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Adult oral health and dental visiting in Australia

**Results from the National Dental
Telephone Interview Survey 2010**

JE Harford and S Islam



**THE UNIVERSITY
of ADELAIDE**

DENTAL STATISTICS AND RESEARCH SERIES NO. 65



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**Australian Institute of
Health and Welfare**

*Authoritative information and statistics
to promote better health and wellbeing*

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Australian Institute of Health and Welfare

Canberra

Cat. no. DEN 227

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Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
CI	confidence intervals
DSRU	Dental Statistics and Research Unit
ERP	Estimated Resident Population
FaHCSIA	Department of Families, Housing, Community Services and Indigenous Affairs
NDTIS	National Dental Telephone Interview Survey
WHO	World Health Organization

Symbols

–	nil or rounded to zero
..	not applicable

Summary

This publication reports on the oral health, dental visiting and dental treatment needs of Australian adults as self-reported in the National Dental Telephone Interview Survey (NDTIS) 2010. Time series data across all NDTISs conducted since 1994 are also presented to provide a picture of how key measures have changed over this period. International comparisons are also included.

Oral health

In 2010, the majority of Australian adults reported good oral health. However, 37% reported that they had experienced an oral health issue in the previous 12 months, including 15% who experienced toothache, 25% who felt uncomfortable with their dental appearance and 17% who had avoided certain foods.

Adults who were from low-income households or held an Australian Government concession card were more likely to report having 'fair' or 'poor' oral health and to have experienced toothache than adults from high-income households or non-cardholders. There was no significant change over time in these measures.

Dental visiting

Around 60% of adults made a dental visit in the previous 12 months and the majority of these visited for a check-up (60%). Adults in the lowest income group (51%) and cardholders (those who hold an Australian Government concession card) (53%) were less likely than those in the highest household income group (65%) and non-cardholders (64%) to have made a dental visit in the previous 12 months.

Adults from *Major cities* were more likely than those from all other areas to have made a dental visit and to have visited for a check-up.

Barriers to dental care use

Around 38% of adults experienced a financial barrier or hardship associated with dental visits. Overall, 31% avoided or delayed making a dental visit due to cost. Of those who did visit, around 11% of adults reported that dental visits in the previous 12 months were a large financial burden. Adults from the lowest income households were seven times as likely to report difficulty paying a \$150 dental bill than those from high-income households.

International comparisons

Australian adults reported oral health similar to their Canadian counterparts but generally better than that of New Zealanders. Fewer Australians than New Zealanders had no natural teeth. However, Australians were more likely than their New Zealand counterparts to have made a dental visit in the previous 12 months but less likely than those in Canada to do so. Australian adults were more likely at all ages than Canadian adults to report that they had avoided or delayed visiting due to cost. However, they were less likely to have avoided or delayed due to cost than New Zealanders in all age groups up to 45–54 years and less likely to report that they currently needed dental care.

1 Introduction

While Australian children enjoyed marked improvements in their oral health over the last half of the 20th century (Mejia et al. 2012), progress on oral health among adults has been slower. There have been two noteworthy achievements. First, edentulism (complete tooth loss) has decreased dramatically: in 1988, 14.4% of Australians aged 15 and over were edentulous but this had decreased to 6.4% in 2005. Second, amongst those who have any natural teeth (dentate adults), the number of teeth is higher, especially at older ages: between 1988 and 2005 dentate adults aged 55 and over had around four additional teeth (Slade et al. 2007). In addition to improvements in tooth retention, overall levels of decay have decreased, mainly in younger age groups. Over this same period of time, rates of dental visiting increased; however reported need for both fillings and extractions also increased.

Despite these improvements in oral health, dental caries (decay) is experienced by the majority of Australian adults. In 2005, over 90% of adults had experienced decay in their permanent teeth and 14% had fewer teeth than is considered necessary for adequate function (that is, at least 21 teeth). Around 20% had moderate or severe gum disease.

This publication reports on the oral health, dental visiting and dental treatment needs of Australian adults as self-reported in the National Dental Telephone Interview Survey (NDTIS) 2010. Time series data across all NDTISs conducted since 1994 are presented to provide a picture of how key measures have changed over time. Dental health and the use of dental services in Australia are also compared with Canada and New Zealand.

Measures reported

The measures reported are in five broad categories:

Oral health

Oral health status is self-reported as 'excellent', 'very good', 'good', 'fair' or 'poor'. Oral health impact is reported in terms of whether the person experienced toothache; felt uncomfortable with their dental appearance; or avoided eating some foods due to oral health problems 'often', 'very often' or 'sometimes' in the previous 12 months.

Dental visiting

Measures relate to the time since the person's last dental visit and the reason for that dental visit. The proportion who visited in the previous 12 months and the proportion who visited for a check-up at their last dental visit are reported.

Financial barriers and hardship

Measures include whether the person avoided or delayed visiting a dentist in the previous 12 months due to cost; whether cost prevented them from having the recommended treatment in the previous 12 months; and whether dental visits in the previous 12 months were a large financial burden.

Services received

Services received included the preventive services of check-ups and scale and clean. The treatment services 'filling', 'extraction', 'crown/bridge' and 'root canal' are also reported.

Perceived need for care

Perceived need for care is reported for the service types 'check-up', 'scale and clean', 'filling', 'extraction', 'gum treatment', 'crown/bridge', 'denture' and 'other'.

Presentation of results

Identifying significant differences

In this report, 95% confidence intervals (CIs) were used as a guideline to identify statistically significant differences between groups and between time points. When there was no overlap between the 95% CIs for two groups, the difference between the groups or two points in time was deemed to be statistically significant. Confidence intervals for tables are presented in Appendix C of this report.

Changes over time

For some measures, time series information has been reported from previous NDTISs undertaken in 1994, 1996, 1999, 2002, 2005 and 2008.

Population groups

Results for these measures are reported for adults overall and by sex, age, socioeconomic status (household income and cardholder status) and remoteness area of residential location, as oral health and dental visiting have been shown to vary by these characteristics in the past (AIHW DSRU 1996, Carter et al. 1995, Carter & Stewart 2002, Carter & Stewart 2003, Stewart & Ellershaw 2010).

Age standardisation

Oral health, like general health, varies across age groups. In addition, age structure varies across the population groups reported here. For example, cardholders are older on average than non-cardholders. For this reason, age-standardised result comparisons between population groups in 2010 are age-standardised to the 2010 Australian population age structure.

In addition, the age structure of the Australian population changes over time, with the population ageing slightly between each successive NDTIS. To account for any changes in population age structure over time, the time series results are age standardised to the 2001 Australian population.

Details of the NDTIS 2010 can be found in Appendix A. A data quality statement is in Appendix B.

2 Oral health

'Oral health' is a standard of health of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment and which contributes to their general well-being (UK Department of Health 1994). This means that oral health is more than the absence of disease, but the ability to function without limitation caused by problems with the teeth, mouth or gums. It can be assessed by asking people to rate their oral health on a scale from 'very poor' to 'excellent', or by examining the impacts of oral health and disease on daily life. In children and adults, dental decay is the most commonly occurring oral disease.

Dental conditions were responsible for an estimated 60,251 potentially preventable hospital admissions in 2009–10 (Chrisopoulos & Harford 2013). Dental care accounted for 6.4% of recurrent health expenditure in 2010–11 (AIHW 2012).

Experience of oral problems among adults has a considerable social and economic impact. In 2010, 9% of adults missed one half-day or more from paid work or study due to dental problems and 4.6% had at least one episode of up to half a day of reduced activity. As a result, an estimated 3 million hours were lost from paid work or study in 2010, with a cost to the economy of approximately \$103m (Harford & Chrisopoulos 2012).

What are the known risk factors for oral disease?

The major types of oral disease are dental caries (tooth decay) and periodontal disease (gum disease). Both of these lead ultimately to tooth loss if not treated, but are largely preventable and reversible if identified and treated early. In developed countries, about 90% of all tooth loss can be attributed to these two categories of diseases (Australian Health Ministers' Advisory Council 2001). Therefore, most tooth loss is avoidable.

Dental decay is the most commonly occurring oral disease. It is characterised by chronic demineralisation of the structure of the tooth, a process where several factors play important roles. The five factors found to exert the strongest influence on dental decay are:

- frequency of carbohydrate intake, which allows bacteria in the plaque to produce concentrations of organic acids that can dissolve the tooth
- the accumulation and retention of plaque, a potential breeding ground for acid-producing bacteria
- frequency of exposure to dietary acids in addition to the bacterial acids
- exposure to fluoride and some other trace elements which help in controlling the development of decay
- natural protective factors such as saliva which may help prevent or limit the progress of decay (Mount & Hume 2005).

Plaque, a semitransparent layer which adheres to the tooth surface, forms on all teeth and contains many pathogenic organisms including bacteria. Tooth brushing, and/or the use of chemical solutions capable of killing the acid-causing bacteria, can reduce plaque. However, the frequency of exposure to fermentable carbohydrates, such as sugar, is the most significant risk factor for dental decay.

Behavioural risk factors for dental decay include substandard tooth cleaning; poor diet involving high exposure to acidic food stuffs as well as fermentable carbohydrates such as sugars; and limited exposure to fluoride available in toothpastes, fluoridated public water, or other sources (Mount & Hume 2005).

Periodontal diseases are a group of inflammatory diseases that affect the gums (gingival tissues), deeper connective tissues and the jaw bone, all of which support and protect the teeth. Factors which exert an influence on the risk of developing periodontal disease include oral hygiene habits; smoking; the effects of some medication; and systemic conditions such as diabetes.

Measures of oral health

Self-reported oral health

Respondents to the NDTIS were asked how they rated their oral health according to five response categories: 'excellent', 'very good', 'good', 'fair' and 'poor'.

Toothache

Respondents were asked how often they had toothache in the previous 12 months, with five response categories offered: 'very often', 'often', 'sometimes', 'hardly ever' and 'never'. Respondents are reported as having experienced toothache if they responded 'very often' or 'often'.

Feeling uncomfortable about appearance

Respondents were asked how often they felt uncomfortable about the appearance of their teeth, mouth or dentures during the last 12 months. Five response categories were offered: 'very often', 'often', 'sometimes', 'hardly ever' and 'never'. Respondents are reported as having felt uncomfortable about their appearance if they responded 'very often' or 'often'.

Avoiding some foods due to oral problems

Respondents were asked how often they had to avoid eating some foods because of problems with their teeth, mouth or dentures during the last 12 months. Five response categories were offered: 'very often', 'often', 'sometimes', 'hardly ever' and 'never'. Respondents are reported as having avoided some food due to oral problems if they responded 'very often' or 'often'.

How many people experienced oral health problems?

Nearly one in five adults (18.8%) rated their oral health as 'fair' or 'poor'. There was no significant difference between men and women (Table 2.1).

A greater proportion of adults reported being uncomfortable about their dental appearance (25.2%) compared with the proportion of adults reporting toothache (15.3%) or avoidance of certain foods (17.1%).

A greater proportion of women reported being uncomfortable with their dental appearance (28.5%) and avoiding some foods (21.2%) compared with men (21.9% and 13.0% respectively). There was no significant difference between men and women in reporting toothache.

If an adult reported experiencing toothache, avoidance of some foods or being uncomfortable with their dental appearance in the previous 12 months, they were regarded as having had 'an oral health impact' in the previous 12 months. Overall, 36.7% of adults reported experiencing an oral health impact and women were more likely than men to do so (41.5% compared with 31.9%).

Table 2.1: Prevalence of oral health impacts, 2010 (per cent)

	'Fair' or 'poor' oral health ^(a)	Toothache ^(b)	Appearance ^(c)	Avoid food ^(d)	Any oral health impact ^(e)
Men	20.4	14.8	21.9	13.0	31.9
Women	17.4	15.8	28.5	21.2	41.5
All people	18.8	15.3	25.2	17.1	36.7

(a) Percentage of people reporting that they had 'fair' or 'poor' oral health.

(b) Percentage of people reporting that they had experienced toothache 'very often', 'often' or 'sometimes' during the previous 12 months.

(c) Percentage of people reporting that they had felt uncomfortable about their dental appearance 'very often', 'often' or 'sometimes' during the previous 12 months.

(d) Percentage of people reporting that they had avoided some foods 'very often', 'often' or 'sometimes' during the previous 12 months.

(e) Percentage of people reporting that they had experienced toothache 'very often', 'often' or 'sometimes' during the previous 12 months, or that they had felt uncomfortable about their dental appearance 'very often', 'often' or 'sometimes' during the previous 12 months or reporting that they had avoided certain foods 'very often', 'often' or 'sometimes' during the previous 12 months.

Notes

- 95% confidence intervals for these estimates are in Table C2.1.
- Estimates in this table are aged-standardised to the 2010 Australian population.

Does oral health differ with age?

Adults aged 45–64 were more likely than those aged 18–24 to report that they had ‘fair’ or ‘poor’ oral health (22.6% compared with 13.2%), felt uncomfortable with their appearance (28.7% compared with 18.2%) or avoided food (19.7% compared with 13.3 (Table 2.2).

Adults aged 65 and over were less likely to report toothache (10.1%) than those aged 25–44 (17.1%) and 18–24 (20.5%).

Table 2.2: Prevalence of ‘fair’ or ‘poor’ oral health and each oral health impact by age, 2010 (per cent)

	‘Fair’ or ‘poor’ oral health ^(a)	Toothache ^(b)	Appearance ^(c)	Avoid food ^(d)
Age group (years)				
18–24	13.2	20.5	18.2	13.3
25–44	16.4	17.1	25.2	15.0
45–64	22.6	13.8	28.7	19.7
65 and over	21.4	10.1	24.0	19.3
All people	18.8	15.3	25.2	17.1

(a) Percentage of people reporting that they had ‘fair’ or ‘poor’ oral health.

(b) Percentage of people reporting that they had experienced toothache ‘very often’, ‘often’ or ‘sometimes’ during the previous 12 months.

(c) Percentage of people reporting that they had felt uncomfortable about their dental appearance ‘very often’, ‘often’ or ‘sometimes’ during the previous 12 months.

(d) Percentage of people reporting that they had avoided some foods ‘very often’, ‘often’ or ‘sometimes’ during the previous 12 months.

Notes

1. 95% confidence intervals for these estimates are in Table C2.2.

2. Estimates in this table are aged-standardised to the 2010 Australian population.

Does oral health differ by socioeconomic status?

A higher proportion of adults from the lowest income households (31.2%) rated their oral health status as 'fair' or 'poor' than adults from the highest income households (12.2%) (Table 2.3).

Adults from households with an income of \$110,000 or more per year were less likely than those from households with an income of less than \$30,000 per year to report that they had experienced toothache (12.0% compared with 19.6%).

Adults in the two highest income groups were also less likely than adults in either of the two lowest income groups to be uncomfortable with their appearance (23.6% or less compared with 30.3% or more) or to have avoided some foods (13.6% or less compared with 22.3% or more).

Cardholders were more likely than non-cardholders to report experiencing toothache (19.2% compared with 14.3%), being uncomfortable with their dental appearance (31.5% compared with 23.5%) and avoiding some foods (26.9% compared with 13.8%). Consequently, cardholders were more likely than non-cardholders to report their oral health status as 'fair' or 'poor' (27.7% compared with 16.0%).

Table 2.3: Prevalence of 'fair' or 'poor' oral health and each oral health impact by socioeconomic status, 2010 (per cent)

	'Fair' or 'poor' oral health ^(a)	Toothache ^(b)	Appearance ^(c)	Avoid food ^(d)
Annual household income				
Less than \$30,000	31.2	19.6	37.3	28.7
\$30,000–<\$50,000	23.2	18.4	30.3	22.3
\$50,000–<\$80,000	20.5	16.2	28.3	17.2
\$80,000–<\$110,000	12.1	13.1	23.6	13.6
\$110,000 or more	12.2	12.0	16.7	9.9
Cardholder status				
Cardholder	27.7	19.2	31.5	26.9
Non-cardholder	16.0	14.3	23.5	13.8
All people	18.7	15.4	25.4	16.9

(a) Percentage of people reporting that they had 'fair' or 'poor' oral health.

(b) Percentage of people reporting that they had experienced toothache 'very often', 'often' or 'sometimes' during the previous 12 months.

(c) Percentage of people reporting that they had felt uncomfortable about their dental appearance 'very often', 'often' or 'sometimes' during the previous 12 months.

(d) Percentage of people reporting that they had avoided some foods 'very often', 'often' or 'sometimes' during the previous 12 months.

Notes

- 95% confidence intervals for these estimates are in Table C2.3.
- Estimates in this table are aged-standardised to the 2010 Australian population.

Does oral health differ by remoteness area?

There was no statistically significant difference in self-rated oral health or among any of the oral health impacts by geographic location (Table 2.4).

Table 2.4: Prevalence of 'fair' or 'poor' oral health and each oral health impact by remoteness area, 2010 (per cent)

	'Fair' or 'poor' oral health^(a)	Toothache^(b)	Appearance^(c)	Avoid food^(d)
Major cities	18.7	15.3	25.5	16.7
Inner regional	19.1	15.8	24.7	18.8
Outer regional	19.4	13.9	25.0	14.6
Remote/Very remote	20.7	15.1	25.3	19.6
All people	18.8	15.3	25.2	17.1

(a) Percentage of people reporting that they had 'fair' or 'poor' oral health.

(b) Percentage of people reporting that they had experienced toothache 'very often', 'often' or 'sometimes' during the previous 12 months.

(c) Percentage of people reporting that they had felt uncomfortable about their dental appearance 'very often', 'often' or 'sometimes' during the previous 12 months.

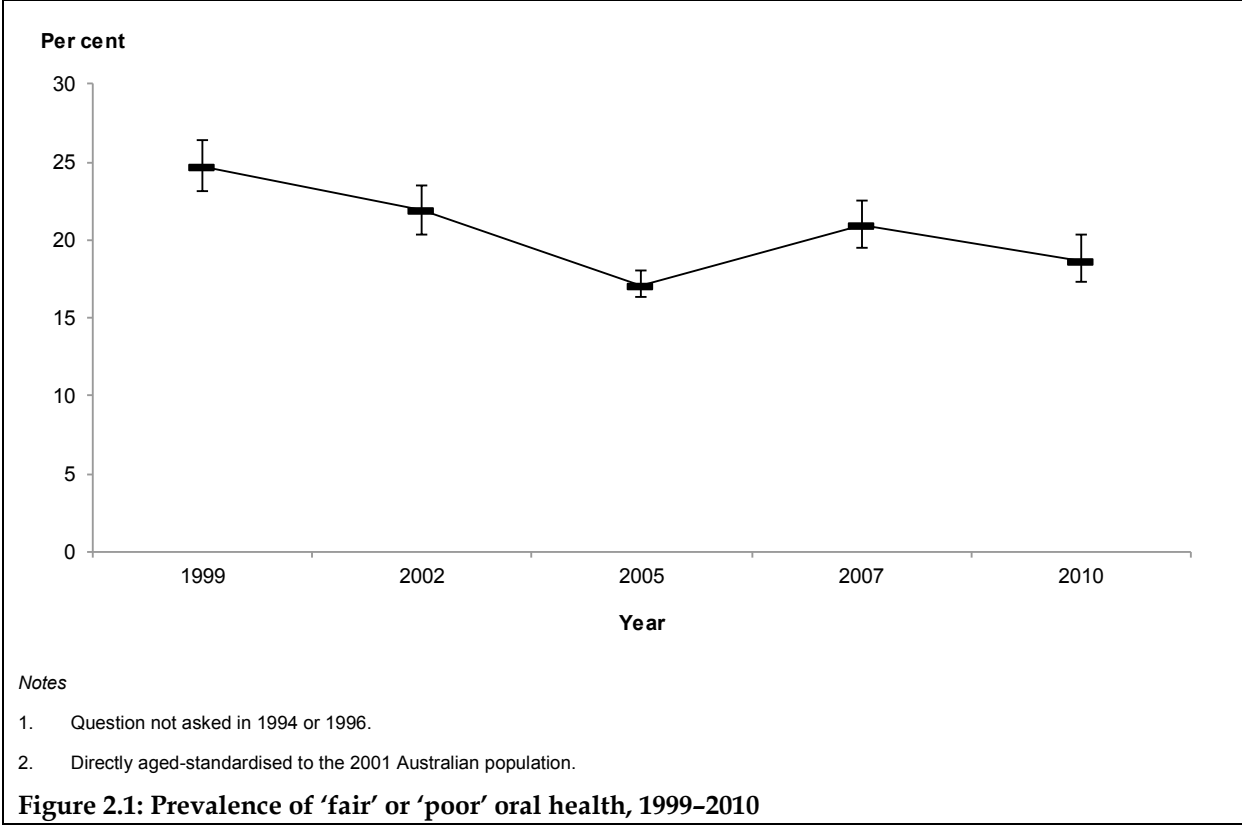
(d) Percentage of people reporting that they had avoided some foods 'very often', 'often' or 'sometimes' during the previous 12 months.

Notes

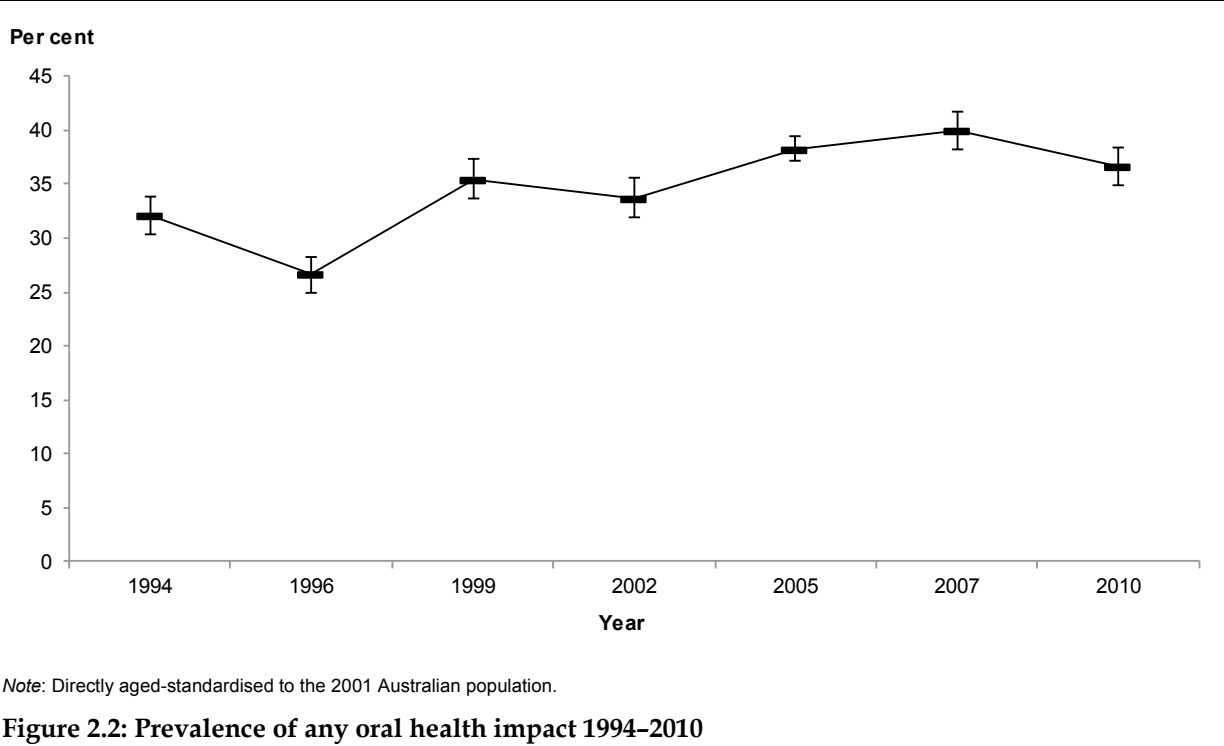
1. 95% confidence intervals for these estimates are in Table C2.4.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

How has oral health changed over time?

The proportion of adults reporting 'fair' or 'poor' oral health declined from a high of 24.7% in 1999 to a low of 17.1% in 2005 before increasing to 21.0% in 2007 and 18.7% in 2010 (Figure 2.1). This represented a reduction overall between 1999 and 2010.



The proportion of adults reporting any oral health impact varied from a low of 26.6% in 1996 to a high of 39.9% in 2007. The greatest variation was in the period from 1996 to 1999, with little change over the five years from 2005 to 2010 (Figure 2.2).



3 Dental visiting

Why is dental visiting important?

Patterns of dental visiting can have an important influence on an individual's oral health. 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. Preventive care is most likely to happen in the presence of regular dental visiting for a check-up. Regular visiting also increases the likelihood that disease will be detected in its early stages and can be managed before significant damage occurs to teeth and gums. Individuals who usually visit for a problem are more likely to lose teeth to decay (Thomson et al. 2000), while those who do not visit regularly have poorer oral health-related quality of life (McGrath & Bedi 2000), and experience greater limitations in everyday activities such as eating, talking and sleeping (Gilbert et al. 1997). Individuals who visit regularly are more likely than those who do not to report that their oral health has a positive effect on their quality of life (McGrath & Bedi 2000).

Measures of dental visiting

Frequency of visiting

Respondents to the NDTIS were asked 'How long ago did you LAST see a dental professional about your teeth, dentures or gums?' Responses were categorised as 'within the previous 12 months', 'one to less than two years', 'two to less than five years' and 'five or more years'.

Reason for visiting

Respondents to the NDTIS were asked 'Was that dental visit for a check-up or for a dental problem?' The reason for their last dental visit is reported as 'check-up' or 'problem'.

How many adults made a dental visit?

Overall, 60.7% of people reported making a dental visit in the previous 12 months, whereas 8.6% had last made a dental visit five or more years ago (Table 3.1). The majority (59.7%) of adults who made a dental visit did so for a check-up.

Women were more likely than men to have made a dental visit in the previous 12 months (64.8% compared with 56.7%) and men were more likely to have last made a dental visit five or more years ago (10.6% compared with 6.7%). There was no significant difference between men and women in the reason for their last dental visit.

Table 3.1: Time since last visit and reason for last visit, 2010 (per cent)

	Time since last dental visit				Reason for last dental visit ^(a)	
	<12 months	1–<2 years	2–<5 years	5+ years	Check-up	Problem
Male	56.7	19.5	13.3	10.6	57.8	42.2
Female	64.8	17.2	11.3	6.7	61.5	38.5
All people	60.7	18.3	12.3	8.6	59.7	40.3

(a) Dentate adults who made a dental visit in the previous 12 months.

Notes

1. 95% confidence intervals for these estimates are in Table 3.1.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Does dental visiting differ with age?

A greater proportion of adults aged 45–64 (63.6%) visited a dentist in the previous 12 months compared with those aged 25–44 (57.1%) (Table 3.2).

Adults aged 18–24 were more likely than the older age groups to have last visited for a check-up. Just over three-quarters of adults aged 18–24 (76.3%) last visited for a check-up, compared with 61.6% of adults aged 25–44, 53.4% of adults aged 45–64 and 56.0% of adults aged 65 and over. Adults aged 45–64 were more likely to have last visited for a problem (46.6%) compared with the two youngest age groups (23.7% and 38.9% for adults aged 18–24 and 25–44 respectively).

Table 3.2: Time since last visit and reason for last visit by age, 2010 (per cent)

	Time since last dental visit				Reason for last visit ^(a)	
	<12 months	1–<2 years	2–<5 years	5+ years	Check-up	Problem
Age group (years)						
18–24	55.2	20.5	17.2	7.2	76.3	23.7
25–44	57.1	20.5	13.2	9.2	61.1	38.9
45–64	63.6	18.4	10.8	7.2	53.4	46.6
65 and over	66.9	12.2	9.8	11.1	56.0	44.0
All people	60.7	18.3	12.3	8.6	59.7	40.3

(a) Dentate adults who made a dental visit in the previous 12 months.

Notes

- 95% confidence intervals for these estimates are in Table C3.2.
- Estimates in this table are aged-standardised to the 2010 Australian population.

Does dental visiting differ by socioeconomic status?

More adults from the highest income group (64.5%) and non-cardholders (64.2%) made a dental visit in the previous 12 months than did those from the lowest income group (51.3%) and cardholders (53.2%) (Table 3.3). More than twice as many adults from the lowest income group than from the highest income group (13.6% compared with 5.3%) last made a dental visit 5 or more years ago. Almost twice as many cardholders as non-cardholders (12.7% compared with 6.9%) last made a dental visit 5 or more years ago.

Adults from the two highest income groups were more likely than those from the two lowest income groups to have last visited for a check-up (63.5% or more compared with 48.8% or less). More non-cardholders than cardholders last visited for a check-up (62.2% compared with 48.2%) while more cardholders last visited for a dental problem (51.8% compared with 37.8%).

Table 3.3: Time since last visit and reason for last visit by socioeconomic status, 2010 (per cent)

	Time since last dental visit				Reason for last visit ^(a)	
	<12 months	1–<2 years	2–<5 years	5+ years	Check-up	Problem
Annual household income						
Less than \$30,000	51.3	17.4	17.6	13.6	48.8	51.2
\$30,000–<\$50,000	53.4	18.8	14.3	13.5	48.1	51.9
\$50,000–<\$80,000	61.7	19.9	12.2	6.2	56.1	43.9
\$80,000–<\$110,000	63.2	17.7	13.2	5.9	63.5	36.5
\$110,000 or more	64.5	19.9	10.3	5.3	67.2	32.8
Cardholder status						
Cardholder	53.2	18.0	16.1	12.7	48.2	51.8
Non-cardholder	64.2	18.0	11.0	6.9	62.2	37.8
All people	60.7	18.3	12.3	8.6	59.7	40.3

(a) Dentate adults who made a dental visit in the previous 12 months.

Notes

- 95% confidence intervals for these estimates are in Table C3.3.
- Estimates in this table are aged-standardised to the 2010 Australian population.

Does dental visiting differ by remoteness area?

Adults who lived in *Major cities* were more likely than those from *Inner regional*, *Outer regional* or *Remote/Very remote* locations to have made a dental visit in the previous 12 months (63.1% compared with 55.7%, 54.1% and 45.8%) (Table 3.4). Residents of *Major cities* were also more likely to have last visited for a check-up than residents of *Inner regional* and *Outer regional* areas (62.0% compared with 55.0% and 50.7%).

Table 3.4: Time since last visit and reason for last visit by remoteness area, 2010 (per cent)

	Time since last dental visit				Reason for last visit ^(a)	
	<12 months	1–<2 years	2–<5 years	5+ years	Check-up	Problem
Major cities	63.1	17.9	10.9	8.1	62.0	38.0
Inner regional	55.7	18.4	15.9	10.1	55.0	45.0
Outer regional	54.1	20.5	17.0	8.4	50.7	49.3
Remote/Very remote	45.8	27.8	17.5	8.9	59.3	40.7
All people	60.7	18.3	12.3	8.6	59.7	40.3

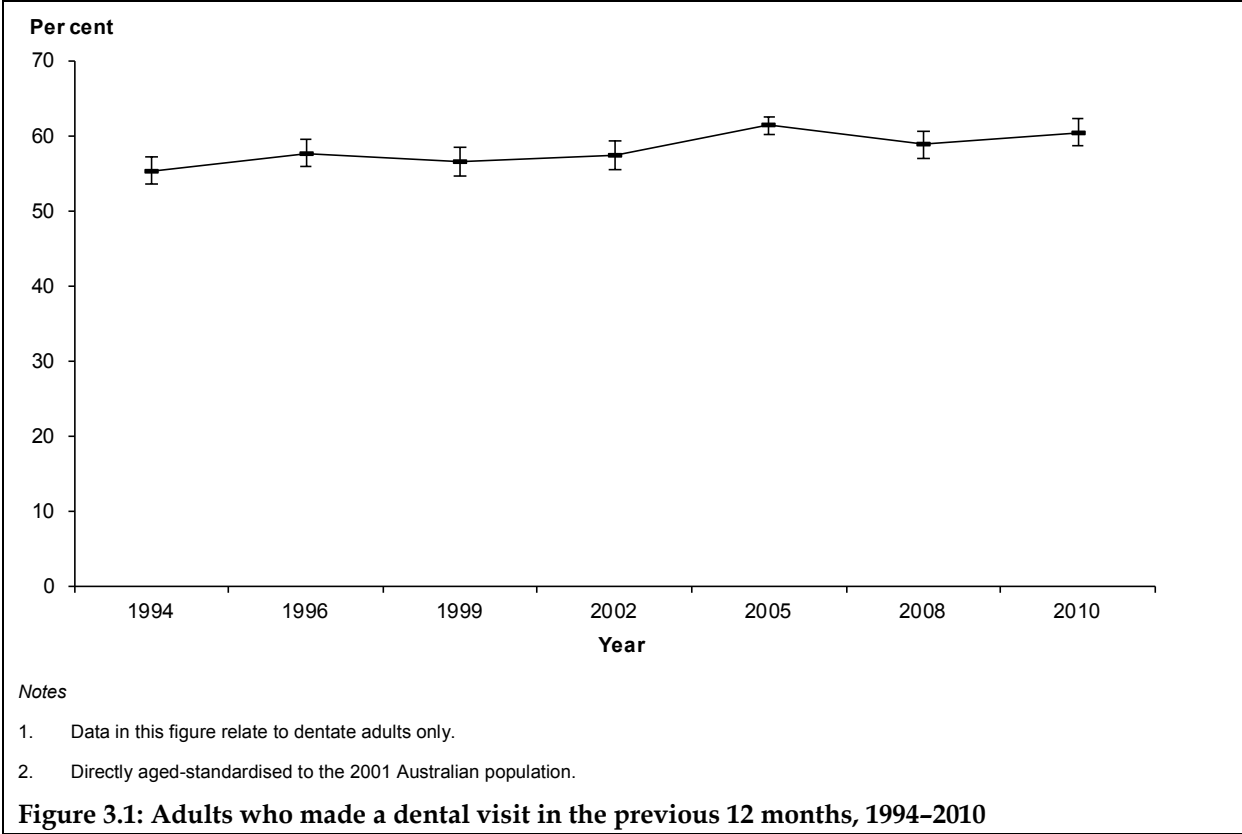
(a) Dentate people who made a dental visit in the previous 12 months.

Notes

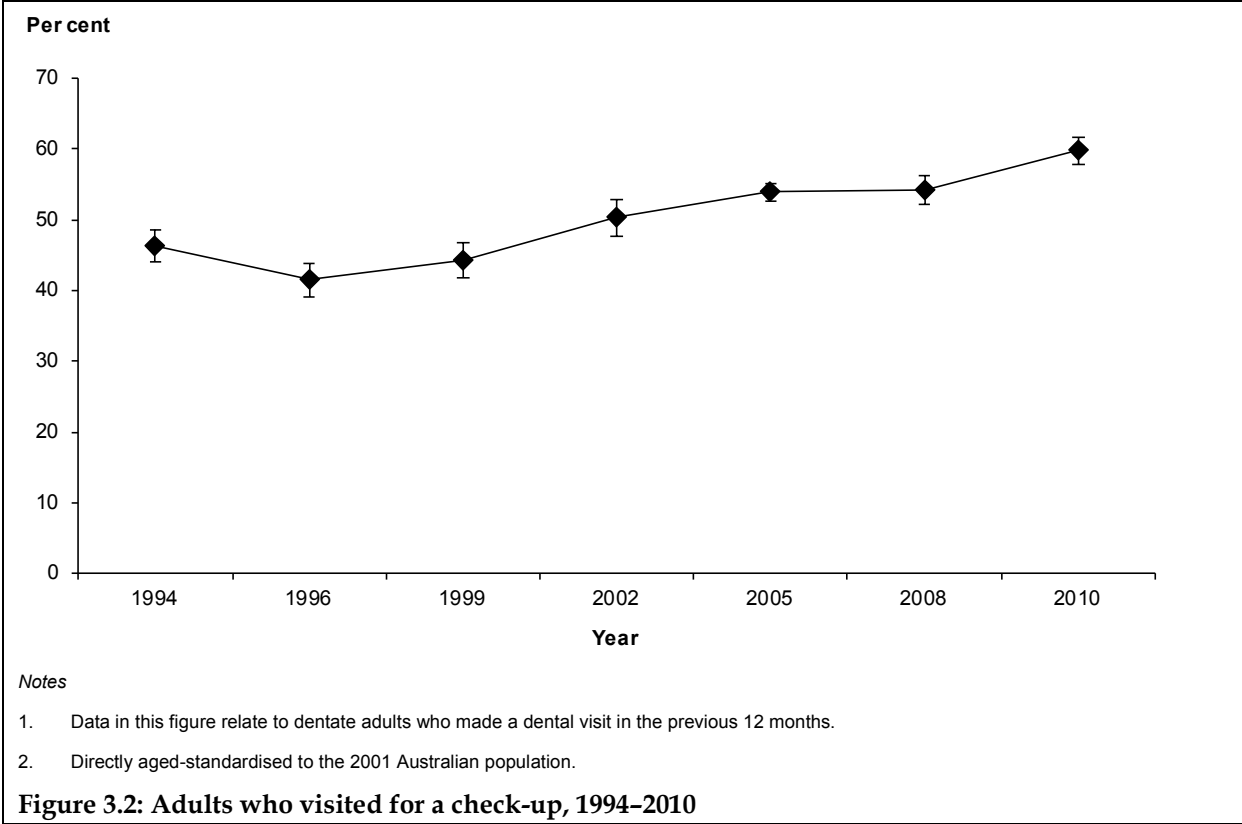
1. 95% confidence intervals for these estimates are in Table C3.4.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Has dental visiting changed over time?

The proportion of adults making a dental visit in the previous 12 months increased from 55.4% in 1994 to 60.5% in 2010 (Figure 3.1).



The proportion of adults who last visited for a check-up increased from 46.3% in 1994 to 59.8% in 2010 (Figure 3.2).



4 Financial barriers and hardship

Measures of financial barriers and hardship

Avoided or delayed due to cost

Respondents to the NDTIS were asked whether they had avoided or delayed visiting a dental professional because of cost during the last 12 months.

Cost prevented recommended treatment

Respondents were asked whether cost had prevented them from having any dental treatment that was recommended by a dental professional at a visit during the last 12 months.

Dental visits in the previous 12 months were a large financial burden

Respondents were asked 'In the last 12 months, how much of a financial burden have dental visits been for you?' Response categories were 'none', 'hardly any', 'a little' and 'a large burden'. Responses are reported as 'Experienced a large burden' and 'Did not experience a large burden' (all other responses).

Difficulty paying a \$150 dental bill

Respondents were asked 'How much difficulty would you have paying a \$150 dental bill out of your own pocket?' Response categories were 'none', 'hardly any', 'a little' and 'a lot'.

How many dentate people experienced financial barriers or hardship?

Two-in-five adults (37.8%) reported experiencing financial barriers or hardship associated with dental visiting (Table 4.1). Women were more likely than men to report experiencing financial barriers or hardship (42.5% compared with 33.0%).

Table 4.1: Adults experiencing financial barriers or hardship associated with dental visiting, 2010 (per cent)

	Experienced any financial barrier or hardship ^(a)
Men	33.0
Women	42.5
All people	37.8

(a) Adults who reported experiencing any one or more of (i) avoided or delayed visiting due to cost, (ii) cost prevented recommended treatment, or (iii) experienced a large financial burden.

Notes

1. Data in this table relate to dentate people.
2. 95% confidence intervals for these estimates are in Table C4.1.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Which indicators of financial barriers or hardship were the most common?

The most frequently reported indicator of financial barriers or hardship was avoiding or delaying making a dental visit due to cost (31.2%), while dental visits were reported to be 'a large financial burden' for 11.2% of adults (Table 4.2). Cost prevented the recommended treatment for 21.7% of adults, and 18.8% of adults reported that they would have difficulty paying a \$150 dental bill.

Women were more likely than men to report that they would have difficulty paying a \$150 dental bill (23.2% compared with 14.4%) and that they had avoided or delayed making a dental visit due to cost (35.3% compared with 26.9%).

Table 4.2: Prevalence of financial barriers to dental visiting, 2010 (per cent)

	Avoided or delayed visiting due to cost	Cost prevented recommended treatment^(a)	Dental visits in previous 12 months were a large financial burden^(a)	Difficulty paying \$150 dental bill
Male	26.9	21.0	9.4	14.4
Female	35.3	22.3	12.7	23.2
All people	31.2	21.7	11.2	18.8

(a) Dentate people who made a dental visit in the previous 12 months.

Notes

1. Data in this table relate to dentate people.
2. 95% confidence intervals for these estimates are in Table C4.2.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Does experience of financial barriers or hardship differ by age?

Adults aged 65 and over were less likely than any other age group to report that they had avoided or delayed making a dental visit due to cost (19.8% compared with 30.0% or more for every other age group) (Table 4.3). Adults in this age group were also less likely than those aged 25–44 or 45–64 to report that cost had prevented recommended treatment (15.5% compared with 24.5% and 24.2% respectively). Those aged 18–24 were less likely than those aged 45–64 to have cost prevent recommended treatment (15.8% compared with 24.2%). Adults aged 65 and over were less likely to report any barrier or hardship than the other age groups (26.4% compared with 36.6% or more).

Table 4.3: Prevalence of financial barriers to dental visiting by age, 2010 (per cent)

Age group (years)	Avoided or delayed visiting due to cost	Cost prevented recommended treatment ^(a)	Dental visits in previous 12 months were a large financial burden ^(a)	Difficulty paying \$150 dental bill	Experienced any financial barrier or hardship ^(b)
18–24	32.7	15.8	7.7	23.8	36.6
25–44	37.0	24.5	10.3	17.7	42.9
45–64	30.0	24.2	14.8	17.6	38.5
65 and over	19.8	15.5	8.9	19.7	26.4
All people	31.2	21.7	11.2	18.8	37.8

(a) Dentate people who made a dental visit in the previous 12 months.

(b) Adults who reported experiencing any one or more of (i) avoided or delayed visiting due to cost, (ii) cost prevented recommended treatment, or (iii) experienced a large financial burden.

Notes

1. Data in this table relate to dentate people.
2. 95% confidence intervals for these estimates are in Table C4.3.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Does experience of financial barriers or hardship differ by socioeconomic status?

Adults in the lowest income group were seven times more likely than those from the highest income group to report that they would have difficulty in paying a \$150 dental bill (45.5% compared with 6.4%) (Table 4.4).

Adults in the highest income group were significantly less likely than adults in the lower income groups to avoid or delay a dental visit due to cost (15.8% compared with 24.6% or more) or to report that cost had prevented recommended treatment (12.9% compared with 20.9% or more). The two highest income groups were also less likely than all other income groups to report that dental visits were a large financial burden (9.1% or less compared with 12.0% or more).

Cardholders were more likely than non-cardholders to report that they would have difficulty paying a \$150 dental bill (42.3% compared with 12.5%) and to have avoided or delayed visiting due to cost (43.0% compared with 27.3%). Among adults who made a dental visit, cardholders were more likely than non-cardholders to report that cost had prevented recommended treatment (29.6% compared with 19.3%) and that dental visits were a large financial burden (15.4% compared with 10.0%).

Adults in the lowest income households were more likely to indicate that they experienced financial barriers or hardship and that this had influenced dental visiting and treatment decisions than those from the highest income households (56.3% compared with 21.7%). Cardholders were one-and-a-half times more likely than non-cardholders to experience any barrier or hardship (49.5% compared with 33.4%).

Table 4.4: Prevalence of financial barriers to dental visiting by socioeconomic status, 2010 (per cent)

	Difficulty paying \$150 dental bill	Avoided or delayed visiting due to cost	Cost prevented recommended treatment ^(a)	Dental visits in previous 12 months were a large financial burden ^(a)	Experienced any financial barrier or hardship ^(a)
Annual household income					
Less than \$30,000	45.5	48.4	39.1	17.8	56.3
\$30,000–<\$50,000	28.6	42.5	28.4	15.8	46.8
\$50,000–<\$80,000	15.9	36.4	23.3	12.0	42.5
\$80,000–<\$110,000	9.9	24.6	20.9	9.1	31.3
\$110,000 or more	6.4	15.8	12.9	6.2	21.7
Cardholder status					
Cardholder	42.3	43.0	29.6	15.4	49.5
Non-cardholder	12.5	27.3	19.3	10.0	33.4
All people	18.8	31.2	21.7	11.2	37.8

(a) Dentate people who made a dental visit in the previous 12 months.

Notes

1. 95% confidence intervals for these estimates are in Table C4.4.
2. Estimates in this table are aged-standardised to the 2010 Australian population.
3. Unless otherwise noted the data in this table relate to dentate people.

Does experience of financial barriers or hardship differ by remoteness area?

Adults who lived in *Remote/Very remote* areas were less likely to report difficulty paying a \$150 dental bill than those residing in other areas (8.3% compared with 17.4% or more) (Table 4.5).

Table 4.5: Prevalence of financial barriers to dental visiting by remoteness area, 2010 (per cent)

	Difficulty paying \$150 dental bill	Avoided or delayed due to cost	Cost prevented recommended treatment ^(a)	Dental visits in previous 12 months were a large financial burden ^(a)	Experienced any financial barrier or hardship
Major cities	18.7	30.2	22.1	10.9	37.0
Inner regional	20.7	34.4	20.6	11.2	40.3
Outer regional	17.4	35.4	21.9	12.6	41.9
Remote/Very remote	8.3	26.8	27.5	16.1	33.8
All people	18.8	31.2	21.7	11.2	37.8

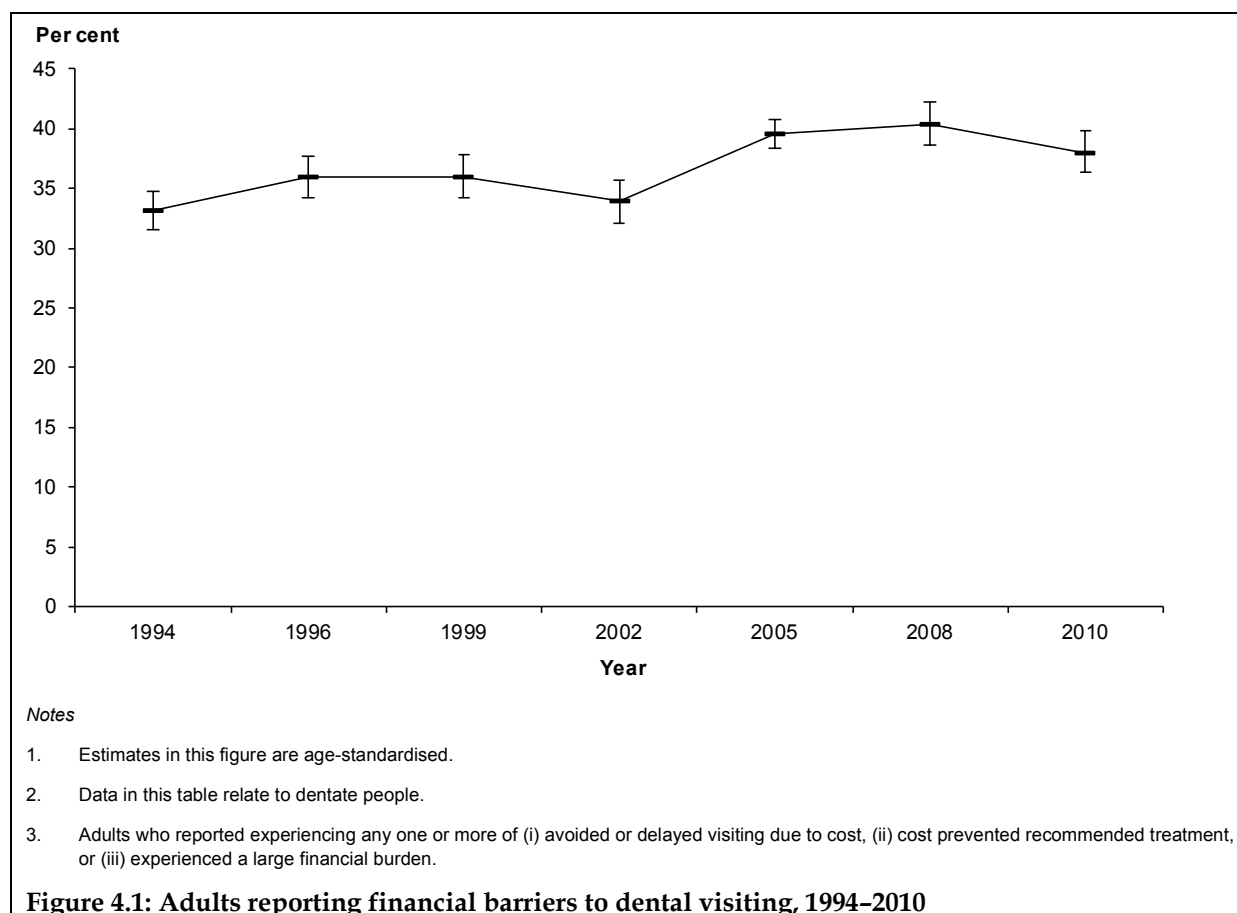
(a) Dentate people who made a dental visit in the previous 12 months.

Notes

1. 95% confidence intervals for these estimates are in Table C4.5.
2. Estimates in this table are aged-standardised to the 2010 Australian population.
3. Unless otherwise noted the data in this table relate to dentate people.

Has experience of financial barriers or hardship changed over time?

The proportion of adults who indicated financial barriers or hardship associated with dental visiting increased from 27.4% in 1994 to 39.6% in 2005 and has subsequently remained around that proportion (Figure 4.1).



The increase in the proportion who reported a barrier or hardship between 1994 and 2010 is largely accounted for by the increase in the proportion who avoided or delayed making a dental visit due to cost (from 25.8% in 1994 to 31.4% in 2010) (Table 4.6).

Table 4.6: Prevalence of financial barriers to dental visiting by age, 1994-2010 (per cent)

	1994	1996	1999	2002	2005	2008	2010
Avoided or delayed visiting due to cost	25.8	27.9	27.8	28.3	31.7	34.4	31.4
Cost prevented recommended treatment ^(a)	19.0	22.0	22.3	14.1	21.6	20.3	21.8
Dental visits in previous 12 months were a large financial burden ^(a)	10.2	10.7	14.3	10.3	14.1	13.5	11.1

(a) Dentate people who made a dental visit in the previous 12 months.

Notes

1. 95% confidence intervals for these estimates are in Table C4.6.
2. Estimates in this table are aged-standardised to the 2010 Australian population.
3. Data in this table relate to dentate people.

5 Tooth loss

Loss of teeth due to dental disease results from a failure of both prevention and treatment of disease. When tooth loss accumulates over a period of time, oral health can be impaired. It has been understood for a long time that loss of teeth affects chewing efficiency, (Wayler & Chauncey 1983), consumption of fruit and vegetables (Brennan and & Singh 2010), dietary fibre intake (Krall et al. 1998) and nutrient intake (Krall et al. 1998). When tooth loss continues and all teeth are extracted, problems with how well and easily a person can chew occur (Wayler & Chauncey 1983). Compared with people who have some natural teeth, individuals who lose all their natural teeth are more likely to have a number of dietary problems. These include:

- higher consumption of saturated fats and lower intake of dietary fibre (Joshiyura et al. 1996)
- lower intake of fruit and vegetables (Nowjack-Raymer & Sheiham 2003)
- lower calorie intake (Krall et al. 1998)
- low nutrient intake (Nowjack-Raymer & Sheiham 2003; Krall et al. 1998).

The poorer food consumption patterns are influenced by chewing ability (Brennan & Singh 2010) which in turn has been shown to have a larger effect on grocery purchasing behaviours than dietary knowledge (Brennan & Singh 2011).

Measures of tooth loss

Missing teeth

The average number of missing teeth provides an indication of the distribution of tooth loss in the dentate population.

Inadequate dentition

A widely-used measure of oral disability resulting from tooth loss is *inadequate dentition*. Defined as fewer than 21 teeth, inadequate dentition means that a person is unlikely to have enough teeth with a partner on the opposite jaw (upper versus lower) to be able to chew properly. Research has found that Australian adults with inadequate dentition are up to five times more likely than those with adequate dentition to have problems with chewing (Brennan & Singh 2011).

What was the accumulated burden of tooth loss?

Overall, the mean number of missing teeth among dentate adults was 5.52 (Table 5.1). Women had more missing teeth on average than men (5.90 compared with 5.09).

Overall, 12.3% of dentate adults reported having fewer than 21 teeth remaining. Men were less likely than women to have 25–28 teeth remaining (35.6% compared with 44.5%), but more likely to have 29–32 teeth remaining (45.6% compared with 33.2%).

Table 5.1: Accumulated tooth loss, dentate adults, 2010 (per cent)

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
Men	5.09	11.3	7.5	35.6	45.6
Women	5.90	13.2	9.1	44.5	33.2
All people	5.52	12.3	8.3	40.4	38.9

Notes

1. 95% confidence intervals for these estimates are in Table C5.1.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Does accumulated tooth loss differ by age?

There was an association between the mean number of missing teeth and age, with the lowest number of missing teeth reported in the age group 18–24 and the highest number of missing teeth reported in the age group 65 and over (2.21 compared with 11.91) (Table 5.2).

The prevalence of fewer than 21 teeth followed a similar pattern and was highest in the oldest age group and lowest in the youngest age group (43.1% compared with 0.2%). Younger adults (aged 18–24) were more likely than all other age groups to have 29–32 teeth (60.6% compared with 46.3% or less).

Table 5.2: Accumulated tooth loss by age, dentate adults, 2010 (per cent)

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
Age group (years)					
18–24	2.21	0.2	2.6	36.6	60.6
25–44	3.27	1.6	5.4	46.8	46.3
45–64	5.99	12.8	10.9	42.1	34.1
65 and over	11.91	43.1	14.2	25.6	17.1
All people	5.52	12.3	8.3	40.4	38.9

Notes

1. 95% confidence intervals for these estimates are in Table C5.2.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Does accumulated tooth loss differ by socioeconomic status?

The average number of missing teeth was highest for adults from the lowest income households and lowest for those from the highest income households (6.56 compared with 4.35) (Table 5.3).

Cardholders had more missing teeth on average than non-cardholders (6.55 compared with 4.99). They were also more likely to have fewer than 21 teeth (16.6% compared with 10.6%) and 21–24 teeth (11.6% compared with 6.8%).

Table 5.3: Accumulated tooth loss by socioeconomic status, dentate adults, 2010 (per cent)

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
Annual household income					
Less than \$30,000	6.56	17.3	12.7	30.2	39.9
\$30,000–<\$50,000	5.84	13.5	8.0	41.0	37.5
\$50,000–<\$80,000	5.26	11.7	6.7	41.2	40.5
\$80,000–<\$110,000	4.74	9.0	7.1	42.6	41.3
\$110,000 or more	4.35	6.4	7.7	47.2	38.7
Cardholder status					
Cardholder	6.55	16.6	11.6	36.4	35.5
Non-cardholder	4.99	10.6	6.8	41.8	40.7
All people	5.52	12.3	8.3	40.4	38.9

Notes

1. 95% confidence intervals for these estimates are in Table C5.3.
2. Estimates in this table are aged-standardised to the 2010 Australian population

Does accumulated tooth loss differ by remoteness area?

Residents of *Major cities* had the fewest missing teeth on average (5.20 compared with 5.98 or more) (Table 5.4). The proportion of adults with fewer than 21 teeth was highest among adults living in *Remote/Very remote* areas (22.7%) and lowest for adults living in *Major cities* (10.8%).

Table 5.4: Accumulated tooth loss by remoteness area, dentate adults, 2010 (per cent)

	Mean number of missing teeth ^(a)	Number of teeth			
		1–20	21–24	25–28	29–32
Major cities	5.20	10.8	8.1	41.4	39.6
Inner regional	5.98	14.7	8.7	37.2	39.4
Outer regional	6.60	16.9	8.6	39.2	35.3
Remote/Very remote	7.50	22.7	8.7	39.7	28.9
All people	5.52	12.3	8.3	40.4	38.9

Notes

1. 95% confidence intervals for these estimates are in Table C5.4.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Does accumulated tooth loss vary with dental visiting?

Tooth loss usually accumulates over a period of time. When examining associations between tooth loss and dental visiting, it is appropriate to look at dental visiting over a longer period of time than only the last year. For this reason, the association between dental visiting and accumulated tooth loss is examined by reporting accumulated tooth loss by *usual* patterns of dental visiting.

Adults who usually visited once a year or more had fewer missing teeth on average than those who usually visited once every two years or less than once every two years (5.03 compared with 5.79 and 6.54) (Table 5.5).

Table 5.5: Accumulated tooth loss by usual frequency and usual reason for visiting, dentate adults, 2010 (per cent)

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
Usual frequency of making a dental visit					
One or more per year	5.03	9.2	8.6	44.7	37.5
Once every 2 years	5.79	14.2	7.2	40.0	38.7
Less than once every 2 years	6.54	18.2	8.6	32.0	41.3
Usual reason for dental visit					
Check-up	4.92	9.3	8.0	44.6	38.1
Problem	5.84	13.1	8.7	40.0	38.2
All people	5.52	12.3	8.3	40.4	38.9

Notes

1. 95% confidence intervals for these estimates are in Table C5.5.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

What is the impact of tooth loss?

Adults with fewer than 21 remaining teeth were most likely to report 'fair' or 'poor' oral health (39.6% compared with 24.5% or less) and more likely than adults with 25–28 or 29–32 teeth to report toothache (28.8% compared with 13.5% or less) (Table 5.6).

Adults with fewer than 21 teeth or 21–24 teeth were more likely than those with 25–28 or 29–32 teeth to have avoided food due to oral problems (28.1% and 23.4% compared with 14.9% and 15.0%).

Table 5.6: Prevalence of oral health impact by number of remaining teeth, dentate adults, 2010 (per cent)

	'Fair' or 'poor' oral health ^(a)	Toothache ^(b)	Appearance ^(c)	Avoid food ^(d)
Number of teeth				
1–20	39.6	28.8	32.3	28.1
21–24	24.5	11.3	33.3	23.4
25–28	14.7	13.5	23.6	14.9
29–32	15.9	17.2	21.8	15.0
All people	18.8	15.2	24.9	17.6

(a) Percentage of people reporting that they had 'fair' or 'poor' oral health.

(b) Percentage of people reporting that they had experienced toothache 'very often', 'often' or 'sometimes' during the previous 12 months.

(c) Percentage of people reporting that they had felt uncomfortable about their dental appearance 'very often', 'often' or 'sometimes' during the previous 12 months.

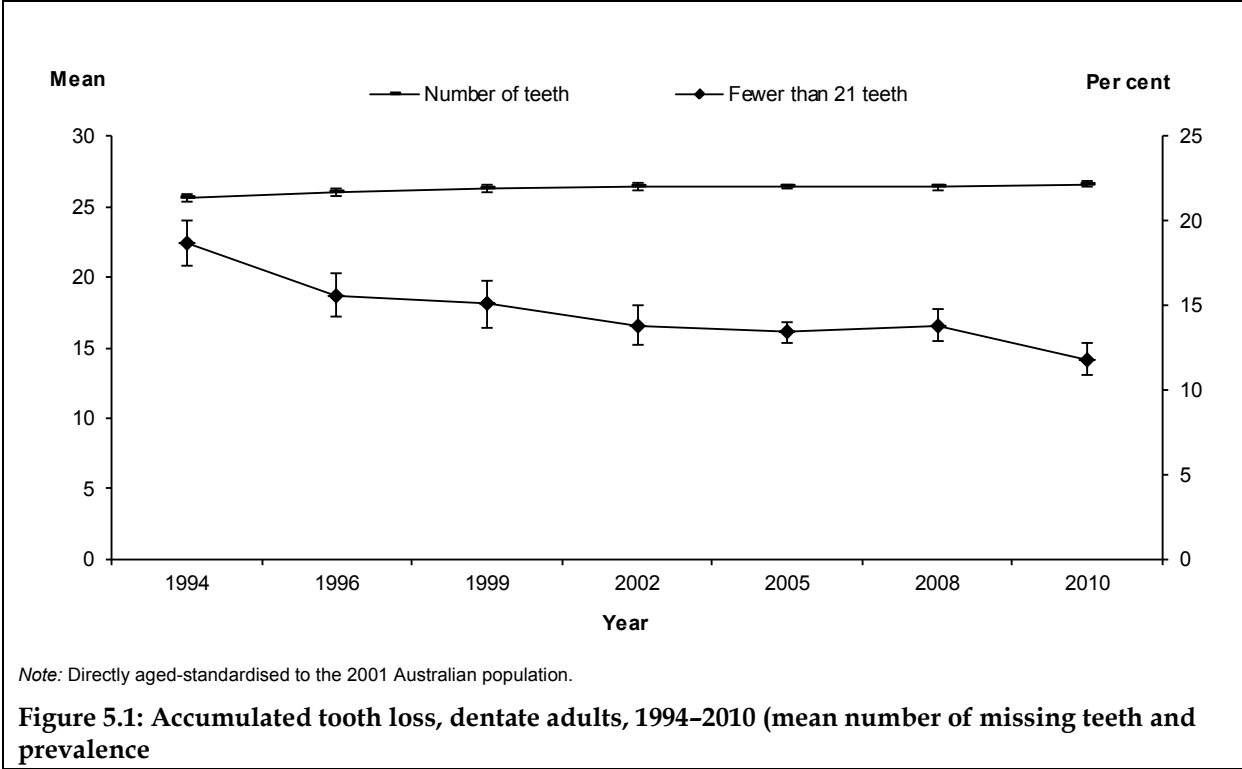
(d) Percentage of people reporting that they had avoided some foods 'very often', 'often' or 'sometimes' during the previous 12 months.

Notes

1. 95% confidence intervals for these estimates are in Table C5.6.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Has accumulated tooth loss changed over time?

There was a small but steady increase in the average number of teeth remaining, from 25.61 in 1994 to 26.59 in 2010 (Figure 5.1). The proportion of adults with fewer than 21 teeth decreased from 18.7% in 1994 to 11.8% in 2010.



6 Services received

Early intervention enables treatments that restore form and function of teeth and surrounding structures (such as fillings). Timely dental care is generally dominated by preventive and diagnostic care, with smaller amounts of low level treatment services, such as restorations (Stewart & Ellershaw 2012). However, if there is inadequate preventive care or problems are not identified at an early stage, then more complex restorations and, in extreme cases, extractions may be required.

The total quantity of fillings and extractions indicate the amount of active disease and the timeliness of dental visits.

Measures of services received

Diagnostic services

The diagnostic service reported in this chapter is check-up. Receipt of this service is shown as the proportion of adults who reported receiving this service amongst those who made a dental visit.

Preventive services

The preventive service reported in this chapter is scale and clean and check-up. Receipt of this service is shown as the proportion of adults who reported receiving this service amongst those who made a dental visit.

Treatment services

Treatment services reported in this chapter are: filling, extraction, crown/bridge and root canal. Receipt of these services is shown as the proportion of adults who reported receiving each service amongst those who made a dental visit.

Reasons for extraction

Tooth loss by extraction is an important service-provision outcome that can have long-term consequences for oral health. However, a variety of underlying problems may be treated by extraction. The reasons reported for tooth loss are: 'decay', 'periodontal disease', 'trauma', 'crowding' (orthodontics) and 'other' reasons.

What services did dentate adults receive?

Over three-quarters (76.2%) of adults of adults received preventive services (scale and clean) and 91.5% received diagnostic services (check-up) (Table 6.1).

The most commonly reported treatment service received was filling (39.0%). Smaller proportions received an extraction (13.5%), crown/bridge (10.5%) or root canal treatments (6.8%) (Table 6.1).

There were no differences between men and women in the proportion receiving any of these services.

Table 6.1: Services received, 2010 (per cent)

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Sex						
Men	75.6	91.1	40.1	14.4	11.1	7.6
Women	76.7	91.8	38.0	12.7	10.0	6.1
All people	76.2	91.5	39.0	13.5	10.5	6.8

Notes

1. Dentate respondents aged 18 years and over who made a dental visit in the previous 12 months.
2. 95% confidence intervals for these estimates are in Table C6.1.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Did services received differ by age?

There was no difference by age in the proportions receiving a scale and clean, a check-up, an extraction or a crown/bridge (Table 6.2). Adults aged 18–24 were least likely to have received a filling than any other age group (25.0% compared with 35.8% or more). In the cases of crown/bridge and root canal services, more adults aged 45–64 received these treatments (14.6% and 9.1%, respectively) than those aged 18–24 (3.7% and 2.7%, respectively).

Table 6.2: Services received by age, 2010 (per cent)

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Age group (years)						
18–24	71.6	94.8	25.0	10.9	3.7	2.7
25–44	77.1	92.4	35.8	13.7	8.8	6.3
45–64	77.3	90.0	45.4	12.8	14.6	9.1
65 and over	75.7	89.7	44.6	16.6	11.7	6.9
All people	76.2	91.5	39.0	13.5	10.5	6.8

Notes

1. Dentate respondents aged 18 years and over who made a dental visit in the previous 12 months.
2. 95% confidence intervals for these estimates are in Table C6.2.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Did services received differ by socioeconomic status?

A greater proportion of adults from the three highest household income groups received a scale and clean than those with a household income of less than \$30,000 (76.3%, 79.4% and 85.4% compared with 60.4% respectively) (Table 6.3). Adults in the highest household income group were more likely than those in the lowest household income group to receive a check-up (95.0% compared with 88.6%). Fewer adults from the two highest household income groups received a filling than those with a household income of \$30,000–<\$50,000 (35.0% and 37.2% compared with 50.5%). More adults from the two lowest household income groups received an extraction than those in the highest income group 16.8%, 17.3% compared with 9.4%). There were no statistically significant differences between different household income groups in receiving other treatment services such as crown/bridge or root canal.

More non-cardholders than cardholders received a scale and clean (78.5% compared with 65.8%). More cardholders reported receiving a filling (48.9%) and extraction (19.3%) than non-cardholders (36.8% for filling and 12.5% for extraction). There was no statistically significant difference between cardholders and non-cardholders in receipt of crown/bridge or root canal services.

Table 6.3: Services received by socioeconomic status, 2010 (per cent)

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Annual household income						
Less than \$30,000	60.4	88.6	42.9	16.8	15.4	11.3
\$30,000–<\$50,000	70.3	90.8	50.5	17.3	8.2	7.1
\$50,000–<\$80,000	76.3	90.6	40.1	13.3	10.7	8.9
\$80,000–<\$110,000	79.4	91.9	37.2	12.7	11.5	5.1
\$110,000 or more	85.4	95.0	35.0	9.4	12.1	4.9
Cardholder status						
Cardholder	65.8	87.1	48.9	19.3	11.3	9.4
Non-cardholder	78.5	91.9	36.8	12.5	10.6	6.9
All people	76.2	91.5	39.0	13.5	10.5	6.8

Notes

1. Dentate respondents aged 18 years and over who made a dental visit in the previous 12 months.
2. 95% confidence intervals for these estimates are in Table C6.3.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Did services received vary by remoteness area?

Adults from *Major cities* were more likely than those from *Inner regional* and *Outer regional* areas to receive a scale and clean (78.4% compared with 70.8% and 67.3% respectively (Table 6.4). Adults from *Major cities* were also more likely than those from *Outer regional* areas to have a received a check-up (92.8% compared with 86.5%).

Adults from *Remote/Very remote* areas were much more likely than residents from any other area to report having an extraction (33.0% compared with 17.3% or less) and residents of *Major cities* were less likely than those from *Inner regional* areas to have received an extraction (12.1% compared with 17.3%).

Table 6.4: Services received by remoteness area, 2010 (per cent)

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Remoteness area						
Major cities	78.4	92.8	37.4	12.1	11.1	6.6
Inner regional	70.8	88.6	43.9	17.3	9.9	8.4
Outer regional	67.3	86.5	41.6	15.5	9.2	5.4
Remote/Very remote	67.8	89.6	34.8	33.0	8.9	4.9
All people	76.2	91.5	39.0	13.5	10.5	6.8

Notes

1. Dentate respondents aged 18 years and over who made a dental visit in the previous 12 months.
2. 95% confidence intervals for these estimates are in Table C6.4.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Did services received vary by reason for visit?

Adults who visited for a check-up were more likely to receive a scale and clean than those who visited for a problem (87.8% compared with 58.8%) (Table 6.5). Similarly, adults were more likely to receive a check-up when 'check-up' was the primary purpose of their visit, than when the primary purpose of the visit was to deal with a dental problem (98.0% compared with 81.8%).

Adults who reported that their most recent dental visit was for a problem were more likely than those who visited for a check-up to receive a filling (59.4% compared with 25.6%), an extraction (26.0% compared with 5.6%), a crown/bridge (16.1% compared with 6.8%) or a root canal service (12.6% compared with 2.9%).

Table 6.5: Service received by reason for last dental visit, 2010 (per cent)

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Check-up	87.8	98.0	25.6	5.6	6.8	2.9
Problem	58.8	81.8	59.4	26.0	16.1	12.6
All people	76.2	91.5	39.0	13.5	10.5	6.8

Notes

1. Dentate respondents aged 18 years and over who made a dental visit in the previous 12 months.
2. 95% confidence intervals for these estimates are in Table C6.5.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Did services received vary by experience of financial barriers or hardship?

Adults who gave any indication of financial barriers or hardship were less likely to receive either a scale and clean or a check-up and more likely to receive either a filling or an extraction (Table 6.6). For example, adults who reported delaying or avoiding dental visiting were less likely to receive a scale and clean (63.0%) or check-up (85.7%), compared with those who did avoid or delay (80.4% and 80.4%, respectively). Similarly, adults who reported that cost prevented recommended treatment were less likely to have received a scale and clean (67.0% compared with 78.9%) or a check-up (86.4% compared with 92.9%).

Fewer adults who reported that dental visits were a 'large financial burden' received a scale and clean (61.8% compared with 78.0%) or a check-up (84.8% compared with 92.9%).

Adults who gave any indication of financial barriers or hardship were less likely to receive a scale and clean (67.5% compared with 81.0%) or a check-up (86.4% compared with 94.3%).

More adults who avoided or delayed making a dental visit due to cost received a filling (48.7%) or extraction (18.9%) than those who did not avoid or delay visiting (36.2% and 11.4%, respectively). There were no statistically significant differences in receiving a crown/bridge or root canal according to whether people avoided or delaying making a dental visit due to cost.

Adults who reported that cost prevented recommended treatment were more likely to have received a filling (48.6% compared with 36.4%) or an extraction (22.3% compared with 10.9%). There were no statistically significant differences in receiving a crown/bridge or root canal according to whether cost prevented recommended treatment. A greater proportion of adults who reported that dental visits were 'a large financial burden' received a filling (52.8% compared with 37.3%), an extraction (28.3% compared with 11.6%), a crown/bridge (24.6% compared with 8.6%) or a root canal treatment (14.4% compared with 5.8%).

Adults whose survey answers gave any indication of financial burden or hardship were more likely to have received a filling (47.4% compared with 34.9%), an extraction (19.6% compared with 9.8%), a crown/bridge (14.2% compared with 8.5%) or a root canal treatment (9.3% compared with 5.4%).

Table 6.6: Services received by indicators of financial barriers, 2010 (per cent)

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Avoided or delayed						
Yes	63.0	85.7	48.7	18.9	11.2	8.4
No	80.4	93.4	36.2	11.4	10.4	6.3
Cost prevented recommended treatment^(a)						
Yes	67.0	86.4	48.6	22.3	11.7	8.6
No	78.9	92.9	36.4	10.9	10.0	6.3
Dental visits were a burden^(a)						
Yes	61.8	84.8	52.8	28.3	24.6	14.4
No	78.0	92.4	37.3	11.6	8.6	5.8
Any indicator of financial barrier or burden						
Yes	67.5	86.4	47.4	19.6	14.2	9.3
No	81.0	94.3	34.9	9.8	8.5	5.4
All people	76.2	91.5	39.0	13.5	10.5	6.8

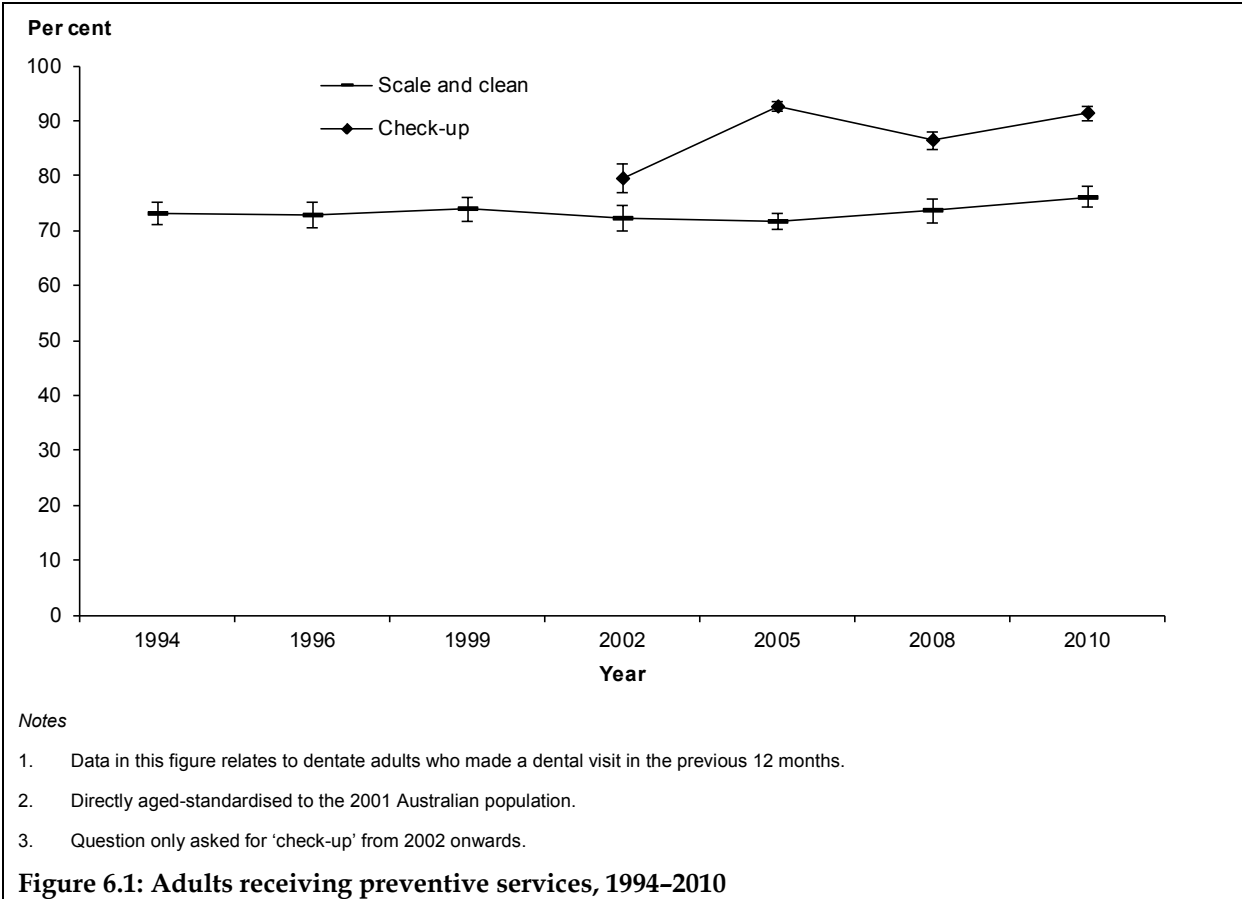
(a) Dentate people who made a dental visit in the previous 12 months.

Notes

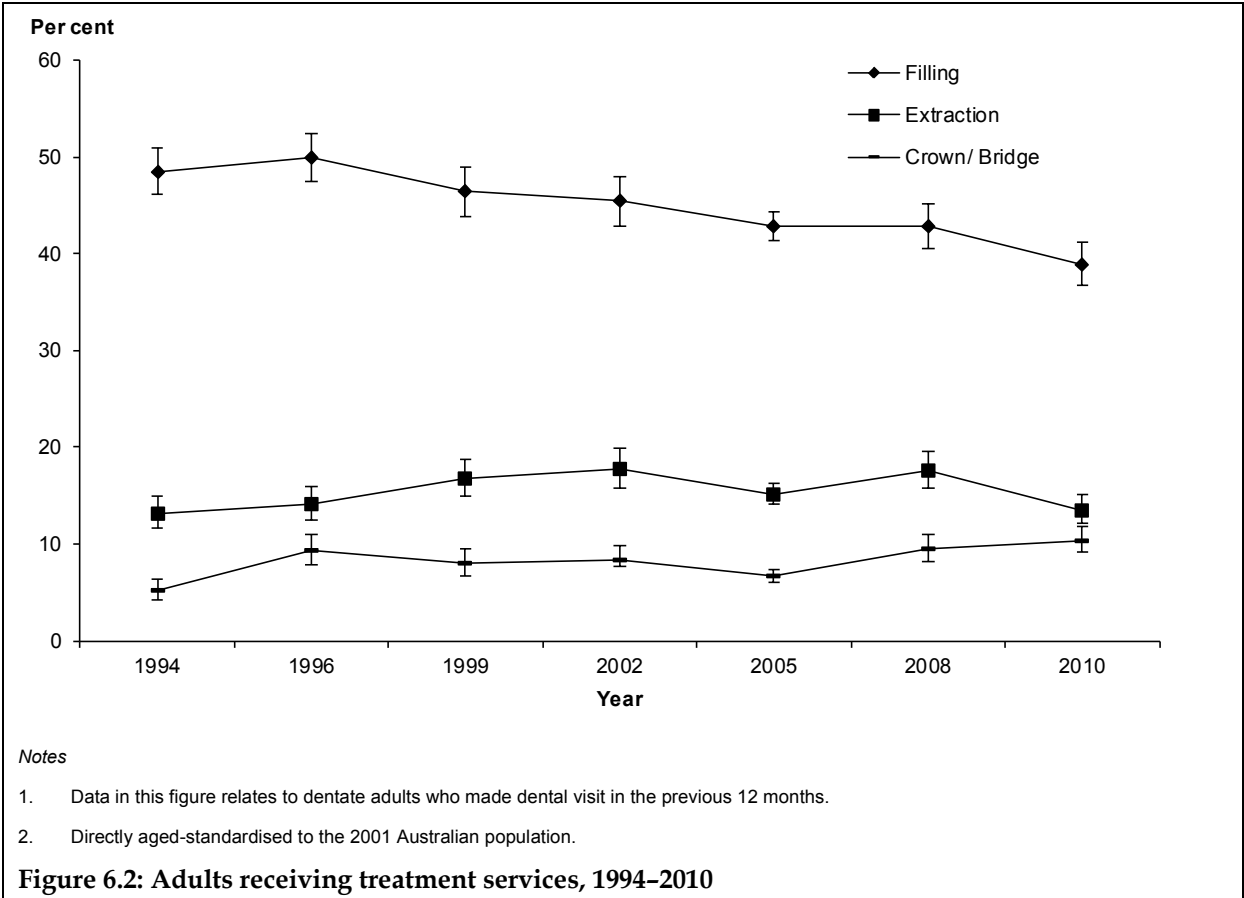
1. Dentate respondents aged 18 years and over who made a dental visit in the previous 12 months.
2. 95% confidence intervals for these estimates are in Table C6.6.
3. Estimates in this table are aged-standardised to the 2010 Australian population.

Have services received changed over time?

The proportion of adults who received a check-up increased from 79.6% in 2002 to 91.5% in 2010 (Figure 6.1). The proportion of adults who received a scale and clean varied only slightly across the period 1994 to 2010. The only statistically significant difference was between 2005 and 2102 (71.7% compared with 76.2%).



The proportion of adults who received a filling decreased from 48.5% in 1994 to 38.9% in 2010 (Figure 6.2). The proportion receiving an extraction varied from a low of 13.2% in 1994 to a high of 17.7% in 2002. The proportion receiving a crown/bridge service doubled from 5.2% in 1994 to 10.4% in 2010.



What were the reasons for having a tooth extracted?

The most commonly reported reason for having a tooth extracted was decay (38.6%), followed by wisdom teeth (30.9%) and trauma (26.4%) (Table 6.7).

There was no difference between men and women for any of the reasons for tooth extraction.

Table 6.7: Reason for extraction for adults reporting that they received a tooth extraction, 2010 (per cent)

	Decay ^(a)	Periodontal disease	Trauma	Crowding ^(b)	Wisdom teeth	Other
Men	42.1	9.6	31.1	2.5	24.8	8.3
Women	35.0	9.4	21.9	2.4	36.6	10.7
All people	38.6	9.5	26.4	2.2	30.9	9.4

(a) Includes decay, cracked or fractured tooth, filling broken down/fallen out, tooth abscessed or infected, loose tooth.

(b) Crowding refers to extractions as part of orthodontic treatment.

Notes

1. Unless otherwise indicated, the data in this table relate to dentate people made a dental visit in the previous 12 months.
2. 95% confidence intervals for these estimates are in Table C6.7.
3. Estimates in this table are aged-standardised to the 2010 Australian population.
4. Rows may total more than 100% as respondents could nominate more than one reason.

Does reason for extraction differ by age?

Decay was the most commonly cited reason for extraction in all three older age groups (42.0%, 43.4% and 44.3%). The majority of adults aged 18–24 who had a tooth extracted did so to address a problem with wisdom teeth (84.1%) (Table 6.8).

Adults in the two older age groups (45–64 and 65 or more) were more likely those in the two younger groups (18–24 and 25–44) to report that teeth were extracted due to periodontal disease (16.5% and 20.0% compared with 0.0% and 1.7%). Those aged 18–24 were least likely to report that their tooth extraction was due to trauma (3.1% compared with 23.5% or more).

Table 6.8: Reason for extraction for adults reporting that they received a tooth extraction by age, 2010 (per cent)

	Decay ^(a)	Periodontal disease	Trauma	Crowding ^(b)	Wisdom teeth	Other
Age group (years)						
18–24	9.4	—	3.1	5.6	84.1	2.8
25–44	42.0	1.7	23.5	1.0	40.1	4.7
45–64	43.4	16.5	39.7	—	11.6	12.3
65 or older	44.3	20.0	25.5	—	6.9	19.3
All people	38.6	9.5	26.4	2.2	30.9	9.4

(a) Includes decay, cracked or fractured tooth, filling broken down/fallen out, tooth abscessed or infected, loose tooth.

(b) Crowding refers to extractions as part of orthodontic treatment.

Notes

1. Unless otherwise indicated, the data in this table relate to dentate people whose last dental visit was in the previous 12 months.
2. Rows may total more than 100% as respondents could nominate more than one reason.
3. 95% confidence intervals for these estimates are in Table C6.8.
4. Estimates in this table are aged-standardised to the 2010 Australian population.

Does reason for extraction differ by socioeconomic status?

There was no statistically significant difference by household income in reporting trauma, crowding, wisdom teeth and 'other' as a reason for extraction (Table 6.9). Adults with a household income of \$30,000–<\$50,000 were more likely than those with a household income of \$50,000–<\$80,000 to report decay as the reason for their extraction(s) (56.5% compared with 34.0%). Periodontal disease was reported as a reason for extraction(s) more often by adults with a household income of \$30,000–<\$50,000 compared with those with an income of \$50,000–<\$80,000 (10.8% compared with 2.1%).

Cardholders were more likely than non-cardholders to report that their extraction was for periodontal disease (15.0% compare with 5.6%).

Table 6.9: Reason for extraction for adults reporting that they received a tooth extraction by socioeconomic status, 2010 (per cent)

	Decay ^(a)	Periodontal disease	Trauma	Crowding ^(b)	Wisdom teeth	Other
Annual household income						
Less than \$30,000	43.5	17.6	43.5	—	21.4	10.6
\$30,000–<\$50,000	56.5	10.8	28.6	7.3	23.1	10.8
\$50,000–<\$80,000	34.0	2.1	22.8	8.7	29.6	12.8
\$80,000–<\$110,000	36.4	10.6	24.3	0.7	33.3	7.3
\$110,000 or more	40.3	6.4	25.2	1.4	35.7	22.4
Cardholder status						
Cardholder	44.3	15.0	31.5	—	27.8	12.1
Non-cardholder	37.1	5.6	26.8	2.7	30.5	7.5
All people	38.6	9.5	26.4	2.2	30.9	9.4

(a) Includes decay, cracked or fractured tooth, filling broken down/fallen out, tooth abscessed or infected, loose tooth.

(b) Crowding refers to extractions as part of orthodontic treatment.

Notes

1. Unless otherwise indicated, the data in this table relate to dentate people whose last dental visit was in the previous 12 months.
2. Rows may total more than 100% as respondents could nominate more than one reason.
3. 95% confidence intervals for these estimates are in Table C6.9.
4. Estimates in this table are aged-standardised to the 2010 Australian population.

Does reason for extraction differ by remoteness area?

There was no significant difference between areas of remoteness for any of the reasons for extraction (Table 6.10).

Table 6.10: Reason for extraction for adults reporting that they received a tooth extraction by remoteness area, 2010 (per cent)

	Decay ^(a)	Periodontal disease	Trauma	Crowding ^(b)	Wisdom teeth	Other
Major cities	35.6	8.6	25.5	2.6	30.5	9.2
Inner regional	40.2	11.6	24.3	1.5	28.6	10.1
Outer regional	48.2	8.6	35.8	—	37.5	9.9
Remote/Very remote	49.7	14.1	45.9	5.7	32.1	21.5
All people	38.6	9.5	26.4	2.2	30.9	9.4

(a) Includes decay, cracked or fractured tooth, filling broken down/fallen out, tooth abscessed or infected, loose tooth.

(b) Crowding refers to extractions as part of orthodontic treatment.

Notes

1. Unless otherwise indicated, the data in this table relate to dentate people whose last dental visit was in the previous 12 months.
2. Rows may total more than 100% as respondents could nominate more than one reason.
3. 95% confidence intervals for these estimates are in Table C6.10.
4. Estimates in this table are aged-standardised to the 2010 Australian population.

7 Perceived need for care

Perceived need for the most common dental treatments is presented to provide an additional indicator of subjective oral health in Australian adults.

A person's perception of their need for health care is believed to be a factor in their visiting a health care provider (Andersen 1995). Experience of oral disease or oral disorders may result in symptoms that create a perceived need for care. Dental visiting and resolution of symptoms should reduce a person's perceived need for care.

Perceived need for different types of dental care gives an indication of the dental services that could be required. However, the actual services provided in a dental visit are the result of a professional diagnosis and negotiated treatment plan, where both the professional judgement of a dentist and the patient's perceptions are important considerations.

Measures of perceived need for dental care

Respondents to the NDTIS 2010 were asked 'Currently which of the following treatments do you think that you need to have: Any filling(s), Any extraction(s), Scale and clean, A dental check-up, Gum treatment, Dental crown or bridge, Denture(s) made, Orthodontic treatment or Any other treatment?'

The wording of this question was the same in 2005, 2008 and 2010. However, in 1994, 1996 and 1999, respondents were first asked if they needed either a dental check-up or dental treatment. Only those respondents who answered 'yes' to either of these questions were taken through the list of services. This has resulted in the proportions overall who report needing a treatment being lower in these earlier years than in the later years of the survey.

How many adults reported a need for dental care?

Close to two-thirds (64.2%) of adults reported needing a dental check-up and almost 60% reported needing a scale and clean (Table 7.1). More than one-quarter (28.6%) reported needing a filling and 10.6%, 9.9% and 10.6% of adults reported that they needed an extraction, gum treatment, and crown/bridge, respectively. Smaller numbers reported needing dentures (6.1%) and other treatment (7.2%). There was no difference between men and women in perceived need for dental care.

Table 7.1: Perceived need for dental care, 2010 (per cent)

	Check-up	Scale and clean	Filling	Extraction	Gum treatment	Crown or bridge	Need denture	Other treatment
Men	65.6	59.6	30.0	12.1	9.9	10.6	5.9	6.1
Women	62.8	57.8	27.1	9.6	9.9	10.5	6.2	8.4
All people	64.2	58.7	28.6	10.9	9.9	10.6	6.1	7.2

Notes

1. 95% confidence intervals for these estimates are in Table 7.1.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Did perceived need for dental care vary by age?

Adults aged 65 and over were less likely than adults in the younger age groups to report needing a check-up (49.7% compared with 62.8% or more) or a scale and clean (44.0% compared with 57.3% or more). They were also less likely to report a need for gum treatment (6.4% compared with 9.4% or more) or other treatment (4.1% compared with 7.5% or more) (Table 7.2).

Adults aged 65 and over were more likely than younger age groups to report needing a denture (17.0% compared with 7.7% or less).

Adults aged 18–24 were least likely to report needing a crown or bridge (3.2% compared with 9.6% or more).

Table 7.2: Perceived need for care by age group, 2010 (per cent)

Age group (years)	Check-up	Scale and clean	Filling	Extraction	Gum treatment	Crown or bridge	Need denture	Other treatment
18–24	65.8	57.3	28.3	11.8	9.4	3.2	0.1	9.0
25– 44	71.1	66.5	30.6	11.6	9.9	9.7	1.6	7.9
45– 64	62.8	58.3	30.1	10.0	12.0	15.3	7.7	7.5
65 and over	49.7	44.0	21.6	10.3	6.4	9.6	17.0	4.1
All people	64.2	58.7	28.6	10.9	9.9	10.6	6.1	7.2

Notes

1. 95% confidence intervals for these estimates are in Table C7.2.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Does need for dental care vary by socioeconomic status?

Adults from households with an income of \$30,000–<\$50,000 were more likely than those from households with an income of \$80,000–<\$110,000 to report the need for a check-up (71.7% compared with 62.3%). Adults in the two lowest income groups (less than \$30,000 and \$30,000–<\$50,000) were more likely than those in the two highest income groups (\$80,000–<\$110,000 and \$110,000 or more) to perceive the need for a filling (36.0% or more compared with 25.9% or less), an extraction (15.3% or more compared with 7.1% or less) or a denture (7.9% or more compared with 2.9% or less). Adults in the lowest household income group were almost twice as likely as those in the highest household income group to perceive a need for gum treatment (13.3% compared with 6.9%) (Table 7.3).

There was no significant difference between the different household income groups in the proportions perceiving the need for a scale/clean, crown or bridge or other treatment service.

Cardholders were more likely than non-cardholders to report the need for a filling (36.8% compared to 27.2%), an extraction (18.2% compared to 8.6%), gum treatment (13.7% compared to 9.3%) or a new denture (9.4% compared to 4.7%).

Table 7.3: Perceived need for care by socioeconomic status, 2010

	Check-up	Scale and clean	Filling	Extraction	Gum treatment	Crown or bridge	Need denture	Other treatment
Annual household income								
Less than \$30,000	64.5	61.7	36.0	15.3	13.3	12.4	9.3	9.7
\$30,000–<\$50,000	71.7	62.0	36.6	16.1	11.9	10.9	7.9	9.2
\$50,000–<\$80,000	65.9	61.2	30.5	10.7	11.3	12.2	5.3	7.6
\$80,000–<\$110,000	62.3	57.1	25.9	6.8	7.3	9.9	2.2	6.9
\$110,000 or more	64.3	58.8	23.0	7.1	6.9	9.8	2.9	6.1
Cardholder status								
Cardholder	69.3	62.8	36.8	18.2	13.7	14.0	9.4	9.4
Non-cardholder	62.6	58.3	27.2	8.6	9.2	10.1	4.7	6.8
All people	64.2	58.7	28.6	10.9	9.9	10.6	6.1	7.2

Notes

1. 95% confidence intervals for these estimates are in Table C7.3.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Does need for dental care vary by remoteness area?

There were no statistically significant differences by remoteness area in reported need for filling, check-up, gum treatment, denture or other service (Table 7.4). Adults from *Major cities* were less likely than adults from *Inner regional* areas to report the need for an extraction (9.8% compared with 14.1%). Adults from *Remote/Very remote* areas were more likely than those from *Inner regional* areas to report a need for crown or bridge (19.8% compared with 8.5%) and more likely than those from both *Inner regional* and *Outer regional* areas to report the need for a scale and clean (70.4% compared with 55.5% or less).

Table 7.4: Perceived need for care by remoteness area, 2010 (per cent)

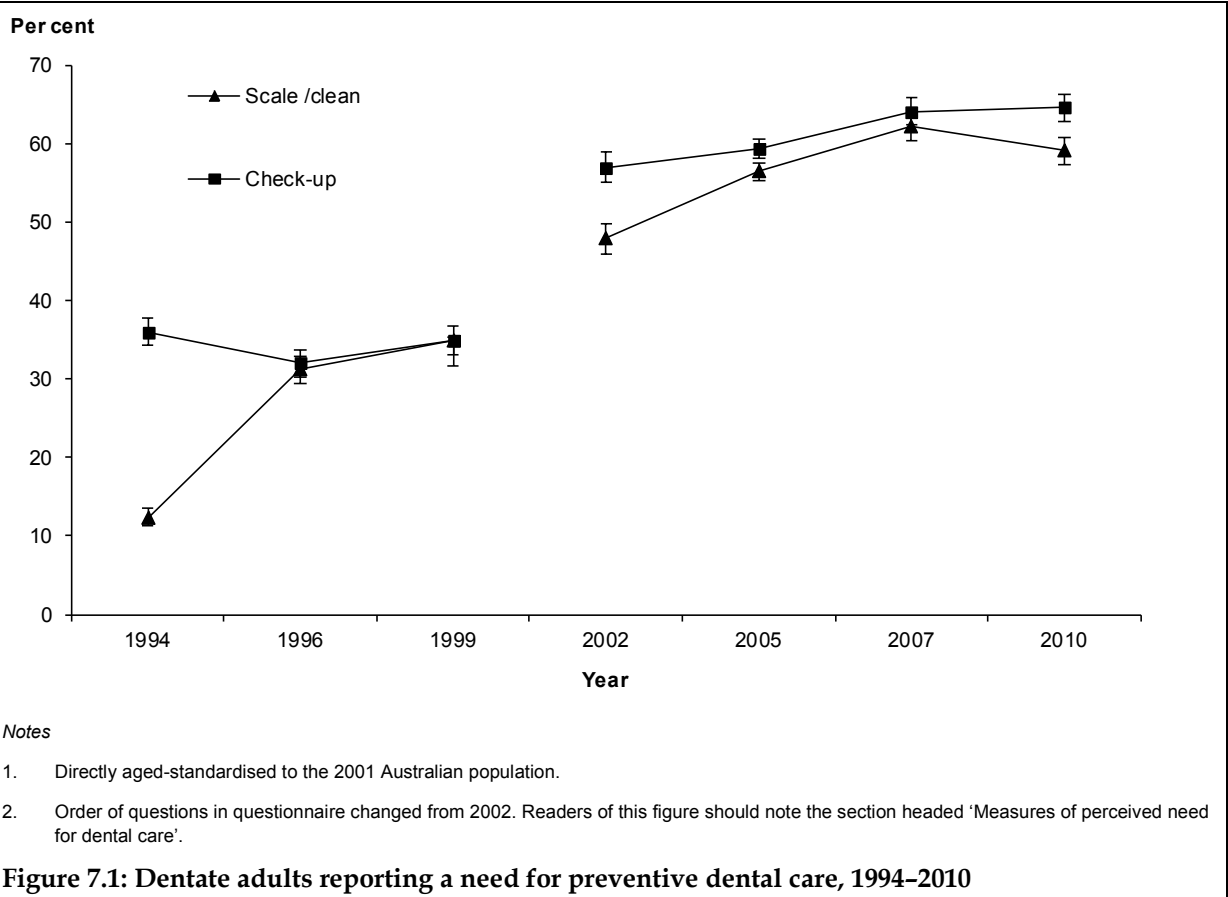
	Check-up	Scale and clean	Filling	Extraction	Gum treatment	Crown or bridge	Need denture	Other treatment
Major cities	64.4	59.8	27.6	9.8	9.9	11.1	5.6	7.7
Inner regional	63.6	55.4	30.4	14.1	10.1	8.5	7.3	5.4
Outer regional	64.2	55.5	34.2	11.7	9.5	10.7	6.9	8.9
Remote/ Very remote	68.7	70.4	31.4	14.1	13.4	19.8	4.4	6.6
All people	64.2	58.7	28.6	10.9	9.9	10.6	6.1	7.2

Notes

1. 95% confidence intervals for these estimates are in Table C7.4.
2. Estimates in this table are aged-standardised to the 2010 Australian population.

Has perceived need for care changed over time?

The proportion of adults reporting that they needed a check-up remained stable between 1994 and 1999 (between 32.0% and 36.0%), but increased from 56.4% in 2005 to 62.1% in 2007 (Figure 7.1). The proportion of adults who reported that they needed a scale and clean increased between 1994 and 1999 (from 12.4% to 34.4%) and again between 2002 and 2010 (from 47.9% to 59.1%). The apparent large increase for both measures between 1999 and 2002 may be related to a change in the wording of the question and should be interpreted with caution.

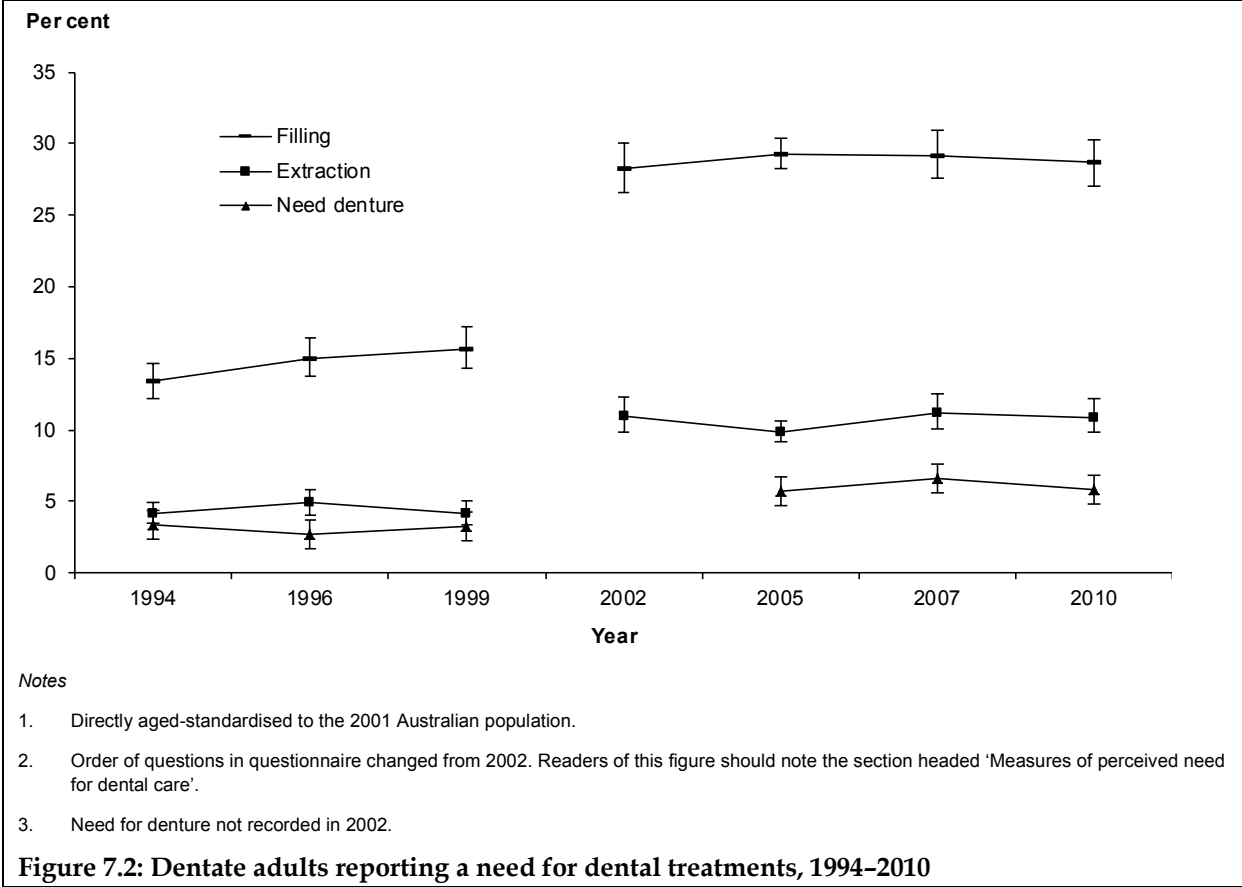


The proportion of adults who reported that they needed a filling remained steady from 1994 to 1999 (between 12.2% and 14.3%) and from 2002 to 2010 (between 28.3% and 29.3%) (Figure 7.2).

The proportion of adults who reported that they needed an extraction also remained steady from 1994 to 1999 (between 4.2% and 4.9%) and from 2002 to 2010 (between 9.9% and 11.2%).

The proportion of adults who reported that they needed denture care also remained steady from 1994 to 1999 (between 2.7% and 3.3%) and from 2002 to 2010 (between 5.7% and 6.6%).

The apparent large increase for these measures between 1999 and 2002 may be related to a change in the wording of the question and should be interpreted with caution.



8 International comparisons

A limited amount of information is available for making comparisons between adults who live in Australia and those from other countries. Two countries that have recently published data comparable with those reported in this publication are New Zealand and Canada.

Both of these countries have similar arrangements to Australia for the provision of dental services to adults. While Canada has a universal health insurance system, dental care is not covered for the majority of adults (Health Canada 2010). Public funding for dental care is available for at-risk populations such as long-term care residents and low-income populations receiving social assistance payments (Office of the Chief Dental Officer of Canada).

In New Zealand, free or partially publicly funded basic oral health care is available for children and adolescents (aged 0–17 years); some low-income adults; special needs and medically compromised patients who cannot access care in a community setting; prisoners; and children, adolescents and adults who incur dental injuries through accidents. Oral health care for most adults is performed by private oral health care professionals on a user-pays basis. In 2008, publicly funded oral health care accounted for approximately 20% of all expenditure on oral health services (NZ Ministry of Health 2010).

Public expenditure accounted for around 6% of dental expenditures in Canada in 2007/08. The majority of dental care for adults is provided by dental care professionals in private practice.

Australian adults were less likely than New Zealanders to have lost all of their teeth (5.5% compared with 9.4%), to have 'fair' or 'poor' oral health (18.7% compared with 26.6%) and to have 21 or more teeth (81.6% compared with 88.6%) (Table 8.1(a)).

However, Australians were more likely than New Zealanders to have made a dental visit in the previous 12 months (58.3% compared with 47.1%) and to have last visited for a check-up (59.3% compared with 47.9%). Australians were less likely to have avoided or delayed visiting due to cost (31.4% compared with 44.1%) and more likely to have reported a need for dental care (73% compared with 45.9%).

Differences in dentate status across countries were a result of differences in the 55–64 and 65–75 age groups, while differences in self-rated oral health were due to differences in the 25–35, 35–44 and 45–54 age groups. Australians were less likely than New Zealanders to have an adequate or 'functional' dentition (21 or more natural teeth) in all but the 55–64 and 75 and over age group.

Table 8.1(a): Comparison between Australia and New Zealand for selected oral health measures for adults (per cent)

	Australia	New Zealand
Complete tooth loss	5.5	9.4
18–24	—	0.1
25–34	—	—
35–44	0.3	1.7
45–54	3.0	3.2
55–64	8.5	14.6
65–74	15.1	29.6
75 and over	27.9	39.6
‘Fair’ or ‘poor’ oral health	18.8	26.6
18–24	14.7	22.2
25–34	14.3	31.2
35–44	17.4	26.9
45–54	22.2	35.9
55–64	23.1	24.7
65–74	22.8	20.2
75 and over	19.5	14.1
Functional dentition (21 or more natural teeth)	81.6	88.6
18–24	85.4	99.6
25–34	93.3	99.9
35–44	90.6	97.9
45–54	85.2	87.6
55–64	75.8	83.6
65–74	60.1	54.9
75 and over	42.0	54.0

Note: 95% confidence intervals for these estimates are in Table C8.1(a).

Source: New Zealand data sourced from (NZ Ministry of Health 2010).

Australia’s higher rate of recent dental visiting was evident in all age groups, while their higher rate of visiting for a check-up occurred in all but the youngest age group (Table 8.1(b)). While Australians were less likely to avoid or delay due to cost in all age groups up to 45–54, they were more likely in every age group to report needing any treatment.

Table 8.1(b): Comparison between Australia and New Zealand for selected dental visiting, financial barriers and measures of perceived need for adults (per cent)

	Australia	New Zealand
Dental visiting		
<i>Visited a dental professional in the last 12 months</i>	60.7	47.1
18–24	55.7	36.9
25–34	58.7	44.6
35–44	56.6	43.3
45–54	59.9	55.7
55–64	62.6	55.7
65–74	59.1	47.7
75 and over	54.7	40.3
<i>Last visited for a check-up</i>	59.7	47.9
18–24	76.1	76.9
25–34	61.5	46.9
35–44	59.7	46.1
45–54	54.8	44.0
55–64	50.4	40.5
65–74	51.5	39.6
75 and over	57.5	43.2
Financial barriers		
<i>Avoided dental care due to cost</i>	31.2	44.1
18–24	33.2	52.3
25–34	36.7	61.7
35–44	35.9	57.0
45–54	33.2	44.5
55–64	26.0	31.2
65–74	22.7	22.8
75 and over	15.9	16.6
<i>Cost prevented recommended care</i>	21.7	25.3
18–24	15.4	25.0
25–34	25.5	35.7
35–44	25.1	30.1
45–54	26.2	28.6
55–64	21.8	21.3
65–74	19.6	12.3
75 and over	10.3	9.1
Perceived need		
18–24	77.6	42.8
25–34	84.2	59.5
35–44	81.1	50.7
45–54	75.6	52.9
55–64	66.9	43.9
65–74	60.1	28.9
75 and over	43.3	21.5

Note: 95% confidence intervals for these estimates are in Table C8.1(b).

Source: New Zealand data sourced from (NZ Ministry of Health 2010).

Similar proportions of Australians and Canadians had no remaining natural teeth (4.4% compared with 6.4%) (Table 8.2) and similar proportions of Australians and Canadians had fewer than 21 teeth (16.6% and 14.4%). However, amongst those aged 20–39, Australians were more likely to have fewer than 21 teeth (9.1% compared with 0.8%) While there was no difference overall in reporting ‘fair’ or ‘poor’ oral health, Australians aged 60–79 were more likely than their Canadian counterparts to do so (21.7% compared with 15.8%). Australians were more likely to have avoided foods due to oral problems in both the 40–59 and 60–79 age groups (20.7% compared with 10.9% and 20.8% compared with 9.8%). Australians were less likely than Canadians in all three age groups to have made a dental visit in the previous 12 months. In all age groups, Canadians were over 20% more likely than Australians to have visited a dentist. Australians in all three age groups were more likely to avoid dental care due to cost.

Table 8.2: Comparison between Australia and Canada for selected oral health and dental visiting measures for adults (per cent)

	Age group (years)	Australia	Canada ^(a)
Oral health			
Complete tooth loss	20–79	4.4	6.4
	20–39	0.1	... ^(b)
	40–59	3.1	4.4
	60–79	15.2	21.7
Fewer than 21 teeth ^(c)	20–79	16.6	14.6
	20–39	9.1	0.8
	40–59	14.4	16.5
	60–79	38.2	42.2
'Fair' or 'poor' oral health ^(d)	20–39	16.3	17.4
	40–59	20.9	17.4
	60–79	21.7	14.2
Avoided foods ^(e)	20–79	13.6	13.4
	20–39	20.7	10.9
	40–59	20.8	9.8
Dental visiting			
Visited a dental professional in the last 12 months ^(f)	20–39	54.9	67.9
	40–59	61.1	78.5
	60–79	60.2	79.3
Financial barriers			
Avoided dental care due to cost ^(g)	20–39	36.9	23.7
	40–59	31.6	17.8
	60–79	23.4	13.2
Cost prevented recommended care ^(h)	20–39	22.2	19.4
	40–59	24.6	19.1
	60–79	20.0	17.3

(a) 2007–09.

(b) Estimate not provided in Canadian report because of extreme sampling variability or small sample size.

(c) Dentate people only.

(d) In Canada, participants were asked: 'In general, would you say the health of your mouth is Excellent, Very good, Good, Fair, Poor?'

(e) In Canada, participants were asked: 'In the past 12 months, how often have you avoided eating particular foods because of problems with your mouth?'

(f) In Canada, participants were asked: 'When was the last time you saw a dental professional?'

(g) In Canada, participants were asked: 'In the past 12 months, have you avoided going to a dental professional because of the cost of dental care?'

(h) In Canada, participants were asked: 'In the past 12 months, have you avoided having all the treatment that was recommended because of cost?'

Notes

1 Data in this table are for all adults aged 20–79 years unless otherwise noted.

2 95% confidence intervals for these estimates are in Table C8.2.

Source: Canadian data sourced from Statistics Canada.

9 Synthesis of results

This chapter examines the picture of the oral health of Australian adults and summarises the experience of the population groups examined in this report. Comparisons have also been made with oral health and dental visiting in Canada and New Zealand.

General picture

Overall, the majority of Australian adults reported having 'good', 'very good' or 'excellent' oral health. Young adults (aged 18–24) were least likely to report 'fair' or 'poor' oral health, to be uncomfortable with their appearance or to avoid food, but most likely to experience toothache. Dentate adults of all ages were missing an average of 5.5 teeth each and 12.3% of adults had inadequate dentition (fewer than 21 teeth).

In 2010, 60.7% of adults made a dental visit and 59.7% of these visited for a check-up. Just fewer than 40% of adults reported at least one financial barrier or hardship associated with dental care. The most commonly reported indicator of financial barriers or hardship was avoiding or delaying a visit due to cost (31.2%). Among adults who made a dental visit, visits were a 'large financial burden' for 11.2% of adults and cost prevented recommended dental treatment for 21.7% of adults.

Of those adults who made a dental visit in 2010, 91.7% received at least one check-up, 76.2% received a scale and clean, 39.0% received a filling and 13.5% had at least one tooth extracted. The most commonly reported reason for extraction was decay (reported by 38.6% of adults who had an extraction). The most frequently reported need for dental care was for a check-up (64.2%), followed by scale and clean (58.7%) and filling (28.6%). Survey responses from 37.8% of adults indicated they experienced a financial barrier or hardship associated with dental visiting.

Changes over time

Between 1999 and 2010, there was a decrease in the proportion of adults who reported that they had 'fair' or 'poor' oral health (from 24.7% to 18.7%).

Both the proportion of adults who made a dental visit and the proportion who visited for a check-up increased (from 55.4% to 60.5% for visiting and 46.3% to 59.8% for visiting for a check-up). The proportion who reported any financial barrier or hardship increased from 25.8% to 31.4%.

There was a modest increase in the number of teeth per dentate person, from 25.61 in 1994 to 26.59 in 2010. The proportion with inadequate dentition decreased substantially over this period from 18.7% to 11.8%.

A smaller proportion of adults who made a visit received a filling in 2010 than in 1994 (38.9% compared with 48.5%) and a larger proportion received a check-up in 2010 than in 2002 (91.5% compared with 79.6%).

The proportion of adults reporting they needed dental care increased for all types of care. The largest increase was observed for the need for a scale and clean.

Differences between men and women

Women were more likely than men to avoid certain foods because of dental problems (21.2% compared with 13.0%) and to be uncomfortable with their oral appearance (28.5% compared with 21.9%). Women were more likely than men to have made a dental visit in the previous 12 months (54.8% compared with 56.7%) but they were also more likely to report financial barriers or hardship related to dental visiting (42.5% compared with 33.0%). A higher proportion of women indicated they have difficulty paying a \$150 dental bill (23.2% compared with 14.4%), or avoid or delay visiting due to cost 35.3% compared with 29.6%).

Women had more missing teeth on average than men. However, there were no differences between men and women in services received or in perceived need for dental care.

Differences between age groups

Adults aged 45–64 were more likely than those aged 18–24 to report that they felt uncomfortable with their appearance (28.7% compared with 18.2%), or that they had avoided food (19.7% compared with 13.3%), or that they had ‘fair’ or ‘poor’ oral health (22.6% compared with 13.2%).

Adults aged 18–24 were more likely than the older age groups to have last visited for a check-up. Just over three-quarters of adults aged 18–24 (76.3%) last visited for a check-up, compared with 61.6% of adults aged 25–44, 53.4% of adults aged 45–64 and 56.0% of adults aged 65 or more. Adults aged 45–64 were more likely to have last visited for a problem (46.6%) compared with the two youngest age groups (23.7% and 38.9% for adults aged 18–24 and 25–44 respectively).

Adults aged 18–24 had the fewest missing teeth while those aged 65 and over had the highest number of missing teeth (2.21 compared with 11.91). The highest rates of inadequate dentition were in older age groups with 43.1% of adults aged 65 and over and 12.8% of adults aged 45–64 reporting that they had fewer than 21 teeth.

While there was no difference by age in preventive services received, adults aged 18–24 were least likely to have received a filling than any other age group (25.0% compared with 35.8% or more). In the cases of crown and bridge, and root canal services, more adults aged 45–64 received these treatments (14.6% and 9.1%, respectively) than those aged 18–24 (3.7% and 2.7%, respectively).

The key difference in perceived need by age was in lower levels of perceived need for care amongst adults aged 65 or older. This group was less likely to report needing a check-up (49.7% compared with 62.8% or more), a scale and clean (44.0% compared with 57.3% or more), gum treatment (6.4% compared with 9.4% or more) or other treatment (4.1% compared with 7.5% or more). However, they more likely than younger age groups to report needing a denture (17.0% compared with 7.7% or less).

Differences across geographic location

While there was no statistically significant difference in self-rated oral health or among any of the oral health impacts by geographic location, adults who live in *Major cities* were more likely to have made a dental visit in the previous 12 months (63.1% compared with 55.7%, 54.1% and 45.8%) and more likely to have visited for a check-up (62.0% compared with 55.0%

and 50.7%). Adults in *Major cities* had the fewest missing teeth on average (5.20 compared with 5.98 or more), and were least likely to have inadequate dentition (10.8%).

Adults from *Major cities* were more likely than those from *Inner regional* and *Outer regional* areas to receive a scale and clean (78.4% compared with 70.8% and 67.3%, respectively).

Adults from *Major cities* were also more likely than those from *Outer regional* areas to have received a check-up (92.8% compared with 86.5%). Residents of *Remote/Very remote* areas were most likely to report having difficulty paying a \$150 dental bill, to have received an extraction (33.0% compared with 17.3% or less) and to have inadequate dentition (22.7% compared with 16.9% or less).

Differences between socioeconomic groups

Adults in lower household-income groups and cardholders were more likely than those in higher household-income groups and non-cardholders to report 'fair' or 'poor' oral health, to experience toothache, to feel uncomfortable about their oral appearance and to avoid certain food because of oral problems. These two groups were less likely to have made a dental visit in the previous 12 months and less likely to have visited for a check-up. They were also more likely to report that they would have difficulty paying a \$150 dental bill, that they had avoided or delayed visiting a dentist due to cost, that cost had prevented recommended treatment and that dental care had been a large financial burden. Both residents of low-income households and cardholders were more likely than their counterparts to report the need for a scale and clean service.

Differences by financial barriers and hardships

Responses which indicated financial barriers or hardship were associated with less preventive care being received and more fillings and extractions occurring.

Appendix A: Data used in this report

National Dental Telephone Interview Survey

Purpose

The purposes of the National Dental Telephone Interview Survey (NDTIS) are to:

- collect basic features of oral health and dental care within the Australian population
- provide information on the broader parameters of oral health and access to services
- monitor the extent of social inequalities within the dental sector
- investigate the underlying reasons behind dental behaviours, and the consequences of these behaviours.

Data collection

Data were collected from a random sample of people across Australia via telephone interview. The AIHW Dental Statistics and Research Unit (DSRU) was responsible for the selection and management of the data collection phase. Experienced interviewers conducted telephone interviews using computer-assisted telephone interview software. Data collected included measures of self-reported oral health status, use of and access to dental services, social impact of oral health and the financial burden of dental care.

Sampling procedure and weighting

The 2010 NDTIS involved a random sample of Australian residents aged 2 and over in all states and territories. The sample was selected using a two-stage stratified design. The first stage of selection involved selecting an initial sample of people aged 18 and over from the Commonwealth electoral roll by the Australian Electoral Commission (AEC). Electoral roll records do not contain telephone numbers, so the records were matched against the Sensis® *MacroMatch* database (which uses the same source data as other Sensis® products such as EWP and White Pages Online) to append a residential telephone number. Records from the AEC sample that matched to EWP by surname and address and returned a telephone number (either landline or mobile number) formed the basis of the 2010 NDTIS sampling frame. Households listed on this frame were stratified by state and region (metropolitan/non-metropolitan) and a systematic sample of households was selected from within each stratum. Once telephone contact was made with a selected household, the second stage of selection involved randomly selecting one person aged 2 or over from the household.

Data were weighted to account for a person's probability of selection, which was based on the stratum they were assigned to and the number of people resident in their household who were eligible for selection. Data were further adjusted to reflect the age by sex ERP (Estimated Resident Population) estimates produced by the ABS.

Appendix B: Data quality statement

National Dental Telephone Interview Survey 2010

Summary of key data quality issues

The National Dental Telephone Interview Survey (NDTIS) is a random sample survey that collects information on the dental health and use of dental services of Australians in all states and territories. The survey includes Australians aged 2 years and over.

- The NDTIS is a source of nationally representative population data on dental health and use of dental services in Australia.
- NDTIS is a sample-based survey using telephone interview methodology.
- Children aged 2–4 years were excluded from service-usage rates for some services.
- Persons with no natural teeth were excluded from service-usage rates.
- As with all survey data, these data are subject to sampling error and non-response bias.
- NDTIS consists of several modules covering specific aspects of oral health status, social and demographic information, and dental visiting behaviours. In 2010 modules were added to capture data for young children (2–4 years) and the use of Teen Dental Plan vouchers.

Institutional environment

The Australian Institute of Health and Welfare (AIHW) is a major national agency set up by the Australian Government under the Australian Institute of Health and Welfare Act 1987 to provide reliable, regular and relevant information and statistics on Australia's health and welfare. It is an independent statutory authority established in 1987, governed by a management board and accountable to the Australian Parliament through the Health and Ageing portfolio.

The AIHW aims to improve the health and wellbeing of Australians through better health and welfare information and statistics. It collects and reports information on a wide range of topics and issues, ranging from health and welfare expenditure; hospitals; disease and injury; and mental health; to ageing; homelessness; disability; and child protection.

The Institute also plays a role in developing and maintaining national metadata standards. This work contributes to improving the quality and consistency of national health and welfare statistics. The Institute works closely with government and non-government organisations to achieve greater adherence to these standards in administrative data collections to promote national consistency and comparability of data and reporting.

One of the main functions of the AIHW is to work with the states and territories to improve the quality of administrative data and, where possible, to compile national datasets based on data from each jurisdiction, to analyse these datasets and disseminate information and statistics.

The Australian Institute of Health and Welfare Act 1987, in conjunction with compliance to the Privacy Act 1988 (Cth), ensures that the data collections managed by the AIHW are kept securely and under the strictest conditions with respect to privacy and confidentiality.

For further information see the AIHW website <www.aihw.gov.au>.

The NDTIS is conducted on behalf of AIHW by the Dental Statistics and Research Unit (DSRU) located at the University of Adelaide, a collaborating unit of the AIHW. In this capacity the DSRU is subject to the provisions of the AIHW Act and the Privacy Act.

Timeliness

NDTIS 2010 was conducted between July 2010 and February 2011. The reference period was July 2009 to February 2011. Data from this collection were first published in December 2011 as an online publication *Oral health and dental care in Australia: key facts and figures 2011* (Chrisopoulos et al. 2011).

Accessibility

The DSRU produces a number of statistical reports based on the NDTIS, available free of charge from its website:

<<http://www.adelaide.edu.au/arc poh/publications/reports/statistics/>>

or from the AIHW:

<<http://www.aihw.gov.au/dental-and-oral-health/>>

Customised tables are available on request (on a fee for service basis). Queries should be directed to <arc poh@adelaide.edu.au>.

Interpretability

The NDTIS consists of several modules: dentate status, perceived need, access to services, rural access, treatment in the last 12 months, cardholder/waiting time, visiting behaviour, social impact, financial impact, dental insurance, chronic disease, societal impact, sociodemographics and edentulousness. In 2010 two additional modules were included: young children (2–4 years) and use of Teen Dental Plan vouchers.

Relevance

The NDTIS is a random sample survey that collects information on the dental health and use of dental services of Australians in all states and territories. The scope of the survey includes both public and private dental services, and emergency as well as 'general' visits (that is, check-ups and consultations for problems not classified as emergencies).

The survey data are limited to people, aged 2 years and over, whose telephone number was listed in the electronic White Pages. Information about oral health services provided to edentulous persons (people with no remaining natural teeth) was excluded from service usage rates. As the NDTIS does not specifically identify dental services provided through hospitals, or services provided for orthodontic reasons, it was not possible to exclude these services from usage rates.

The target sample size for the 2010 NDTIS was 6,600 adults aged 18 years or older, 400 children aged 2–4 years and 3,000 children aged 5–17 years. The number of survey participants after data editing was completed is provided in the following table.

Age group (years)	Sample size
2–4	418
5–17	3,054
18–24	649
25–44	2,104
45–64	2,908
65+	1,104
Total	10,237

Accuracy

Data were collected from a random sample of Australians selected using a two-stage stratified sample design.

Testing of the NDTIS questionnaire program was conducted over May and June 2010. There were three phases to the testing, which involved informal in-house testing, cognitive interviews and a pilot test. Indigenous status is recorded, however small numbers of respondents identify as Indigenous and only national estimates are made on Indigenous status.

An overall participation rate of 47.8% was achieved in the 2010 survey. A total of 20,343 unique telephone numbers were called resulting in 7,869 households with one or more completed interviews. Participation rates ranged from 41.9% in Sydney through to 59.8% in non-metropolitan South Australia.

Stratum	Total sampled	Out of scope	Out of scope no child in household	Non-contact	Refusal	Participating households	Per cent participation
Sydney	2,780	191	395	335	939	920	41.9%
Balance of New South Wales	1,717	97	180	165	562	713	49.5%
Melbourne	2,907	182	456	302	1,003	964	42.5%
Balance of Victoria	1,317	62	234	123	404	494	48.4%
Brisbane	1,218	80	32	137	423	546	49.4%
Balance of Queensland	1,309	87	11	156	476	579	47.8%
Adelaide	1,450	99	275	147	367	562	52.2%
Balance of South Australia	574	26	16	51	163	318	59.8%
Perth	1,982	139	440	178	589	636	45.3%
Balance of Western Australia	633	37	0	79	205	312	52.3%
Hobart	814	38	145	80	207	344	54.5%
Tasmania	807	45	86	78	249	349	51.6%
Australian Capital Territory	1,304	72	220	125	340	547	54.1%
Darwin	852	102	56	106	272	316	45.5%
Northern Territory	679	64	23	112	211	269	45.4%
Total	20,343	1,321	2,569	2,174	6,410	7,869	47.8%

As with all survey data, these data are subject to sampling error and non-response bias. Data are weighted and the magnitude of sampling error is indicated by 95% confidence intervals included with all published estimates.

Interviews were rendered invalid if they were missing the demographic data which were necessary for them to be weighted by the probability of selection. These requirements were the sex, age and dwelling type of the respondent, and the number of persons in the same household who may have been selected instead of the respondent. Due to incomplete data, 31 records (0.3%) were excluded from the final dataset.

For those records which were able to be weighted, there were very few missing data items. Consequently, all weighted records generated useable data for analysis.

Detailed description of survey methodology can be found in Appendix A of the Insurance and use of dental services (NDTIS 2010) publication.

Coherence

The NDTIS has been conducted regularly since 1994. While some changes have been made to the questionnaire and methodology over time, the data items used to derive most estimates have been consistent over time. In 2010 the sample of children aged 5–17 years was increased and children aged 2–4 added for the first time. Specific questions asked in each NDTIS are listed in appendices to the technical reports for each survey. These technical reports are available at <http://www.adelaide.edu.au/arc poh/publications/reports/statistics/>.

Appendix C: Confidence intervals for tables

Table C2.1: 95% CIs for Table 2.1

	'Fair'/'Poor' oral health	Toothache	Appearance	Avoid food	Any oral health impact
Men	18.2, 22.9	13.0, 16.8	19.6, 24.5	11.4, 14.8	29.5, 34.4
Women	15.7, 19.3	14.1, 17.7	26.1, 30.5	19.2, 23.2	39.2, 43.9
All people	17.4, 20.4	14.0, 16.6	23.6, 26.9	15.8, 18.4	35.0, 38.5

Table C2.2: 95% CIs for Table 2.2

Age group (years)	'Fair'/'Poor' oral health	Toothache	Appearance	Avoid food
18–24	9.3, 18.4	16.3, 25.6	13.8, 23.8	10.1, 17.4
25–44	14.0, 19.1	14.8, 19.8	22.3, 28.4	12.9, 17.5
45–64	20.5, 24.8	12.3, 15.5	26.5, 31.1	17.9, 21.7
65 and over	18.0, 25.3	7.6, 13.3	20.3, 28.2	16.0, 23.2
All people	17.4, 20.4	14.0, 16.6	23.6, 26.9	15.8, 18.4

Table C2.3: 95% CIs for Table 2.3

	'Fair'/'Poor' oral health	Toothache	Appearance	Avoid food
Annual household income				
Less than \$30,000	27.2, 35.5	16.3, 23.3	33.1, 41.8	24.9, 32.7
\$30,000–<\$50,000	19.1, 27.9	14.6, 23.0	25.4, 35.8	18.2, 27.0
\$50,000–<\$80,000	17.2, 24.3	13.3, 19.5	24.6, 32.3	14.5, 20.3
\$80,000–<\$110,000	9.5, 15.2	10.5, 16.3	20.1, 27.5	11.2, 16.5
\$110,000 or more	9.9, 14.9	9.8, 14.5	14.1, 19.7	8.1, 12.1
Cardholder status				
Cardholder	26.7, 35.6	19.1, 27.7	30.6, 39.9	25.0, 33.9
Non-cardholder	14.4, 17.8	11.9, 14.8	20.6, 24.3	11.9, 14.4
All people	17.4, 20.3	14.0, 16.6	23.3, 26.5	16.4, 18.9

Table C2.4: 95% CIs for Table 2.4

	'Fair'/'Poor' oral health	Toothache	Appearance	Avoid food
Major cities	16.9, 20.6	13.8, 17.1	23.4, 27.6	15.2, 18.4
Inner regional	16.3, 22.2	13.4, 18.6	21.7, 27.8	16.2, 21.7
Outer regional	15.3, 24.3	10.1, 18.8	19.4, 31.7	11.3, 18.7
Remote/Very remote	13.6, 30.1	9.5, 23.2	17.1, 35.6	12.5, 29.2
All people	17.4, 20.4	14.0, 16.6	23.6, 26.9	15.8, 18.4

Table C3.1: 95% CIs for Table 3.1

	Time since last dental visit				Reason for last dental visit	
	<12 months	1–<2 years	2–<5 years	5+ years	Check-up	Problem
Men	54.1, 59.2	17.6, 21.5	11.5, 15.3	9.1, 12.3	55.0, 60.6	39.4, 45.0
Women	62.5, 67.1	15.4, 19.1	9.9, 13.0	5.5, 8.1	58.9, 64.0	36.0, 41.1
All people	59.0, 62.4	17.0, 19.8	11.1, 13.6	7.6, 9.7	57.8, 61.6	38.4, 42.2

Table C3.2: 95% CIs for Table 3.2

	Time since last dental visit				Reason for last visit	
	<12 months	1–<2 years	2–<5 years	5+ years	Check-up	Problem
Age group (years)						
18–24	49.6, 60.7	16.4, 25.3	13.0, 22.4	4.7, 10.8	70.8, 81.0	19.0, 29.2
25–44	54.0, 60.3	18.0, 23.1	11.1, 15.6	7.5, 11.3	57.6, 64.5	35.5, 42.4
45–64	61.2, 66.0	16.5, 20.4	9.2, 12.5	6.0, 8.7	50.8, 56.1	43.9, 49.2
65 and over	62.8, 70.8	9.8, 15.2	7.5, 12.6	8.5, 14.4	51.3, 60.6	39.4, 48.7
All people	(56.6, 60.0)	(16.9, 19.5)	(11.7, 14.1)	(9.6, 11.8)	(57.5, 61.2)	(38.8, 42.5)

Table C3.3: 95% CIs for Table 3.3

	Time since last dental visit				Reason for last visit	
	<12 months	1–<2 years	2–<5 years	5+ years	Check-up	Problem
Annual household income						
Less than \$30,000	45.6, 57.0	13.7, 21.9	13.0, 23.4	10.2, 17.9	42.6, 55.1	44.9, 57.4
\$30,000–<\$50,000	48.4, 58.4	15.3, 22.9	11.0, 18.4	10.0, 18.0	42.3, 53.9	46.1, 57.7
\$50,000–<\$80,000	57.9, 65.4	16.8, 23.5	9.9, 14.9	4.5, 8.3	51.7, 60.4	39.6, 48.3
\$80,000–<\$110,000	58.1, 68.0	14.4, 21.6	9.7, 17.7	4.3, 8.0	58.1, 68.5	31.5, 41.9
\$110,000 or more	59.6, 69.1	15.9, 24.6	7.7, 13.6	3.5, 7.9	62.2, 71.9	28.1, 37.8
Cardholder status						
Cardholder	45.6, 54.3	15.3, 21.8	13.7, 20.3	12.5, 17.9	42.5, 52.5	47.5, 57.5
Non-cardholder	60.2, 64.3	16.3, 19.4	10.3, 13.3	7.1, 9.5	59.8, 64.2	35.8, 40.2
All people	56.6, 60.0	16.9, 19.5	11.7, 14.1	9.6, 11.8	57.5, 61.2	38.8, 42.5

Table C3.4: 95% CIs for Table 3.4

	Time since last dental visit				Reason for last visit	
	<12 months	1–<2 years	2–<5 years	5+ years	Check-up	Problem
Major cities	58.9, 63.1	16.1, 19.4	10.0, 12.9	8.6, 11.3	59.4, 63.9	36.1, 40.6
Inner regional	49.5, 56.1	15.9, 21.0	13.9, 19.3	10.5, 14.7	51.4, 58.9	41.1, 48.6
Outer regional	45.5, 55.1	16.0, 23.8	13.8, 22.8	9.5, 15.4	44.7, 55.2	44.8, 55.3
Remote/Very remote	38.2, 58.0	19.9, 39.9	7.7, 24.0	5.3, 15.4	43.2, 66.1	33.9, 56.8
All people	56.6, 60.0	16.9, 19.5	11.7, 14.1	9.6, 11.8	57.5, 61.2	38.8, 42.5

Table C4.1: 95% CIs for Table 4.1

	Experienced any financial barrier or hardship
Men	30.6, 35.6
Women	40.1, 44.8
All people	36.1, 39.5

Table C4.2: 95% CIs for Table 4.2

	Difficulty paying \$150 dental bill	Avoided or delayed due to cost	Cost prevented recommended treatment	Dental visits in previous 12 months were a large financial burden
Men	12.6, 16.6	24.6, 29.3	18.2, 24.1	7.6, 11.5
Women	21.2, 25.4	33.0, 37.7	20.0, 24.7	10.9, 14.8
All people	17.5, 20.3	29.5, 32.9	19.9, 23.6	9.9, 12.6

Table C4.3: 95% CIs for Table 4.3

Age group (years)	Difficulty paying \$150 dental bill	Avoided or delayed due to cost	Cost prevented recommended treatment	Dental visits in previous 12 months were a large financial burden	Any burden
18–24	19.4, 28.9	27.5, 38.3	11.6, 21.3	4.8, 12.2	31.3, 42.3
25–44	15.3, 20.3	33.9, 40.2	21.1, 28.4	8.1, 13.2	39.8, 46.1
45–64	15.7, 19.7	27.8, 32.4	21.6, 27.0	12.6, 17.3	36.1, 41.0
65 and over	16.5, 23.5	16.6, 23.5	11.8, 20.0	6.5, 12.1	22.9, 30.4
All people	17.5, 20.3	29.5, 32.9	19.9, 23.6	9.9, 12.6	36.1, 39.5

Table C4.4: 95% CIs for Table 4.4

	Difficulty paying \$150 dental bill	Avoided or delayed due to cost	Cost prevented recommended treatment	Dental visits in previous 12 months were a large financial burden	Any burden
Annual household income					
Less than \$30,000	40.0, 51.1	42.6, 54.2	31.8, 46.9	13.3, 23.5	50.6, 61.9
\$30,000–<\$50,000	24.1, 33.6	37.8, 47.4	22.5, 35.1	11.2, 21.8	42.0, 51.7
\$50,000–<\$80,000	13.5, 18.8	32.8, 40.1	19.4, 27.7	9.3, 15.2	38.8, 46.3
\$80,000–<\$110,000	7.4, 13.2	21.3, 28.3	17.1, 25.3	6.6, 12.6	27.7, 35.0
\$110,000 or more	4.3, 9.5	13.3, 18.5	10.2, 16.2	4.4, 8.5	19.0, 24.7
Cardholder status					
Cardholder	37.9, 46.8	38.6, 47.5	24.2, 35.5	12.1, 19.3	45.1, 53.9
Non-cardholder	11.3, 13.9	25.6, 29.1	17.4, 21.3	8.6, 11.5	31.6, 35.3
All people	17.5, 20.3	29.5, 32.9	19.9, 23.6	9.9, 12.6	36.1, 39.5

Table C4.5: 95% CIs for Table 4.5

	Difficulty paying \$150 dental bill	Avoided or delayed due to cost	Cost prevented recommended treatment	Dental visits in previous 12 months were a large financial burden	Any burden
Major cities	17.0, 20.6	28.1, 32.3	19.9, 24.5	9.3, 12.7	34.9, 39.2
Inner regional	17.9, 23.8	31.1, 37.8	17.2, 24.5	8.9, 14.1	36.9, 43.7
Outer regional	13.4, 22.3	30.6, 40.4	16.2, 28.8	8.8, 17.7	37.0, 47.0
Remote/Very remote	5.0, 13.4	19.2, 36.1	17.0, 41.4	7.9, 29.8	25.2, 43.6
All people	17.5, 20.3	29.5, 32.9	19.9, 23.6	9.9, 12.6	36.1, 39.5

Table C4.6: 95% CIs for Table 4.6

	1994	1996	1999	2002	2005	2008	2010
Avoided or delayed due to cost	24.3, 27.3	26.3, 29.6	26.1, 29.5	26.6, 30.1	30.6, 32.7	32.6, 36.1	29.8, 33.2
Cost prevented recommended treatment	17.6, 20.4	20.5, 23.6	20.8, 24.0	12.8, 15.5	20.5, 22.6	18.4, 22.3	20.0, 23.8
Dental visit in previous 12 months were a large financial burden	8.9, 11.7	9.3, 12.4	12.5, 16.2	8.9, 11.8	13.2, 15.2	11.9, 15.2	9.8, 12.6

Table C5.1: 95% CIs for Table 5.1

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
Men	4.80, 5.38	10.0, 12.8	6.3, 8.9	33.1, 38.3	43.0, 48.3
Women	5.66, 6.15	11.9, 14.6	8.0, 10.4	42.1, 46.9	31.0, 35.5
All people	5.33, 5.71	11.3, 13.3	7.5, 9.3	38.5, 42.0	37.4, 40.9

Table C5.2: 95% CIs for Table 5.2

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
18–24	1.90, 2.44	—, 1.3	1.4, 4.6	31.1, 42.6	54.6, 66.3
25–44	3.06, 3.47	1.0, 2.5	4.2, 6.9	43.5, 50.1	43.0, 49.6
45–64	5.67, 6.32	11.2, 14.7	9.4, 12.6	39.6, 44.6	31.8, 36.6
65 and over	11.13, 12.68	38.8, 47.4	11.7, 17.2	21.9, 29.7	13.9, 20.8
All people	5.33, 5.71	11.3, 13.3	7.5, 9.3	38.5, 42.0	37.4, 40.9

Table C5.3: 95% CIs for Table 5.3

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
Annual household income					
Less than \$30,000	6.11, 7.01	15.2, 19.6	9.5, 16.9	25.2, 35.6	34.7, 45.3
\$30,000–<\$50,000	5.30, 6.38	11.0, 16.5	6.2, 10.2	36.0, 46.2	32.7, 42.7
\$50,000–<\$80,000	4.79, 5.73	9.4, 14.4	5.2, 8.5	37.3, 45.2	36.7, 44.3
\$80,000–<\$110,000	4.06, 5.42	5.8, 13.7	4.7, 10.7	37.3, 48.0	37.0, 45.8
\$110,000 or more	3.90, 4.80	3.7, 10.9	5.4, 11.0	42.3, 52.1	35.1, 42.4
Cardholder status					
Cardholder	6.16, 6.94	14.6, 18.7	9.4, 14.1	32.0, 41.1	31.2, 40.0
Non-cardholder	4.73, 5.26	9.2, 12.2	5.9, 7.9	39.7, 44.0	38.6, 42.9
All people	5.33, 5.71	11.3, 13.3	7.5, 9.3	38.5, 42.0	37.4, 40.9

Table C5.4: 95% CIs for Table 5.4

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
Major cities	4.98, 5.43	9.7, 12.0	7.1, 9.3	39.2, 43.7	37.5, 41.8
Inner regional	5.57, 6.38	12.8, 16.9	7.0, 10.7	33.9, 40.6	36.1, 42.9
Outer regional	6.01, 7.19	14.1, 20.1	6.1, 11.9	33.5, 45.2	29.9, 41.2
Remote/Very remote	5.72, 9.28	14.7, 33.2	5.0, 14.7	30.6, 49.6	21.0, 38.3
All people	5.33, 5.71	11.3, 13.3	7.5, 9.3	38.5, 42.0	37.4, 40.9

Table C5.5: 95% CIs for Table 5.5

	Mean number of missing teeth	Number of teeth			
		1–20	21–24	25–28	29–32
Usual frequency of making a dental visit					
One or more per year	4.82, 5.24	8.2, 10.4	7.5, 9.9	42.4, 47.1	35.2, 39.8
Once every 2 years	5.26, 6.32	11.6, 17.2	5.5, 9.4	35.5, 44.6	34.7, 42.8
Less than once every 2 years	6.12, 6.96	16.1, 20.5	6.9, 10.6	28.6, 35.6	38.0, 44.6
Usual reason for dental visit					
Check-up	4.67, 5.16	8.1, 10.7	6.8, 9.3	42.1, 47.2	35.6, 40.6
Problem	5.52, 6.15	11.6, 14.8	7.3, 10.3	36.8, 43.3	35.1, 41.4
All people	5.33, 5.71	11.3, 13.3	7.5, 9.3	38.5, 42.0	37.4, 40.9

Table C5.6: 95% CIs for Table 5.6

	'Fair' or 'poor' oral health	Toothache	Appearance	Avoid food
Mean number of teeth	26.70, 27.09	25.50, 26.89	25.27, 26.08	24.49, 25.53
Number of teeth				
1–20	30.8, 49.1	20.6, 38.6	24.6, 41.1	21.0, 36.5
21–24	19.6, 30.2	8.3, 15.4	27.3, 39.9	18.0, 30.0
25–28	12.7, 16.9	11.4, 15.4	21.1, 26.4	12.9, 17.2
29–32	13.5, 18.6	14.6, 24.6	19.2, 24.6	12.7, 17.6
All people	17.4, 20.4	14.0, 16.6	23.6, 26.9	15.8, 18.4

Table C6.1: 95% CIs for Table 6.1

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Sex						
Men	72.5, 78.5	89.1, 92.7	36.9, 43.4	12.3, 16.8	9.2, 13.2	6.1, 9.6
Women	76.7, 74.1	89.9, 93.4	35.3, 40.9	11.0, 14.7	8.5, 11.7	4.9, 7.5
All people	74.2, 78.1	90.1, 92.6	36.9, 41.2	12.1, 15.0	9.3, 11.8	5.8, 8.0

Table C6.2: 95% CIs for Table 6.2

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Age group						
18–24	64.6, 77.8	91.2, 97.0	19.3, 31.7	7.6, 15.3	1.9, 7.4	1.1, 6.5
25–44	73.3, 80.5	89.7, 94.5	31.9, 39.9	11.2, 16.6	6.8, 11.2	4.6, 8.6
45–64	74.6, 79.7	88.0, 91.7	42.5, 48.4	10.9, 14.9	12.5, 17.0	7.4, 11.1
65 and over	71.0, 79.9	86.0, 92.4	39.6, 49.7	12.9, 21.0	9.0, 15.0	4.8, 9.7
All people	74.2, 78.1	90.1, 92.6	36.9, 41.2	12.1, 15.0	9.3, 11.8	5.8, 8.0

Table C6.3: 95% CIs for Table 6.3

	Scale and clean	Check-up	Filling	Extraction	Crown/ Bridge	Root canal
Annual household income						
Less than \$30,000	52.4, 67.8	83.8, 92.1	35.1, 51.2	12.7, 21.8	9.5, 24.0	6.0, 20.2
\$30,000–<\$50,000	63.5, 76.3	87.2, 93.5	44.0, 57.0	12.6, 23.2	5.8, 11.3	4.6, 10.9
\$50,000–<\$80,000	71.5, 80.5	86.7, 93.5	35.5, 45.0	10.6, 16.6	8.2, 13.8	6.7, 11.9
\$80,000–<\$110,000	74.2, 83.9	87.7, 94.7	31.8, 42.9	9.0, 17.8	8.1, 16.2	3.5, 7.3
\$110,000 or more	81.3, 88.7	92.8, 96.6	29.7, 40.8	7.4, 11.9	8.7, 16.7	3.6, 6.8
Cardholder status						
Cardholder	59.2, 71.8	80.8, 91.5	42.5, 55.5	15.3, 24.1	8.0, 15.7	6.2, 14.1
Non-cardholder	76.2, 80.6	90.2, 93.3	34.4, 39.2	10.9, 14.4	9.1, 12.3	5.7, 8.4
All people	74.2, 78.1	90.1, 92.6	36.9, 41.2	12.1, 15.0	9.3, 11.8	5.8, 8.0

Table C6.4: 95% CIs for Table 6.4

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Remoteness of area						
Major cities	76.0, 80.7	91.1, 94.1	34.9, 40.1	10.5, 13.9	9.6, 12.7	5.4, 8.0
Inner regional	66.2, 75.1	85.6, 91.1	39.9, 48.4	14.3, 20.9	7.7, 12.6	6.1, 11.4
Outer regional	60.7, 73.3	81.6, 90.2	35.7, 47.8	10.7, 22.0	5.9, 14.1	3.4, 8.3
Remote/Very remote	54.8, 78.5	80.7, 94.7	23.8, 47.7	22.9, 44.9	3.0, 22.1	2.5, 9.7
All people	74.2, 78.1	90.1, 92.6	36.9, 41.2	12.1, 15.0	9.3, 11.8	5.8, 8.0

Table C6.5: 95% CIs for Table 6.5

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Check-up	85.8, 89.6	96.8, 98.8	23.3, 28.0	4.4, 7.0	5.5, 8.2	2.2, 3.9
Problem	55.0, 62.5	78.9, 84.4	55.7, 63.0	22.9, 29.3	13.7, 18.7	10.4, 15.2
All people	74.2, 78.1	90.1, 92.6	36.9, 41.2	12.1, 15.0	9.3, 11.8	5.8, 8.0

Table C6.6: 95% CIs for Table 6.6

	Scale and clean	Check-up	Filling	Extraction	Crown/Bridge	Root canal
Avoided or delayed						
Yes	58.1, 67.7	82.0, 88.7	43.8, 53.5	15.6, 22.6	8.8, 14.2	6.5, 10.8
No	78.3, 82.3	92.0, 94.5	33.9, 38.7	10.1, 13.0	9.0, 11.9	5.2, 7.7
Cost prevented recommended treatment						
Yes	61.9, 71.7	82.8, 89.4	43.6, 53.6	18.3, 26.7	9.2, 14.8	6.4, 11.2
No	76.7, 80.9	91.6, 94.1	34.1, 38.8	9.6, 12.4	8.7, 11.5	5.2, 7.6
Dental visits were a burden						
Yes	54.7, 68.5	79.9, 88.6	46.0, 59.4	22.5, 34.8	19.6, 30.5	10.8, 19.0
No	75.9, 79.9	91.0, 93.6	35.1, 39.6	10.3, 13.0	7.4, 9.9	4.8, 6.9
Any financial barrier or burden						
Yes	63.6, 71.1	83.4, 88.9	43.5, 51.2	16.7, 22.8	11.9, 16.8	7.5, 11.5
No	78.8, 83.1	93.1, 95.3	32.4, 37.5	8.5, 11.3	7.2, 10.0	4.3, 6.7
All people	74.2, 78.1	90.1, 92.6	36.9, 41.2	12.1, 15.0	9.3, 11.8	5.8, 8.0

Table C6.7: 95% CIs for Table 6.7

	Decay	Periodontal disease	Trauma	Crowding	Wisdom teeth	Other
Men	34.5, 50.1	6.2, 14.5	24.7, 38.2	0.4, 13.7	19.5, 30.9	5.3, 12.7
Women	28.2, 42.6	6.1, 14.2	16.9, 27.8	0.7, 7.1	30.7, 43.0	6.9, 16.0
All people	33.3, 44.1	7.0, 12.8	22.3, 30.9	0.8, 6.0	26.6, 35.4	6.9, 12.8

Table C6.8: 95% CIs for Table 6.8

	Decay	Periodontal disease	Trauma	Crowding	Wisdom teeth	Other
Age group (years)						
18–24	3.7, 21.9	—	0.9, 10.0	1.4, 19.8	67.8, 93.0	0.9, 8.1
25–44	32.0, 52.7	0.7, 4.2	16.6, 32.1	0.3, 4.1	30.7, 50.2	2.1, 10.0
45–64	35.4, 51.8	10.9, 24.2	32.0, 47.9	—	7.6, 17.2	8.2, 18.0
65 and over	31.4, 58.0	11.5, 32.5	16.3, 37.6	—	3.1, 14.7	10.2, 33.4
All people	33.3, 44.1	7.0, 12.8	22.3, 30.9	0.8, 6.0	26.6, 35.4	6.9, 12.8

Table C6.9: 95% CIs for Table 6.8

	Decay	Periodontal disease	Trauma	Crowding	Wisdom teeth	Other
Annual household income						
Less than \$30,000	29.3, 58.9	10.8, 27.3	29.7, 58.4	—	11.5, 36.4	5.0, 21.1
\$30,000–<\$50,000	44.3, 67.9	5.5, 20.1	17.1, 43.9	1.8, 25.1	14.8, 34.2	6.0, 18.7
\$50,000–<\$80,000	25.2, 44.1	0.7, 6.1	15.6, 32.0	1.6, 35.6	23.4, 36.7	7.2, 21.5
\$80,000–<\$110,000	25.6, 48.9	3.7, 26.6	14.2, 38.4	0.1, 5.8	22.2, 46.7	3.2, 15.8
\$110,000 or more	32.2, 49.0	2.9, 13.6	17.9, 34.2	0.2, 9.4	27.3, 45.1	18.2, 27.2
Cardholder status						
Cardholder	33.4, 55.8	9.9, 22.1	22.8, 41.9	—	18.6, 39.2	7.7, 18.7
Non-cardholder	30.7, 44.1	3.5, 8.9	21.4, 33.0	1.0, 7.3	26.0, 35.4	4.9, 11.4
All people	33.3, 44.1	7.0, 12.8	22.3, 30.9	0.8, 6.0	26.6, 35.4	6.9, 12.8

Table C6.10: 95% CIs for Table 6.10

	Decay	Periodontal disease	Trauma	Crowding	Wisdom teeth	Other
Major cities	28.7, 43.1	5.8, 12.6	20.3, 31.6	0.8, 8.1	25.2, 36.3	6.1, 13.5
Inner regional	31.4, 49.7	6.1, 20.7	17.3, 33.2	0.2, 10.0	21.1, 37.5	5.1, 19.1
Outer regional	35.1, 61.5	3.8, 18.0	24.1, 49.5	—	25.4, 51.5	4.3, 21.1
Remote/Very remote	27.7, 71.8	5.4, 31.9	24.7, 68.7	0.8, 32.2	18.9, 48.9	10.6, 38.7
All people	33.3, 44.1	7.0, 12.8	22.3, 30.9	0.8, 6.0	26.6, 35.4	6.9, 12.8

Table C7.1: 95% CIs for Table 7.1

	Check-up	Scale/clean	Filling	Extraction	Gum treatment	Crown/bridge	Need denture	Other Treatment
Men	63.2, 68.0	57.1, 62.1	27.7, 32.5	10.4, 14.1	8.6, 11.3	9.2, 12.3	4.8, 7.2	4.9, 7.7
Women	60.6, 65.0	55.5, 60.1	25.0, 29.3	8.3, 11.2	8.4, 11.7	9.2, 12.1	5.2, 7.3	7.1, 9.9
All people	62.6, 65.8	57.0, 60.4	27.0, 30.2	9.7, 12.1	8.9, 11.0	9.6, 11.7	5.3, 6.9	6.3, 8.3

Table C7.2: 95% CIs for Table 7.2

Age group (years)	Check-up	Scale/clean	Filling	Extraction	Gum treatment	Crown/bridge	Need denture	Other treatment
18–24	60.3, 70.9	51.8, 62.7	23.3, 33.8	8.5, 16.1	6.3, 13.9	1.7, 6.1	—, 0.4	6.2, 12.9
25–44	68.9, 74.4	63.5, 69.5	27.7, 33.7	9.6, 14.0	8.2, 11.9	7.9, 11.8	0.9, 2.6	6.2, 9.9
45–64	60.4, 65.1	55.9, 60.8	27.8, 32.5	8.4, 11.8	10.4, 13.8	13.5, 17.3	6.4, 9.3	6.2, 9.0
65 and over	45.5, 54.0	39.9, 48.2	18.3, 25.2	8.0, 13.2	4.6, 8.8	7.3, 12.5	14.0, 20.5	2.8, 6.0
All people	62.6, 65.8	57.0, 60.4	27.0, 30.2	9.7, 12.1	8.9, 11.0	9.6, 11.7	5.3, 6.9	6.3, 8.3

Table C7.3: 95% CIs for Table 7.3

	Check-up	Scale/clean	Filling	Extraction	Gum treatment	Crown/bridge	Need denture	Other treatment
Annual household income								
Less than \$30,000	59.0, 69.6	56.5, 66.7	30.5, 41.8	12.0, 19.3	9.8, 17.7	9.1, 16.7	7.6, 11.4	6.5, 14.1
\$30,000–<\$50,000	67.7, 75.5	57.1, 66.6	31.8, 41.7	12.4, 20.6	9.1, 15.4	8.4, 13.9	5.8, 10.7	6.5, 12.8
\$50,000–<\$80,000	62.1, 69.5	57.2, 65.0	27.0, 34.3	8.3, 13.7	8.8, 14.3	9.9, 15.1	3.8, 7.2	5.5, 10.3
\$80,000–<\$110,000	57.2, 67.1	52.1, 61.9	21.6, 30.6	5.1, 8.9	5.1, 10.3	6.8, 14.2	1.2, 4.0	4.3, 10.9
\$110,000 or more	59.6, 68.7	54.1, 63.3	19.5, 26.9	5.0, 9.9	5.4, 8.7	7.6, 12.6	1.5, 5.7	4.6, 8.2
Cardholder status								
Cardholder	65.6, 72.8	58.5, 66.8	32.5, 41.4	14.6, 22.5	11.2, 16.8	10.8, 17.9	7.8, 11.3	6.7, 13.1
Non-cardholder	60.6, 64.7	56.2, 60.5	25.3, 29.2	7.5, 9.9	8.0, 10.5	8.9, 11.5	3.8, 5.9	5.8, 7.9
All people	62.6, 65.8	57.0, 60.4	27.0, 30.2	9.7, 12.1	8.9, 11.0	9.6, 11.7	5.3, 6.9	6.3, 8.3

Table C7.4: 95% CIs for Table 7.14

	Check-up	Scale/clean	Filling	Extraction	Gum treatment	Crown/bridge	Need denture	Other treatment
Major cities	62.3, 66.4	57.7, 61.9	25.6, 29.6	8.4, 11.3	8.7, 11.3	9.8, 12.6	4.7, 6.6	6.5, 9.0
Inner region	60.2, 66.9	52.0, 58.8	27.2, 33.7	11.6, 17.0	8.1, 12.5	7.0, 10.5	5.8, 9.2	4.1, 7.1
Outer region	59.4, 68.7	50.2, 60.7	29.1, 39.7	8.2, 16.2	6.6, 13.4	7.9, 14.3	4.9, 9.7	5.1, 15.2
Remote/ Very remote	58.6, 77.3	61.8, 77.8	22.6, 41.9	8.4, 22.7	7.7, 22.2	11.8, 31.4	1.7, 11.0	3.1, 13.4
All people	62.6, 65.8	57.0, 60.4	27.0, 30.2	9.7, 12.1	8.9, 11.0	9.6, 11.7	5.3, 6.9	6.3, 8.3

Table C8.1(a): Comparison between Australia and New Zealand for selected oral health measures for adults (per cent)

	Australia	New Zealand
Complete tooth loss		
18–24	..	—, 0.8
25–34	..	—, 0.1
35–44	0.0, 0.7	0.4, 4.3
45–54	1.8, 4.3	1.8, 5.2
55–64	6.5, 10.5	10.6, 18.7
65–74	11.9, 18.4	23.2, 36.1
75 and over	22.2, 33.5	32.8, 46.5
'Fair' or 'poor' oral health		
18–24	10.7, 19.7	15.1, 30.7
25–34	10.8, 18.5	25.9, 36.5
35–44	14.3, 20.9	22.2, 31.6
45–54	19.2, 25.4	30.7, 41.1
55–64	20.2, 26.3	19.4, 30.1
65–74	18.5, 27.7	14.8, 25.6
75 and over	14.3, 26.1	9.5, 19.8
Functional dentition (21 or more natural teeth)		
18–24	81.6, 88.6	97.5, 100.0
25–34	90.6, 95.3	99.4, 100.0
35–44	88.2, 92.5	96.9, 98.9
45–54	82.4, 87.6	82.8, 92.4
55–64	72.7, 78.6	78.9, 88.7
65–74	55.2, 64.8	45.8, 64.0
75 and over	35.0, 49.4	43.4, 64.5

Table C8.1(b): Comparison between Australia and New Zealand for selected dental visiting, financial barriers and perceived need measures for adults (per cent)

	Australia	New Zealand
Dental visiting		
<i>Visited a dental professional in the last 12 months</i>		
18–24	50.5, 60.8	27.7, 46.1
25–34	53.5, 63.7	37.0, 52.3
35–44	52.7, 60.4	38.0, 48.6
45–54	56.5, 63.3	50.2, 61.3
55–64	59.3, 65.8	49.7, 91.7
65–74	54.5, 63.5	41.9, 53.6
75 and over	48.4, 60.8	34.1, 46.5
<i>Last visited for a check-up</i>		
18–24	71.0, 80.5	70.3, 83.6
25–34	55.5, 67.1	39.5, 54.2
35–44	55.5, 63.8	41.3, 50.9
45–54	51.0, 58.5	38.7, 49.4
55–64	46.8, 54.1	35.2, 45.8
65–74	46.1, 56.8	33.3, 46.0
75 and over	49.8, 64.7	35.6, 50.8
Measures of financial barriers		
<i>Avoided dental care due to cost</i>		
18–24	28.3, 38.6	43.1, 61.5
25–34	31.8, 41.9	54.4, 69.0
35–44	32.3, 39.8	52.1, 61.9
45–54	30.0, 36.6	38.3, 50.7
55–64	23.0, 29.1	26.5, 36.0
65–74	18.7, 27.4	17.8, 27.9
75 and over	11.2, 22.2	11.3, 21.9
<i>Cost prevented recommended care</i>		
18–24	11.6, 20.3	17.7, 32.3
25–34	19.7, 32.2	28.0, 43.5
35–44	21.0, 29.7	25.6, 34.7
45–54	22.4, 30.4	23.6, 33.6
55–64	18.5, 25.5	17.1, 25.6
65–74	14.6, 25.8	8.5, 16.1
75 and over	5.7, 17.8	6.0, 13.1
Perceived need		
18–24	73.3, 81.4	32.6, 52.9
25–34	80.3, 87.4	52.7, 66.3
35–44	78.2, 83.7	45.2, 56.2
45–54	72.6, 78.3	46.8, 58.9
55–64	63.7, 69.9	38.3, 49.5
65–74	55.6, 64.5	23.6, 34.2
75 and over	34.3, 49.6	15.8, 27.1

Table C8.2: 95% CIs for Table 8.2

	Age group (years)	Australia	Canada
Oral health			
Complete tooth loss	20–79	3.8, 5.1	..
	20–39	0.0, 0.5	3.0, 6.3
	40–59	2.3, 4.0	15.7, 29.1
	60–79	13.0, 17.7	
Fewer than 21 teeth	20–79	15.4, 17.9	12.1, 17.5
	20–39	7.4, 11.0	0.4, 1.4
	40–59	12.8, 16.2	11.9, 22.4
	60–79	35.9, 41.6	35.4, 49.5
'Fair' or 'poor' oral health	20–39	13.7, 19.2	14.9, 20.3
	40–59	18.9, 23.1	15.0, 20.1
	60–79	18.8, 24.8	13.6, 18.3
Avoided foods	20–39	11.4, 16.0	11.2, 15.9
	40–59	18.8, 22.7	7.9, 14.7
	60–79	18.2, 23.7	7.8, 12.2
Dental visiting			
Visited a dental professional in the last 12 months	20–39	51.6, 58.2	64.1, 71.5
	40–59	58.7, 63.5	75.0, 81.6
	60–79	57.0, 63.2	72.9, 18.3
Financial barriers			
Avoided dental care due to cost	20–39	33.7, 40.2	19.5, 28.6
	40–59	29.3, 34.0	15.0, 20.9
	60–79	20.6, 26.6	10.9, 15.9
Cost prevented recommended care	20–39	18.8, 26.1	16.7, 22.4
	40–59	21.9, 27.5	16.5, 21.8
	60–79	16.6, 24.0	14.5, 20.5

Glossary

cardholders: People who hold an Australian Government concession card, generally by virtue of their household income. Cardholder status is used to determine eligibility for free or subsidised dental care provided by state and territory governments.

dentate: Having one or more natural teeth.

edentulous: Complete tooth loss; loss of all natural teeth.

inadequate dentition: Having fewer than 21 remaining teeth – a measure associated with impaired nutrition, chewing function and oral health-related quality of life.

non-cardholder: A person who does not have a government concession card that entitles them to free or subsidised public dental care.

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Related publications

The following AIHW publications relating to oral health might also be of interest:

Chrisopoulos S, Beckwith K & Harford JE 2011. Oral health and dental care in Australia: key facts and figures 2011. Cat. no. DEN 214. Canberra: AIHW.

Brennan DS & Ellershaw AC 2012. Insurance and use of dental services: National Dental Telephone Interview Survey 2010. Dental statistics and research series no. 62. Cat. no. DEN 219. Canberra: AIHW.

Harford JE & Luzzi L 2013. Child and teenager oral health and dental visiting: Results from the National Dental Telephone Interview Survey 2010. Dental Statistics and Research Series no. 64. Cat. no DEN 226. Canberra: AIHW.

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This publication reports oral health and dental visiting patterns of Australian adults in 2010, and trends from 1994 to 2010. While most adults reported good oral health in 2010 and 60% had visited a dentist in the previous 12 months, almost 38% reported a financial barrier or hardship associated with dental visits. Adults from lower income households, or those who held a concession card, reported poorer oral health status, more toothache, less dental visiting and greater difficulty in paying a \$150 dental bill than those from higher income households and non-cardholders.