - 0 = no plaque
  - 1 = mild accumulation of plaque
  - 2 = moderate accumulation of plaque
  - 3 = abundant accumulation of plaque.
- **Gingivitis:** Redness, swelling or bleeding of the gums caused by inflammation.
- Gingival index: A measure of gingivitis from 0-3, devised by Loe & Silness (1963), where:
  - 0 = normal
  - 1 = mild inflammation (no bleeding on probing)
  - 2 = moderate inflammation (bleeding on probing)
  - 3 = severe inflammation (tendency to spontaneous bleeding).
- **Periodontitis:** Inflammation of the gums and other tissues that attach to and anchor teeth to the jaws, caused by a bacterial infection.
- **Exfoliation:** the process of shedding deciduous teeth and their replacement by permanent teeth.
- **Dentate:** having one or more natural teeth.
- Edentulous: A state of complete loss of all natural teeth.
- **Inadequate dentition:** Fewer than 21 natural teeth.

## Oral hygiene status

An accumulation of dental plaque, typically due to poor oral hygiene practices such as not brushing your teeth properly or regularly, can increase the risk of tooth decay. Data presented in this section were sourced from the National Child Oral Health Study 2012–14 (Do & Spencer 2016).

Around 4 in 10 (43%) of children aged 5–14 years had a moderate accumulation of plaque

The proportion of children aged 5-14 years with a moderate accumulation of plaque was:

- higher for boys (48%) than girls (37%)
- higher for Indigenous children (60%) than non-Indigenous children (42%)
- lower for children from high income households (35%) than from low income households (49%)
- lower for children from *Major cities* (39%) than from *Remote and very remote* (63%) areas
- lower for children who last visited the dentist for a check-up (40%) than those who visited for a dental problem (50%).

<u>The data for this section was presented in Healthy mouths Interactive 1 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

## Gingivitis

Gingivitis, or early stage gum disease, is usually caused by a build-up of plaque on teeth and along the gum line. The bacteria in plaque produce toxins that can irritate the gums causing inflammation. Data presented in this section were sourced from the National Child Oral Health Study 2012–14 (Do & Spencer 2016), the National Survey of Adult Oral Health 2004–06 (Slade et al. 2007) and the National Study of Adult Oral Health 2017–18 (Do & Luzzi, 2019).

Around 1 in 5 (22%) children aged 5–14 years had gingivitis in 2012–14

In 2012–14, the proportion of children aged 5–14 years with gingivitis was:

- lower for girls (20%) than boys (24%)
- higher for Indigenous children (34%) than non-Indigenous children (21%)
- higher in children from low-income households (26%) than from high-income households (17%)
- higher for children from *Remote and very remote* (38%) than from *Major cities* (20%)
- lower for children who last visited the dentist for a check-up (21%) than those who visited for a dental problem (25%).

Around 3 in 10 (29%) adults aged 15 years and over had gingivitis in 2017–18

In 2017–18, the proportion of adults aged 15 years and over with gingivitis was:

- higher for males (35%) than females (23%)
- higher for people without dental insurance (31%) than those with dental insurance (25%)
- higher for people eligible for public dental care (30%) than those ineligible for public dental care (28%).

<u>The data for this section was presented in Healthy mouths Interactive 2 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

## Periodontitis

If left untreated, gingivitis can develop into a more serious form of gum disease known as periodontitis. Periodontitis, or advanced stage gum disease, damages the soft tissue and bone supporting the teeth which can cause the teeth to become loose, which in turn can lead to tooth loss. Data presented in this section were sourced from the National Survey of Adult Oral Health 2004–06 (Slade et al. 2007) and the National Study of Adult Oral Health 2017–18 (Do & Luzzi, 2019).

The proportion of adults with moderate or severe periodontitis increased with age, ranging from 12% in 15–34 year olds, 33% in 35–54 year olds, 51% in 55–74 year olds and 69% in those aged 75 years and over in 2017-18

In 2017–18, the proportion of adults aged 15 years and over with moderate or severe periodontitis was:

- higher for males (35%) than females (26%)
- nearly twice as high for those people who had completed Year 10 or less of schooling (45%) than those who had completed Year 11 or more of schooling (26%)
- almost 1.5 times as high for people who last visited the dentist for a problem (37%) than those who last visited for a check-up (26%)
- higher for those people eligible for public dental care (43%) than those people ineligible for public dental care (26%).

<u>The data for this section was presented in Healthy mouths Interactive 3 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

Tooth loss can affect both oral function and appearance, and therefore negatively impact on quality of life. Limited oral function is also associated with deteriorating diet and compromised nutrition, which can adversely impact on overall health (NACDH 2012).

#### Children with missing teeth

The data presented were sourced from the National Child Oral Health Study 2012–14 (Do & Spencer 2016) and reflect teeth lost due to dental decay only, and therefore do not include teeth lost due to exfoliation or dental trauma (e.g. as a result of injury).

Around 1 in 20 children aged 5-10 years have at least one deciduous tooth missing due to dental caries

Children aged 5–10 years with at least one deciduous tooth missing due to dental caries were more likely to be:

• Indigenous Australians (9.7%) than non-Indigenous Australians (5.3%)

- from *Remote and very remote areas* (9.6%) than from *Major cities* (4.9%)
- from low-income households (9.3%) than from medium-income households (4.3%) and high-income households (2.9%)
- those who last visited the dentist for a dental problem (17%) than those who last visited for a check-up (3.5%).

Around 1 in 100 children aged 6-14 years have as least one permanent tooth missing due to dental caries

Children aged 6–14 years with at least one permanent tooth missing due to dental caries were more likely to be:

- female (1.0%) than male (0.5%)
- Indigenous Australians (1.4%) than non-Indigenous Australians (0.7%)
- those who last visited the dentist for a dental problem (1.4%) than those who last visited for a check-up (0.6%)

<u>The data for this section was presented in Healthy mouths Interactive 4 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

The data presented in this section were sourced from the National Survey of Adult Oral Health 2004–06 (Slade et al. 2007) and the National Study of Adult Oral Health 2017–18 (Do & Luzzi, 2019). Adults who have no natural teeth are classified as edentulous, whereas those who have at least one natural tooth are classified as dentate. Only dentate adults were assessed for inadequate dentition (fewer than 21 teeth).

Dentate adults aged 15 years and over had an average of 4.4 teeth missing due to dental decay and periodontal disease in 2017–18

In 2017-18:

- The average number of missing teeth increased with age, ranging from 0.6 teeth in 15–34 year olds, 3.6 teeth in 35–54 year olds, 8.8 teeth in 55–74 year olds to 13.2 teeth in those aged 75 years and over.
- On average, adults who completed Year 10 or less of schooling had more than twice as many missing teeth as those who completed Year 11 or more of schooling, 7.7 and 3.3 respectively.
- The average number of missing teeth for adults eligible for public dental care (7.6) was more than double that of those ineligible for public dental care (3.0).

The proportion of adults with in adequate dentition (fewer than 21 teeth) increased with age, ranging from 0.7% in 15–34 year olds to 46% in those aged 75 years and over in 2017–18.

In 2017-18:

• On average, 1 in 10 (10%) adults aged 15 years and over had inadequate dentition.

- Adults eligible for public dental care (24%) were around five times as likely to have inadequate dentition than those ineligible for public dental care (4.7%).
- Adults who completed Year 10 or less of schooling (21%) were around four times as likely to have inadequate dentition than those who completed Year 11 or more of schooling (5.9%).
- Adults who had inadequate dentition were more likely to have last visited the dentist for a dental problem (18%) rather than for a check-up (6%).

The proportion of adults with complete tooth loss increased with age, ranging from 1.1% in 35–54 year olds, 8.1% in 55–74 year olds to 21% in those aged 75 years and over. There were no 15–34 year olds with complete tooth loss in 2017–18

In 2017-18:

- On average, 1 in 25 (4.0%) adults aged 15 years and over had complete tooth loss.
- Adults eligible for public dental care (11%) were around nine times as likely to suffer complete tooth loss than those ineligible for public dental care (1.2%).
- Adults who completed Year 10 or less of schooling (9.4%) were around five times as likely to suffer complete tooth loss than those who completed Year 11 or more of schooling (1.8%).
- Adults without dental insurance (6.5%) were more likely to suffer complete tooth loss than those with dental insurance (1.7%).

<u>The data for this section was presented in Healthy mouths Interactive 5 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

### Healthy mouths across Australia

In this section measures of oral health status in adults aged 15 years and over, such as periodontal disease and tooth retention and loss, are compared across states and territories. Data presented were sourced from the National Survey of Adult Oral Health 2004–06 (Slade et al. 2007; AIHW 2008a–h) and the National Study of Adult Oral Health 2017–18 (Do & Luzzi, 2019).

The proportion of adults aged 15 years and over with periodontal disease varied between states and territories with nearly twice as many adults with periodontal disease in Queensland (37%) than in South Australia (21%) in 2017–18

Explore the data for Healthy mouths by state and territory further here:

<u>The data for this section was presented in Healthy mouths Interactive 6 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

#### References

AIHW (Australian Institute of Health and Welfare) Dental Statistics and Research Unit, 2008a. The National Survey of Adult Oral Health 2004–06: Australian Capital Territory. Cat. no. DEN 175. Dental Statistics and Research Series no. 39. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008b. The National Survey of Adult Oral Health 2004–06: New South Wales. Cat. no. DEN 176. Dental Statistics and Research Series no. 40. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008c. The National Survey of Adult Oral Health 2004–06: Northern Territory. Cat. no. DEN 177. Dental Statistics and Research Series no. 41. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008d. The National Survey of Adult Oral Health 2004–06: Queensland. Cat. no. DEN 178. Dental Statistics and Research Series no. 42. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008e. The National Survey of Adult Oral Health 2004–06: South Australia. Cat. no. DEN 179. Dental Statistics and Research Series no. 43. Canberra: AIHW.

AIHW Dental Statistics and Research Unit, 2008f. The National Survey of Adult Oral Health 2004–06: Tasmania. Cat. no. DEN 180. Dental Statistics and Research Series no. 44. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008g. The National Survey of Adult Oral Health 2004–06: Victoria. Cat. no. DEN 181. Dental Statistics and Research Series no. 45. Canberra: AIHW.

AIHW Dental Statistics and Research Unit 2008h. The National Survey of Adult Oral Health 2004–06: Western Australia. Cat. no. DEN 182. Dental Statistics and Research Series no. 46. Canberra: AIHW.

DoH (Department of Health) 2018. Healthdirect—Teeth cleaning. Canberra: Australian Government Department of Health. Viewed 26 September 2018 <https://www.healthdirect.gov.au/teeth-cleaning>

Do L & Luzzi L 2019. *Oral Health Status. p38-96.* In: ARCPOH. Australia's Oral Health: National Study of Adult Oral Health 2017–18. Adelaide: The University of Adelaide, South Australia.

Do LG & Spencer AJ (editors) 2016. Oral health of Australian children: the National Child Oral Health Study 2012–14. Adelaide: University of Adelaide Press

NACDH (National Advisory Council on Dental Health) 2012. Report of the National Advisory Council on Dental Health 2012. Canberra: Department of Health and Ageing.Slade GD, Spencer AJ, Roberts-Thomson KF (Editors) 2007. Australia's dental generations: the National Survey of Adult Oral Health 2004–06. Dental statistics and research series no.34. AIHW cat. no. DEN 165. Canberra: AIHW.

## **Healthy lives**

As described in the Introduction, oral health can impact an individual's general health and wellbeing. Good oral functioning enables comfortable participation in everyday activities.

## Key terms

- **Dentate:** having one or more natural teeth.
- Edentulous: A state of complete loss of all natural teeth.
- **Incidence:** The number of new cases (of an illness or injury) occurring during a given period.
- **Burden of disease (and injury):** The quantified impact of a disease or injury on a population, using the disability-adjusted life years (DALY) measure. Referred to as the 'burden' of the disease or injury in this report.
- **DALY (disability-adjusted life years):** Measure (in years) of healthy life lost, either through premature death defined as dying before the expected life span at the age of death (YLL) or, equivalently, through living with ill health due to illness or injury (YLD).
- **Fatal burden:** The burden from dying 'prematurely' as measured by years of life lost. Often used synonymously with YLL, and also referred to as 'life lost'.
- YLL (years of life lost): Years of life lost due to premature death, defined as dying before the ideal life span at the age of death. YLL represent fatal burden.
- **Non-fatal burden:** The burden from living with ill health as measured by years lived with disability. Often used synonymously with YLD, and also referred to as 'health lost'.
- YLD (years lived with disability): A measure of the years of what could have been healthy but were instead spent in states of less than full health. YLD represent non-fatal burden.
- **International Classification of Diseases (ICD):** The World Health Organization's internationally accepted classification of diseases and related health conditions. The tenth revision, Australian modification (ICD-10-AM) is currently in use in Australian hospitals for admitted patients.
- **Relative survival:** The ratio of observed survival of a group of persons diagnosed with cancer to expected survival of those in the corresponding general population after a specified interval following diagnosis (such as 5 or 10 years).

## Social impacts of poor oral health

Measures of social impact give insight into the effect of oral conditions on day-today living from the individual's perspective. Experience of social impact reflects not only the level of oral disease experienced, but also whether that disease had been treated in a timely fashion. The following data were sourced from the National Study of Adult Oral Health 2017–18 in which people are asked about their experience of toothache, how they feel about their dental appearance and whether or not they avoid eating certain foods (Brennan DS, Luzzi L et al 2019).

#### Experience of toothache

Around 1 in 5 (20%) dentate adults aged 15 years and over had experienced toothache in the previous 12 months

The proportion of adults aged 15 years and over who experienced toothache in the previous 12 months was:

- higher for Indigenous Australians (35%) than non-Indigenous Australians (20%)
- higher for those eligible for public dental care (26%) than those ineligible for public dental care (18%)
- higher for those who usually visit the dentist for a problem (34%) than those who usually visit for a check-up (12%)
- lower for people with dental insurance (15%) than those without dental insurance (26%).

#### Uncomfortable with dental appearance

Around 1 in 3 (35%) dentate adults aged 15 years and over had felt uncomfortable about their dental appearance in the previous 12 months

The proportion of adults aged 15 years and over who had felt uncomfortable about their dental appearance in the previous 12 months was:

- lower for males (32%) than females (38%)
- higher for Indigenous Australians (45%) than non-Indigenous Australians (35%)
- higher for dentate adults (36%) than edentulous adults (29%)
- higher for those who usually visit the dentist for a problem (49%) than those who usually visit for a check-up (28%)
- higher for those eligible for public dental care (40%) than those ineligible for public dental care (33%)
- lower for people with dental insurance (30%) than those without dental insurance (41%).

#### Food avoidance

Around 1 in 4 (24%) dentate adults aged 15 years and over had avoided eating certain foods in the previous 12 months due to problems with their teeth

The proportion of adults aged 15 years and over who had avoided eating certain foods in the previous 12 months due to problems with their teeth was:

- lower for males (20%) than females (27%)
- higher for edentulous adults (43%) than dentate adults (23%)

- higher for Indigenous Australians (36%) than non-Indigenous Australians (23%)
- higher for those eligible for public dental care (33%) than those ineligible for public dental care (20%)
- lower for people with dental insurance (17%) than those without dental insurance (31%).
- higher for those with Year 10 or less schooling (29%) than those with Year 11 or more (21%)

#### Perception of fair or poor oral health

Around 1 in 4 (24%) dentate adults aged 15 years and over rated their oral health as fair or poor

The proportion of adults aged 15 years and over who rated their oral health as fair or poor was:

- lower for females (23%) than males (25%)
- higher for Indigenous Australians (29%) than non-Indigenous Australians (24%)
- higher for those eligible for public dental care (32%) than those ineligible for public dental care (21%)
- lower for people with dental insurance (16%) than those without dental insurance (33%).
- higher for those with Year 10 or less schooling (30%) than those with Year 11 or more (22%)
- higher for those who usually visit the dentist for a problem (44%) than those who usually visit for a check-up (13%)

#### Social impact trends

The proportion of dentate adults aged 15 years and over reporting their oral health as fair or poor increased from 16% in 2004–06 to 24% in 2017–18

A similar trend was observed over the same time period for:

• those aged 55–64, with the proportion of people rating their oral health as fair or por increasing from 18% in 2004–06 to 32% in 2017–18

Explore the data further in Healthy lives interactives 1 & 2:

<u>The data for this section was presented in Healthy lives Interactive 1 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

<u>The data for this section was presented in Healthy lives Interactive 2 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

## Burden of disease

Oral disorders cause very few deaths, yet are highly prevalent in the Australian community. The Australian Burden of Disease Study 2015 (AIHW 2019a) estimated the burden of dental caries and pulpitis, periodontal disease and severe tooth loss (fewer than 10 teeth).

In 2015, oral disorders made up 2.3% of total health burden and 4.5% of all non-fatal burden. Oral disorders did not contribute to fatal burden

The data presented in Interactive 3 reflects the progression of untreated dental disease across the life stages:

- The relative proportion of non-fatal burden due to dental caries decreased with age from 99% in children aged 0–14 years to 7% in those aged 85 and over.
- The vast majority of non-fatal burden due to oral disorders in people aged 85 years and over was due to severe tooth loss (78%).

Explore the data further in Healthy lives interactive 3:

<u>The data for this section was presented in Healthy lives Interactive 3 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

### **Oral cancers**

Cancer was the leading cause of total disease burden in Australia in 2015 (AIHW 2019b). Treatment can be more effective when cancer is detected early, and dental practitioners play an important role in this. Cancer of the lip, tongue, mouth, salivary glands and oropharynx are those cancers that are detectable in an oral examination by a dental practitioner. Early detection is one of the factors associated with better cancer survival.

High five-year relative survival is used as a proxy measure of early detection because population-level data on the stage at diagnosis of oral cancers are not currently available.

In Australia, the 5 year relative survival rate in 2011–2015 for all selected cancers was 75%, compared to 69% for all cancers combined

- Between 1986–1990 and 2011–2015 the five year relative survivial for selected oral cancers increased from 66% to 73%.
- In 2011-2015, the 5-year relative survival for selected oral cancers varied from 60% for cancer of the mouth to 93% for cancer of the lip.
- In 2015, there were 3,407 cases of selected oral cancers, including 935 cases of cancer of the lip making it the most common oral cancer in this group.
- In 2015, there were 674 deaths from selected oral cancers, including 231 deaths from cancer of the tongue.

Explore the data using the interactives below:

<u>The data for this section was presented in Healthy lives Interactive 4 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

#### References

Australian Institute of Health and Welfare 2019a. Australian Burden of Disease Study: impact and causes of illness and death in Australia 2015. Cat. No. BOD 22. Canberra: AIHW. doi:10.25816/5ebca2a4fa7dc

Australian Institute of Health and Welfare 2019b. Cancer in Australia 2019. Cat. no. CAN 123. Canberra: AIHW. doi:10.25816/5ebcc7a7fa7e9

Brennan DS, Luzzi L, Ellershaw A, Peres M 2019. Oral health perceptions pp125– 144. In: ARCPOH. Australia's Oral Health: National Study of Adult Oral Health 2017–18. Adelaide: The University of Adelaide, South Australia.

## **Preventative strategies**

The goal of Australia's National Oral Health Plan 2015–2024 (COAG Health Council 2015) is to improve the oral health status and reduce the burden of poor oral health across the Australian population. The Plan outlines national strategic directions at both the population and individual level, across six Foundation Areas, the first being oral health promotion. Key strategies of this Foundation Area include:

- extending access to the preventive effects of fluoride
- broadening the availability of evidence-based oral health promotion programs
- strengthening and embedding nutrition and oral health policies in key settings, for example early childhood education.

### Key terms

- **Fluoride:** a naturally occurring trace mineral that helps to prevent tooth decay.
- Water fluoridation: the process of adjusting the amount of fluoride in drinking water.
- **Fissure sealants:** materials applied to the pits and fissure surfaces of teeth to create a thin barrier, which protect the sealed surfaces from caries.

## Toothbrushing

Brushing your teeth twice per day with a fluoridated toothpaste can be effective in preventing tooth decay. Tooth brushing with a fluoridated toothpaste mechanically removes and controls the build-up of plaque, and applies fluoride to the teeth.

### Children

The data presented in this section were sourced from the National Child Oral Health Study 2012–14 (Do & Spencer 2016).

Around two-thirds of children (69%) aged 5-14 years brushed their teeth at least twice a day with toothpaste

- Girls (71%) were more likely to have brushed their teeth at least twice a day with toothpaste than boys (66%).
- Indigenous children (54%) were less likely to brush their teeth twice a day with toothpaste than non-Indigenous children (70%).
- Children who last visited the dentist for a dental problem (65%) were less likely to brush their teeth twice a day with toothpaste than those who last visited for a check-up (73%).
- Children from high-income households (78%) were more likely to brush their teeth than children from low-income households (59%).

<u>The data for this section was presented in Preventative strategies Interactive 1 –</u> <u>refer to the corresponding worksheet in the Data tables file for the historical</u> <u>data.</u>

### Adults

The data presented in this section were sourced from the National Study of Adult Oral Health 2017–18 (ARCPOH unpublished).

In 2017–18, almost all (97%) adults aged 15 years and over brushed their teeth at least once per day

• Fewer adults aged 15 years and over brushed their teeth at least once per day in South Australia (95%) than any other state or territory.

<u>The data for this section was presented in Preventative strategies Interactive 2 –</u> <u>refer to the corresponding worksheet in the Data tables file for the historical</u> <u>data.</u>

## Water fluoridation

Community water fluoridation is a safe strategy to improve oral health by reducing the risk of dental caries. The Australian Government National Health and Medical Research Council found that water fluoridation reduces tooth decay by 26% to 44% in children and adolescents, and by 27% in adults (NHMRC 2017).

Around 89% of the Australian population have access to fluoridated drinking water

- The proportion of the Australian population with access to fluoridated drinking water has increased over time from 69% in 2003, to 89% in 2017.
- Around 76% of the Queensland population has access to fluoridated water, whereas around 100% of the Australian Capital Territory's population has access to fluoridated water.

<u>The data for this section was presented in Preventative strategies Interactive 3 – refer to the corresponding worksheet in the Data tables file for the historical data.</u>

## Fissure sealants in children

Due to their structure, the permanent teeth at the back of the mouth (molar teeth) can be difficult to keep clean. These molar teeth have many grooves (fissures) and pits on their surfaces that are susceptible to developing caries. Fissure sealants may be applied to teeth to create a thin barrier that protects the sealed surfaces from caries (Do & Spencer 2016). The data presented in this section were sourced from the National Child Oral Health Study 2012–14 (Do & Spencer 2016).

Around a quarter (27%) of children aged 6-14 years had at least one fissure sealant in their permanent teeth

- The proportion of children with at least one fissure sealant in their permanent teeth increased with age, ranging from 12% in 6–8 year olds, 28% in 9–11 year olds to 40% in 12–14 year olds.
- The proportion of children with at least one fissure sealed tooth varied across states and territories, ranging from 42% in Tasmania to 17% in New South Wales. Children in Tasmania had an average of 1.8 fissure sealed tooth surfaces per child.

<u>The data for this section was presented in Preventative strategies Interactive 4 –</u> <u>refer to the corresponding worksheet in the Data tables file for the historical</u> <u>data.</u>

#### References

COAG (Council of Australian Governments) Health Council 2015. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

Do LG & Spencer AJ (editors) 2016. Oral health of Australian children: the National Child Oral Health Study 2012–14. Adelaide: University of Adelaide Press

NHMRC (National Health and Medical Research Council) 2017. NHMRC Public Statement 2017 - Water Fluoridation and Human Health in Australia. Canberra: NHMRC. <

https://nhmrc.gov.au/sites/default/files/documents/reports/fluoridation-public-statement.pdf>

## **Dental care**

A dental visit can provide an opportunity for the provision of preventive dental care to maintain existing oral health, as well as treatment services that may reverse disease or rehabilitate the teeth and gums after damage occurs.

Dental services are funded, and can be accessed, in a number of ways—privately or through public dental clinics or DVA (based on eligibility). For those who purchased services privately, some may have had all or part of the costs of the service subsidised.

In 2018-19:

- 42.9 million dental services were subsidised by private health insurance providers (APRA 2019)—for more information refer to chapter on Private health insurance
- 5.4 million services were subsidised under the Australian Government's Child Dental Benefits Schedule (Department of Health 2019)—refer to the section included below for more information on the Child Dental Benefits Schedule.

Data on dental services provided in Australia are limited, especially in relation to services provided in the private sector, as no comprehensive national data sources are available. The most complete information about Australians' use of dental services is available via national population surveys.

### Key terms

- **Favourable dental visiting pattern:** visiting a dentist once or more a year (usually for a check-up) and having a usual dental provider.
- **Unfavourable dental visiting pattern:** visiting less than once every two years (usually for a problem), or visiting once every two years (usually for a problem) and without a regular dental provider.
- **Intermediate dental visiting pattern:** visiting classified as neither favourable or unfavourable.
- **Smoker status:** the extent to which a respondent was smoking at the time of interview. Full description in ABS Glossary.
- **Alcohol consumption:** assessed using the 2009 NHMRC guidelines for the consumption of alcohol.

## National Study of Adult Oral Health

The National Study of Adult Oral Health 2017–18 (Chrisopoulos, Luzzi & Ellershaw, 2019) is a population-based survey which collected data from around 15,000 adults aged 15 years and over across Australia. Information was collected via interview and around one-third of participants underwent a dental examination. Data presented in this section was sourced from this survey.In 2017–18, more than half (56%) of adults aged 15 years and over saw a dentist in the last 12 months

In 2017–18, the proportion of adults aged 15 years and over who had seen a dentist in the last 12 months was:

- higher for people who live in a capital city (59%) than for people who live in other places (52%)
- higher for people who had dental insurance (70%) than for people who didn't (43%)
- higher for people who usually visit for a check-up (70%) than for those who usually visit for a problem (36%)

Explore the data further in Dental care interactive 1 below.

<u>The data for this section was presented in Dental care Interactive 1 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

In 2017–18, 11% of adults aged 15 years and over last saw a dentist 5 or more years ago

In 2017–18, the proportion of adults aged 15 years and over who last saw a dentist 5 or more years ago was:

- higher for those eligible for public dental care (15%) than those ineligible for public dental care (10%)
- higher for people who had completed year 10 or less (15%) than for people who completed year 11 or more (9.8%)

Explore the data further in Dental care interactive 2 below.

<u>The data for this section was presented in Dental care Interactive 2 – refer to the corresponding worksheet in the Data tables file for the historical data.</u>

In 2017–18, more than half (58%) of adults aged 15 years and over reported that they usually visit a dental professional at least once a year

In 2017–18, the proportion of adults aged 15 years and over who usually visit a dental professional at least once a year was:

- higher for people who usually visit for a check-up (76%) than those who usually visit for a problem (24%)
- higher for people with dental insurance (72%) than for those without dental insurance (41%)
- higher for people who live in a capital city (61%) than for people who live in other *places* (51%)

Explore the data further in Dental care interactive 3 below.

<u>The data for this section was presented in Dental care Interactive 3 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

In 2017–18, more than three quarters (79%) of adults aged 15 years and over have a dentist which they usually attend

Also in 2017-18:

- 82% of adults aged 15 years and over attended a private dental practice
- 90% of adults aged 15 years and over paid for their last dental visit
- 22% of adults aged 15 years and over reported unfavourable attendance patterns
- 65% of adults aged 15 years and over usually visit a dentist for a check-up

Explore the data further in Dental care interactive 4 below.

<u>The data for this section was presented in Dental care Interactive 4 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

### Australian Health Survey and National Health Survey

The Australia-wide 2011–12 Australian Health Survey (ABS 2013) and the 2014– 15 National Health Survey (ABS 2017), conducted by the Australian Bureau of Statistics (ABS), collected a range of information about the health of Australians including their use of health services such as consultations with dentists or other dental professionals. The data presented in this section were sourced from these two surveys.

In 2014–15, almost half (47%) of all Australians had consulted a dentist or dental professional in the last 12 months

In 2014–15, the proportion of people who had consulted a dentist or dental professional in the last 12 months was:

- higher for females (50%) than males (44%)
- higher for those from *Major cities* (49%) than for those from *Inner regional* (42%) and *Outer regional and remote* (42%) areas
- lower for those from the most disadvantaged areas (37%) than those from the least disadvantaged areas (60%) (according to SEIFA Index of Relative Socio-Economic Disadvantage)
- lower for those who exceeded lifetime risk alcohol consumption guidelines (45%) than those who did not exceed guidelines (51%)
- lower for current smokers (36%) than those who have never smoked (48%)
- lower in the Northern Territory (41%) than any other state or territory.

Results from the 2011–12 survey are also included in Dental care interactive 5 for comparison. Explore the data further here:

<u>The data for this section was presented in Dental care Interactive 5 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

In 2014–15, around one-quarter of all Australians (26%) had last consulted a dentist or dental professional more than 2 years ago

- Around 1 in 5 (21%) children aged 2–14 years have never consulted a dentist or dental professional.
- Nearly half (46%) of adults aged 85 years and over last consulted a dentist or dental professional more than 2 years ago.

Results from the 2011–12 survey are also included in Dental care interactive 6 for comparison. Explore the data further here:

<u>The data for this section was presented in Dental care Interactive 6 – refer to the corresponding worksheet in the Data tables file for the historical data.</u>

### **National Dental Telephone Interview Survey**

Data in this section were sourced from the 2013 National Dental Telephone Interview Survey (AIHW 2016).

#### **Dental services**

In 2013, dentate people aged 5 years and over, who made a dental visit in the last 12 months, made an average of 2.41 visits

- On average, each person had a scale and clean, around 2 in 3 had a filling and around 1 in 4 had an extraction.
- People in *Major cities* made, on average, 2.50 visits per year whereas people in *Outer regional* and *Remote and very remote* areas made, on average, 1.98 and 1.97 visits per year, respectively.
- People whose annual household income was less than \$30,000 had more fillings (0.91) and extractions (0.47) than those whose annual household incomes was more than \$30,000.
- The proportion of adults aged 15 years and over who received a filling gradually decreased from 0.90 in 1994 to 0.70 in 2013.

#### **Reason for last visit**

In 2013, 64% of dentate people aged 5 years and over, who made a dental visit in the previous 2 years, visited for a check-up

- The proportion of dentate people aged 5 years and over who last visited the dentist for a check-up decreased with age from 80% of 5–14 year olds to 53% of those aged 65 years and over.
- More people with dental insurance last visited the dentist for a check-up (70%) than those without dental insurance (56%).

- Fewer people whose annual household income was less than \$30,000 last visited the dentist for a check-up (48%) than those whose annual household income was more than \$30,000.
- The proportion of dentate adults aged 15 years and over whose last visit was for a check-up increased from 48% in 1994 to 61% in 2013.

#### Practice type at last visit

In 2013, 84% of dentate people aged 5 years and over, who made a dental visit in the previous 12 months, last visited a private dental practice

- Around 1 in 5 (21%) children aged 5–14 last visited a school dental service, and around 2 in 3 (64%) last visited a private dental practice.
- More people whose household income was less than \$30,000 last visited a public dental service (30%) than those whose annual household income was more than \$30,000.
- More people with dental insurance last visited a private dental practice (93%) than those without dental insurance (71%).
- The proportion of dentate children aged 5–14 year who last visited a school dental service more than halved over the period 1994 to 2013, from 54% to 21%.

#### **Visiting patterns**

In 2013, 44% of dentate people aged 18 years and over had a favourable dental visiting pattern

- More females (50%) aged 18 years and over had favourable dental visiting patterns than males (38%).
- More dentate adults aged 18 years and over ineligible for public dental care (47%) had favourable dental visiting patterns than those eligible for public dental care (35%).
- Around one-third (27%) of dentate adults aged 18 years and over without dental insurance had favourable dental visiting patterns compared with almost two-thirds (61%) of those with dental insurance.
- The proportion of dentate adults aged 18 years and over who had favourable dental visiting patterns increased from 36% in 1999 to 44% in 2013.

Explore the National Dental Telephone Interview Survey data further in the three interactives here:

<u>The data for this section was presented in Dental care Interactive 7 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

<u>The data for this section was presented in Dental care Interactive 8 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

<u>The data for this section was presented in Dental care Interactive 9 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

## **Child Dental Benefits Schedule**

The Child Dental Benefits Schedule (CDBS) commenced on 1 January 2014 and provides access to benefits for basic dental services to around 3 million eligible children (DoH 2018). Basic dental services includes examinations, x-rays, cleaning, fissure sealing, fillings, root canals and extractions (DoH 2018). A child is eligible if they are aged between 2–17 years at any point in the calendar year, and receive a relevant Australian Government payment (DoH 2018). Eligible children have access to a benefit cap of \$1,000 over a two calendar year period (DoH 2018). The payment of benefits under the CDBS is administered through the Department of Human Services (DoH 2018).

In 2019, the Australian Government paid benefits of \$324,483,573 in respect of 5,450,996 dental services across Australia, averaging \$59.53 in benefits per service

In 2019:

- the average benefits paid per service ranged from \$40 for a diagnostic service to \$138 for a restorative service
- more diagnostic services (2,085,391) were provided than restorative services (580,966).
- the number of diagnostic examination services ranged from 2,349 per 100,000 population in the Australian Capital Territory to 7,086 per 100,000 population in South Australia.

Explore the Child Dental Benefits Schedule data (DHS 2020) further here:

<u>The data for this section was presented in Dental care Interactive 10 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

<u>The data for this section was presented in Dental care Interactive 11 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

## **Public Dental Waiting Times**

The AIHW compiles, on an annual basis, data on waiting times for adults who were placed on selected public dental waiting lists to enable monitoring of those waiting times. These data requirements are defined in the Public Dental Waiting Times (PDWT) National Minimum Data Set (NMDS) specification.

In 2018, the AIHW reported data at a state and territory level for the first 4 years (2013–14 to 2016–17) of the data collection (AIHW 2018). However, due

to concerns about the comparability of the data and availability of data for some jurisdictions, the report presents the data for each jurisdiction separately, with no national data tables or comparisons between jurisdictions. The data show that some people wait a considerable time before receiving care (or an offer of care). Data from this report, and additional data for 2017–18, 2018–19 and 2019–20, are presented in Dental care interactive 12 below.

The report also examines the factors underlying the lack of comparability and availability of data (primarily related to the different organisation and administration of public dental waiting lists across jurisdictions) ahead of a planned redevelopment of the data set.

Explore the data using the Dental care interactive 12 below.

<u>The data for this section was presented in Dental care Interactive 12 – refer to</u> <u>the corresponding worksheet in the Data tables file for the historical data.</u>

#### References

ABS (Australian Bureau of Statistics) 2013. Australian Health Survey: Health Service Usage and Health Related Actions, 2011–12. ABS cat. no. 4364.0.55.002. Canberra: ABS.

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4364.0.55.002Main+Feat ures12011-12?OpenDocument>

ABS (Australian Bureau of Statistics) 2017. National Health Survey: Health Service Usage and Health Related Actions, Australia, 2014–15. ABS cat. no. 4364.0.55.002. Canberra: ABS.

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4364.0.55.002Main+Feat ures12014-15>

AIHW: Chrisopoulos S, Harford JE & Ellershaw A 2016. Oral health and dental care in Australia: key facts and figures 2015. Cat. no. DEN 229. Canberra: AIHW.

AIHW (Australian Institute of Health and Welfare) 2018. A discussion of public dental waiting times information in Australia: 2013–14 to 2016–17. Cat. no. DEN 230. Canberra: AIHW.

APRA (Australian Prudential Regulation Authority) 2019. Private health insurance benefits trends: ancillary benefits. Sydney: APRA.

Chrisopoulos S, Luzzi L & Ellershaw A 2019. *Dental Care. P97-124.* In: ARCPOH. Australia's Oral Health: National Study of Adult Oral Health 2017–18. Adelaide: The University of Adelaide, South Australia.

DoH (Department of Health) 2018. The Child Dental Benefits Schedule. Canberra: Department of Health. Viewed 26 September 2018 <http://www.health.gov.au/internet/main/publishing.nsf/content/childdental>

Department of Health 2019. Annual Medicare statistics—financial year 1984–85 to 2018–19. Canberra: Department of Health. Viewed 26 November 2019.

DHS (Department of Human Services) 2020. Medicare Australia Statistics: Medicare Group Reports. Canberra: Department of Human Services. Data extracted on 4 June 2020

<http://medicarestatistics.humanservices.gov.au/statistics/mbs\_group.jsp>

## Hospitalisations

Two measures of dental services provided in hospitals are reported in this section:

- potentially preventable hospitalisations (PPHs)
- hospitalisations for dental procedures requiring general anaesthetic.

There is some overlap between these two indicators. Many PPHs will require a general anaesthetic. However, not all dental care provided under general anaesthetic is for potentially preventable care.

## Key terms

- **Potentially preventable hospitalisations—acute:** conditions that may not be preventable, but theoretically would not result in hospitalisation if adequate and timely care (usually non-hospital) was received.
- **Separations:** The total number of episodes of care for admitted patients, which can be the total hospital stays (from admission to discharge, transfer or death) or portions of hospital stays beginning or ending in a change of type care (for example, from acute to rehabilitation) that cease during a reference period. METeOR identifier: 270407
- **Separation rate:** The total number of episodes of care for admitted patients divided by the total number of persons in the population under study. Often presented as a rate per 1,000 or 10,000 members of a population. Rates may be crude or standardised.

## Potentially preventable hospitalisations

Reducing the rates of potentially preventable hospitalisations (PPHs) due to dental conditions is one of the Key Performance Indicators of the National Oral Health Plan 2015–2024 (COAG Health Council 2015). Hospital separation rates for PPHs provide important information about the extent to which timely and adequate non-hospital dental care has been provided. The rate of PPHs for dental conditions is influenced by a number of factors including:

- adequacy of preventive and primary care services
- prevalence of severe dental disease in the community
- availability and accessibility of appropriate community and hospital-based services (COAG Health Council 2015).

In Australia, the age-standardised rate of potentially preventable hospitalisations due to dental conditions (per 1,000 population) remained relatively stable between 2010–11 and 2017–18, ranging from 2.8 to 2.9 per 1,000 population

• In 2017–18, the age-standardised rate of potentially preventable hospitalisations due to dental conditions (per 1,000 population) was highest in South Australia (4.1 per 1,000 population) and lowest in the Australian Capital Territory (2.1 per 1,000 population).

• In 2017–18, about 72,000 hospitalisations for dental conditions may have been prevented with earlier treatment.

Explore the number or rate of potentially preventable hospitalisations due to dental conditions across Australia between 2010–11 and 2017–18 using the Hospitalisations interactive 1 below.

<u>The data for this section was presented in Hospitalisations Interactive 1 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

In 2017–18, the rate of potentially preventable hospitalisations due to dental conditions (per 1,000 population) was higher for Indigenous Australians (4.8 per 1,000 population) than for Other Australians (2.9 per 1,000 population).

- In 2017–18, the rate of potentially preventable hospitalisations due to dental conditions (per 1,000 population) was highest in those aged 5–9 years (9.5 per 1,000 population).
- In 2017–18, the rate of potentially preventable hospitalisations due to dental conditions (per 1,000 population) increased as remoteness increased, ranging from 2.7 per 1,000 population in *Major cities* to 4.3 per 1,000 population in *Very remote* areas.

Explore the number or rate of potentially preventable hospitalisations due to dental conditions by selected characteristics using the Hospitalisations interactive 2 below.

<u>The data for this section was presented in Hospitalisations Interactive 2 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

## Dental procedures requiring general anaesthetic

Some Australians receive dental care under general anaesthesia, usually due to the severity of the disease or other medical, physical or behavioural complications. Dental care under general anaesthetic carries an additional risk and is resource intensive.

In Australia, the age-standardised rate of hospital separations for dental conditions requiring general anaesthetic (per 1,000 population) remained relatively stable between 2011–12 and 2017–18, decreasing only slightly over time from 5.9 to 5.6 per 1,000 population

- In 2017–18, the age-standardised rate of hospital separations for dental conditions requiring general anaesthetic (per 1,000 population) was highest in Western Australia (7.3 per 1,000 population) and lowest in the Australian Capital Territory (3.3 per 1,000 population).
- In 2017–18, there were around 132,100 separations requiring general anaesthetic for procedures related to dental conditions.

Explore the number or rate of hospital separations for dental procedures requiring general anaesthetic across Australia between 2010–11 and 2017–18 using the Hospitalisations interactive 3 below.

<u>The data for this section was presented in Hospitalisations Interactive 3 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

In 2017–18, the rate of hospital separations for dental procedures requiring general anaesthetic (per 1,000 population) was highest in those aged 15–24 years (15.2 per 1,000 population)

- In 2017–18, the rate of hospital separations for dental procedures requiring general anaesthetic (per 1,000 population) was lower in males (4.9 per 1,000 population) than females (5.9 per 1,000 population).
- In 2017–18, the rate of hospital separations for dental procedures requiring general anaesthetic (per 1,000 population) was lower in *Very remote* areas (4.4 per 1,000 population) than any other area.

Explore the number or rate of hospital separations for dental procedures requiring general anaesthetic by selected characteristics using the Hospitalisations interactive 4 below.

<u>The data for this section was presented in Hospitalisations Interactive 4 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

#### References

ABS 2013. Australian Demographic Statistics, December 2012. ABS Cat. no. 3101.0. Canberra: ABS.

ABS 2014a. Australian Demographic Statistics, December 2013. ABS Cat no. 3101.0. Canberra: ABS.

ABS 2014b. Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026. ABS Cat no. 3238.0. Projection series B. Canberra: ABS.

ABS 2015. Australian Demographic Statistics, December 2014. ABS Cat no. 3101.0. Canberra: ABS.

ABS 2016. Australian Demographic Statistics, December 2015. ABS Cat no. 3101.0. Canberra: ABS.

ABS 2017. Australian Demographic Statistics, December 2016. ABS Cat no. 3101.0. Canberra: ABS.

ABS 2018. Australian Demographic Statistics, December 2017. ABS cat no. 3101.0. Canberra: ABS

COAG (Council of Australian Governments) Health Council 2015. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

# Prescribing

The Commonwealth government subsidises the cost of prescription medicines through two separate schemes, the Pharmaceutical Benefits Scheme (PBS) and the Repatriation Pharmaceutical Benefits Scheme (RPBS) for eligible war veterans and their dependants. Medicines available under the PBS/RPBS and conditions of prescribing are listed in the Schedule of Pharmaceutical Benefists. Most of the listed medicines are prescribed by doctors, but other health professionals such as dentists are also eligible to prescribe. Dentists are not able to prescribe general PBS items, but have a separate Dental Schedule from which they can prescribe dental care medicines for their patients (Department of Health 2019a).

The following PBS/RPBS data relate to dental prescriptions, categorised by the Anatomical Therapeutic Chemical (ATC) Classification System as listed in the PBS Schedule.

It is important to highlight that some medications (such as codeine with paracetamol and ibuprofen) were also available over the counter between 2013 and 2017. Therefore data for these medicines will be incomplete as over the counter sales are not captured in the PBS/RPBS data. Also, people may be prescribed medications for dental conditions by other health professionals (e.g. GPs) that are not captured under the Dental Schedule.

## **Key terms**

- **Pharmaceutical Benefits Scheme (PBS):** A national, government-funded scheme that subsidises the cost of a wide range of pharmaceutical drugs for all Australians to help them afford standard medications. The Schedule of Pharmaceutical Benefits lists all the medicinal products available under the PBS and explains the uses for which they can be subsidised.
- Repatriation Pharmaceutical Benefits Scheme (RPBS): An Australian government scheme, subsidised by the Department of Veterans' Affairs (DVA), that provides a range of pharmaceuticals and wound dressings at a concessional rate for the treatment of eligible veterans, war widows and widowers and their dependants.
- Dental prescriptions: Dental care medicines listed on the Dental Schedule of Pharmaceutical Benefits that have been prescribed by dentists for their patients and supplied by pharmacies.
- **ATC:** The Anatomical Therapeutic Chemical (ATC) Classification System is used for the classification of active ingredients of drugs according to the organ or system on which they act and their therapeutic, pharmacological and chemical properties.
- The 10 most commonly dispensed dental prescriptions are categorised by ATC as follows:

**J01:** Antibacterials for systemic use: amoxicillin, amoxicillin with clavulanic acid, cephalexin, clindamycin, erythromycin, metronidazole and phenoxymethylpenicillin.

**M01:** Antiinflammatory and antirheumatic products: ibuprofen.

**N02:** Analgesics: codeine with paracetamol.

**N05:** Psycholeptics: diazepam.

## Number of dental prescriptions dispensed

Over 1 million dental precriptions were dispensed in Australia each year (2013–2019)

- The number of dental prescriptions dispensed in Australia each year fluctuated over time a low of 1.03 million in 2017, to a high of 1.08 million in 2018.
- Around 1.06 million dental prescriptions were dispensed in 2019.

Explore the data using the Prescribing interactive 1 below.

<u>The data for this section was presented in Prescribing Interactive 1 – refer to the corresponding worksheet in the Data tables file for the historical data.</u>

The 10 most commonly dispensed medicines accounted for 98% of all dental prescriptions dispensed in 2019

- Amoxycillin was the most commonly dispensed medicine during the period 2013–2019, accounting for around half of all dental items dispensed each year.
- Amoxycillin was dispensed just over 515,000 times in Australia in 2019.
- The second most commonly dispensed medicine during the period 2013–2019 was codeine with paracetamol, accounting for around one-fifth of dental items dispensed in 2019.
- Codeine with paracetamol was dispensed around 209,000 times in Australia in 2019.

Explore the data using the Prescribing interactive 2 below.

<u>The data for this section was presented in Prescribing Interactive 2 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

Most dental prescriptions were dispensed to females (2013–2019)

• In 2019, more dental prescriptions were dispensed to females (around 531,000 or 50%) than males (around 477,000 or 45%).

Most dental prescriptions were dispensed to patients aged 45–64 years (2013–2019)

In 2019, the number of dental prescriptions dispensed to patients was:

- highest for those aged 45–64 years (around 359,000 or 34%)
- lowest for those aged 0-4 years (around 3,000 or 0.3%).

PBS patients fall into two broad categories: general and concessional. Concessional patients include Pensioner Concession Card holders, Commonwealth Seniors Health Card holders, Health Care Card holders and DVA Pension Card holders. General patients do not hold any of the aforementioned cards. RPBS (or repatriation) patients hold DVA White, Gold or Orange Cards (Department of Health 2019b)

Most dental prescriptions were dispensed to general patients (2013-2019)

- In 2019, around 349,000 (33%) dental prescriptions were dispensed to concessional patients and around 700,000 (66%) dental prescriptions were dispensed to general patients.
- In 2019, around 8,000 (1%) dental prescriptions were dispensed to repatriation patients.

Explore the data using the Prescribing interactive 3 below.

<u>The data for this section was presented in Prescribing Interactive 3 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

#### References

Department of Health 2019a. The Pharmaceutical Benefits Scheme: Dental Items. Canberra: Department of Health. Viewed 7 January 2019. <http://www.pbs.gov.au/browse/dental>

Department of Health 2019b. The Pharmaceutical Benefits Scheme. Canberra: Department of Health. Viewed 7 January 2019. <a href="http://www.pbs.gov.au/pbs/home">http://www.pbs.gov.au/pbs/home</a>

# **Patient experience**

Data presented in this section were sourced from the Australian Bureau of Statistics (ABS) Patient Experience Survey 2017–18 (ABS 2018), 2018–19 (ABS 2019) and 2019–20 (ABS 2020). Patient experience surveys obtain patients' views and observations on aspects of health care services they have received. This includes their views on the accessibility of services and the physical environment, and aspects of the patient-clinician interaction.

This kind of information can be very useful for health services and others who are interested in driving continuous improvement in health services. Australia's National Oral Health Plan 2015–2024 (COAG 2015) is underpinned by four guiding principles, including that services be accessible to all who need them, with respect for individuals needs and views.

## Key terms

- **Dental professional:** Includes dentists, dental hygienists and dental specialists such as periodontists, orthodontists and oral and maxillofacial surgeons.
- Index of Relative Socio-economic Disadvantage: This is one of four Socio-Economic Indexes for Areas (SEIFAs) complied by the ABS following each Census of Population and Housing. This index summarises attributes such as low income, low educational attainment, unemployment, jobs in relatively unskilled occupations and dwellings without motor vehicles. The first (or lowest) quintile refers to the most disadvantaged areas, while the fifth (or highest) quintile refers to the least disadvantaged areas.
- Long term health condition: A condition that has lasted or is likely to last six months or more. Refer to Glossary for further information.
- **Self-assessed health:** A person's impression of their own health against a fivepoint scale from excellent through to poor.

# Use of dental services

In 2019–20, 1 in 2 (50%) Australians aged 15 years and over saw a dental professional in the last 12 months

• The proportion of adults aged 15 years and over who saw a dental professional in the last 12 months remained relatively stable throughout the period 2010–11to 2019–20, at around half of all adults.

In 2019-20:

- more females (53%) than males (46%) saw a dental professional
- people who self-assessed their health as fair/poor (45%) were less likely to have seen a dental professional than those who self-assessed their health as excellent/very good/good (50%)
- people living in areas of least socio-economic disadvantage (62%) were more likely to have seen a dental professional than those living in areas of most disadvantage (38%)

• people living in *Major cities* (51%) were more likely to have seen a dental professional than those living in *Outer regional, Remote and very remote* areas (42%).

Explore the data using the Patient experience interactive 1 below.

<u>The data for this section was presented in Patient experience Interactive 1 –</u> <u>refer to the corresponding worksheet in the Data tables file for the historical</u> <u>data.</u>

## Need for dental services

Each year, around 6 in 10 Australians aged 15 years and over needed to see a dental professional in the last 12 months (2010–11 to 2019–20)

In 2019–20, 59% of Australians aged 15 years and over reported that they needed to see a dental professional in the last 12 months. Most people who needed to, saw a dental professional (84%), with nearly half of those seeing a dental professional 2 or more times (45%).

Explore the data using the Patient experience interactive 2 below.

<u>The data for this section was presented in Patient experience Interactive 2 –</u> <u>refer to the corresponding worksheet in the Data tables file for the historical</u> <u>data.</u>

In 2019–20, females (64%) were more likely than males (55%) to have needed to see a dental professional in the last 12 months

#### In 2019-20:

- people aged 55–64 years (65%) were more likely to have needed to see a dental professional than any other age group
- people living in *Major cities* (61%) were more likely to have needed to see a dental professional than those living in *Inner regional* (58%) and *Outer regional, Remote and very remote* areas (535%)
- people living in areas of least disadvantage (70%) were more likely to have needed to see a dental professional than those living in areas of most disadvantage (50%)
- people with long-term health conditions (65%) were more likely to have needed to see a dental professional than those without long-term health conditions (54%).

Explore the data using the Patient experience interactive 3 below.

<u>The data for this section was presented in Patient experience Interactive 3 – refer to the corresponding worksheet in the Data tables file for the historical data.</u>

In 2019–20, people living in areas of most disadvantage were more likely to report that they needed to see a dental professional but did not (24%) than those living in areas of least disadvantage (11%)

In 2019-20:

- people aged 25–34 years (24%) were more likely to have needed to but not seen a dental professional than any other age group
- people living in *Major cities* (85%) were more likely to have needed to and seen a dental professional than those living in *Inner regional* (80%) and *Outer regional, Remote and very remote* areas (80%)
- people who self-assessed their health as excellent/very good/good (84%) were more likely to have needed to and seen a dental professional than those who self-assessed their health as fair/poor (74%).

Explore the data using the Patient experience interactive 4 below.

<u>The data for this section was presented in Patient experience Interactive 4 – refer to the corresponding worksheet in the Data tables file for the historical data.</u>

### **Experience of dental services**

In 2019–20, around 9 in 10 (89%) adults aged 15 years and over thought their dental professional always showed respect

Adults aged 15 years and over were asked about their experience with dental professionals who they had seen in the last 12 months. In 2019–20:

- around 9 in 10 (89%) thought their dental professional always spent enough time with them
- most thought their dental professional always listened carefully (86%)
- around 1 in 8 (12%) received public dental care
- around 1 in 5 (19%) delayed or did not see a dental professional when needed due to cost.

Explore the data using the Patient experience interactive 5 below.

<u>The data for this section was presented in Patient experience Interactive 5 – refer to the corresponding worksheet in the Data tables file for the historical data.</u>

#### References

ABS (Australian Bureau of Statistics) 2018. Patient experiences in Australia: Summary of Findings, 2017–18. Cat. no. 4839.0. Canberra: ABS. Viewed 7 January 2019. Patient experiences in Australia: Summary of Findings, 2017–18. Cat. no. 4839.0. Canberra: ABS. Viewed 7 January 2019. ABS (Australian Bureau of Statistics) 2019. Patient experiences in Australia: summary of findings, 2018–19. Canberra: ABS. Viewed 30 November 2020, https://www.abs.gov.au/statistics/health/health-services/patient-experiences-australia-summary-findings/2018-19.

ABS (Australian Bureau of Statistics) 2020. Patient experiences in Australia: summary of findings, 2019–20. Canberra: ABS. Viewed 22 February 2021, https://www.abs.gov.au/statistics/health/health-services/patient-experiences-australia-summary-findings/2019-20.

COAG (Council of Australian Governments) Health Council 2015. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

# Costs

Many Australians face financial barriers in accessing dental services (COAG 2015). Overall, individuals directly fund a significant proportion of total expenditure on dental services, 57% in 2017–18 (AIHW 2019).

## Key terms

- Household: from ABS Explanatory Notes
- **Constant prices:** Constant price expenditure adjusts current prices for the effects of inflation—that is, it aims to remove the effects of inflation. For further explanation refer to the Glossary in Health expenditure Australia 2017–18.
- **Dental services:** Services that registered dental practitioners provide. These include oral and maxillofacial surgery items, orthodontic, pedodontic and periodontic services, cleft lip and palate services, dental assessment and other dental items listed in the MBS. The term covers dental services funded by health funds, state and territory governments and also individuals' out-of-pocket payments.
- **General inflation:** The rise in the general price level of goods and services in the economy.

# Expenditure

Dental services expenditure data presented in this section are derived from AIHW analysis of the Health Expenditure Database.

Overall, \$10.3 billion was spent on dental services in 2018–98

- Recurrent expenditure on dental services in Australia is estimated to be \$10.3 billion for 2018–19, up from \$6.8 billion in 2007–08, adjusted for inflation.
- Total expenditure on dental services increased every year from 2007–08 to 2018–19, at an average annual growth rate of 3.3%.

In 2018–19, per capita expenditure on dental services was \$409

• Per capita expenditure on dental services steadily increased from \$326 in 2007–08 to \$409 in 2018–19, adjusted for inflation.

#### **Government expenditure**

- Australian Government expenditure on dental services fluctuated over the decade to 2017–18, from a low of \$1041 million in 2008–09 to a high of \$1,270 million in 2018–19. Across the period, expenditure grew at an average annual rate of 2.0%.
- Overall, state and territory government expenditure on dental services grew at an average annual rate of 1.3%. Expenditure fluctuated over the decade; ranging from \$1,851 million in 2013–14 to \$2,599 million in 2011–12.

- Between 2008–09 and 2018–19, Australian Government per capita expenditure on dental services fluctuatedbetween \$48 and \$78, at an average annual growth rate of 0.4%.
- State/territory and local government per capita expenditure fluctuated during the period 2008–09 to 2018–19, ranging from \$29 in 2012–13 to \$38 in 2010–11. Across the period, expenditure grew at an average annual rate of -1.3%.

#### Non-government expenditure

- Non-government expenditure on dental services increased steadily overall, from \$5568 million in 2008–09 to \$8,192 million in 2018–19. This represents an average annual growth rate of 3.9%.
- Expenditure on dental services by individuals accounted for the majority of non-government expenditure, increasing from \$4,427 million in 2008–09 to \$6,051 million in 2018–19 at an average annual growth rate of 3.2%.
- Health insurance funds expenditure on dental services increased at an average annual growth rate of 6.5%, from \$1,115 million in 2008–09 to \$2,089 million in 2018–19.
- Per capita expenditure on dental services by the non-government sector increased from \$260 in 2008–09 to \$325 in 2018–19, adjusted for inflation. Across the period, per capita expenditure grew at an average annual rate of 2.3%.

Explore the data using Costs interactives 1 and 2 below.

<u>The data for this section was presented in Costs Interactive 1 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

<u>The data for this section was presented in Costs Interactive 2 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

#### Household expenditure

Data presented in this section was sourced from the 2003–04, 2009–10 and 2015–16 Australian Bureau of Statistics (ABS) Household Expenditure Survey (HES) (ABS 2006; ABS 2011; ABS 2017). The ABS HES collects information on household expenditure patterns using variables such as income levels, sources, employment, family kinship, age and geographic location, to help provide a better understanding on living standards and economic wellbeing of Australians.

On average, Australians spent \$7.62 per week on dental fees in 2015–16

- In 2015–16, Australians spent an average of \$7.62 per week on dental fees, compared to \$5.74 in 2003–04 and \$7.23 in 2009–10.
- Residents of the Australian Capital Territory spent an average of \$13.73 per week on dental fees in 2015–16, more than any other jurisdiction.
- In 2015–16, South Australian residents spent an average of \$5.88 per week on dental fees, less than any other jurisdiction.

Explore the data using the Costs interactive 3 below.

<u>The data for this section was presented in Costs Interactive 3 – refer to the corresponding worksheet in the Data tables file for the historical data.</u>

#### Barriers

Data in this section were sourced from the National Study of Adult Oral Health 2017–18. Respondents were asked a range of questions relating to the cost of dental care.

#### People who avoided or delayed visiting a dentist due to cost

Around 4 in 10 (39%) of people aged 15 years and over avoided or delayed visiting a dentist due to cost

- Females had higher rates of avoidance due to cost than males, 43% compared to 35%.
- Indigenous Australians (49%) had higher rates of avoidance due to cost than non-Indigenous Australians (39%).
- People with insurance had lower rates of avoidance due to cost than those without insurance, 26% and 52% respectively.
- People who usually visit the dentist for a problem (58%) were more than twice as likely than those who usually visit for a check-up (27%) to avoid or delay visiting a dentist due to cost.

# People who reported that cost prevented recommended dental treatment

Around 1 in 4 (23%) dentate adults aged 15 years and over who visited a dentist in the last 12 months reported that cost prevented recommended dental treatment

- Adults aged 35–54 years were the most likely to not receive recommended dental treatment due to cost, 29%
- People without insurance (30%) were more likely to report that cost prevented recommended dental treatment than those with insurance (18%).
- People who usually visit the dentist for a problem (44%) reported higher rates of cost preventing recommending dental treatment than those who usually visit for a check-up (16%).

# People who stated they would have a lot of difficulty paying for a basic preventive visit

Around one-quarter (24%) of adults aged 15 years and over stated they would have difficulty in paying a \$200 dental bill

- The proportion of females (28%) reporting difficulty in paying for a basic preventive visit was greater than the proportion of males (20%).
- Indigenous Australians (40%) were more likely than non-Indigenous Australians (24%) to report difficulty in paying a \$200 dental bill.

- A lower proportion of people with a degree or higher (15%) reported they would have difficulty paying for a basic preventive visit than those with other or no qualifications (27%).
- More than twice as many people without insurance (33%) stated they would have difficulty paying for a basic preventive visit than those with insurance (15%).

Around twice as many people eligible for public dental care (39%) stated they would have difficulty paying for a basic preventive visit than those ineligible for public dental care (18%).

#### **Cost trends**

The proportion of dentate adults aged 15 years and over who avoided or delayed dental care due to cost increased from 31% in 2004–06 to 39% in 2017–18

Adults aged 25–34 were more likely to avoid or delay dental care in both 2004–06 and 2017–18 than any other age group, 43% and 50% respectively. The proportion of dentate adults aged 15 years and over who reported the cost of dental care was a large financial burden was similar in 2004–06 and 2017–18, 14% and 13% respectively

• There was a significant decrease in the proportion of dentate adults aged 35– 44 who reported the cost of dental care was a large financial burden between 2004–06 and 2017–18, 16% and 12% respectively.

Explore the data using the Costs interactives 4 and 5 below.

<u>The data for this section was presented in Costs Interactive 4 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

<u>The data for this section was presented in Costs Interactive 5 – refer to the</u> <u>corresponding worksheet in the Data tables file for the historical data.</u>

#### References

ABS (Australian Bureau of Statistics) 2006. Household expenditure survey, Australia: Detailed Expenditure Items, 2003–04 (Reissue). Cat. no. 6535.0.55.001. Canberra: ABS. Viewed 7 January 2019.

ABS (Australian Bureau of Statistics) 2011. Household expenditure survey, Australia: summary of results, 2009–10. Cat. no. 6530.0. Canberra: ABS. Viewed 7 January 2019.

ABS (Australian Bureau of Statistics) 2017. Household expenditure survey, Australia: summary of results, 2015-16. Cat. no. 6530.0. Canberra: ABS. Viewed 7 January 2019.

AIHW (Australian Institute of Health and Welfare): Chrisopoulis S, Harford JE & Ellershaw A 2016. Oral health and dental care in Australia: key facts and figures 2015. Cat. No. DEN 229. Canberra: AIHW.

Australian Institute of Health and Welfare 2019. Health expenditure Australia 2017–18. Cat. no. HWE 077. Canberra: AIHW. doi:10.25816/5ec5ba12ed174

Chrisopoulos L, Luzzi L, Ellershaw A, 2019. Dental care pp97–124. In: ARCPOH. Australia's Oral Health: National Study of Adult Oral Health 2017–18. Adelaide: The University of Adelaide, South Australia.

COAG (Council of Australian Governments) Health Council 2015. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

# **Private health insurance**

In Australia, the private health insurance system is based on individuals or families purchasing an insurance policy that covers all or part of the cost of health care. Private health insurance cover is generally divided into hospital cover, general treatment cover and ambulance cover. General treatment cover provides insurance against costs of treatment by ancillary health service providers, including dentists. The extent of cover depends on the type of policy purchased.

## Key terms

- **Dentate:** Having one or more natural teeth.
- Edentulous: A state of complete loss of all natural teeth.
- **Constant prices:** Constant price expenditure adjusts current prices for the effects of inflation over time— see Glossary in Health expenditure Australia 2018–19.

# Private health insurance cover for dental expenses

Data in this section were sourced from the National Dental Telephone Interview Survey 2013 (AIHW 2016). This section reports the proportion of Australians who held private health insurance cover for dental expenses at the time of the survey.

Half (50%) of all people aged 5 years and over had some level of private health insurance cover for dental expenses

The proportion of people aged 5 years and over with some level of private health insurance cover for dental expenses was:

- higher for adults aged 45–64 (57%) than those aged 15–24 (44%)
- twice as high for dentate people (51%) than edentulous people (25%).

Explore the data using the Private health insurance interactive 1 below.

<u>The data for this section was presented in Private health insurance Interactive 1</u> <u>– refer to the corresponding worksheet in the Data tables file for the historical data.</u>

Nearly twice as many dentate people aged 5 years and over ineligible for public dental care (58%) had some level of private health insurance cover for dental expenses than those eligible for public dental care (31%)

The proportion of dentate people aged 5 years and over with some level of private health insurance cover for dental expenses:

• was similar for males (50%) and females (52%)

- higher for those living in *Remote and very remote* areas (57%) than those living in *Major cities* (53%), *Inner regional* (45%) and *Outer regional* (44%) areas
- increased as annual household income increased, from 23% for those earning less than \$30,000 per year to 78% for those earning over \$140,000 per year.

Explore the data using the Private health insurance interactive 2 below.

<u>The data for this section was presented in Private health insurance Interactive 2</u> <u>– refer to the corresponding worksheet in the Data tables file for the historical data.</u>

Around 3 in 4 (77%) adults aged 18 years and over reported that their insurance paid some of the dental expenses of their last visit

- Around 1 in 12 (8.5%) adults aged 18 years and over reported that their insurance paid all the dental expenses of their last visit.
- Around 1 in 10 (10%) adults aged 18 years and over reported they paid all their own dental expenses of their last visit.

Around 1 in 5 (19%) of insured adults aged 18 years and over who paid all their own dental expenses reported that dental care caused a large financial burden

- Around 1 in 25 (4.1%) of insured adults aged 18 years and over whose insurance paid all of the dental expenses reported that dental care caused a large financial burden.
- Around 1 in 10 (10%) of insured adults aged 18 years and over whose insurance paid some of the dental expenses reported that dental care caused a large financial burden.

<u>The data for this section was presented in Private health insurance Interactive 3</u> <u>– refer to the corresponding worksheet in the Data tables file for the historical data.</u>

## Health expenditure by private health insurance funds

In 2018–19, 12.3 million Australians (48%) were covered by a general treatment policy (excluding ambulance only cover) (APRA 2021) and dental services attracted \$2.1 billion (12%) of expenditure by private health insurance funds (AIHW 2020).

Net benefits paid by private health insurance funds for dental services increased from \$1.9 billion in 2016–17 to \$2.1 billion in 2018–19

Explore the data using the Private health insurance interactive 4 below.

<u>The data for this section was presented in Private health insurance Interactive 4</u> <u>– refer to the corresponding worksheet in the Data tables file for the historical data.</u>

## Private health insurers data

The General Treatment Dental (GT-Dental) data collection contains de-identified unit record information relating to patients and general treatment dental services for which the private health insurer paid a benefit. This information is reported to the Commonwealth Department of Health by private health insurers (Department of Health 2017).

In 2017–18, across Australia the median charge, benefit and gap for a diagnostic comprehensive oral examination was \$59, \$40 and \$18, respectively

In 2017–18, across Australia:

- the median charge, benefit and gap for a preventative service involving the removal of plaque and/or stain was \$58, \$38 and \$16, respectively
- the median charge, benefit and gap for a restorative service involving the adhesive restoration of one surface of an anterior tooth was \$139, \$72 and \$60, respectively
- the median charge, benefit and gap for the removal of a tooth or part(s) thereof was \$156, \$83 and \$76, respectively
- the median charge, benefit and gap for a full crown was \$1500, \$700 and \$786, respectively

Explore the data using Private health insurance interactive 5 below:

<u>The data for this section was presented in Private health insurance Interactive 5</u> <u>– refer to the corresponding worksheet in the Data tables file for the historical data.</u>

In 2017–18, the charge for a diagnostic comprehensive oral examination ranged from \$28 to \$101, the benefit ranged from \$17 to \$75 and the gap ranged from \$0 to \$69 across Australia

In 2017–18, across Australia:

- the charge for a preventative service involving the removal of plaque and/or stain ranged from \$22 to \$110, the benefit ranged from \$14 to \$74 and the gap ranged from \$0 to \$82
- the charge for a restorative service involving the adhesive restoration of one surface of an anterior tooth ranged from \$46 to \$260, the benefit ranged from \$21 to \$146 and the gap ranged from \$0 to \$199
- the charge for the removal of a tooth or part(s) thereof ranged from \$50 to \$350, the benefit ranged from \$21 to \$172 and the gap ranged from \$0 to \$278

• the charge for a full crown ranged from \$700 to \$2,500, the benefit ranged from \$41 to \$1,300 and the gap ranged from \$26 to \$1,989.

Explore the data using Private health insurance interactive 6 below:

<u>The data for this section was presented in Private health insurance Interactive 6</u> <u>– refer to the corresponding worksheet in the Data tables file for the historical data.</u>

In 2017–18, more dental services for which the private health insurer paid a benefit were provided to females (around 17.5 million) than males (around 14.3 million)

In 2017–18:

- most dental services for which the private health insurer paid a benefit were provided to those aged 55–59 years, around 2.7 million services
- around 983,000 services were provided to males aged 10–14 years compared with around 955,000 services provided to females of the same age.

Explore the data using Private health insurance interactive 7 below:

<u>The data for this section was presented in Private health insurance Interactive 7</u> <u>– refer to the corresponding worksheet in the Data tables file for the historical data.</u>

#### References

AIHW (Australian Institute of Health and Welfare): Chrisopoulis S, Harford JE & Ellershaw A 2016. Oral health and dental care in Australia: key facts and figures 2015. Cat. No. DEN 229. Canberra: AIHW.

Australian Institute of Health and Welfare 2019. Health expenditure Australia 2017–18. Cat. no. HWE 077. Canberra: AIHW.

doi:10.25816/5ec5ba12ed174Australian Institute of Health and Welfare 2020. Health expenditure Australia 2018-19. Cat. no. HWE 80. Canberra: AIHW. doi:10.25816/ysem-1g13

APRA (Australian Prudential Regulation Authority) 2021. Private health insurance membership and coverage, Dec 2020. Sydney: APRA

Department of Health, 2017. Hospital Data Collections. Canberra: Australian Government Department of Health. Viewed 18 June 2020 <a href="https://www1.health.gov.au/internet/main/publishing.nsf/Content/health-casemix-data-collections-about">https://www1.health.gov.au/internet/main/publishing.nsf/Content/health-casemix-data-collections-about</a>

# **Dental workforce**

All dental practitioners must be registered with the Australian Health Practitioner Regulation Agency (AHPRA) to practise in Australia. There is a range of different types of registration to match different levels of training and experience. Most dental practitioners have general registration. General registration divisions include dentists, dental prosthetists, dental hygienists, oral health therapists and dental therapists. Dentists may also qualify and be eligible for specialist registration. There are 13 approved dental specialities in Australia (Dental Board of Australia 2018).

Data presented in this section were sourced from the National Health Workforce Dataset (NHWDS).

## Key terms

• **Full-time equivalent (FTE) rate:** The FTE rate (number of FTE dental practitioners per 100,000 population) is a measure of supply. By defining supply in terms of the FTE rate, meaningful comparisons of supply can be made across geographic areas and over time.

# Size and distribution of the dental workforce

Data on the size and distribution of the dental workforce is required to understand the current dental workforce and its capacity to meet the community's needs for prevention and treatment of oral disease.

The number of all registered dental practitioners in Australia has increased from 20,469 in 2013 to 24,143 in 2019

- The number of registered dentists in Australia has increased from 15,479 in 2013 to 18,061in 2019.
- Around 9 in 10 of all dental practitioners registered in 2019 were employed in their field.
- The proportion of dentists employed in their field has remained relatively stable, ranging from 89% in 2013 to 91% in 2019.

Explore the data using the Dental workforce interactive 1 below.

<u>The data for this section was presented in Dental workforce Interactive 1 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

In 2019, the number of FTE dentists in Australia was 58.7 per 100,000 population

In 2019:

• Across jurisdictions, the Australian Capital Territory had the highest FTE rate of dentists (66.5), Tasmania had the highest FTE rate of dental prosthetists (8.0), South Australia had the highest FTE rate of dental hygienists (12.7)

and oral health therapists (10.6) and Western Australia had the highest FTE rate of dental therapists (6.8).

- Across remoteness areas, *Major cities* had the highest FTE rate of dentists (65.1), dental hygienists (5.2) and oral health therapists (6.9). *Inner regional* areas had the highest FTE rate of dental prosthetists (5.6) and *Remote and very remote areas* had the highest FTE rate of dental therapists (4.0).
- The FTE rate of dentists ranged from 36.9 in the Northern Territory to 66.5 in the Australian Capital Territory.
- The FTE rate of dentists ranged from 27.7 in *Remote and very remote* areas to 65.1 in *Major cities*.

Over time:

- The FTE rate of dentists in Australia ranged from 55.5 in 2013 to 58.7 in 2019.
- The FTE rate of oral health therapists in Australia has steadily increased from 3.2 in 2013 to 6.5 in 2019.

Explore the data using the Dental workforce interactive 2 below.

<u>The data for this section was presented in Dental workforce Interactive 2 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

*Major cities* had the highest FTE rate of dentists employed in the private sector (53.0) whilst *Remote and very remote* areas had the highest FTE rate of dentists employed in the public sector (10.7) in 2019.

In 2019, the Australian Capital Territory had the highest FTE rate of dentists employed in the private sector (53.0) and Victoria had the lowest FTE rate of dentists employed in the public sector (4.6) whilst the Northern Territory had the lowest FTE rate of dentists employed in the private sector (21.8) and the highest FTE rate of dentists employed in the public sector (11.7).

Explore the data using the Dental workforce interactive 3 below.

<u>The data for this section was presented in Dental workforce Interactive 3 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

Data presented in this section focuses on the characteristics of dentists employed in Australia.

In 2019, around 4 in 10 (44%) employed dentists were female

In 2019:

- Around 4 in 10 employed dentists worked part-time (43%).
- 1 in 5 were aged 30 years and less (20%).
- Around 1 in 4 employed dentists obtained their initial qualification in countries other than Australia and New Zealand (26%).

Explore the data using the Dental workforce interactive 4 below.

<u>The data for this section was presented in Dental workforce Interactive 4 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

In 2019, dentists employed in Australia predominantly worked in private practices

- In 2019, the majority of dentists worked in group private practices (8,996) or solo private practices (4,209) accounting for 83% of all employed dentists in Australia. This trend was similar across all jurisdictions.
- In 2019, 836 (5.2%) dentists worked in public clinics in Australia.

Explore the data using the Dental workforce interactive 5 below.

<u>The data for this section was presented in Dental workforce Interactive 5 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

There are 13 approved dental specialties in Australia. All specialists must hold a qualification in the specialty and meet all the requirements for general registration as a dentist (Dental Board of Australia 2018).

In 2019, around 1 in 10 (10%) employed dentists were specialists

In 2019:

- The largest group of dental specialists in Australia were orthodontists (552) equivalent to 35% of all dental specialists.
- Around 3 in 4 (71%) dental specialists in Australia were male.

Explore the data using the Dental workforce interactive 6 below.

<u>The data for this section was presented in Dental workforce Interactive 6 – refer</u> to the corresponding worksheet in the Data tables file for the historical data.

Dental Board of Australia 2018. Melbourne: Australian Health Practitioner Regulation Agency. Viewed 18 December 2018. <a href="http://www.dentalboard.gov.au/Registration.aspx">http://www.dentalboard.gov.au/Registration.aspx</a>.

# **Priority populations**

The goal of Australia's National Oral Health Plan 2015–2024 (NOHP) is 'to improve health and wellbeing across the Australian population by improving oral health status and reducing the burden of poor oral health' (CoAG 2015).

The NOHP outlines guiding principles that underpin Australia's oral health system and provides national strategic direction including targeted strategies in six foundation areas and across four priority populations.

The priority populations highlight the groups that experience the most significant barriers to accessing oral health care and the greatest burden of oral disease (Table 1).

#### Table 1: Australia's National Oral Health Plan 2015–2024 priority populations

**Priority populations:** 

- 1. People who are socially disadvantaged or on low incomes
- 2. Aboriginal and Torres Strait Islander people
- 3. People living in regional and remote Australia
- 4. People with additional and/or specialised health care needs

#### References

CoAG (Council of Australian Governments) Health Council 2015. Healthy mouths, healthy lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

# People who are socially disadvantaged or on low incomes

This group has historically been identified as those on a low income and/or receiving some form of government income assistance, but now extends to include people experiencing other forms of disadvantage including refugees, homeless people, some people from culturally and linguistically diverse backgrounds, and people in institutions or correctional facilities (COAG 2015). Poorer oral health results from infrequent dental care. Barriers include cost, appropriateness of service delivery and lower levels of health literacy, including oral health (COAG 2015).

#### The health of Australia's prisoners 2018

People in contact with the criminal justice system often come from socioeconomically disadvantaged backgrounds (AIHW 2019).

People in prison have higher rates of tobacco smoking and high-risk alcohol consumption than the general population (AIHW 2015) which are behaviours that are known to increase the risk of oral disease (AIHW 2020).

The health of Australia's prisoners 2018 presents the results of the 5<sup>th</sup> National Prisoner Health Data Collection (NPHDC) in Australia. The NPHDC is the main source of national data about the health of people in prison in Australia. Data for the NPHDC were collected in 2-week periods in all states and territories, except New South Wales.

During the 2-week NPHDC data collection period, one-quarter (25%) of prison dischargees said they had been diagnosed with a dental condition at some stage in their lives.

Similar to general practice in the community, prison clinics provide primary health care to people in custody. A visit to the prison clinic may be initiated by the patient (person in custody) or by clinic staff. During the 2-week NPHDC data collection period just over one-quarter (28%) of clinic visits were initiated by the patient. Patients were more likely to initiate clinic visits for dental conditions (70%) whilst clinicians were more likely to initiate clinic visits for pathology (83%).

#### **References:**

AIHW 2015. The health of Australia's prisoners 2015. Cat. no. PHE207. Canberra: AIHW.

Australian Institute of Health and Welfare 2019. The health of Australia's prisoners 2018. Cat. no. PHE 246. Canberra: AIHW. doi:10.25816/5ec5c381ed17a

Australian Institute of Health and Welfare 2020. National Oral Health Plan 2015–2024: performance monitoring report. Cat. no. DEN 232. Canberra: AIHW. Viewed 16 February 2021, https://www.aihw.gov.au/reports/dental-oral-health/national-oral-health-plan-2015-2024

## Aboriginal and Torres Strait Islander Australians

Indigenous Australians are more likely than other Australians to have multiple caries and untreated dental disease, and less likely to have received preventive dental care (AHMAC 2017). The oral health status of Indigenous Australians, like all Australians, is influenced by many and a tendency towards unfavourable dental visiting patterns, broadly associated with accessibility, cost and a lack of cultural awareness by some service providers (COAG 2015; NACDH 2012).

#### Aboriginal and Torres Strait Islander Health Performance Framework 2020 web report

Since 2006, Aboriginal and Torres Strait Islander Health Performance Framework (HPF) reports have provided information about Indigenous Australians' health outcomes, key drivers of health and the performance of the health system. The HPF was designed, in consultation with Aboriginal and Torres Strait Islander stakeholder groups, to promote accountability, inform policy and research, and foster informed debate about Indigenous Australians' health.

The Aboriginal and Torres Strait Islander Health Performance Framework 2020 web report reports on 68 measures across three domains (tiers). Measure 1.11 Oral health in *Tier 1—Health status and outcomes* describes the oral health of Aboriginal and Torres Strait Islander people. Data presented shows that:

- 58% of Aboriginal and Torres Strait Islander children aged 0–14 had seen a dentist in the last 12 months in 2018–19
- Indigenous children aged 0–4 were hospitalised for dental conditions at 1.7 times the rate of non-Indigenous children between July 2015 and June 2017
- 19% of Indigenous Australians reported that they did not go to a dentist when they needed to in the previous 12 months
- 6% of Indigenous Australians aged 15 and over were reported to have complete tooth loss and 45% had lost at least one tooth, in 2018–19.

#### Oral health outreach services for Aboriginal and Torres Strait Islander children in the Northern Territory, July 2012 to December 2019

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. Several factors contribute towards the poorer oral health of Indigenous children, including social disadvantage and lack of access to appropriate diet and dental services.

Since 2007, the Australian Government has helped fund oral health services for Indigenous children aged under 16 in the Northern Territory. The Northern Territory Remote Aboriginal Investment Oral Health Program (NTRAI OHP) complements the Northern Territory Government Child Oral Health Program, by providing preventive (application of full-mouth fluoride varnish and fissure sealants) and clinical (tooth extractions, diagnostics, restorations and examinations) services.

The Oral health outreach services for Aboriginal and Torres Strait Islander children in the Northern Territory, July 2012 to December 2019 presents data from the NTRAI OHP. In 2019, more than 13,000 services were delivered to Aboriginal and Torres Strait Islander children in the Northern Territory under the NTRAI OHP (AIHW 2021). Of those:

- 5,614 children received 6,807 full-mouth fluoride varnish services, a rise of 378 services from 2018
- 1,612 children received fissure sealant applications to 6,266 teeth, a decrease of 661 teeth from 2018
- 3,552 children received clinical services during 4,780 visits—such as dental assessments, fillings, extractions, or preventive services—a rise of 894 visits from 2018.

#### References

AHMAC (Australian Health Ministers Advisory Council) 2017. Aboriginal and Torres Strait Islander Health Performance Framework 2017 Report. Canberra: AHMAC.

Australian Institute of Health and Welfare and National Indigenous Australians Agency 2020. Aboriginal and Torres Strait Islander Health Performance Framework 2020 web report. Canberra: AIHW.

Australian Institute of Health and Welfare 2021. Oral health outreach services for Aboriginal and Torres Strait Islander children in the Northern Territory July 2012 to December 2019. Cat. no. IHW 235. Canberra: AIHW. Viewed 26 February 2021, https://auth.aihw.gov.au/reports/indigenous-australians/oral-healthoutreach-services-for-aboriginal-and-t

COAG (Council of Australian Governments) Health Council 2015. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

NACDH (National Advisory Council on Dental Health) 2012. Report of the National Advisory Council on Dental Health 2012. Canberra: Department of Health and Ageing.

# People living in regional and remote areas

Overall, people living in regional and remote areas of Australia have poorer oral health than those living in *Major cities* (COAG 2015), and oral health status generally declines as remoteness increases. People living in rural areas have access to fewer dental practitioners than their city counterparts, which, coupled with longer travel times and limited transport options to services, affects the oral health care that they can receive (COAG 2015; Bishop & Laverty 2015).

People living in *Remote* and *Very remote* areas are also more likely to smoke and drink at risky levels. They have reduced access to fluoridated drinking water and face increased costs of healthy food choices and oral hygiene products. These risk factors contribute to this population's overall poorer oral health (COAG 2015).

#### **Royal Flying Doctor Service**

The Royal Flying Doctor Service (RFDS) provides a comprehensive range of primary healthcare services throughout Australia. After recognising that a large proportion of people living in remote and rural Australia do not have access to a regular dental service, the RFDS established their dental service designed to support communities in country Australia. These services are provided using 'fly-in fly-out', mobile and outreach delivery models and are funded by the Commonwealth of Australia (Gardiner et al 2020).

Data from the RFDS administrative patient dataset (unpublished) shows that in 2019–20:

- the RFDS performed 43,633 dental procedures for 5,143 unique patients
- the leading service categories were diagnostic services (12,505 procedures) and preventive services (11,576 procedures) followed by general services (8,878 procedures) and restorative services (7,266 procedures).

#### References

Bishop LM & Laverty MJ 2015. Filling the gap: Disparities in oral health access and outcomes between metropolitan and remote and rural Australia. Canberra: Royal Flying Doctor Service of Australia.

COAG (Council of Australian Governments) Health Council 2015. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

Gardiner, FW, Richardson, A, Gale, L, et al. Rural and remote dental care: Patient characteristics and health care provision. Aust J Rural Health. 2020; 28: 292– 300. https://doi.org/10.1111/ajr.12631

# People with additional and/or specialised health care needs

This group includes people living with mental illness, people with physical, intellectual and developmental disabilities, people with complex medical needs and frail older people. These people can be vulnerable to oral disease; for example, some medications for chronic diseases can cause a dry mouth, which increases the risk of tooth decay (Queensland Health 2008). A number of factors make accessing dental care more difficult for this group, including:

- a shortage of dental health professionals with skills in special-needs dentistry
- difficulties in physically accessing appropriate dental treatment facilities
- the cost of treatment. People with additional and/or specialised health care needs often have their earning capacity eroded by ill health (COAG 2015).

#### People with disability in Australia

Around 1 in 6 (18%) people in Australia—or about 4.4 million—have disability (AIHW 2020). Some people with disability experience difficulties accessing and using health services. Barriers can include longer than desired waiting times, the cost of services, the accessibility of buildings and direct or indirect discrimination by health professionals. Some people with disability may also experience issues caused by a lack of communication between the health professionals treating them (AIHW 2020).

The People with disability in Australia 2020 report presents data sourced from the Australian Bureau of Statistics' 2018 Survey of Disability, Ageing and Carers (ABS 2019). Data from this survey found that people with disability aged under 65 had difficulties accessing health services in the previous 12 months:

- 1 in 8 (13%) who need to see a dental professional are placed on a public dental waiting list
- 7 in 10 (70%) who have been on a public dental waiting list wait 1 month to more than 1 year before receiving dental care
- 3 in 10 (28%) who need to see a dental professional delay or do not go because of cost.

#### References

Australian Institute of Health and Welfare 2020. People with disability in Australia. Cat. no. DIS 72. Canberra: AIHW. Viewed 20 February 2021, https://www.aihw.gov.au/reports/disability/people-with-disability-in-australia

ABS (Australian Bureau of Statistics) 2019. Disability, Ageing and Carers, Australia: Summary of findings, 2018. Canberra: ABS. Viewed 26 February 2021, Disability, Ageing and Carers, Australia: Summary of Findings, 2018 | Australian Bureau of Statistics (abs.gov.au)

COAG (Council of Australian Governments) Health Council 2015. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. Adelaide: South Australian Dental Service.

Queensland Health 2008. Healthy Teeth for Life fact sheet – Dry mouth. Viewed 26 September 2018.

# Data sources

#### **National Child Oral Health Study**

The National Child Oral Health Study (NCOHS) provides a descriptive 'snapshot' of oral health in the child population of Australia. Data are collected from children aged 5–14 years, residing in all Australian states and territories. Information is collected using interviews and standardised dental examinations.

The study identified individual, family, community and dental system factors associated with oral health outcomes of Australian children and compares the oral health status of children across different aspects of the dental services system.

The NCOHS was last conducted in 2012–14. The National Oral Health Plan 2015–2024 calls for a population-based epidemiological study of the oral health of children to be conducted every 10 years.

#### **National Survey of Adult Oral Health**

The National Survey of Adult Oral Health (NSAOH) provides a descriptive 'snapshot' of oral health in the adult population of Australia.

The survey describes levels of oral disease, perceptions of oral health and patterns of dental care. Data are collected from a representative cross-section of people aged 15 years and over, residing in all states and territories of Australia. Information is collected using interviews and standardised dental examinations.

The National Oral Health Plan 2015–2024 calls for a population-based epidemiological study of the oral health of adults to be conducted every 10 years. The NSAOH was conducted in 2004–06 and again in 2017–18.

#### **National Dental Telephone Interview Survey**

The National Dental Telephone Interview Survey (NDTIS) is a telephone survey of a random sample of the Australian population aged 5 years and over. The survey collects oral health and dental care data, monitors the extent of social inequalities within the dental sector, and investigates the underlying reasons behind dental behaviours and the consequences of these behaviours.

Data collected included measures of self-reported oral health status, use of and access to dental services, social impact of oral health, financial burden of dental care and private health insurance that covered dental expenses. There is no clinical component to the survey.

The survey is conducted every 2–3 years. Surveys were conducted in 1994, 1996, 1999, 2002, 2005, 2008, 2010 and 2013.

#### Australian Cancer Database

The Australian Cancer Database contains information on all Australians diagnosed with cancer (excluding basal cell and squamous cell carcinomas of the skin) since 1982. Data are collected by state and territory cancer registries from a number of sources and are supplied annually to the AIHW. The AIHW compiles and maintains the Australian Cancer Database, in partnership with the Australasian Association of Cancer Registries, which includes representatives from each state and territory cancer registry.

#### Australian Burden of Disease Study Database

The Australian Burden of Disease Study Database includes national and Indigenous burden of disease estimates for 2003 and 2011, including Years of life lost (YLL), Years lived with disability (YLD) and Disability-adjusted life years (DALY) for around 200 diseases included in the Australian Burden of Disease Study 2011. Subnational estimates (state/territory, remoteness and socioeconomic group) are available for 2011. National and Indigenous estimates of attributable burden due to the selected risk factors included in the study are available for 2003 and 2011. Data are available by 5 year age group and sex.

#### **Australian Health Survey**

The Australian Health Survey is the largest, most comprehensive health survey conducted in Australia. It combines:

- the National Health Survey (NHS)
- the National Nutrition and Physical Activity Survey (NNPAS); and
- the National Health Measures Survey (NHMS).

The 2011–12 National Health Survey (NHS) was conducted from a sample of approximately 15,600 private dwellings across Australia. Trained interviewers conducted personal interviews with selected residents in sampled dwellings. There was no clinical component to the survey.

The 2011–12 NHS collected information about:

- the health status of the population, including long-term health conditions experienced;
- health-related aspects of people's lifestyles, such as smoking, Body Mass Index, diet, exercise and alcohol consumption;
- the use of health services such as consultations with health practitioners and actions people have recently taken for their health; and
- demographic and socioeconomic characteristics.

#### **National Health Survey**

The 2014–15 National Health Survey (NHS) was conducted from a sample of approximately 14,700 private dwellings across Australia. Trained interviewers conducted personal interviews with selected residents in sampled dwellings. There was no clinical component to the survey

The 2014–15 NHS collected information about:

- the health status of the population, including long-term health conditions experienced;
- health-related aspects of people's lifestyles, such as smoking, Body Mass Index, diet, exercise and alcohol consumption;
- the use of health services such as consultations with health practitioners and actions people have recently taken for their health; and

• demographic and socioeconomic characteristics.

#### **Public Dental Waiting Times National Minimum Data Set**

The PDWT NMDS enables reporting on the length of time that patients wait for public dental care in Australia, and the characteristics of patients who receive care or who were listed for care in a reference period.

The scope of the collection is to capture some basic data about adults aged 18 years and over who are placed on general dental care, denture care or assessment public dental waiting lists in a specific collection year, or who were placed on a waiting list at any time and were offered or received care in the collection year. The waiting time periods calculated are the time between the date a person is placed on a waiting list and the date they are offered dental care, and the time between the date a person is placed are.

#### **Child Dental Benefits Schedule data**

The Child Dental Benefits Schedule (CDBS) provides individual benefits for a range of basic dental services to eligible children aged 2–17 years. Services can be provided in a public or private setting. Benefits are not available for orthodontic or cosmetic dental work and cannot be paid for any services provided in a hospital.

Payment of benefits under the Child Dental Benefits Schedule is administered by the Department of Human Services. Although the Child Dental Benefits Schedule is not part of Medicare, statistics are captured through the Medicare Benefits Schedule, and are available under Category 10 – Dental Benefit Schedule.

#### National Hospital Morbidity Database

The National Hospital Morbidity Database (NHMD) is a collection of records from admitted patient data collection systems in Australian hospitals. The data supplied in the NHMD are based on the National Minimum Data Set (NMDS) for Admitted patient care. The AIHW compiles the database from data supplied by the state and territory health authorities. It contains demographic, administrative and length of stay data, and data on the diagnoses of the patients, and the procedures they underwent in hospital. Principal diagnoses were recorded using the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM). Dental services are classified according to ACHI (Australian Classification of Health Interventions). ACHI is the Australian national standard for procedure and intervention coding in Australian hospitals.

#### Pharmaceutical Benefits Scheme (PBS) data collection

The Commonwealth government subsidises the cost of prescription medicines through two schemes, the Pharmaceutical Benefits Scheme (PBS) and the Repatriation Pharmaceutical Benefits Scheme (RPBS) for eligible war veterans and their dependents.

People fall into two broad categories: general and concessional. Concessional beneficiaries include Pensioner Concession Card holders, Commonwealth Seniors Health Card holders, Health Care Card holders and DVA Pension Card holders.

General patients do not hold any of the aforementioned cards. RPBS (or repatriation) patients hold DVA White, Gold or Orange Cards.

The Department of Human Services (DHS) processes all prescriptions dispensed under the PBS and RPBS and provides this data to the Department of Health. The PBS/RPBS data maintained by Health has been used to produce this report. Information collected includes the medication prescribed, the prescribing practitioner and characteristics of the person who is provided with the prescription. The figures reported relate to the number of prescriptions for PBS Schedule Dental Items processed by DHS in the reporting period

PBS/RPBS data does not include the following:

- private prescriptions, i.e. the medicine is not listed in the PBS Schedule of Pharmaceutical Benefits
- over the counter medicines
- medicines supplied to public hospital inpatients.

#### **Patient Experience Survey**

The Patient Experience Survey is conducted annually by the Australian Bureau of Statistics (ABS) and collects national data on access and barriers to a range of health care services, including dental professionals.

The survey includes data from people aged 15 years and over that accessed health services in the last 12 months, as well as from those who did not, and enables analysis of health service information in relation to particular population groups. Data are also collected on aspects of communication between patients and health professionals.

The 2019–20 Patient Experience Survey collected information from around 28,800 people across Australia.

#### Health Expenditure Database

Health expenditure data, collected and reported annually through AIHW's *Health expenditure Australia* report series (e.g. Health expenditure Australia 2016–17) includes estimates of expenditure on dental services—private and public—for state, territory and Australian governments.

The AIHW compiles its health expenditure database from a wide range of government and non-government sources. The data are mainly administrative in nature, though some survey information is included. Since 2008–09, the main source of government expenditure data has been the Government Health Expenditure National Minimum Data Set. This data set was developed with advice of the Health Expenditure Advisory Committee, and reporting is mandatory for all state and territory governments.

Total health expenditure excludes some types of health-related expenditure, including health-related Australian Defence Force expenditure, some local government expenditure and some non-government organisation expenditure.

#### **Household Expenditure Survey**

The Household Expenditure Survey (HES) is conducted by the Australian Bureau of Statistics (ABS) every six years. The survey collects detailed information about

the expenditure, income and household characteristics from usual residents of private dwellings in urban and rural areas of Australia, covering about 98% of the people living in Australia. Average weekly expenditure on over 600 goods and services can be obtained from the survey.

The 2015–16 HES collected information from around 10,000 households over the period July 2015 to June 2016.

#### **General Treatment Dental data collection**

The General Treatment Dental (GT-Dental) data collection contains de-identified unit record information relating to patients and general treatment dental services for which the private health insurer paid a benefit, from 2009–10 to present. Deidentified information includes patient demographics, type of dental service, charges and benefits. This information is provided by dental service providers to private health insurers then from private health insurers to the Commonwealth Department of Health on a monthly basis.

#### National Health Workforce Data Set (NHWDS)

The National Health Workforce Data Set combines data from the National Registration and Accreditation Scheme with data collected from the Dental Workforce Survey conducted at the time of a practitioner's annual registration or renewal. The Australian Health Practitioner Regulation Agency collects these data.

The data set includes information on the size and characteristics of the dental workforce (dentists, dental hygienists, dental therapists, dental prosthetists and oral health therapists) as well as:

- the type of work done by, and work setting of, dental practitioners
- the number of hours worked in clinical or non-clinical roles
- the numbers of years worked, and the years they intend to remain in, the dental practitioner workforce
- those registered dental practitioners who are not currently undertaking clinical work or who are not employed.

# **Technical notes**

# Socio-Economic Indexes for Areas (SEIFA), Australia, 2016

Socio-Economic Indexes for Areas (SEIFA) is a product developed by the ABS that ranks areas in Australia according to relative socio-economic advantage and disadvantage. The indexes are based on information from the five-yearly Census.

SEIFA 2016 is the latest version of this product and consists of four indexes: The Index of Relative Socio-economic Disadvantage (IRSD); The Index of Relative Socio-economic Advantage and Disadvantage (IRSAD); The Index of Education and Occupation (IEO); The Index of Economic Resources (IER).

Each index is a summary of a different subset of Census variables and focuses on a different aspect of socio-economic advantage and disadvantage.

# Notes

# Updates

## 23 March 2021

The Oral health and dental care in Australia 23 March 2021 revision includes:

- An update to the Healthy teeth chapter.
- An update to the Healthy mouths chapter.
- An update and additions to the Dental care chapter.
- An update to the Patient experience chapter.
- An update of the *Health expenditure by private health insurance funds* section in the Private health insurance chapter.
- An update to the Dental workforce chapter
- The addition of the Priority populations chapter.

# 31 July 2020

The Oral health and dental care in Australia 31 July 2020 revision included:

- An update to the Healthy lives chapter.
- An update to the Toothbrushing section in the Preventative strategies chapter.
- An update to the Child Dental Benefits Schedule and the Public Dental Waiting Times sections in the Dental Care chapter.
- An update of the Hospitalisations chapter.
- An update of the Prescribing chapter.
- An update to the Expenditure and Financial barriers sections in the Costs chapter.
- An update of the Health expenditure by private health insurance funds section in the Private health insurance chapter.
- Addition of Private health insurers data section in the Private health insurance chapter.

# 20 March 2019

The Oral health and dental care in Australia 20 March 2019 revision included:

- An update to the Public Dental Waiting Times section in the Dental care chapter.
- Addition of Prescribing chapter
- Addition of Patient Experience chapter
- Addition of Costs chapter.
- Addition of Private health insurance chapter.
- Addition of Workforce chapter.

# Corrections

#### 23 March 2021

• A correction has been made to Healthy mouths Interactive 5: the y-axis label was amended to reflect the correct units (Average number) for the *Missing teeth due to pathology* measure. The y-axis was previously incorrectly labelled as Per cent.