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National Dental Telephone Interview Survey 1999

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The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is to improve the health and wellbeing of Australians by informing community discussion and decision making through national leadership in developing and providing health and welfare statistics and information.

The AIHW Dental Statistics and Research Unit (DSRU) is a collaborative unit of the AIHW established in 1988 at The University of Adelaide. The DSRU aims to improve the oral health of Australians through the collection, analysis and reporting of dental statistics and research on dental health status, dental practices and the use of dental services, and the dental labour force.

Suggested citation

Carter KD & Stewart JF 2002. National Dental Telephone Interview Survey 1999. AIHW cat. no. DEN 109. Adelaide: AIHW Dental Statistics and Research Unit.

ISSN 1327-3876

Published by the AIHW Dental Statistics and Research Unit

Printed in Australia by Adelaide University, Adelaide

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Symbols used

. . not applicable

— nil or rounded to zero

Executive summary

The 1999 National Dental Telephone Interview Survey was conducted in all States and Territories and resulted in 7,829 participants, with a national participation rate of 56.6%.

Oral health status

The survey included questions on whether the respondent had any natural teeth, the number of teeth (or missing teeth) and denture wearing.

- Edentulism (the loss of all natural teeth) was strongly associated with age—younger age groups experiencing lower edentulism rates than older age groups. After controlling for age the following groups experienced higher levels of edentulism—females, persons from low-income households, and cardholders—Table 3.1.1.
- Among dentate persons, cardholders and persons from low-income households were more likely to experience higher levels of tooth loss and increased denture use—Tables 3.1.2 and 3.2.1.
- People from Tasmania had the highest level of edentulism and among dentate persons the highest average number of missing teeth, and the greatest denture use—Tables 3.1.1, 3.1.2 and 3.2.1.

Access to services

An examination of access problems encountered by survey respondents and barriers to the receipt of dental care is presented in Chapter 4. The range of measures of access to services are described by age groups, income levels, card status, location and State/Territory.

- Children (5–11-year-olds) and adolescents (12–17-year-olds) were more likely to have made a dental visit in the previous 12 months than were older age groups—Table 4.1.1(a).
- The majority of dentate adults who visited in the previous 12 months made their last dental visit in response to a dental problem rather than for a check-up—Table 4.3.1(b).
- Although eligible for public-funded dental care, only 38.2% of dentate adult cardholders who had made a dental visit in the last 12 months last visited a public clinic, and 58.6% last visited a private practice—Table 4.4.1(b).
- Among dentate adult cardholders whose last visit was to a private practice in the last two years, the main reason for not visiting a public clinic was that they prefer to see a private dentist (42.6%). A further 29.7% reported that their reason was that that they were not eligible for public dental care at the time of their last visit—Table 4.4.2
- Dentate adult cardholders and non-cardholders who visited in the previous 12 months made on average almost the same number of visits (2.35 cf. 2.36 visits), however cardholders received a greater number of extractions per person (0.58 cf. 0.26 extracted teeth) than non-cardholders—Table 4.5.1(b). Regardless of the reason for the last dental visit, cardholders received more extractions than non-cardholders—Table 4.5.3(b).

- Adults last visiting for a problem had on average a greater number of extractions per person than those last visiting for a check-up (0.49 cf. 0.09 extractions), similarly those last visiting for a problem received more fillings than those last visiting for a check-up (1.22 cf. 0.47 fillings)—Table 4.5.3(b).
- Just under one-in-five cardholders whose last dental visit was for a check-up at a public clinic had to wait for longer than 12 months from the time of initial contact with the clinic—Table 4.7.1.

Social impact

The social impact of oral health on an individual was assessed with questions on toothache, dental appearance, and food avoidance.

- Dentate adult cardholders were more likely than non-cardholders to have experienced toothache, felt uncomfortable with their dental appearance, or have avoided some foods because of problems with their teeth, mouth, or dentures—Table 5.1(b).

Dental insurance

A sizeable minority dentate Australian adults hold dental insurance. This includes both cardholders and non-cardholders. Dental insurance was associated with a more favourable pattern of visiting and types of treatment received.

- Despite eligibility for public-funded dental care, one-in-five cardholders were covered by dental insurance—Table 6.1.1(a).
- Among dentate adults who made a dental visit in the previous 12 months, persons without insurance were about twice as likely to have had one or more extractions than insured persons—Table 6.2.2.

Financial burden

Affordability and hardship encountered in purchasing dental services influences the use of private dental services by cardholders and non-cardholders. While affordability and hardship will influence access, they will also reflect the coverage and continuity of public-funded dental care for cardholders.

- Among dentate persons, cardholders were more likely than non-cardholders to:
  - have avoided or delayed visiting because of cost;
  - report that cost prevented recommended or wanted dental treatment; and
  - have a lot of difficulty in paying a $100 dental bill—Table 7.1.1(a).
- Dentate adults with affordability and hardship difficulties were less likely to have made a dental visit in the previous 12 months, and more likely to usually visit for a dental problem, than persons without such difficulties—Table 7.2.2.
- Among dentate adults who visited in the previous 12 months, those reporting affordability and hardship difficulties were more likely to have received fillings, and about twice as likely to have had extractions than those who reported no such level of difficulties—Table 7.2.3.

Perceived needs

Perception of the need for dental treatment acts both as an important predictor of the use of dental services, and also as an outcome measure of the success of dental programs.

- Persons who reported affordability and hardship difficulties were far more likely to perceive the need for a dental visit, and that visit was more likely to be for treatment, than persons who did not report such difficulties—Table 8.1.2.
- Uninsured persons were more likely to perceive the need for extraction(s) and filling(s) than insured persons—Table 8.1.3(b).
- Despite the greater perceived need for some form of treatment, the urgency of need for cardholders and uninsured adults was approximately the same as for non-cardholders and insured persons. This may indicate that the perceived urgency of dental treatment may be modified by the perceived ability to obtain the dental care perceived to be needed—Table 8.2.1(b).

1 Introduction

The purpose of this report is to present findings from the 1999 National Dental Telephone Interview Survey. The report is largely technical in nature, and where possible the results have been presented in the same format as used in previous reports published in this series. It is not the aim of this report to examine changes across the surveys that have been conducted—this will be achieved in other reports.

This survey was conducted from September to November 1999 by the Australian Institute of Health and Welfare's Dental Statistics and Research Unit (DSRU) and collected basic features of oral health and dental care within the Australian population. The survey provides information on the broader parameters of dental health and access to services, and forms part of the Commonwealth Department of Health and Aged Care's work program on 'adult access to dental care'.

1.1 Background

In a background paper released by the National Health Strategy (1992, *Improving Dental Health in Australia, Background Paper No. 9*) major concerns were documented on the social inequalities in the receipt of dental services and oral health status. The main theme of the report was the need to improve access to dental care for low-income persons. In addition, the report stressed the need for improved data collection on oral health including a national dental survey and specific monitoring of an expanded dental program.

Subsequently, the 1992/93 Research Database on Dental Care in Australia was undertaken at The University of Adelaide for the (now) Commonwealth Department of Health and Aged Care to provide appropriate information for the introduction in 1994 of the Commonwealth Dental Health Program (CDHP).

With the introduction of the CDHP, the DSRU was commissioned to undertake part of the evaluation of the Program. Building on experience gained in developing the 1992/93 Research Database on Dental Care in Australia, the DSRU implemented the National Dental Telephone Interview Survey (NDTIS). The NDTIS was conducted in 1994, 1995, and 1996 as part of the evaluation project for the CDHP. The CDHP finished at the end of 1996. After the cessation of the CDHP the Commonwealth Department of Health and Aged Care funded the DSRU to continue research on 'adult access to dental care'. The 1999 NDTIS forms part of this continued research in this area, and a future NDTIS is planned for 2002.

1.2 Methods

The 1999 National Dental Telephone Interview Survey involved a random sample of Australian residents aged five years and over in all States and Territories. The data items included in the 1999 survey were based on those used in previous rounds of the survey. There were only minimal changes to some questions previously used, and a few additional questions were added. A copy of the questions used in the 1999 survey forms Appendix A.

Telephone numbers for the survey were sampled by random selection from the most recent edition of 'Australia On Disc' an electronic 'white pages' listing distributed by, Dependable

Database Data Pty Ltd, Sydney, New South Wales. Separate samples were selected for each of the five mainland State capital cities—Sydney, Melbourne, Brisbane, Perth, and Adelaide. Samples were then drawn for the residual of the five mainland States—areas other than the capital of; New South Wales, Victoria, Queensland, Western Australian and South Australia. Finally samples were drawn for Tasmania, the Northern Territory, and the Australian Capital Territory. This resulted in a total of 13 separate samples (strata). The precise sample sizes (by State or Territory) are provided in Table 1.3.1. It was expected that a yield of at least 600 participants would be reached in each of these 13 strata. In total there were 7,829 participants in the survey.

The survey methods were based on methods advocated by Dillman (1978, *Mail and telephone surveys: the total design method*, Wiley: NY) and Groves et al. (1988, *Telephone survey methodology*, Wiley: NY). The questions and interview procedures were plot tested on randomly selected Adelaide households and modifications were subsequently made to the procedures prior to the initiation of formal data collection.

Approximately 10 days prior to dialling the sampled telephone numbers, a primary approach letter explaining the survey purpose and encouraging participation was mailed to the address that accompanied each sampled telephone number. A toll free telephone number was provided to allow those who received a primary approach letter to discuss the survey with DSRU staff. When a person from a sampled telephone number contacted DSRU to decline being included in the survey, they were recorded as a refusal outcome in Table 1.3.1 and their telephone number was removed from the list of numbers to be contacted.

When sampled telephone numbers were dialled, a record of each attempt was made on the computer. When interviewers achieved contact with a person at a telephone number, they went through the following procedure to establish that the household was within scope and to randomly select on target person"

1) Telephone numbers that did not serve residential dwellings were excluded: business numbers, hospitals or nursing homes (where telephone was not within a private room), caravan parks, and hotels were excluded from the survey.
2) If only one person resided at the dwelling, they were selected as the target person.
3) At other dwellings, the person answering the telephone was asked to name the resident who was aged five years or more and due to have the next birthday, as well as the resident aged five years or more who had the last birthday. The computer program then randomly selected the former or latter person as the target (based on 50% probability to select one or the other).

Target persons were invited to participate in the interview that could follow one of three schedules. Schedule 1 interviews consisted of 86 questions (several with multiple response categories) and were administered to persons aged 16 years or more who were able and willing to answer questions. A list of the questions appears in Appendix A. Schedule 2 interviews consisted of 77 questions concerning selected persons aged less than 16 years, although a person who lived in the household aged 16 years or more provided the actual answers (usually a parent). Schedule 3 interviews consisted of 81 questions concerning selected persons aged 16 years or more, but were answered by an adult other than the selected person in instances where the selected person was unable to communicate (for example, due to illness or language barriers, or where the selected person was away from the household for more than six weeks).

Each sampled telephone number was initially called up to six times. Where no answer was obtained after six calls, the number was abandoned (these are referred to as non-contact outcomes). When a sampled person was identified for any dwelling, up to six additional calls were made in an attempt to contact that person. Those who refused to participate are referred to as refusal outcomes in Table 1.3.1. Queries and concerns from respondents were referred to the shift supervisor.

A telephone interview laboratory (with four workstations) was established by the DSRU within the Dental School at Adelaide University. A group of interviewers were trained in the survey methods to be used. Each work station was equipped for computer assisted telephone interviewing with questions read from the computer screen by each interviewer and responses from sampled persons entered directly onto a database. The computer program operated using runtime software (Ashton Tate Inc.) on Acer (IBM compatible) personal computers with automatically managed skip sequences and selection criteria for the survey.

The 1999 Survey sample was divided randomly into three equal portions. The DSRU completed the survey for one-third of the sample, and two separate commercial companies were used to complete the remaining two-thirds of the survey. One of the companies used was a university-based company and the other was not university-based. These companies were selected after a tendering process, and both were capable computer assisted telephone interviewing. The DSRU and these two companies followed the methods described above to conduct the survey. Each of the companies used their own in-house computing systems for the administration of the survey. Regular update reports were received from each of the companies throughout the course of the survey and a data file of the responses was provided to the DSRU at the conclusion of the survey.

Weighting of data

Two stage sampling designs of this type lead to over-representation of persons from smaller households, since the probability of selection at the second stage is inversely proportional to the household size. Additionally, a person from a less populous State or Territory has a greater probability of being sampled than does a person from a larger State or Territory. The data are weighted for two purposes:

1) To account for differing sampling probabilities due to the sampling design.

2) To ensure that the sample for each stratum more accurately represents the population of the corresponding stratum, using post-stratification by age and sex.

The weighting of the data during data analysis achieves estimates that relate more closely to the overall population. Within each of the 13 primary strata, sub-strata were defined by sex and age group (14 five-year age categories from 5–9 through to 70–74 years, and a 75 years and over category). Each sub-stratum was linked to the estimated resident population (ERP) for that sub-stratum (the ERP was obtained from Australian Bureau of Statistics data: Catalogues 3201.0, 3235.1, 3235.2, 3235.3, 3235.4, 3235.5). The data were weighted within each stratum by computing a household size by age group by sex-specific weight. The numerical weight for each respondent was then calculated by the following formula:

$$w_{ijkl} = \frac{h_{ijkl} N_{ijk} \sum_{i=1}^{8} \sum_{j=1}^{15} \sum_{k=1}^{2} n_{ijk}}{\sum_{l=1}^{n_{ijk}} h_{ijkl} \sum_{i=1}^{8} \sum_{j=1}^{15} \sum_{k=1}^{2} N_{ijk}}$$

Where: N_{ijk} refers to the Estimated Resident Population of stratum *i*, age group *j*, and sex *k*.

n_{ijk} refers to the number of sampled persons from stratum *i*, age group *j*, and sex *k*.

h_{ijkl} refers to the number of persons aged 5 years and over residing at the household of the *l*th person from stratum *i*, age group *j*, and sex *k*.

These weights meant that reported frequencies were corrected for differences in probability of selection while maintaining the sample size of the survey. It made the assumption that, with regard to the parameters, there was no difference between respondents and non-respondents.

The estimates provided in this report are subject to error from the random sampling variation that is present when conducting a survey (rather than a complete enumeration of the whole population). A measure of this variation is given by standard errors which are provided in Appendix B.

The relative standard error for an estimate is the standard error for the estimate divided by the estimate itself and expressed as a percentage. Instances where the relative standard error was greater than 25% are noted throughout the report.

1.3 Response levels

Table 1.3.1 lists the sampling and participation details for the survey. The experience from previous National Dental Telephone Interview Surveys was used as the basis for selecting the initial number of telephone numbers. The overall level of 56.6% participation achieved in the 1999 survey was lower than what has been obtained previously and is the result of far lower response rates achieved by the two companies to which two-thirds of the survey was outsourced (52.0% and 51.3%). The response rate for the one-third of the sample administered by DSRU was 69.5%. Participation rates ranged from 50.6% in New South Wales through to 65.9% in South Australia. There was a total number of 7,829 participants.

Table 1.3.1: Participation in the 1999 National Dental Telephone Interview Survey

	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Australia
Number of telephone numbers sampled	2,793	2,634	2,638	2,074	2,500	1,115	1,180	1,355	16,289
Excluded	431	351	438	241	386	162	149	281	2,439
Sub-Total	*2,362*	*2,280*	*2,190*	*1,831*	*2,113*	*952*	*1,030*	*1,074*	*13,832*
Outcome									
Non-contact	126	138	95	87	133	53	80	61	773
Refusal	1,042	929	877	538	776	295	347	426	5,230
Participants	1,194	1,213	1,218	1,206	1,204	604	603	587	7,829
% participation	*50.6*	*53.2*	*55.6*	*65.9*	*57.0*	*63.4*	*58.5*	*54.7*	*56.6*

2 Population characteristics

2.1 Sociodemographic profile

In order to appropriately compare the States and Territories with each other, it is necessary to be aware of the underlying sociodemographic differences that pre-exist between them. For instance, if for some characteristic it was found that there existed a difference between capital city areas and non-capital city areas, and it was further found that the Australian Capital Territory differed from the other States and Territories, then this difference may be due to the fact that the Australian Capital City is wholly defined as a capital city. A similar argument could be made with regard to the Northern Territory and the large percentage of its population living in remote locations. Hence the sociodemographic profile, provided in Tables 2.1.1(a) and (b), provides a context in which to assess any differences observed between the States and Territories.

Due to the weighting (standardisation) procedure, the age–sex distributions by State and Territory should reflect the Australian Bureau of Statistics data used to perform the weighting (see Chapter 1). By age group the Northern Territory and the Australian Capital Territory had younger populations than the States, with greater percentages of persons in the younger age groups, and lower percentages of persons in the older age groups.

The Australian Capital Territory and the Northern Territory had the greatest percentages of persons from households with an annual income of $50,000 or more, 56.1% and 51.0% respectively. The two Territories had correspondingly lower percentages of persons from households with an annual income of less than $20,000 (12.6% and 10.3%) compared with 21.8% of persons nationally. The younger age profile of the Territories is likely to be the main reason for the substantially higher income distributions observed. The income distribution for households in New South Wales was the next wealthiest, followed by Victoria, Western Australia, and Queensland. South Australia and Tasmania had the lowest percentages of persons from households of $50,000 or more and the greatest percentages of persons from households of less than $12,000.

The percentage of persons eligible for public-funded dental care largely reflected the age and income distribution of the State or Territory. The Australian Capital Territory and the Northern Territory had 15.9% and 12.7% of their respective populations eligible for public-funded dental care, compared to around 33% in South Australia and Tasmania, and 21%–26% in the remaining States. Similarly, the distribution of the type of eligible cards cited was also reflected the age and income distribution within each State and Territory. For example, in the Territories where there was a low percentage of persons aged 65 years and over, there was a low percentage of Pensioner Concession Cards, and the higher income distributions resulted in a low percentage of Health Care Cards.

Residential location was determined using the *Rural/Remote Areas Classification* (1994) as defined by the Department of Human Services and Health. A person's location of residence provides a measure of their access to the full range of dental treatments that may be required to provide the most appropriate care. Those who live further away from capital cities and major centres are more likely to have to travel longer distances for treatment, especially if treatment of a specialist nature is required. Such a factor may form a barrier to receiving dental care. No regions of South Australia, Western Australia, or the Northern Territory are

defined as other major urban. The Northern Territory additionally has no region defined as rural major. The Australian Capital Territory is wholly defined as capital city.

The Northern Territory had the greatest percentage of persons living in remote areas (37.5%), followed by Western Australia (6.2%). The percentage of persons living in State rural areas ranged from 19.2% in New South Wales to 33.5% in Tasmania, the mix of rural major and rural other varied by State. Among the States, Tasmania had the lowest percentage of persons living in capital city or other major urban areas (61.3%), while Victoria had the highest (78.0%). There was considerable variation by State in the mix of capital city to other major urban areas.

Table 2.1.1(a): Percentage distribution of sociodemographic variables by State/Territory

	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Australia
Age group									
5–11 years	10.3	10.3	10.4	10.6	9.9	10.8	11.8	13.1	10.4
12–17 years	8.6	8.2	10.2	8.3	10.9	9.7	8.8	11.2	9.1
18–24 years	10.9	11.4	10.9	10.0	11.0	10.1	13.0	12.8	11.0
25–44 years	33.0	33.2	33.0	32.0	33.9	31.3	34.7	40.0	33.1
45–64 years	23.5	23.3	23.4	24.0	23.1	24.0	23.3	19.2	23.4
65 years or more	13.7	13.5	12.1	15.2	11.3	14.1	8.4	*3.7	13.1
Sex									
Male	49.6	49.3	50.0	49.3	50.2	49.1	49.7	52.9	49.6
Female	50.4	50.7	50.0	49.8	49.8	50.9	50.3	47.1	50.4
Annual household income									
Less than $12,000	8.0	8.7	9.7	12.1	7.9	11.0	4.5	*3.4	8.8
$12,000–<$20,000	12.5	13.1	13.4	15.9	12.4	16.2	8.1	6.9	13.0
$20,000–<$30,000	10.2	12.1	15.4	14.9	13.8	20.1	8.7	10.1	12.6
$30,000–<$40,000	11.6	14.3	16.2	14.8	14.3	15.6	12.6	15.6	13.8
$40,000–<$50,000	13.6	13.1	11.9	10.1	16.9	10.9	10.2	13.1	13.0
$50,000 or more	44.2	38.7	33.5	32.2	34.6	26.1	56.1	51.0	38.7
Card status and type									
Pensioner Concession Card	11.1	12.1	13.2	16.9	11.3	16.2	8.2	4.3	12.2
Health Care Card	9.9	12.9	13.0	14.6	12.9	17.7	7.7	8.4	12.0
Non-cardholder	79.0	75.0	73.8	68.5	75.7	66.1	84.1	87.3	75.7
Residential location									
Capital City	70.0	75.5	47.6	73.0	73.0	39.7	100.0	51.4	67.3
Other Major Urban	9.6	2.5	17.9	. .	. .	21.6	. .	. .	7.8
Rural Major	12.6	7.3	12.6	10.3	10.3	15.0	. .	. .	10.6
Rural Other	6.6	13.9	19.7	13.9	10.5	18.5	. .	11.2	12.0
Remote	*1.2	*0.9	2.2	2.7	6.2	5.2	. .	37.5	2.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Estimate has a relative standard error greater than 25%.

Table 2.1.1(b): Percentage distribution of sociodemographic variables by State/Territory

	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Australia
Country of birth									
Australia	78.5	79.2	86.1	80.5	72.2	87.5	78.4	82.0	79.9
New Zealand	*1.5	2.1	2.2	*0.6	4.0	*0.4	*0.9	*1.4	1.9
Other Oceania	*0.4	*0.1	*0.6	*0.7	*0.8	*0.3	*1.5	*2.6	0.5
United Kingdom & Ireland	4.9	6.0	5.2	10.9	11.9	7.2	8.0	5.6	6.5
Other Europe (incl. former USSR)	4.6	6.9	2.5	4.4	5.6	*3.0	5.0	3.9	4.8
Middle East & North Africa	2.5	*1.0	—	*0.3	*0.2	*0.4	*0.3	*0.5	1.2
Africa (excl. North Africa)	*1.7	*0.6	*0.7	*0.2	*1.4	—	*1.0	*0.7	1.0
South-East Asia	2.4	*1.2	*0.8	*1.1	*2.2	*0.9	*2.9	*1.9	1.7
North-East Asia	*1.1	*1.0	*0.6	*0.4	*0.6	*0.1	*0.4	*0.1	0.8
Southern & Central Asia	*1.8	*1.0	*0.6	*0.2	*0.9	*0.2	*0.9	*0.3	1.1
Northern America	*0.1	*0.4	*0.5	*0.4	*0.3	—	*0.2	*1.0	*0.3
South & Central America, and Caribbean	*0.5	*0.4	*0.1	*0.3	*0.1	*0.1	*0.6	—	*0.3
Language spoken at home									
English	89.4	86.9	95.9	92.9	92.8	96.3	93.2	92.9	90.9
Northern European (excl. English)	*0.5	*0.6	*0.4	*1.0	*0.8	*0.9	*0.8	*0.5	0.6
Southern European	3.3	7.1	1.9	2.7	2.5	*1.1	*2.3	4.2	3.8
Eastern European	*0.9	2.5	*0.6	*1.2	*1.7	*1.1	*1.1	*0.2	1.4
Southwest Asian & North African	*1.8	*1.1	—	*0.3	—	—	*0.8	*0.3	0.9
Southern Asian	*0.5	*0.3	*0.2	*0.1	—	—	*0.2	—	*0.3
South-East Asian	*1.4	*0.3	*0.1	*1.0	*1.1	*0.3	*0.8	*0.6	0.8
Eastern Asian	2.0	*1.2	*0.6	*0.7	*1.2	*0.3	*0.7	*1.4	1.3
Australian Indigenous	—	—	—	—	—	—	—	—	—
Other	*0.2	—	*0.3	*0.1	*0.1	—	—	—	*0.1
Employed									
Yes	66.3	63.9	65.0	61.2	67.0	56.4	70.0	81.8	65.0
No	33.7	36.1	35.0	38.8	33.0	43.6	30.0	18.2	35.0
Highest level of education									
Primary	*1.7	3.0	3.0	3.6	*2.2	*3.2	*1.0	*2.6	2.5
Some secondary	14.5	16.3	22.5	21.0	16.5	18.0	7.1	11.8	17.1
Secondary	11.7	12.3	12.8	15.8	14.2	20.8	13.9	13.6	12.9
Some tertiary	8.4	7.1	7.3	5.6	8.1	6.0	13.7	11.3	7.7
Tertiary	25.8	26.0	20.2	19.0	21.8	19.0	38.6	27.9	24.0
Some vocational	4.1	4.7	5.4	5.9	5.1	5.5	5.6	*2.8	4.8
Vocational	28.0	25.5	25.1	24.1	25.8	22.6	15.6	23.7	26.0
Other	5.7	5.0	3.5	4.9	6.2	4.9	4.5	6.3	5.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Estimate has a relative standard error greater than 25%.

The majority of persons were born in Australia (79.9%), ranging from 72.2% in Western Australia to 87.5% in Tasmania. Persons born in the United Kingdom and Ireland formed the largest group of persons born overseas (6.5%), followed by 'other Europe' (4.8%). Among those born overseas the mix of country of birth by State or Territory varied considerably. The percentage of persons born in the United Kingdom and Ireland ranged from 4.9% in New South Wales to 11.9% in Western Australia.

The percentage of persons who mainly speak English at home ranged from 86.9% of persons in Victoria to 96.3% in Tasmania. Southern European languages were the next most frequently spoken group (3.8%), followed by Eastern European languages (1.4%) and Eastern Asian languages (1.3%).

The Northern Territory and the Australian Capital Territory had the highest percentage of persons employed either full-time or part-time (81.8% and 70.0% respectively), followed by Western Australia (67.0%) and New South Wales (66.3%). Tasmania and South Australia had the lowest percentages of persons in employment (56.4% and 61.2%).

Table 2.1.2 provides annual household income distribution by various sociodemographic variables. Just as it is necessary to understand the profile of persons in a State or Territory to ensure that State/Territory differences are set into their proper perspective, it is also necessary to gain an understanding of the inter-dependence of the sociodemographic variables with one another. For example, groups of persons from lower income households are more likely to be subject to the possibility of financial difficulty in obtaining the most appropriate forms of dental care, than those from higher income households. Thus differences between groups of persons may in part be due to factors such as annual household income. The most important point to gain from this table is the magnitude of the differences between groups, rather than the existence of any such differences.

Persons aged 65 years and over had the lowest income distribution with just over two-thirds had an annual household income of less than $20,000 (68.8%). Among 25–44-year-olds nearly half (45.9%) of this group lived in households with an annual income of $50,000 or more, and 10.6% were from households of $20,000 or less. In comparison to the income distribution of persons aged 65 years and older, the income distributions of the other age groups were relatively similar. There was a lower percentage those aged 5–11 years and 45–64 years in the highest income group than those aged 12–44 years. More than 50% of those aged less than 65 years were from a household of $40,000 or more (51.9%–66.8%), compared with 9.1% of those aged 65 years or more. While one-third of those aged 65 years or more were on less than $12,000 per year, only 3.7%–8.9% of the younger age groups were in this category.

Males had a wealthier annual household income distribution than females, with 42.0% of males in households of $50,000 or more compared with 35.4% of females. A larger percentage of females came from households of less than $12,000, with 11.1% of females in this category compared with 6.5% of males.

Ignoring the income distribution for remote locations, it can be seen that in general as the location becomes less urbanised the annual household income distribution becomes less wealthy. Persons from capital cities had the lowest percentage of persons from households of less than $12,000, and the highest percentage of persons from households of $50,000 or more (44.2%). The income distribution for remote locations was most similar to the income distribution obtained for the other major urban group.

Table 2.1.2: Percentage distribution of annual household income by age, sex and location

	Annual household income					
	Less than $12,000	**$12,000– <$20,000**	**$20,000– <$30,000**	**$30,000– <$40,000**	**$40,000– <$50,000**	**$50,000 or more**
Age group						
5–11 years	*3.8	13.7	11.8	18.4	14.8	37.5
12–17 years	*4.8	7.7	13.5	15.0	14.1	44.9
18–24 years	*3.5	8.9	9.7	11.0	15.9	50.9
25–44 years	3.7	6.9	12.4	15.9	15.3	45.9
45–64 years	8.9	13.0	13.6	12.6	12.5	39.4
65 years or more	33.0	35.8	14.1	8.1	3.6	5.5
Sex						
Male	6.5	11.9	13.0	12.6	13.9	42.0
Female	11.1	14.2	12.2	15.0	12.1	35.4
Residential location						
Capital City	7.8	12.1	10.8	12.4	12.6	44.2
Other Major Urban	9.8	14.8	14.6	16.7	14.0	30.0
Rural Major	10.9	13.1	14.2	16.2	14.1	31.5
Rural Other	11.9	16.1	19.2	17.0	12.9	22.9
Remote	*8.3	15.4	15.3	14.1	16.1	30.8
Total	**8.8**	**13.0**	**12.6**	**13.8**	**13.0**	**38.7**

* Estimate has a relative standard error greater than 25%.

2.2 Cardholder profile

Throughout the remainder of the report, a 'cardholder' is defined to be a person who at the time of the survey had a Pensioner Concession Card, or a Health Care Card. Possession of one of these cards provides a person with eligibility for public-funded dental care. Similarly a 'non-cardholder' refers to a person who does not have one of these cards which entitles them to public-funded dental care.

Due to the emphasis placed on comparisons between cardholders and non-cardholders throughout the report, it is important to understand the profiles of these two groups. Table 2.2.1 describes sociodemographic characteristics of cardholders and non-cardholders.

A significantly higher percentage of cardholders were aged 65 years and over, 32.3% compared with 7.6% of non-cardholders. There was also a far lower proportion of 25–44-year-old cardholders compared with non-cardholders (18.6% cf. 37.5%). Overall, cardholders had a considerably older age profile than non-cardholders. It is likely that such differences resulted in differing service requirements due to the differing needs of persons across age groups.

The high percentage of females in the oldest age group and the older age profile of cardholders resulted in a higher percentage of female cardholders than was the case for non-cardholders (56.4% cf. 48.6%).

Cardholders and non-cardholders also differed in distribution across residential location. Greater proportions of cardholders came from other major urban and rural areas than was the case for non-cardholders. Consequently, cardholders were less likely to live in a capital city than were non-cardholders.

Table 2.2.1: Percentage distribution of age, sex and location by card status

	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Australia
Age group									
Cardholder									
5–11 years	12.5	12.1	10.0	9.8	*7.8	9.1	*10.3	23.3	11.1
12–17 years	11.3	7.7	7.5	8.2	8.9	*7.7	*7.1	*12.3	8.9
18–24 years	10.9	10.0	8.9	8.8	10.2	12.8	18.1	*11.4	10.2
25–44 years	17.3	15.1	20.6	20.7	22.9	21.1	29.9	24.9	18.6
45–64 years	13.7	20.2	23.4	20.5	21.2	22.1	*10.9	*10.1	19.0
65 years or more	34.2	34.9	29.6	32.0	29.0	27.1	23.8	*18.0	32.3
Non-cardholder									
5–11 years	9.9	9.7	10.5	11.0	10.2	11.8	12.2	11.8	10.2
12–17 years	7.8	8.1	10.6	7.9	11.5	10.5	8.6	10.5	8.9
18–24 years	10.7	11.9	11.5	10.5	11.3	9.0	12.2	12.6	11.2
25–44 years	36.9	39.1	37.1	36.7	37.1	35.7	36.0	42.5	37.5
45–64 years	25.8	24.4	23.5	25.4	23.6	25.0	25.5	20.6	24.7
65 years or more	8.9	6.8	6.7	8.5	6.3	8.1	5.5	*1.9	7.6
Sex									
Cardholder									
Male	41.7	48.3	40.8	37.5	49.3	44.0	41.0	36.3	43.6
Female	58.3	51.7	59.2	62.5	50.7	56.0	59.0	63.7	56.4
Non-cardholder									
Male	51.6	49.5	52.8	53.8	50.3	50.9	51.3	55.1	51.4
Female	48.4	50.5	47.2	46.2	49.7	49.1	48.7	44.9	48.6
Residential location									
Cardholder									
Capital City	58.8	67.6	44.1	68.2	76.0	31.6	100.0	67.4	60.3
Other Major Urban	10.6	*2.8	19.6	. .	. .	28.3	. .	. .	8.7
Rural Major	17.6	9.4	14.5	11.0	9.9	14.8	. .	. .	13.0
Rural Other	11.5	19.1	20.8	16.6	10.9	21.7	. .	*11.9	16.1
Remote	*1.4	*1.1	*1.0	*4.2	*3.3	*3.6	. .	*20.7	1.9
Non-cardholder									
Capital City	72.5	77.9	48.6	75.0	72.1	43.9	100.0	49.2	69.3
Other Major Urban	9.5	*2.3	17.5	. .	. .	18.6	. .	. .	7.5
Rural Major	11.5	6.7	12.1	10.1	10.4	15.3	. .	. .	10.0
Rural Other	5.4	12.3	19.2	12.7	10.4	16.3	. .	11.2	10.8
Remote	*1.1	*0.8	2.6	*2.2	7.1	5.9	. .	39.6	2.5

* Estimate has a relative standard error greater than 25%.

Table 2.2.2 provides the age–income distribution by card status. Nearly two-thirds of all cardholders (63.9%) lived in households with an annual income less than $20,000, compared with 9.9% of non-cardholders. Nearly two-thirds of non-cardholders came from households of more than $40,000 per annum, compared with 8.0% of cardholders. One-quarter of cardholders (26.0%) were aged 65 years and over with an annual household income of less than $20,000, compared with 3.8% of non-cardholders.

Overall, substantial differences existed between cardholders and non-cardholders. Cardholders were a much older and less wealthy group of persons than were non-cardholders.

Table 2.2.2: Age–income distribution by card status (%)

	Age group (years)						
Annual household income	**5–11**	**12–17**	**18–24**	**25–44**	**45–64**	**65+**	**Total**
Cardholder							
Less than $12,000	*1.6	*1.1	*0.9	3.9	6.3	12.5	**26.4**
$12,000–<$20,000	4.7	*1.5	2.4	6.8	8.5	13.5	**37.5**
$20,000–<$30,000	2.8	3.0	*1.2	5.8	3.3	3.8	**19.9**
$30,000–<$40,000	*1.1	*0.8	*1.4	2.4	*0.8	1.8	**8.3**
$40,000–<$50,000	*0.5	*0.4	*0.7	*0.2	*0.2	*0.7	**2.6**
$50,000 or more	*0.5	*0.9	2.9	*0.5	*0.4	*0.3	**5.4**
Total	**11.1**	**8.9**	**10.2**	**18.6**	**19.0**	**32.3**	**100.0**
Non-cardholder							
Less than $12,000	*0.1	*0.2	*0.2	*0.5	1.0	1.8	**3.8**
$12,000–<$20,000	*0.6	*0.4	*0.5	1.1	1.6	2.0	**6.1**
$20,000–<$30,000	0.8	*0.5	1.0	3.8	3.3	1.2	**10.5**
$30,000–<$40,000	2.2	1.3	1.1	6.3	3.6	0.8	**15.3**
$40,000–<$50,000	1.9	1.4	1.9	6.7	3.8	*0.4	**16.0**
$50,000 or more	5.0	4.4	5.8	20.1	12.1	0.8	**48.2**
Total	**10.2**	**8.9**	**11.2**	**37.5**	**24.7**	**7.6**	**100.0**

* Estimate has a relative standard error greater than 25%.

2.3 Summary

The profiles of different sociodemographic groups and the interdependence of the sociodemographic variables with one another form an important background against which to view the results presented in later chapters.

- Persons from the Australian Capital Territory and the Northern Territory were on average younger and wealthier than persons from the States—Table 2.1.1(a).
- The percentage of persons eligible for public-funded dental care tended to reflect the age and income distributions within a State or Territory—Table 2.1.1(a).
- Persons aged 65 years and over, females, and those not living in capital city locations, came from households with a lower annual household income distribution—Table 2.1.2.
- There were a greater percentage of females among cardholders than among non-cardholders—Table 2.2.1.
- Cardholders tended to be older, less wealthy, and less likely to reside in capital cities than non-cardholders—Tables 2.2.1 and 2.2.2.

3 Oral health status

3.1 Oral impairment

The loss of a tooth can be considered a measure of dental mortality and indicates the failure of all preventive and restorative efforts. The loss of all natural teeth (edentulism) is therefore an outcome indicating a total failure of conservative care.

Table 3.1.1 presents variation in edentulism by sociodemographic factors. It was apparent that there was a strong age-related effect for tooth loss—older people were more likely to be edentulous than younger people. The increase in edentulism with age in the population is due to both an accumulation of disease experience and its treatment with time, and a cohort effect in which older adults carry the legacy of treatment from times when extraction, rather than restoration, was a more common treatment outcome. Improvements in restorative care, and conservative treatment philosophies are reflected in the rapidly declining rates of edentulism. Although approximately one-third of those aged 65 years and older reported being edentulous, this percentage indicates a substantial change from 1976 (ABS) when two-thirds of those in this age group reported being edentulous.

The prevalence of edentulism for persons aged less than 45 years was low. No participant in the 18–24 year age group reported that they were edentulous, and only 0.7% of the 25–44 year age group were edentulous.

There was a greater prevalence of edentulism among females than males. The difference was largest among those aged 65 years and over where 40.0% of females were edentulous compared with 25.0% of males.

Edentulism increased inversely to annual household income. That is, the lower the income the greater the prevalence of edentulism, and vice versa. Among the 45–64 year age group and the 65 years and over group, there was a large relative disadvantage for the lowest income group compared with the highest income group. Nearly one-half (44.5%) of those persons aged 65 years and over with an annual household income of less than $12,000 were edentulous.

The difference between cardholders and non-cardholders was not as great as for income, although the differences were still significant in magnitude. Among persons aged 45–64 years, cardholders were nearly twice as likely to be edentulous than were non-cardholders (19.7% cf. 10.1%). Of those aged 65 years and over, 41.6% of cardholders were edentulous, compared with 23.2% of non-cardholders.

Among the States and Territories edentulism ranged from 4.9% in the Northern Territory, up to 15.3% in Tasmania. The highest edentulism rate among those aged 65 years and over was found in Tasmania, where 49.3% of this group reported having no natural teeth.

Table 3.1.1: Percentage edentulous persons by sociodemographic variables

	Age group				
	18–24 years	25–44 years	45–64 years	65+ years	Total
Sex					
Male	—	*0.7	10.4	25.0	7.2
Female	—	*0.7	13.6	40.0	12.4
Annual household income					
Less than $12,000	—	*2.6	21.6	44.5	29.5
$12,000–<$20,000	—	*2.2	22.0	33.0	21.5
$20,000–<$30,000	—	*0.6	13.6	31.2	10.2
$30,000–<$40,000	—	*0.2	*8.0	23.5	4.9
$40,000–<$50,000	—	*1.4	*7.9	12.8	3.8
$50,000 or more	—	*0.4	7.4	4.5	2.6
Cardholder					
Yes	—	*1.0	19.7	41.6	22.1
No	—	*0.7	10.1	23.2	5.8
Residential location					
Capital City	—	*0.6	10.2	31.7	8.6
Other Major Urban	—	*0.8	*12.9	30.3	10.6
Rural Major	—	*0.2	15.7	36.2	11.4
Rural Other	—	*1.7	15.7	44.7	14.1
Remote	—	*1.7	*21.7	33.5	11.0
State/Territory					
New South Wales	—	*0.2	12.5	27.4	9.0
Victoria	—	*0.7	13.6	40.1	11.5
Queensland	—	*0.9	10.3	28.8	8.1
South Australia	—	*2.0	12.5	41.6	12.8
Western Australia	—	*0.2	7.9	34.0	7.5
Tasmania	—	*2.4	18.5	49.3	15.3
Australian Capital Territory	—	*1.0	*5.5	29.5	5.4
Northern Territory	—	*3.5	*6.8	25.6	4.9
Total	**—**	***0.7**	**11.9**	**33.4**	**9.7**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to persons aged 18 years or more.

Table 3.1.2 presents the mean number of missing teeth among dentate persons aged 18 years and over. There was a marked relationship between age and the mean number of missing teeth. As was noted for edentulism, this indicates the effects of both the accumulation disease and concomitant treatment in the form of extractions, and to some extent, the age cohort effect in which older adults received extractions during an historical period where restorative technologies and treatment philosophies were not as conducive for the preservation of teeth as those currently in force. Among dentate persons aged 65 years and over, an average of 11.6 missing teeth was reported, representing just over one-third of the natural dentition.

Overall, females reported slightly more missing teeth than did males. As was observed for edentulism, there was an inverse association with income. Across all age groups, the mean number of missing teeth generally increased as annual household income decreased. Dentate persons aged 45–64 years who were from households of less than $12,000 per annum had an average 11.3 missing teeth, compared with 5.2 missing teeth among those from households of $50,000 or more per annum from the same age group.

Cardholders had a greater number of missing teeth than non-cardholders, 7.9 cf. 4.5 missing teeth. This result held true across all age groups, except for the 18–24 year age group. People from capital cities tended to have slightly fewer missing teeth than those from other areas. By State and Territory, the mean number of missing teeth ranged from 3.6 in the Northern Territory to 6.3 in Tasmania.

In comparison to dentate persons from groups with a low prevalence of edentulism, dentate persons from groups with a greater prevalence of edentulism also have, in general, a greater number if missing teeth. That is, disadvantaged groups not only experience higher edentulism rates, but among those who are still dentate the mean number of missing teeth is also greater.

Table 3.1.2: Mean number of missing teeth by sociodemographic variables

	Age group				
	18–24 years	25–44 years	45–64 years	65+ years	Total
Sex					
Male	1.8	2.9	6.4	11.9	4.9
Female	2.1	3.8	7.6	11.4	5.5
Annual household income					
Less than $12,000	*1.9	*5.0	11.3	12.4	9.9
$12,000–<$20,000	*1.2	3.7	9.2	13.4	8.3
$20,000–<$30,000	*2.2	4.0	8.5	11.7	6.1
$30,000–<$40,000	*2.0	3.4	6.5	*6.8	4.4
$40,000–<$50,000	*1.5	3.6	7.4	7.3	4.5
$50,000 or more	2.1	3.1	5.2	*7.2	3.7
Cardholder					
Yes	1.5	4.0	10.0	13.5	7.9
No	2.0	3.3	6.5	9.7	4.5
Residential location					
Capital City	1.9	3.1	6.5	11.0	4.8
Other Major Urban	*1.4	3.9	6.9	12.9	5.7
Rural Major	*2.4	3.5	9.0	11.6	6.0
Rural Other	2.4	4.5	7.7	13.9	6.5
Remote	*1.8	3.2	9.0	*13.4	4.9
State/Territory					
New South Wales	1.7	3.0	7.0	9.5	4.8
Victoria	1.6	3.6	6.3	12.4	5.1
Queensland	2.1	3.8	7.8	13.1	5.8
South Australia	2.5	3.6	6.7	11.9	5.5
Western Australia	*3.0	3.2	7.5	14.1	5.6
Tasmania	*1.8	3.7	9.9	*13.5	6.3
Australian Capital Territory	2.4	3.3	5.5	10.7	4.3
Northern Territory	*1.1	3.2	5.8	12.4	3.6
Total	**1.9**	**3.4**	**7.0**	**11.6**	**5.2**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

The distribution of the number of remaining teeth for dentate adults is presented in Table 3.1.3. As was the case for edentulism and the mean number of missing teeth, there was an association with age. Younger age groups being more likely to have retained a greater number of teeth, and lower tooth retention among older age groups. For instance, 42.2% of those aged 65 and over had only between 1 and 20 teeth remaining, while 68.8% of the 18–24 year age group had between 29 and 32 teeth.

The high percentage of those aged 65 and over with 20 or fewer teeth represents a potential problem, as these people are more likely to suffer functional and social problems as a consequence of having an inadequate dentition than those with greater numbers of teeth.

A higher percentage of males had 29 to 32 teeth remaining than did females (53.0% cf. 43.0%).

There was a strong association between income and the distribution of the number of teeth remaining. Just over one-third of those from households of less than $12,000 per annum had between 1 and 20 teeth, compared with 4.9% of those whose household income was $50,000 or more. Conversely, the percentage of persons with 29 to 32 teeth was highest among the highest income group (52.4%) and lowest among the lowest income group (31.2%).

A similar result was obtained when examining the data by card status. Cardholders were 2.5 times more likely to have between 1 and 20 teeth (26.9% cf. 9.4%).

There was considerable variation between the States and Territories. This variation was partly a consequence of the differing age profiles of the States and Territories, in conjunction with the high association between age and the number of teeth remaining. Overall, nearly one-half (47.9%) of dentate persons aged 18 and over had more than 28 teeth.

Table 3.1.3: Percentage distribution of number of teeth by sociodemographic variables

	Number of teeth			
	1–20	**21–24**	**25–28**	**29–32**
Age group				
18–24 years	*1.7	*1.6	27.9	68.8
25–44 years	3.9	5.7	34.8	55.6
45–64 years	20.2	10.0	33.0	36.8
65 years or more	42.2	17.0	21.3	19.6
Sex				
Male	12.2	7.2	27.7	53.0
Female	13.3	8.2	35.5	43.0
Annual household income				
Less than $12,000	35.0	13.3	20.5	31.2
$12,000–<$20,000	27.8	9.9	22.6	39.7
$20,000–<$30,000	17.7	8.0	31.8	42.4
$30,000–<$40,000	8.7	7.8	34.5	49.0
$40,000–<$50,000	10.0	*6.0	34.8	49.2
$50,000 or more	4.9	6.8	35.9	52.4
Cardholder				
Yes	26.9	9.0	26.2	37.9
No	9.4	7.4	33.0	50.2
Residential location				
Capital City	10.9	7.1	32.4	49.6
Other Major Urban	17.0	9.4	26.6	47.0
Rural Major	15.7	9.5	33.1	41.7
Rural Other	19.5	8.3	28.5	43.6
Remote	*10.0	*7.9	30.1	52.0
State/Territory				
NSW	11.7	5.8	32.0	50.5
Victoria	11.2	8.9	32.3	47.6
Queensland	15.6	9.1	29.4	46.0
South Australia	13.3	8.1	35.9	42.7
Western Australia	15.0	8.0	31.1	45.9
Tasmania	18.2	10.8	23.6	47.4
Australian Capital Territory	7.9	*4.9	38.9	48.3
Northern Territory	*6.1	*5.7	27.6	60.7
Total	**12.8**	**7.7**	**31.7**	**47.9**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

3.2 Denture use

In addition to the number of teeth present and edentulism, it is important to examine the role of replacement dental units that are designed to restore some degree of functionality and aesthetics. Presented in Table 3.2.1 is the percentage of dentate adults who reported wearing a denture.

As would be expected, denture use was strongly related with age. Just under one-third of those aged 45–64 years reported denture wearing. This increased to 56.6%of dentate persons aged 65 and over. Overall—and among those aged 45 years or more—dentate females reported a higher use of dentures than dentate males.

There existed a gradient in denture wearing by household income. The effect is most apparent in the 45–64-year-old age groups. Among dentate 45–64-year-olds, 53.4% of those from households of less than $12,000 per annum wore a denture, compared with 21.0% of those from households of $50,000 or more per annum. A higher percentage of cardholders reported denture use than non-cardholders. The differential being greatest within the 45–64 year age group, where 45.4% of dentate cardholders wore a denture, compared with 26.3% of non-cardholders.

There was considerable variation between the States and Territories, with denture use among dentate adults ranging from 8.3% in the Northern Territory, up to 23.1% in Tasmania.

Table 3.2.1: Percentage of persons wearing a denture by sociodemographic variables

	Age group				
	18–24 years	25–44 years	45–64 years	65+ years	Total
Sex					
Male	*3.5	7.6	25.6	53.1	17.7
Female	*2.3	5.6	32.9	59.9	19.4
Annual household income					
Less than $12,000	—	*7.3	53.4	63.5	44.8
$12,000–<$20,000	—	*8.0	40.5	60.0	34.4
$20,000–<$30,000	*5.7	*7.4	29.5	53.8	20.0
$30,000–<$40,000	*0.2	*5.0	29.3	*38.6	14.2
$40,000–<$50,000	*2.8	*12.4	26.3	*53.4	16.2
$50,000 or more	*0.2	*4.1	21.0	*39.5	9.1
Cardholder					
Yes	*4.6	*7.1	45.4	62.1	33.3
No	*2.5	6.5	26.3	51.1	15.1
Residential location					
Capital City	*3.2	6.3	27.5	55.1	17.4
Other Major Urban	*5.6	*5.7	26.1	59.2	20.0
Rural Major	—	*4.5	37.8	65.2	21.9
Rural Other	—	*11.6	29.4	56.0	22.1
Remote	*1.3	*3.5	*41.3	*52.4	*14.1
State/Territory					
New South Wales	*6.8	*7.1	29.3	54.6	19.7
Victoria	—	*7.6	26.4	57.5	17.6
Queensland	—	*6.6	36.1	61.7	20.7
South Australia	—	*3.5	25.1	57.7	16.6
Western Australia	*3.8	*3.5	25.0	50.4	15.0
Tasmania	*2.1	*11.2	41.0	60.9	23.1
Australian Capital Territory	*3.4	*5.8	24.3	53.2	13.9
Northern Territory	*1.6	*3.6	20.7	*47.8	8.3
Total	***2.9**	**6.6**	**29.1**	**56.6**	**18.5**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

3.3 Summary

Edentulism, the mean number of missing teeth, the distribution of remaining teeth, and denture use among dentate persons, were all strongly related with age. However, within age groups, there existed substantial further variation between differing groups of persons.

- Older persons were more likely to be edentulous, 33.4% of persons 65 years or more, compared with 11.9% of those 45–64 years of age—Table 3.1.1.
- Among dentate persons, increasing age resulted in greater tooth loss, and a greater use of dentures—Tables 3.1.2 and 3.2.1.
- Within age groups cardholders were more likely than non-cardholders to be edentulous. Among cardholders aged 65 years or more, 41.6% were edentulous, compared with 23.2% of non-cardholders—Table 3.1.1.
- Cardholders who were dentate had more missing teeth and greater denture use than dentate non-cardholders—Tables 3.1.2 and 3.2.1.
- Even when controlling for age, females were more likely to be edentulous than males. Among those aged 65 years or more, 40.0% of females and 25.0% of males were edentulous—Table 3.1.1.
- There were large differences in the rate of edentulism between high- and low-income households. Persons from lower income households were far more likely to be edentulous than persons from higher income households—Table 3.1.1.
- Dentate persons from lower income households had greater numbers of missing teeth, and were more likely to wear a denture than persons from higher income households—Tables 3.1.2 and 3.2.1.
- Across the States and Territories, edentulism ranged from 4.9% in the Northern Territory up to 15.3% in Tasmania—Table 3.1.1.
- Among dentate persons, Tasmanians also reported the highest average number of missing teeth, and the greatest denture use—Tables 3.1.2 and 3.2.1.

4 Access to services

All dental care is initiated by some form of stimulus, which may vary between those visiting for a check-up and those visiting for a problem. When deciding to visit a dental professional, individuals assess the possible benefits against the potential costs or disadvantages in terms of money, time, pain, inconvenience of travel and other factors. If the individual does not have a usual provider, o wishes to change provider, the individual must search for a source of care. The success of the search for people seeking public-funded dental care may be determined by providers' accessibility, such as the queuing procedures for public dental clinics or a dentist's participation in publicly subsidised dental care. The success may be restricted by external factors such as lack of public clinics, isolation, or perceived inadequacy of the provider available.

Access to dental care in either private or public dental services by all persons is examined in this chapter. Several measures of access are explored:

- level of contact, both time since last dental visit and usual frequency of visiting;
- intention behind the use of dental care;
- place of the dental visit;
- nature of the care received;
- usual reason for visiting; and
- waiting time.

Each of these measures is described for groups of individuals of different ages, incomes, card status, location, and State and Territory. Specific comparisons are made between the services provided to patients whose last dental visit was for a problem and those who visited for a check-up, and also between public dental service and dental care through private practice.

4.1 Time since last dental visit

Tables 4.1.1(a) and (b) present the time since last making a visit to a dental professional, among dentate persons. Edentulous persons were excluded from these tables due to their significantly differing dental visiting pattern. The time since last dental visit for edentulous persons is presented separately in Table 4.1.2.

Recent visiting was highest among children and adolescents and lower among adults. Few children and adolescents had not made a dental visit for 2 years or more, while around one-quarter of adults were in this category. Overall, around three in five dentate persons made a dental visit in the previous 12 months, and four in five in the previous two years.

Table 4.1.1(a): Percentage distribution of time since last dental visit by age

	Time since last dental visit			
	<12 months	1–<2 years	2–<5 years	5+ years
Age group				
5–11 years	82.8	14.0	*3.2	—
12–17 years	78.5	14.2	6.8	*0.5
18–24 years	51.6	25.6	14.5	8.3
25–44 years	53.4	19.5	15.5	11.6
45–64 years	62.0	17.4	12.3	8.4
65 years or more	59.5	18.3	11.7	10.5
Total	**61.3**	**18.6**	**12.1**	**8.0**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons.

Table 4.1.1(b) provides a sociodemographic breakdown of time since last visit for dentate adults. Females were more likely to have made a more recent dental visit than males. Persons from a high-income household were more likely to have made a recent dental visit, and less likely to have last visited more than five years ago. Cardholders were less likely to have visited recently, and consequently more likely to have not visited for five or more years than non-cardholders. Dentate adults from more capital cities were more likely to have made a dental visit in the previous 12 months than those from other locations. The Northern Territory and Tasmania had the lowest percentage of dentate persons reporting a dental visit in the previous 12 months. Across all dentate adults, the majority (56.3%) reported a dental visit in the last 12 months, with a further 19.7% visiting one to two years ago. One-in-ten dentate adults had not visited a dental professional for five or more years.

Table 4.1.1(b): Percentage distribution of time since last dental visit by sociodemographic variables

	Time since last dental visit			
	<12 months	**1–<2 years**	**2–<5 years**	**5+ years**
Sex				
Male	52.4	19.2	16.6	11.8
Female	60.4	20.2	11.3	8.2
Annual household income				
Less than $12,000	51.3	22.9	13.1	12.7
$12,000–<$20,000	51.6	19.7	15.1	13.7
$20,000–<$30,000	50.4	21.2	15.0	13.5
$30,000–<$40,000	54.0	18.3	15.6	12.1
$40,000–<$50,000	57.5	17.7	16.2	8.6
$50,000 or more	58.4	20.4	13.1	8.1
Cardholder				
Yes	50.1	21.3	15.9	12.7
No	57.9	19.2	13.5	9.4
Residential location				
Capital City	58.1	19.5	13.2	9.2
Other Major Urban	51.9	20.0	16.6	11.4
Rural Major	53.5	20.3	14.8	11.4
Rural Other	53.4	19.7	15.4	11.5
Remote	44.6	21.2	19.3	14.9
State/Territory				
New South Wales	56.5	20.0	14.8	8.7
Victoria	54.3	20.5	13.4	11.8
Queensland	56.7	21.5	13.1	8.6
South Australia	58.8	16.6	13.3	11.3
Western Australia	59.6	15.5	14.2	10.7
Tasmania	51.4	18.9	16.0	13.7
Australian Capital Territory	59.3	19.6	11.9	9.3
Northern Territory	47.0	19.6	18.4	15.1
Total	**56.3**	**19.7**	**14.0**	**10.0**

Note: The data in this table relate to dentate persons aged 18 years or more.

The time since last dental visit for edentulous persons is presented in Table 4.1.2. Edentulous persons have a significantly lower rate of service use than dentate persons. Even though edentulism reduces the adequacy of oral function, it typically reduces the need for, and urgency of, subsequent dental services.

Approximately two in five edentulous persons had not made a dental visit in the previous five years, and just under a quarter (23.4%) had visited in the previous year. More recent visiting was reported by those aged less than 65 years, those from higher income households, and by non-cardholders.

Table 4.1.2: Percentage distribution of time since last dental visit by sociodemographic variables

	Time since last dental visit			
	<12 months	**1–<2 years**	**2–<5 years**	**5+ years**
Age group				
Less than 65 years	31.6	11.8	22.0	34.5
65 years or more	17.7	14.2	23.5	44.7
Sex				
Male	25.1	13.7	21.2	39.9
Female	22.5	12.9	23.8	40.8
Annual household income				
Less than $12,000	15.0	18.8	21.6	44.6
$12,000–<$20,000	18.1	13.4	28.6	39.8
$20,000 or more	34.3	*11.7	17.6	36.4
Cardholder				
Yes	17.3	12.9	24.7	45.1
No	30.3	13.5	20.9	35.2
Total	**23.4**	**13.2**	**22.9**	**40.5**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to edentulous persons.

4.2 Usual frequency of dental visits

While the time since last dental visit provides information regarding the use of dental services, the proportion of a group making a dental visit in the past 12 months cannot be regarded as a measure of those receiving regular care. Tables 4.2.1(a) and (b) present the usual frequency of dental visits of dentate persons by sociodemographic variables.

It could be argued that persons whose usual visiting frequency is less than one visit every two years are not regular users, and may be more likely to have a higher level of untreated disease than those who seek care on a regular basis.

The majority of children (86.8%) were reported to usually visit the dentist at least once a year. This dropped to just over three quarters of adolescents (78.9%). Further dropping to around one-half of adults usually visiting one or more times per year.

Table 4.2.1(a): Percentage distribution of usual frequency of dental visits by age

	Usual frequency of dental visits			
	≥2 per year	1 per year	1 per 2 years	<1 per 2 years
Age group				
5–11 years	38.3	48.5	11.0	*2.2
12–17 years	40.1	38.8	13.0	8.1
18–24 years	24.8	31.5	19.3	24.5
25–44 years	20.6	27.7	19.6	32.0
45–64 years	23.8	32.3	18.5	25.3
65 years or more	31.2	24.9	16.9	27.0
Total	**26.7**	**32.1**	**17.5**	**23.7**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons.

The usual frequency of dental visits among dentate adults is presented in Table 4.2.1(b). Females were more likely than males to have a frequent visiting pattern. Just under a third (32.4%) of males reporting that they usually visit the dentist less than once every two years, compared with 24.3% of females. There was a gradient in usual frequency of visiting by income—particularly in the percentage of persons who usually visit infrequently. Less than a quarter of persons from households of $50,000 or more reported usually visiting less than once every two years, compared with 37.0% of those from households of less than $12,000 per annum. Cardholders were more likely to have an infrequent visiting pattern than non-cardholders. Persons from capital cities were the most likely to make regular dental visits than persons from other areas. Two in five persons from remote areas reported visiting less than once every two years, compared with just over one-quarter of persons from capital cities. The Northern Territory—with the largest percentage of persons in remote locations—had the highest percentage of persons reporting that they usually visit less than once every two years, and was closely followed by Tasmania. While the Australian Capital Territory—the most urban State or Territory—had the lowest percentage of persons visiting less than once every two years.

Table 4.2.1(b): Percentage distribution of usual frequency of dental visits by sociodemographic variables

	Usual frequency of dental visits			
	≥2 per year	1 per year	1 per 2 years	<1 per 2 years
Sex				
Male	21.9	25.3	20.4	32.4
Female	25.0	33.2	17.4	24.3
Annual household income				
Less than $12,000	22.6	23.6	16.8	37.0
$12,000–<$20,000	21.7	24.2	18.7	35.4
$20,000–<$30,000	18.1	27.9	21.8	32.2
$30,000–<$40,000	19.3	29.0	17.4	34.3
$40,000–<$50,000	21.7	30.7	20.4	27.2
$50,000 or more	25.3	33.3	18.2	23.1
Cardholder				
Yes	20.4	22.9	19.6	37.1
No	24.2	30.7	18.7	26.4
Residential location				
Capital City	26.0	30.0	18.3	25.7
Other Major Urban	18.5	25.2	20.1	36.3
Rural Major	19.3	28.9	17.4	34.4
Rural Other	16.9	28.5	22.9	31.7
Remote	16.1	22.0	22.2	39.7
State/Territory				
New South Wales	24.9	31.3	17.0	26.8
Victoria	24.7	26.8	18.9	29.7
Queensland	19.9	29.7	21.8	28.6
South Australia	26.0	25.8	19.2	29.0
Western Australia	23.1	29.9	19.3	27.8
Tasmania	12.8	28.6	22.3	36.3
Australian Capital Territory	23.7	32.3	18.8	25.2
Northern Territory	14.1	29.6	19.7	36.6
Total	**23.4**	**29.2**	**18.9**	**28.4**

Note: The data in this table relate to dentate persons aged 18 years or more.

4.3 Reason for last dental visit

An individual's reason for seeking dental care influences the type of care that they are likely to receive, and the level of untreated problems they may have at any time. Individuals who contact a dental professional for the purpose of a dental check-up are most likely to benefit from early detection and treatment of oral disease, and to receive ongoing preventive care. In contrast, those who only seek care when they are experiencing a dental problem, may receive less desirable treatment, and may be less likely to receive preventive services.

Tables 4.3.1(a) and (b) show among dentate persons who visited in the previous 12 months, the percentage whose last dental visit was for a check-up, by card status. Among each adult age group, non-cardholders were more likely to have last visited for a check-up than were cardholders. There was a clear trend across age groups. Children, adolescents and young adults were more likely to have last visited for a check-up than a problem (72.9%, 71.3%, and 54.4% respectively). Declining to about 38% among dentate adults aged 45 years and over.

Table 4.3.1(a): Percentage of persons whose last dental visit was for a check-up

	Cardholder	Non-cardholder	Total
Age group			
5–11 years	68.1	74.4	72.9
12–17 years	72.3	71.2	71.3
18–24 years	42.2	56.7	54.4
25–44 years	28.5	51.7	49.1
45–64 years	30.9	39.6	38.3
65 years or more	34.3	41.5	38.5
Total	**44.5**	**54.0**	**52.3**

Note: The data in this table relate to dentate persons whose last dental visit was in the previous 12 months.

Table 4.3.1(b) presents the percentage of dentate adults whose last visit (in the previous 12 months) was for a check-up. Overall, cardholders were less likely to have last visited for a check up than were non-cardholders (33.0% cf. 47.5%). Females were more likely than males to have last made a dental visit for a check-up. Overall, there was an association with income, 28.4% of those from households of less than $12,000 per annum last visited for a check-up, increasing to 50.8% among the highest income group. Persons from capital cities were more likely to have reported that their last dental visit was for a check-up than were persons from other locations. Tasmania had the lowest percentage of persons reporting that their last dental visit was for a check-up, 35.9% compared with 45.1% nationally.

Table 4.3.1(b): Percentage of persons whose last dental visit was for a check-up

	Cardholder	Non-cardholder	Total
Sex			
Male	31.3	45.1	42.9
Female	34.2	49.8	47.0
Annual household income			
Less than $12,000	26.4	31.4	28.4
$12,000–<$20,000	31.7	42.2	36.1
$20,000–<$30,000	30.5	41.7	38.0
$30,000–<$40,000	†61.0	44.9	46.4
$40,000–<$50,000	*64.7	49.7	50.3
$50,000 or more	*41.5	50.9	50.8
Residential location			
Capital City	37.8	49.4	47.8
Other Major Urban	35.9	41.4	40.5
Rural Major	28.2	40.0	36.9
Rural Other	*18.5	43.9	37.4
Remote	*6.3	44.9	40.4
State/Territory			
New South Wales	28.5	43.5	41.5
Victoria	41.6	54.3	52.5
Queensland	32.2	42.1	39.9
South Australia	27.5	50.1	44.9
Western Australia	39.7	54.5	51.3
Tasmania	*20.6	40.8	35.9
Australian Capital Territory	*12.5	45.1	42.0
Northern Territory	*30.1	49.4	48.4
Total	**33.0**	**47.5**	**45.1**

* Estimate has a relative standard error greater than 25%.

† Estimate has a standard error greater than 10%.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

4.4 Place of last dental visit

The distribution of place of last dental visit among dentate persons who visited a dental professional in the last 12 months is presented in Table 4.4.1(a). Among 5–11-year-olds, 57.4% of those visiting a dentist in the last 12 months last attended a school dental clinic, while 38.9% last attended a private practice. The reverse was the case for 12–17-year-olds, 58.9% last visited a private practice, and 31.1% a school dental clinic. The percentage of persons last visiting a private practice continued to increase across age groups, up to 92.3% among the 45–64-year-olds. There was a decrease in the percentage of persons aged 65 years and over visiting a private practice (82.6%), as the percentage using a public clinic increased to 15.3%.

Table 4.4.1(a): Place of last dental visit by age

	Place of last dental visit (%)				
	Private	**Public**	**School**	**Technician**	**Other**
Age group					
5–11 years	38.9	*3.7	57.4	—	—
12–17 years	58.9	9.9	31.1	*0.1	—
18–24 years	81.4	14.5	*3.8	—	*0.3
25–44 years	89.6	7.7	*0.2	*0.4	*2.1
45–64 years	92.3	5.9	*0.1	*0.5	*1.2
65 years or more	82.6	15.3	*0.4	*1.5	*0.2
Total	**77.8**	**8.4**	**12.5**	***0.4**	**1.0**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons whose last dental visit was in the previous 12 months.

Table 4.1.1(b) presents the place of last dental visit among dentate adults who visited a dental professional in the last 12 months by sociodemographic variables. The percentage of males last visiting private practice was slightly lower than for females, with a similar percentage of males and females last visiting a public dental service. A clear trend was evident in the use of private practice with annual household income. Persons from households with a greater annual income were more likely to visit a private practice, and less likely to visit a public clinic. Persons from households of less than $12,000 per year had the highest percentage of persons last visiting a public dental clinic (34.2%). However, even in this group a greater percentage still visited a private dentist (64.4%). Nearly 60% of cardholders last visited a private practice, and nearly 40% visited a public dental clinic. So, even though cardholders are eligible for public-funded dental care, a greater percentage of them purchase care at their own expense from private practice than receive dental care expense-free from the public sector. This could be the result of a number of factors, such as continuity of care with their private dental practitioner, or discouragement from long waiting lists in the public sector.

As residential location became less urban, the percentage of persons last visiting a private practice declined, and public clinic use increased. There were differences evident between the States and Territories in the distribution of dental services across dental sectors. Queensland, South Australia, Tasmania, and the Northern Territory had the greatest percentage of persons last using a public clinic (12.5%–16.2%). Private practice use was highest in New South Wales, Victoria, and the Australian Capital Territory, all of which had a correspondingly low reported use of public dental services (5.6%–6.9%).

Table 4.4.1(b): Place of last dental visit by sociodemographic variables

	Place of last dental visit (%)				
	Private	**Public**	**School**	**Technician**	**Other**
Sex					
Male	87.7	9.0	*0.6	*0.6	*2.2
Female	89.1	9.1	*0.8	*0.5	*0.6
Annual household income					
Less than $12,000	64.4	34.2	*0.5	*0.9	—
$12,000–<$20,000	69.6	28.6	*0.6	*0.4	*1.0
$20,000–<$30,000	84.1	14.3	—	*0.7	*1.0
$30,000–<$40,000	91.2	*4.6	*1.4	*2.1	*0.7
$40,000–<$50,000	93.8	*4.5	*0.7	—	*0.9
$50,000 or more	96.8	*1.0	*0.7	*0.1	*1.4
Cardholder					
Yes	58.6	38.2	*1.6	*0.9	*0.8
No	94.6	3.0	*0.5	*0.4	1.4
Residential location					
Capital City	90.3	7.3	*0.6	*0.3	*1.5
Other Major Urban	86.3	10.8	*0.7	*0.4	*1.8
Rural Major	84.5	11.7	*1.3	*1.7	*0.8
Rural Other	82.0	16.5	*0.6	*0.7	*0.2
Remote	77.2	*18.4	*1.4	*0.7	*2.3
State/Territory					
New South Wales	91.5	5.6	*0.8	*0.4	*1.7
Victoria	90.1	6.9	—	*0.7	*2.3
Queensland	82.1	15.9	*0.9	*0.7	*0.4
South Australia	84.9	12.5	*1.6	*0.4	*0.6
Western Australia	89.4	9.5	*0.8	*0.3	—
Tasmania	83.9	13.5	*2.1	*0.5	—
Australian Capital Territory	91.9	*5.9	—	—	*2.2
Northern Territory	80.6	16.2	—	—	*3.1
Total	**88.4**	**9.0**	***0.7**	***0.5**	**1.3**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

Table 4.4.2 shows the reasons reported by dentate adult cardholders for visiting a private dentist at their last dental visit (within the last 2 years), rather than visiting a public clinic. Just under 30% of such cardholders reported that they were not eligible for public care at the time of their last visit. One-tenth received a government subsidy to visit a private dentist, and hence made a public-funded dental visit. A little over 40% stated that they prefer to see a private dentist, and the remaining 16.4% went to a private dentist for some other reason. The reasons most often given for preferring a private dentist were not having to wait, followed by the quality and continuity of care. Among those who said that the reason for visiting a private dentist was not because they prefer to see a private dentist, the most often given reason was that the waiting list was too long at the public clinic, followed by treatment not available and no public clinic to attend.

Table 4.4.2: Cardholders' reasons for going to a private dentist at last visit

	%	%
Not eligible for public care at time		**29.7**
Received government subsidy		**11.4**
Prefer to see a private dentist		**42.6**
Don't have to wait[(a)]	46.2	
Quality of care[(a)]	41.6	
Continuity of care[(a)]	25.3	
Other[(a)]	20.8	
Treatment not available at public clinic[(a)]	*6.5	
No public clinic to attend[(a)]	*5.9	
Other		**16.4**
Had to wait too long at a public clinic[(b)]	67.6	
Treatment not available at public clinic[(b)]	28.9	
No public clinic to attend[(b)]	26.5	
Didn't know were eligible for public care[(b)]	*18.7	
Difficult to get to the public clinic[(b)]	*15.2	

(a) More than one reason per individual could be nominated.

(b) More than one reason per individual could be nominated.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate cardholders aged 18 years or more whose last dental visit was in the previous 2 years to a private dentist.

4.5 Dental visits and treatment received

Number of visits

The number of visits that an individual made in the last year has a complex relationship with the usual visiting frequency and reason for visiting. Tables 4.5.1(a) and (b) show the mean number of dental visits, and services used, for dentate persons who have visited in the past 12 months. Overall, the average number of visits was 2.40 per person visiting in the last 12 months. The average number of visits was lowest among those aged 5–11 years and 18–24 years, and highest among those aged 12–17 years. The differences between the adult age groups 25 years and over were comparatively small.

Treatment received

The mix of services provided to a group of people indicates much about access to an acceptable minimum standard of dental care. Provision of dental services that includes large numbers of extractions tends to reflect a service that is providing relief of pain at the lowest possible cost. A service that includes fewer dental extractions and a higher ratio of fillings per extraction indicates greater effort is being made to preserve the natural dentition and oral function. A group of people who have had regular and appropriate dental care should report low levels of extractions and relatively low levels of fillings compared with less well-maintained groups.

Table 4.5.1(a) presents, by age group, the mean number of routine dental services received in the last 12 months per person visiting. Children aged 5–11 years received fewer extractions were less likely to have a scale and clean than other age groups. The average number of extractions was highest among persons aged 18–24 years and among persons aged 65 years or more. Children and adolescents had fewer fillings than the other age groups. Overall, scale and clean was the most common service, followed by fillings.

Table 4.5.1(a): Mean number of dental visits and routine services by age

	Visits	Extraction(s)	Filling(s)	Scale and clean
Age group				
5–11 years	2.02	0.24	0.49	0.56
12–17 years	3.06	0.34	0.46	0.75
18–24 years	2.12	*0.37	0.54	0.95
25–44 years	2.39	0.31	0.93	0.92
45–64 years	2.41	0.27	0.97	0.95
65 years or more	2.37	*0.36	0.85	1.12
Total	**2.40**	**0.30**	**0.78**	**0.88**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons whose last dental visit was in the previous 12 months.

Number of visits

Among dentate adults who visited in the last 12 months the average number of visits per person was 2.35 visits. There was almost no difference in the average number of visits between males and females, and similarly by card status. There was no clear relationship between annual household income and the number of dental visits. Persons from rural areas made fewer dental visits than those from other locations.

Treatment received

The average number of extractions and fillings was higher for males than females. There was no difference in the mean number of scale and clean services received.

For extractions and fillings, there was no clear trend by annual household income. However, those from the income groups below $30,000 tended to have a greater number of extractions than those from households with more than $30,000 per annum. Average receipt of a scale and clean tended to increase as annual household income increased. There was little difference by card status in receipt of fillings. Cardholders had on average a greater number of extractions (0.58 cf. 0.26) and fewer scale and cleans (0.82 cf. 0.99) than non-cardholders. The mean number of extractions ranged from 0.13 per person visiting in the Northern Territory, up to 0.42 in Queensland. Overall, the mean number of services per year per person visiting in the last year was 0.31 extractions, 0.88 fillings, and 0.96 scale and cleans.

Table 4.5.1(b): Mean number of dental visits and routine services by sociodemographic variables

	Visits	Extraction(s)	Filling(s)	Scale and clean
Sex				
Male	2.34	0.37	0.92	0.96
Female	2.36	0.26	0.85	0.96
Annual household income				
Less than $12,000	2.26	0.55	0.88	0.80
$12,000–<$20,000	2.45	*0.46	1.06	0.89
$20,000–<$30,000	2.26	0.42	0.82	0.90
$30,000–<$40,000	2.07	0.17	0.78	0.94
$40,000–<$50,000	2.14	0.35	0.89	0.91
$50,000 or more	2.43	0.25	0.83	1.03
Cardholder				
Yes	2.35	0.58	0.90	0.82
No	2.36	0.26	0.88	0.99
Residential location				
Capital City	2.43	0.30	0.86	1.02
Other Major Urban	2.38	*0.37	1.13	0.89
Rural Major	2.28	*0.31	0.87	0.73
Rural Other	1.95	0.38	0.86	0.85
Remote	2.25	*0.25	0.96	0.87
State/Territory				
New South Wales	2.42	0.24	0.88	0.98
Victoria	2.37	0.30	0.83	0.98
Queensland	2.34	0.42	0.97	0.91
South Australia	2.22	0.34	0.78	0.91
Western Australia	2.28	0.36	0.93	0.97
Tasmania	2.18	*0.35	0.97	0.83
Australian Capital Territory	2.38	0.28	0.84	1.09
Northern Territory	2.16	*0.13	0.75	0.83
Total	**2.35**	**0.31**	**0.88**	**0.96**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

In isolation, the average number of services provides only limited information due to the differing ways in which the same mean number of services could be derived. Given only the mean number of services, it is unknown whether there were a few people receiving a large number of services each, or if there were a large number of people each receiving a small number of services each. Among dentate persons who made a dental visit in the previous 12 months, Tables 4.5.2(a) and (b) present the percentage of those persons who received routine dental services.

Nearly one-in-six persons (15.8%) who made a dental visit in the previous 12 months received one or more extractions. This figure was lowest among children, of whom around 13–14% received an extraction(s). The percentage of persons who received fillings increased across age groups from 26% of 5–11- and 12–17-year-olds, up to around 50% of those aged 45 years and older. Children were the least likely to receive a scale and clean, and approximately three quarters of adults who visited in the previous 12 months had a scale and clean.

Table 4.5.2(a): Percentage of persons receiving routine dental services by age

	Visits[(a)]	Extraction(s)	Filling(s)	Scale and clean
Age group				
5–11 years	82.8	13.3	26.1	41.0
12–17 years	78.5	13.8	26.2	57.9
18–24 years	51.6	14.9	32.3	74.1
25–44 years	53.4	18.6	45.9	72.8
45–64 years	62.0	15.6	51.3	74.9
65 years or more	59.5	14.5	48.2	74.5
Total	**61.3**	**15.8**	**40.7**	**67.7**

(a) Percentage of persons who last made a dental visit in the previous 12 months among dentate persons.

Note: Unless otherwise noted the data in this table relate to dentate persons whose last dental visit was in the previous 12 months.

Males were slightly more likely to have received extractions than females. Across income groups there was a general decline in the percentage of persons receiving extractions as income increased. The opposite trend was observed when examining the percentage of persons receiving a scale and clean across age groups. Cardholders were more likely to receive extractions and less likely to receive a scale and clean than non-cardholders, little difference was found in the percentage receiving fillings. By residential location, persons from more urban locations tended to have a lower percentage who had extractions. The greatest variation between States and Territories across the three services groups was found in the percentage of persons receiving extractions. These percentages ranged from 8.7% in the Northern Territory, to 21.2% in Tasmania. Overall, three quarters of dentate adults who made a dental visit in the last 12 months received a scale and clean, just under a half received one or more fillings, and one-in-six had at least one extraction.

Table 4.5.2(b): Percentage of persons receiving routine dental services by sociodemographic variables

	Visits[(a)]	Extraction(s)	Filling(s)	Scale and clean
Sex				
Male	52.4	18.3	46.0	75.2
Female	60.4	15.1	46.1	72.8
Annual household income				
Less than $12,000	51.3	28.2	52.6	63.8
$12,000–<$20,000	51.6	25.4	47.4	64.4
$20,000–<$30,000	50.4	23.1	48.1	67.3
$30,000–<$40,000	54.0	12.2	47.7	69.9
$40,000–<$50,000	57.5	17.4	45.7	76.1
$50,000 or more	58.4	11.8	43.5	79.6
Cardholder				
Yes	50.1	26.7	46.7	58.3
No	57.9	14.5	46.0	77.1
Residential location				
Capital City	58.1	15.8	45.0	78.1
Other Major Urban	51.9	17.2	53.9	67.8
Rural Major	53.5	18.9	44.2	59.1
Rural Other	53.4	19.4	50.1	62.3
Remote	44.6	*19.2	44.4	78.2
State/Territory				
New South Wales	56.5	13.5	45.3	75.6
Victoria	54.3	17.1	45.6	73.8
Queensland	56.7	20.7	47.0	71.3
South Australia	58.8	17.4	42.3	70.2
Western Australia	59.6	18.0	50.3	76.4
Tasmania	51.4	21.2	50.6	67.3
Australian Capital Territory	59.3	14.5	45.9	80.7
Northern Territory	47.0	*8.7	42.1	70.4
Total	**56.3**	**16.6**	**46.1**	**73.9**

(a) Percentage of persons who last made a dental visit in the previous 12 months among dentate persons aged 18 years or more.

* Estimate has a relative standard error greater than 25%.

Note: Unless otherwise noted the data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

Tables 4.5.3(a) and (b) present the same data as in Tables 4.5.1(a) and (b), but the results are now split by the reason for the last dental visit. Across all age groups the average number of dental visits in the last 12 months was greater for those who last attended for a problem than if the last visit were for a check-up. Overall, those who last visited for a problem made 1.15 more visits on average than the check-up group. Persons who last visited for a problem received far more extractions and fillings and fewer scale and cleans.

Table 4.5.3(a): Mean number of dental visits and services by sociodemographic variables, split by reason for last visit

	Visits		Extraction(s)		Filling(s)		Scale and clean	
	Check-up	Problem	Check-up	Problem	Check-up	Problem	Check-up	Problem
Age group								
5–11 years	1.66	2.99	*0.08	0.66	0.30	1.02	0.52	0.67
12–17 years	2.18	5.20	*0.22	*0.65	*0.41	0.59	0.74	0.72
18–24 years	2.09	2.15	*0.26	*0.49	*0.38	*0.72	1.13	0.74
25–44 years	1.74	3.02	*0.08	0.53	0.47	1.37	1.11	0.72
45–64 years	1.75	2.82	*0.02	0.43	0.47	1.29	1.17	0.81
65 years or more	1.93	2.63	*0.06	*0.55	0.57	1.02	1.34	0.98
Total	**1.85**	**3.00**	**0.11**	**0.52**	**0.42**	**1.16**	**0.97**	**0.78**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons whose last dental visit was in the previous 12 months.

Males who last visited for a problem had more extractions than females who last visited for a problem. Among non-cardholders there was a marked difference in the average number of visits between those who last visited for a check-up compared to those who last visited for a problem—1.76 visits and 2.91 visits respectively. In contrast there was little difference among cardholders in number of visits by reason for last visit—2.28 visits compared with 2.37 visits. Regardless of the reason for last visit, cardholders had more extractions per person visiting than did non-cardholders. Cardholders received more extractions than non-cardholders if their last visit was for a check-up, but fewer fillings if their last visit was for a problem. Compared with those who last visited for a check-up, persons who last visited for a problem had around five times the average number of teeth removed, and two and a half times the number of fillings per person visiting per year.

Table 4.5.3(b): Mean number of dental visits and services by sociodemographic variables, split by reason for last visit

	Visits		Extraction(s)		Filling(s)		Scale and clean	
	Check-up	Problem	Check-up	Problem	Check-up	Problem	Check-up	Problem
Sex								
Male	1.74	2.80	*0.10	0.57	0.49	1.23	1.13	0.84
Female	1.88	2.79	*0.08	0.42	0.45	1.21	1.18	0.76
Annual household income								
Less than $12,000	1.78	2.41	*0.13	*0.72	0.71	0.96	1.14	0.65
$12,000–<$20,000	1.99	2.72	*0.13	*0.65	0.42	1.42	1.08	0.79
$20,000–<$30,000	1.93	2.47	*0.06	0.65	0.54	1.00	1.10	0.78
$30,000–<$40,000	1.65	2.43	—	0.31	0.46	1.05	1.13	0.77
$40,000–<$50,000	1.88	2.43	*0.12	0.59	0.65	1.10	1.10	0.72
$50,000 or more	1.81	3.07	*0.10	0.40	0.39	1.29	1.17	0.88
Cardholder								
Yes	2.28	2.37	*0.22	0.75	0.59	1.06	1.12	0.67
No	1.76	2.91	0.07	0.42	0.45	1.26	1.16	0.83
Residential location								
Capital City	1.88	2.93	0.11	0.47	0.45	1.23	1.20	0.85
Other Major Urban	1.83	2.76	*0.03	*0.60	*0.66	1.43	1.17	0.70
Rural Major	1.63	2.66	*0.02	*0.49	*0.42	1.13	0.95	0.61
Rural Other	1.55	2.18	*0.07	0.56	0.53	1.06	1.03	0.74
Remote	1.66	2.63	*0.01	*0.42	*0.60	1.21	0.97	0.80
State/Territory								
New South Wales	1.68	2.95	*0.04	0.38	0.39	1.23	1.21	0.83
Victoria	1.92	2.87	*0.09	0.54	0.48	1.23	1.10	0.84
Queensland	2.00	2.57	0.22	0.55	0.58	1.23	1.15	0.74
South Australia	1.78	2.59	*0.07	0.56	0.47	1.02	1.21	0.68
Western Australia	1.76	2.81	*0.09	0.66	0.54	1.32	1.13	0.79
Tasmania	1.68	2.46	*0.07	*0.51	0.42	1.28	1.09	0.69
Australian Capital Territory	1.63	2.91	*0.11	0.41	0.38	1.09	1.31	0.94
Northern Territory	1.84	2.47	*0.02	*0.23	*0.24	1.21	0.93	0.72
Total	**1.82**	**2.80**	**0.09**	**0.49**	**0.47**	**1.22**	**1.16**	**0.79**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

Tables 4.5.4(a) and (b) show the percentage of persons who received routine dental services among dentate adults visiting in the last 12 months, by reason for last visit.

Across all age groups, persons whose last visit was for a problem were more likely to receive one or more extractions and/or fillings, and generally less likely to receive a scale and clean. While the percentage of children who last visited for a problem is relatively low (27.1%, Table 4.3.1(a)) it could be of concern that 38.1% of this group were reported to have had an extraction in the last 12 months—the highest percentage of all the age groups. The 25–44 year age group had the next highest percentage reporting extractions (31.1%).

Table 4.5.4(a): Percentage of persons receiving dental services by age, split by reason for last visit

	Extraction(s)		Filling(s)		Scale and clean	
	Check-up	Problem	Check-up	Problem	Check-up	Problem
Age group						
5–11 years	*4.1	38.1	19.4	43.7	36.6	52.6
12–17 years	*9.7	24.2	22.9	34.6	60.3	51.7
18–24 years	*9.0	21.8	21.6	45.0	85.6	60.3
25–44 years	5.8	31.1	29.1	61.9	85.8	60.0
45–64 years	*1.6	24.5	29.0	65.4	86.3	68.0
65 years or more	*4.7	20.7	35.1	56.1	89.1	65.4
Total	**5.6**	**27.0**	**25.8**	**57.1**	**73.0**	**61.8**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons whose last dental visit was in the previous 12 months.

Table 4.5.4(b) restricts the analysis to dentate adults who made a visit in the last 12 months. Of this group, around one-in-twenty of those last visiting for a check-up had extractions, compared with one-in-four who last visited for a problem. The respective figures for receipt of fillings were about three in ten if last visit was a check-up, and six in ten if last visit was for a problem.

People from lower income households who last visited for a problem, tended to be more likely to have an extraction and less likely to have a clean and scale than higher income groups. Cardholders who last visited for a problem were more likely to have an extraction than the corresponding group of non-cardholders (35.3% cf. 23.7%).

Table 4.5.4(b): Percentage of persons receiving dental services by sociodemographic variables, split by reason for last visit

	Extraction(s)		Filling(s)		Scale and clean	
	Check-up	Problem	Check-up	Problem	Check-up	Problem
Sex						
Male	*4.4	28.9	29.8	57.9	87.2	66.1
Female	5.6	23.6	27.5	62.7	85.5	61.3
Annual household income						
Less than $12,000	*10.0	35.6	38.4	58.9	86.5	55.1
$12,000–<$20,000	*8.4	35.3	24.0	60.2	79.1	56.2
$20,000–<$30,000	*4.6	34.5	32.4	57.8	75.0	62.5
$30,000–<$40,000	—	22.8	30.4	62.9	83.3	58.3
$40,000–<$50,000	*6.4	28.7	39.1	51.4	87.1	64.6
$50,000 or more	*4.9	19.0	24.5	63.2	88.9	69.8
Cardholder						
Yes	*9.4	35.3	30.0	55.0	77.7	48.8
No	4.5	23.7	28.4	61.8	87.5	67.6
Residential location						
Capital City	5.7	25.1	27.8	60.5	88.7	68.3
Other Major Urban	*2.6	27.0	30.0	69.7	82.8	57.7
Rural Major	*1.4	29.4	31.0	52.0	73.6	51.0
Rural Other	*4.9	27.9	32.0	60.9	79.3	52.2
Remote	*0.7	31.9	*24.1	58.5	86.1	72.4
State/Territory						
New South Wales	*3.2	20.9	24.2	60.3	88.6	66.6
Victoria	*6.5	29.0	29.0	64.0	83.1	63.2
Queensland	*7.0	29.7	30.2	58.2	88.9	59.6
South Australia	*3.2	29.0	29.2	52.7	85.9	57.4
Western Australia	*5.6	31.3	37.3	63.2	84.3	67.1
Tasmania	*5.7	29.9	29.2	62.9	80.9	59.8
Australian Capital Territory	*4.7	22.1	26.2	59.3	95.2	70.4
Northern Territory	*1.6	*15.4	*17.6	65.0	79.2	62.0
Total	**5.1**	**26.2**	**28.5**	**60.4**	**86.3**	**63.6**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

Tables 4.5.5(a) and (b) shows for dentate persons last visiting in the previous 12 months, the percentage receiving services other than extractions, fillings, or a scale and clean.

The additional dental services specified were, fluoride treatment, a new denture, other oral surgery (besides extractions), gum treatment, denture adjustment, orthodontics, and crown or bridge work. Other treatments included treatments such as X-rays, which were not identified elsewhere. Because the number of individuals who reported these treatments was low, the estimates in the columns marked with an asterisk may be regarded as unreliable in their specific accuracy.

Among those visiting, around a quarter of children and adolescents received fluoride treatment. As would be expected, denture related treatment increased with age. Orthodontic treatment was highest among those aged 12–17 years. The percentage of persons receiving crown or bridge treatment increased across age groups.

Table 4.5.5(a): Percentage of persons receiving additional dental services by age

		Treatment							
	Additional treatment[(a)]	Fluoride	New denture	Other OS	Gum treat	Denture adjust	Ortho-dontics	Crown/ bridge	Other treat[(b)]
Age group									
5–11 years	35.1	25.3	—	*0.6	*0.2	—	*4.7	*1.4	7.8
12–17 years	40.9	23.9	—	*0.7	*0.3	—	17.0	*0.4	7.5
18–24 years	14.0	*4.2	*0.1	*0.1	*1.0	*0.1	*2.0	*1.4	*5.8
25–44 years	19.3	*2.0	*0.2	2.8	*0.7	*0.2	*0.8	4.2	9.7
45–64 years	29.2	*2.8	*2.3	4.8	*1.8	*0.4	*0.1	10.2	11.0
65 years or more	28.1	*1.9	7.2	*2.8	*2.3	*2.4	—	7.9	8.5
Total	**26.8**	**8.5**	**1.3**	**2.4**	**1.0**	***0.4**	**3.3**	**4.7**	**8.9**

(a) Percentage of persons receiving services other than extractions, fillings, or a scale and clean.

(b) Percentage of persons receiving services other than extractions, fillings, a scale and clean, or those services listed in this table.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons whose last dental visit was in the previous 12 months.

Among adults, crown or bridge work tended to increase with annual household income. A lower percentage of cardholders had crown or bridge work than did non-cardholders, and those in capital cities were more likely to have had crown or bridge work than other locations.

Table 4.5.5(b): Percentage of persons receiving additional dental services by sociodemographic variables

		Treatment							
	Additional treatment[(a)]	Fluoride	New denture	Other OS	Gum treat	Denture adjust	Ortho-dontics	Crown/ bridge	Other treat[(b)]
Sex									
Male	22.2	*2.2	*1.8	3.2	*1.1	*0.5	*0.7	6.8	8.4
Female	23.3	2.9	*1.7	3.0	*1.4	*0.6	*0.6	5.6	10.3
Annual household income									
Less than $12,000	20.1	—	*3.7	*2.9	*2.7	*0.6	*0.6	*2.2	*7.6
$12,000–<$20,000	25.1	*1.3	*4.6	*4.5	*1.2	*2.4	*0.2	*4.8	9.6
$20,000–<$30,000	18.4	*2.4	*1.8	*1.7	*1.2	*0.8	*1.0	*5.2	7.4
$30,000–<$40,000	22.4	*1.7	*1.3	*2.5	*1.1	*0.6	*0.6	*4.2	12.5
$40,000–<$50,000	18.8	*1.8	*1.2	*1.9	*1.7	*0.1	*0.5	*5.3	*7.1
$50,000 or more	25.7	4.1	*0.8	4.1	*1.0	*0.1	*0.9	8.2	10.3
Cardholder									
Yes	20.9	*1.8	*3.4	*2.3	*1.3	*0.6	*1.3	*4.3	7.8
No	23.2	2.7	1.4	3.2	*1.3	*0.5	*0.5	6.5	9.7
Residential location									
Capital City	23.2	3.0	*1.3	3.1	*1.4	*0.5	*0.7	7.2	9.0
Other Major Urban	25.3	*1.6	*1.9	*3.1	*1.6	*0.9	—	*4.9	14.2
Rural Major	21.7	*1.8	*3.1	*3.5	*0.9	*0.6	*0.4	*3.3	9.4
Rural Other	20.3	*0.7	*3.8	*2.5	*0.9	*0.5	*1.6	*3.5	8.8
Remote	22.5	*4.5	*0.8	*3.1	—	*1.8	—	*4.1	*9.0
Total	**22.8**	**2.6**	**1.7**	**3.1**	**1.3**	***0.5**	***0.7**	**6.2**	**9.4**

(a) Percentage of persons receiving services other than extractions, fillings, or a scale and clean.

(b) Percentage of persons receiving services other than extractions, fillings, a scale and clean, or those services listed in this table.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

Table 4.5.6 shows the reasons for extraction(s) during the last 12 months reported by dentate adults by place of last visit and card status.

The reason most often given for having extraction(s) was that the tooth or teeth were decayed. Reasons varied substantially by place of last visit combined with card status. Cardholders who last visited a public clinic reported decayed teeth as the reason most often, followed by filling was broken down then cracked or fractured teeth. Cardholders who last went to a private dentist reported decayed teeth, and abscessed or infected teeth as the most common reasons. Extraction of wisdom teeth and decay were the two reasons given most often by non-cardholders for the reason for extraction.

Non-cardholders who went to a private dentist were more likely to have thought that there was an alternative to extraction available. Those who thought an alternative was available cited the cost of keeping the tooth or teeth, a belief that the tooth would be extracted sooner or later, and wanting to stop the pain as the major reasons for having extraction(s), despite an the belief that there was an alternative to extraction.

Table 4.5.6: Reasons for extraction(s) at last dental visit by place of visit and card status

	Cardholder public	Cardholder private	Non-cardholder private
Tooth was: [(a)]	**%**	**%**	**%**
Decayed	48.0	*28.0	31.0
Had broken down filling	*27.8	*6.8	*6.9
Cracked or fractured	*15.4	*14.7	15.9
Third molar extraction	*10.2	*21.8	28.8
Loose	*9.1	*8.3	*5.4
Abscessed or infected	*8.7	*25.0	18.3
Removed for orthodontics	*5.9	*7.9	*1.8
Impacted	*5.2	*1.0	*2.5
In the wrong position	*4.6	—	*1.1
Don't know	*1.3	*6.2	*0.7
% of persons who thought there were alternative treatments than extraction available	*12.4	*12.6	21.3

Reasons for extraction(s) at last dental visit if an alternative treatment to extraction was thought to be available[(a)]	
Cost of keeping the tooth	79.1
Thought it would be extracted sooner or later	59.2
Wanted to stop the pain	58.4
Extensive time required for treatment	36.3
Failure of previous treatment	*25.3

(a) More than one reason per individual could be nominated.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more who had an extraction in the previous 12 months.

Table 4.5.7 shows the percentage of persons receiving extractions and fillings, and the mean number of extractions and fillings per person, by card status and place of last visit.

Cardholders, irrespective of where their last visit was, were less likely to have made a dental visit in the last 12 months than non-cardholders whose last visit was privately. Regardless of the place of last visit, cardholder's most recent visit in the previous 12 months was more likely to have been for a problem than was the case for non-cardholders.

Overall, cardholders were more likely to have extractions than non-cardholders. One-third of cardholders who last visited a public clinic had an extraction, compared to 22.6% of those who last went to a private practice, and 14.4% of the non-cardholders. Among those receiving extractions, persons visiting a public clinic had a about the same number of extractions as non-cardholders (1.86 cf. 1.76 extractions), while cardholders who went privately had a greater number (2.52 extractions).

Among those who last visited for a problem, cardholders who last went to a public clinic had a lower percentage receiving fillings; and among those receiving fillings, a lower mean number were placed per person. Similar to the overall result, those who last visited a public clinic for a problem had the highest percentage having an extraction (41.5%), compared with 30.8% of the cardholder private group, and 23.3% of the non-cardholders whose last visit was for a problem. Again the cardholder group that last went privately received the greatest number of extractions. Persons last visiting a public clinic for a check-up were more likely to receive fillings than those visiting privately, 35.9% compared with about 28%.

Due to the small number of persons receiving extractions when the last dental visit was for a check-up, both the percentage and mean estimates presented have large variances associated with them.

Table 4.5.7: Percentage of persons attending for problems and frequency of fillings and extractions by card status and place of last dental visit

	Visits[(a)]	% who last visited for a problem	Filling(s)		Extraction(s)	
			%	Mean[(b)]	%	Mean[(c)]
Total						
Card public	53.2	71.8	43.9	1.96	33.4	1.86
Card private	50.4	64.0	49.3	1.85	22.6	2.52
No card private	59.5	52.2	46.4	1.93	14.4	1.76
Problem						
Card public			47.1	1.83	41.5	1.95
Card private			61.4	1.92	30.8	2.41
No card private			62.6	2.08	23.3	1.78
Check-up						
Card public			*35.9	2.42	*12.6	1.21
Card private			27.5	1.59	*8.3	*3.25
No card private			28.7	1.57	4.7	1.65

(a) Percentage of persons who last made a dental visit in the previous 12 months among dentate persons aged 18 years or more.

(b) The mean among those who received a filling or fillings.

(c) The mean among those who had an extraction or extractions.

* Estimate has a relative standard error greater than 25%.

Note: Unless otherwise noted the data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

4.6 Usual reason for a dental visit

Tables 4.6.1(a) and (b) identify which groups of persons stated as their usual reason for making a dental visit as a check-up. The remaining percentage equals the percentage who usually visit in response to a problem. Persons who usually visit a dentist due to the onset of a problem are less likely to receive ongoing preventive care than those visiting for a check-up receive. Additionally, persons who make dental visits for problems may have greater levels of unmet treatment needs, and the problems that trigger their eventual visit may be of a more serious and advanced nature.

A variety of reasons could be proposed as to why some persons usually make dental visits for a problem. Financial constraints may prevent a person from being able to make check-ups as regularly as would be desired, resulting in dental visits only when problems become intolerable, and at a time when restorative treatments may no longer be a viable option. Whatever the underlying reasons are for problem-based visits, it can be argued that many of these persons experience some form of access disadvantage, preventing them from following a more desirable visiting pattern.

Among dentate persons, there was a decline across age groups from in the percentage of persons reporting a check-up as their usual reason for visiting a dentist from 84.3% among those aged 5–11 years to 50.4% among the 25–44 year age group. For persons aged 25 years and over the percentage who reported that they usually visit for a check up was around 50%. Across all age groups, the percentage of persons usually visiting for a check-up was consistently lower among cardholders than for non-cardholders.

Table 4.6.1(a): Percentage of persons whose usual reason for a dental visit is for a check-up

	Cardholder	Non-cardholder	Total
Age group			
5–11 years	72.5	87.7	84.3
12–17 years	72.5	78.9	77.8
18–24 years	49.4	61.0	59.0
25–44 years	32.0	53.1	50.4
45–64 years	36.4	52.5	49.8
65 years or more	46.4	59.8	53.2
Total	**47.8**	**60.1**	**57.8**

Note: The data in this table relate to dentate persons.

Among dentate adults, females were more likely to usually visit for a check-up than were males. Persons from households with a lower annual income were far less likely to usually visit for a check-up than wealthier households. Similarly, those from remote regions were much less likely to visit for a check-up then persons from capital cities. Across the States and Territories the percentage of persons who usually visit for a check-up ranged from 44.0% in Tasmania to 59.8% in the Australian Capital Territory.

Among cardholders, 40.4% reported that they usually visit a dentist for a check-up compared to 54.6% of non-cardholders.

Table 4.6.1(b): Percentage of persons whose usual reason for a dental visit is for a check-up

	Cardholder	Non-cardholder	Total
Sex			
Male	36.9	48.7	46.5
Female	43.4	60.8	57.3
Annual household income			
Less than $12,000	35.7	39.2	37.1
$12,000–<$20,000	35.9	56.5	43.7
$20,000–<$30,000	42.4	47.6	46.0
$30,000–<$40,000	46.2	47.6	47.2
$40,000–<$50,000	*53.3	56.8	56.6
$50,000 or more	65.8	58.2	58.5
Residential location			
Capital City	42.8	57.7	55.3
Other Major Urban	49.7	48.4	48.9
Rural Major	38.9	45.7	44.0
Rural Other	25.5	47.5	41.4
Remote	*33.2	39.7	38.8
State/Territory			
New South Wales	39.5	53.8	51.7
Victoria	44.3	56.2	53.9
Queensland	41.5	52.1	49.9
South Australia	31.3	55.1	48.9
Western Australia	44.8	57.3	54.7
Tasmania	27.1	51.2	44.0
Australian Capital Territory	44.7	62.2	59.8
Northern Territory	*27.3	47.8	46.4
Total	**40.4**	**54.6**	**51.9**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

Having identified which groups of persons are more likely to usually visit for a check-up, it is of interest to determine the impact of an individual's usual reason for visiting a dentist on their visiting pattern. This is achieved in Table 4.6.2. Differences by usual reason for a dental visit were generally greater than the differences between cardholders and non-cardholders.

There was a good deal of similarity between cardholders and non-cardholders in the time since last dental visit. People who usually visit for a problem were far more likely to have not made a visit for a long time, and less likely to have made a recent dental visit than those usually visiting for a check-up.

When controlling for usual visit reason, a marginally higher percentage of cardholders reported no need for a dental visit than non-cardholders. Among those who usually visit for a check up 15.7% of cardholders and 10.9% of non-cardholders reported needing some dental treatment. This was higher for those who usually visit for a problem, 41.8% for cardholders and 35.5% for non-cardholders. Those who reported that they usually visit for a problem were more likely to have last visited for a problem, than those who usually visit for a check-up were to have last visited for a check-up. This result held both for cardholders and non-cardholders.

As noted above the percentage of persons visiting in the last 12 months is lower among those who usually visit for a problem than those who usually visit for a check-up. Therefore, the percentage of persons who made no visits in the last 12 months was greater among problem-based visitors than those usually visiting for a check-up. This somewhat distorts comparison between the two groups. It may be more appropriate in this instance to examine the distribution of the number of visits among those who made a visit. Among non-cardholders, problem based visitors were more likely to make four or more visits than were those usually visiting for a check-up. This result did not hold among cardholders.

Table 4.6.2: Visiting patterns of persons identified by card status and usual reason for a dental visit

	Cardholder		Non-cardholder	
	Check-up (%)	Problem (%)	Check-up (%)	Problem (%)
Time since last visit				
Less than 12 months	67.8	38.0	69.6	43.3
1–<2 years	17.4	24.2	17.9	21.0
2–<5 years	9.6	20.5	8.9	19.4
5 years or more	*5.1	17.4	3.7	16.3
Type of visit required				
Check-up only	29.9	14.0	35.3	21.6
Treatment only	11.0	30.9	6.4	26.3
Check-up and treatment	*4.7	10.9	4.5	9.2
No visit	54.4	44.2	53.8	42.9
Reason for last dental visit[(a)]				
Problem	49.1	88.9	33.0	89.7
Check-up	50.9	11.1	67.0	10.3
Number of dental visits in the last 12 months				
None	32.2	62.0	30.4	56.7
One	27.0	18.3	29.7	17.8
Two	21.0	9.2	23.5	9.5
Three	8.4	*4.3	8.3	5.9
Four or more	11.4	6.2	8.1	10.1
Number of dental visits in the last 12 months[(a)]				
One	39.8	48.3	42.7	41.1
Two	31.0	24.2	33.8	21.8
Three	12.4	11.3	12.0	13.7
Four or more	16.9	16.3	11.6	23.4

(a) Among persons who made a dental visit in the previous 12 months.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

4.7 Waiting time

The length of time persons must wait before being able to obtain dental care is a crucial measure of access to timely dental care. Individuals who must wait unduly long periods could be subject to a prolonged period of preventable pain, or experience a further deterioration of their dental health. At worst, some persons may develop problems which could have otherwise have been treated in a more effective and efficient manner, if a timely visit had been possible. Table 4.7.1 presents the distribution of times waited from the time of contacting the dental clinic to the time of making the dental visit, among dentate adults who visited in the previous 12 months. The data has been split by the reason for the visit.

Differences in waiting time between cardholders and non-cardholders who visited a private practice were small, compared with the differences between the private and public sectors. Nearly all persons (around 95%) who visited a private dentist had their visit within one month of contacting the clinic, regardless of the reason for that visit. However, about one-fifth of persons last visiting a public clinic for a problem, reported that they waited for longer than 3 months for that visit. There are a couple of reasons which may explain why public patients visiting for problems report long waits. One possibility is that they were on a waiting list for a check-up, but in the meantime a problem developed, and they are reporting the on the total waiting time from the initial contact for the check-up. Another possibility is that persons perceived they had a problem but it was not considered to be of sufficient severity for immediate admission, and hence were forced to wait, or seek care elsewhere. Among those whose last visit was for a check-up at a public clinic, just less than one-in-five reported a wait of more than 12 months.

Table 4.7.1: Waiting time distribution by place of last visit and card status by reason for last visit

	Time waited[(a)] (%)				
	<1 month	1–<3 months	3–<6 months	6–<12 months	12+ months
Last visit for a problem					
Cardholder—public visit	69.2	*11.4	*5.3	*6.5	*7.6
Cardholder—private visit	95.4	*4.3	*0.2	—	*0.1
Non-cardholder—private visit	98.1	*1.5	*0.4	—	—
Last visit for a check-up					
Cardholder—public visit	51.4	*19.0	*7.6	*2.6	*19.4
Cardholder—private visit	93.1	*3.3	*1.9	*1.8	—
Non-cardholder—private visit	95.0	4.0	*0.6	*0.4	—

(a) Time from first contacting the dental clinic to the time of making the visit.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

4.8 Summary

Unless otherwise specified, all of the following summary points relate to dentate persons only.

- There was substantial variation in the time since last dental visit across age groups. Among children and adolescents approximately 80% had visited in the previous 12 months, compared with just over 50% of those aged 18–44 years, and around 60% of persons aged 45 years or more—Table 4.1.1(a).
- Females, non-cardholders, and those from higher income households were more likely to have made a dental visit in the previous 12 months than were males, cardholders, and those from lower income households—Table 4.1.1(b).
- Just under one-quarter of edentulous persons reported visiting in the previous 12 months, and 40% had not visited a dental professional within the last 5 years—Table 4.1.2.
- The percentage of persons who last visited for a check-up was highest for children, and tended to decline with increasing age—Table 4.3.1(a).
- The majority of adults who made a dental visit in the previous 12 months, last visited for a problem, rather than for a check-up. Cardholders were more likely to have last visited for a problem than non-cardholders (67.0% cf. 52.5%)—Table 4.3.1(b).
- Despite being eligible for public-funded dental care, only 38.2% of dentate adult cardholders who had made a dental visit in the last 12 months last visited a public clinic, and 58.6% last visited a private practice—Table 4.4.1(b).
- Among cardholders whose last visit was to a private practice in the last two years, the main reason for not visiting a public clinic was that they prefer to see a private dentist (42.6%). A further 29.7% reported that their reason was that that they were not eligible for public dental care at the time of their last visit—Table 4.4.2
- Adult cardholders and non-cardholders who visited in the previous 12 months made on average almost the same number of visits (2.35 cf. 2.36 visits), however cardholders received a greater number of extractions per person (0.58 cf. 0.26 extracted teeth) than non-cardholders—Table 4.5.1(b).
- Adult cardholders and non-cardholders received about the same number of fillings per person (0.90 cf. 0.88 fillings), but cardholders had fewer scale and clean services per person (0.82 cf. 0.99 services) than non-cardholders—Table 4.5.1(b).
- Adults last visiting for a problem had on average a greater number of extractions per person than those last visiting for a check-up (0.49 cf. 0.09 extractions), similarly those last visiting for a problem received more fillings than those last visiting for a check-up (1.22 cf. 0.47 fillings)—Table 4.5.3(b).
- Regardless of the reason for the last dental visit, cardholders received more extractions than non-cardholders—Table 4.5.3(b).
- Among adults, cardholders who last visited a public clinic were the most likely group to have last visited for a problem (71.8%), followed by cardholders who last went private (64.0%) and non-cardholders who went private (52.2%)—Table 4.5.7.
- Among adults who last visited for a problem in the previous 12 months, cardholders who last visited a public clinic were the group least likely to receive fillings (47.1%) and the group most likely to have extractions (41.5%). Among adults who last visited for a

check-up, cardholders who last visited a public clinic were the group most likely to receive fillings (35.9%) and the group most likely to have extractions (12.6%)—Table 4.5.7.

- Children and adolescents were more likely to usually visit for a check-up than any other age group, 84.3% and 77.8% respectively, compared with 51.9% of adults—Tables 4.6.1(a) and 4.6.1(b).
- Adults from households of less than $12,000 per annum were less likely to usually visit for a check-up (37.1%) than those from households of $50,000 or more (58.5%)—Table 4.6.1(b).
- While the visiting patterns of those who usually visit for a check-up were quite different from those who usually visit for a problem, the differences in visiting patterns between cardholders and non-cardholders were relatively minor when controlling for usual reason for visiting—Table 4.6.2.
- Around 68–69% of those who usually visit for a check-up visited in the previous 12 months, compared with 38.0% of cardholders who usually visit for a problem, and 43.3% of non-cardholders who usually visit for a problem—Table 4.6.2.
- Just under one-in-five cardholders whose last dental visit was for a check-up at a public clinic had to wait for longer than 12 months from the time of initial contact with the clinic—Table 4.7.1.

5 Social impact

Asking people if they had experienced specific events because of problems with their teeth mouth or dentures during the previous 12 months was used to assess social impact. Presented in Tables 5.1(a) and (b) is the percentage of persons reporting toothache, feeling uncomfortable about one's dental appearance, and avoidance of some foods. Results for dentate and edentulous persons are reported separately.

Among dentate persons, toothache was lowest among the 5–11 year age group, increasing to a high among 18–24-year-olds and then declining with increasing age. Just over one-in-five respondents reported feeling uncomfortable with one's dental appearance.

Feeling uncomfortable with one's dental appearance was the most often reported problem among dentate persons, followed by the avoidance of some foods; this order of importance was reversed among edentulous persons. Edentulous persons experienced the highest levels of avoidance of foods. The avoidance of foods among dentate persons increased from 10.3% for children 5–11 years, up 19.2% among those aged 65 years and over. This association with age is probably reflects an increased use of dentures among older dentate persons. Approximately one-third of edentulous persons reported avoidance of some foods during the previous 12 months.

Table 5.1(a): Variations in social impact[a] by age

	Dentate			Edentulous	
	Toothache	Appearance[b]	Avoid food	Appearance[b]	Avoid food
Age group					
5–11 years	5.8	. .	10.3	. .	. .
12–17 years	9.8	[c] 20.2	11.6	. .	. .
18–24 years	18.2	17.9	11.9	—	—
25–44 years	17.0	23.7	16.0	*51.6	*45.9
45–64 years	12.1	22.3	19.2	22.9	35.0
65 years or more	7.6	18.3	14.8	19.6	32.6
Total	**13.2**	**21.7**	**15.0**	**22.7**	**34.1**

(a) Percentage of persons reporting 'very often', 'often', or 'sometimes' during the previous 12 months.

(b) Have felt uncomfortable about dental appearance.

(c) Asked of 16- and 17-year-olds only.

* Estimate has a relative standard error greater than 25%.

Dentate persons from households of lower incomes were generally more likely to report experience of toothache, feeling uncomfortable with their appearance, and avoidance of foods. Among dentate persons, cardholders recorded greater levels of social impact than non-cardholders. Edentulous non-cardholders were more likely to feel uncomfortable with their appearance and to have avoided foods than edentulous cardholders.

Table 5.1(b): Variations in social impact[(a)] among sociodemographic groups

	Dentate			Edentulous	
	Toothache	Appearance[(b)]	Avoid food	Appearance[(b)]	Avoid food
Sex					
Male	14.7	21.0	14.5	18.7	37.2
Female	14.5	22.6	17.8	24.9	32.3
Annual household income					
Less than $12,000	19.2	29.7	23.0	19.5	37.4
$12,000–<$20,000	17.0	27.5	21.8	19.4	35.5
$20,000–<$30,000	16.5	23.6	18.7	26.9	37.2
$30,000–<$40,000	13.4	20.1	14.1	*31.1	*23.1
$40,000–<$50,000	13.0	23.6	14.9	*40.4	*28.3
$50,000 or more	12.1	18.2	13.6	*14.1	*16.0
Cardholder					
Yes	19.7	30.2	25.1	20.5	31.7
No	13.5	19.8	14.1	25.0	36.9
Residential location					
Capital City	14.5	21.8	16.6	25.4	30.4
Other Major Urban	15.4	20.9	14.4	*17.5	44.7
Rural Major	17.6	21.0	14.1	*16.3	36.1
Rural Other	11.3	20.8	16.9	22.6	42.3
Remote	14.8	32.0	17.4	*9.8	*25.8
State/Territory					
New South Wales	14.2	19.3	15.0	25.1	34.1
Victoria	14.6	24.0	19.2	24.9	33.4
Queensland	15.3	22.3	14.8	*15.5	35.7
South Australia	14.3	26.0	15.9	19.7	30.6
Western Australia	14.2	20.2	14.8	23.0	40.3
Tasmania	17.9	22.5	19.3	19.1	29.7
Australian Capital Territory	16.8	23.7	15.2	*35.5	*32.0
Northern Territory	13.3	19.7	13.7	*16.6	*37.9
Total	**14.6**	**21.8**	**16.1**	**22.7**	**34.1**

(a) Percentage of persons reporting 'very often', 'often', or 'sometimes' during the previous 12 months.

(b) Have felt uncomfortable about dental appearance.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to persons aged 18 years or more.

5.1 Summary

- Toothache was experienced more often by persons 18–44 years of age than among younger or older age groups—Table 5.1(a).
- Toothache and avoidance of some foods because of problems with one's teeth, mouth, or dentures declined among dentate adults as household income increased—Table 5.1(b).
- Dentate adult cardholders were more likely than non-cardholders to have experienced toothache (19.7% cf. 13.5%), felt uncomfortable with their dental appearance (30.2% cf. 19.8%), or have avoided some foods because of problems with their teeth, mouth, or dentures (25.1% cf. 14.1%)—Table 5.1(b).

6 Dental insurance

In Australia, a sizeable minority of people hold or are covered by dental insurance. Dental insurance is an important factor modifying access to dental care. Much of the evidence for the effects of dental insurance comes from North America, where insurance predominantly is provided on a collective, fringe benefit basis through employment contracts. This is not the case in Australia where insurance predominantly is individually purchased out of taxable income. In addition, insurance companies rebate individual persons in Australia, whereas service benefits are most commonly paid to dentists in North America.

While these differences in the organisation of dental insurance are substantial, insurance can still be expected to be an important influence on access to services.

6.1 Percentage of persons with dental insurance

Tables 6.1.1(a) and (b) describe the percentage of persons with dental insurance by card status. Insurance coverage was highest among dentate non-cardholders (41.2%). Around one-in-five dentate cardholders—even though eligible for public-funded dental care—reported that they were covered by private dental insurance. Approximately 20% of edentulous persons also reported that they had dental insurance.

Table 6.1.1(a): Percentage of persons with dental insurance by age

		Dentate		
	Edentulous	Cardholder	Non-cardholder	Total
Age group				
5–11 years	. .	*15.6	41.6	35.6
12–17 years	. .	32.1	49.6	45.7
18–24 years	. .	*15.6	35.6	31.4
25–44 years	*7.5	12.8	34.1	31.2
45–64 years	29.1	21.0	50.7	44.0
65 years or more	16.2	29.0	45.3	30.5
Total	**20.4**	**20.9**	**41.2**	**35.9**

* Estimate has a relative standard error greater than 25%.

Among dentate persons, females were more likely to have insurance than males; the reverse situation was the case among edentulous persons. A strong relationship with income was evident. Persons from households of $50,000 or more were over three times as likely to have insurance as those from households of less than $12,000 per year. There tended to be a decline in insurance from capital city to rural areas, then an increase among persons from remote locations. Insurance coverage was highest in Western Australia and South Australia, and lowest in Victoria and Queensland.

Table 6.1.1(b): Percentage of persons with dental insurance among sociodemographic groups

		Dentate		
	Edentulous	Cardholder	Non-cardholder	Total
Sex				
Male	26.1	19.7	37.6	33.9
Female	17.2	20.8	42.8	35.8
Annual household income				
Less than $12,000	*9.0	17.4	19.5	15.7
$12,000–<$20,000	17.3	16.0	27.6	19.7
$20,000–<$30,000	*20.9	19.5	30.1	26.4
$30,000–<$40,000	*29.1	*23.2	32.6	31.4
$40,000–<$50,000	*18.3	*34.6	39.8	38.7
$50,000 or more	60.1	*29.3	47.2	47.0
Cardholder				
Yes	17.0	20.3	. .	19.6
No	24.4	. .	40.1	39.3
Residential location				
Capital City	20.0	20.6	41.5	36.4
Other Major Urban	26.4	30.1	39.4	36.4
Rural Major	21.9	21.2	37.0	31.9
Rural Other	16.2	13.0	34.0	26.9
Remote	*32.1	*14.9	36.3	32.8
State/Territory				
New South Wales	17.1	21.3	41.4	36.5
Victoria	17.9	15.6	28.9	25.3
Queensland	*15.6	17.2	37.6	31.8
South Australia	28.8	25.0	55.3	45.4
Western Australia	38.8	30.3	55.1	49.1
Tasmania	24.1	23.5	51.0	39.9
Australian Capital Territory	38.5	*14.7	38.8	35.6
Northern Territory	*18.1	*17.8	38.7	36.2
Total	**20.5**	**20.3**	**40.1**	**34.8**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to persons aged 18 years or more.

6.2 Access to dental services by insurance

When controlling for insurance status, similarities between cardholders and non-cardholders were quite strong, particularly in the time since last visit. Differences between insured and non-insured persons were substantially greater than differences between cardholders and non-cardholders. Little difference existed between insured cardholders and insured non-cardholders, both groups more likely to have made a recent dental visit than their non-insured counterparts. Insured cardholders were about as likely to usually visit for a check-up than insured non-cardholders. However, among persons without insurance, cardholders were less likely than non-cardholders to usually visit for a check-up.

Table 6.2.1: Visiting patterns (period and intention) by card status and insurance

	Percentage of persons whose last dental visit was within				Per cent who usually visit for a check-up
	<12 months	1–<2 years	2–<5 years	5+ years	
Cardholders					
Insured	69.1	13.7	11.5	*5.6	61.1
Non-insured	45.8	23.0	16.8	14.4	34.9
Non-cardholders					
Insured	69.0	16.8	8.6	5.6	64.1
Non-insured	50.4	20.9	16.7	12.0	47.8
Total					
Insured	69.0	16.4	8.9	5.6	63.8
Non-insured	49.2	21.5	16.7	12.6	44.8

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

Table 6.2.2 describes among dentate adults whose last dental visit was less than 12 months ago, the percentage that last visited for a problem, and the frequency and mean number of fillings and extractions. Those without insurance were more likely to have visited for a problem, more so among cardholders. The percentage of persons receiving fillings was almost the same for all groups regardless of insurance or card status; however, cardholders without insurance received more fillings per recipient. Regardless of card status, a lower percentage of insured persons had extractions. Nearly one-third of non-insured cardholders had an extraction compared with 18.5% of non-insured non-cardholders.

Table 6.2.2: Percentage of persons attending for problems and frequency of fillings and extractions by card status and insurance

	% of persons who last visited for a problem	Filling(s)		Extraction(s)	
		%	Mean[(a)]	%	Mean[(b)]
Cardholders					
Insured	56.2	48.2	1.64	*14.3	3.43
Non-insured	71.2	46.3	2.03	31.5	1.94
Non-cardholders					
Insured	46.1	46.1	1.93	10.2	1.61
Non-insured	58.8	46.1	1.91	18.5	1.80

(a) The mean among those who received a filling or fillings.

(b) The mean among those who had an extraction or extractions.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

6.3 Summary

A sizeable minority of dentate Australian adults (18 years and over) hold dental insurance. This included both cardholders and non-cardholders. Dental insurance was associated with more favourable patterns of visiting and types of treatment received.

- Despite eligibility for public-funded dental care, one-in-five cardholders were covered by dental insurance (20.9%)—Table 6.1.1(a).
- Dentate adult cardholders with dental insurance use services in a pattern similar to insured non-cardholders. Around 69% of insured persons visited in the last 12 months, compared with around 45–50% of persons without insurance—Table 6.2.1.
- Insured cardholders were about as likely to usually visit for a check-up as insured non-cardholders (61.1% cf. 64.1%), however, among those without insurance, cardholders were less likely to usually visit for a check-up than non-cardholders (34.9% cf. 47.8%)—Table 6.2.1.
- Among dentate adults who made a dental visit in the previous 12 months, persons without insurance were about twice as likely to have had one or more extractions than insured persons—Table 6.2.2.

7 Financial burden

Financial burden is an often cited reason for why persons have not recently visited a dentist or complied with recommended treatment. Financial burden will reflect both the direct and indirect cost of dental services to the individual, disposable income of a household, and the number of persons dependent on that income.

Affordability has been characterised by whether persons avoided or delayed visiting because of cost, or whether cost had prevented recommended or wanted dental treatment. Hardship has been characterised by the financial difficulty created by dental visits over the last 12 months, and the difficulty persons would face in paying a $100 dental bill.

7.1 Affordability and hardship

Tables 7.1.1(a) and (b) examine the distribution of affordability and hardship by a number of sociodemographic variables, broken down by card status.

Across all four measures, cardholders reported greater affordability difficulties and hardship than non-cardholders. Higher percentages of cardholders avoided or delayed visiting because of the cost, or cost prevented wanted or recommended dental treatment. However, a similar percentage of cardholders and non-cardholders experienced a large financial burden due to dental visits in the last 12 months, but cardholders were far more likely to have a lot of difficulty in paying a $100 dental bill. This indicates that many people, particularly cardholders, may resolve their affordability and hardship difficulties by not seeking dental care.

Affordability difficulties were highest for the 25–44 and 45–64 year age groups. Children and adolescents were less likely to have experienced affordability difficulties (possibly due to the influence of free school based dental services), as were elderly persons (possibly due to reduced intensity and therefore cost of dental services). Dental visits in the last 12 months were reported as a large financial burden more often among adults. A strong relationship between age and having a lot of difficulty in paying a $100 dental bill was observed. Around 40% of cardholders aged 25–64 years reported that they would experience a lot of difficulty in paying a $100 dental bill. The most affected age group among non-cardholders was the 18–24 year age group, of which 14.3% reported that they would experience a lot of difficulty in paying a $100 dental bill.

Table 7.1.1(a): Percentage distribution of affordability and hardship in purchasing dental care by age, split by card status

	Avoided or delayed visiting because of cost		Cost prevented recommended or wanted dental treatment		Dental visits in last 12 months were a large financial burden[(a)]		A lot of difficulty in paying $100 dental bill	
	Card holder	Non-card holder	Card holder	Non-card holder	Card holder	Non-card holder	Card holder	Non-card holder
Age group								
5–11 years	*13.9	9.4	*7.3	*5.5	—	*4.4	36.1	10.9
12–17 years	*12.2	7.7	*15.6	*5.1	*11.9	12.1	23.8	12.6
18–24 years	29.5	26.1	23.2	20.1	*9.7	*11.3	24.7	14.3
25–44 years	48.6	30.9	42.9	24.0	22.2	15.0	40.2	7.4
45–64 years	47.6	22.1	41.7	18.4	23.2	13.3	40.2	5.5
65 years or more	23.6	12.8	19.9	10.0	10.6	11.3	19.4	7.5
Total	**31.5**	**22.8**	**27.1**	**17.6**	**13.3**	**12.2**	**30.9**	**8.6**

(a) Among dentate persons whose last dental visit was in the previous 12 months.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons.

Consistently, a greater percentage of females reported affordability difficulties and hardship than males. This was the case both for cardholders and non-cardholders. Affordability and hardship were suffered less by those from households with a high annual income than persons from lower income households. The effect of income was particularly evident in the difficulty in paying a $100 dental bill—among non-cardholders 25.8% of those on less than $12,000 per annum reported they would have a lot of difficulty, compared with 3.3% of the highest income group. Compared with the highest income group, non-cardholders from the lowest income group were around two and a half times as likely to have experienced a large financial burden as the result of dental visits in the last 12 months.

Overall, among dentate adults approximately over one-third of cardholders and one-quarter of non-cardholders reported that they had avoided or delayed visiting a dental professional because of the cost. A slightly lower percentage of persons reported that cost prevented recommended or wanted dental treatment. Among those adults who made a dental visit in the last 12 months, 16.9% of cardholders and 13.6% of non-cardholders experienced a large financial burden as a result. The comparatively low percentage of cardholders who experienced a large financial burden in the last 12 months could indicate that either public-funded care was accessed or expenditure on dental care was curtailed to match the financial capacity to purchase care. Just under a third of cardholders would have a lot of difficulty in paying a $100 dental bill, compared with 8% of non-cardholders.

Table 7.1.1(b): Percentage distribution of affordability and hardship in purchasing dental care by sociodemographic variables, split by card status

	Avoided or delayed visiting because of cost		Cost prevented recommended or wanted dental treatment		Dental visits in last 12 months were a large financial burden[(a)]		A lot of difficulty in paying $100 dental bill	
	Card holder	Non-card holder	Card holder	Non-card holder	Card holder	Non-card holder	Card holder	Non-card holder
Sex								
Male	31.4	21.4	27.8	17.8	14.8	12.5	28.9	6.9
Female	42.7	31.5	36.1	23.8	18.5	14.7	33.1	8.9
Annual household income								
Less than $12,000	38.5	37.1	34.2	31.0	25.3	25.1	46.0	25.8
$12,000–<$20,000	43.8	26.7	39.9	18.3	22.1	*12.1	35.5	15.0
$20,000–<$30,000	37.8	37.2	33.4	25.5	*14.3	17.3	28.9	15.8
$30,000–<$40,000	*24.7	32.0	*12.0	27.8	*0.1	13.3	*3.7	10.7
$40,000–<$50,000	*22.5	28.7	*21.6	19.6	*18.3	13.1	*7.0	8.5
$50,000 or more	*22.2	21.5	*13.0	18.1	—	9.7	*21.8	3.3
Residential location								
Capital City	38.8	27.0	32.9	21.8	20.2	14.8	30.0	7.6
Other Major Urban	31.5	27.6	27.5	19.2	*7.0	*13.1	30.0	*6.3
Rural Major	33.7	24.7	27.7	20.2	*9.4	12.3	35.0	10.6
Rural Other	39.7	22.6	35.4	15.9	*17.7	*7.6	33.4	7.5
Remote	*23.8	22.4	*30.8	16.2	*3.6	*9.8	*30.5	*11.2
State/Territory								
New South Wales	37.0	26.4	28.6	23.0	*16.7	16.8	27.8	7.5
Victoria	35.3	26.1	33.2	16.5	21.8	11.0	34.4	7.4
Queensland	32.1	27.1	30.4	21.7	*9.5	12.4	30.9	7.2
South Australia	45.6	23.4	39.0	19.6	17.1	12.8	29.4	10.3
Western Australia	43.8	26.2	34.2	21.5	24.1	13.4	31.6	8.4
Tasmania	44.4	28.0	38.5	21.9	*15.4	12.5	38.0	10.2
Australian Capital Territory	45.2	24.8	38.4	19.9	*13.6	9.1	36.9	8.4
Northern Territory	*29.2	28.7	*26.7	20.4	*4.8	*9.2	*28.8	12.2
Total	**37.5**	**26.2**	**32.3**	**20.7**	**16.9**	**13.6**	**31.2**	**7.8**

(a) Among dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

7.2 Access to dental services by affordability and hardship

Table 7.2.1 presents the distribution of affordability and hardship in purchasing dental care by visiting patterns for cardholders and non-cardholders. Persons who had made a dental visit in the last 12 months were less likely to have reported affordability and hardship difficulties than persons who had not made a recent dental visit. Affordability and hardship were strongly related with an individual's usual reason for making a dental visit. Persons who usually visit for a check-up had far lower levels of affordability and hardship difficulties than those who usually visit for a dental problem. The financial burden of dental visits during the last 12 months increased with the number of dental visits made in the last year. Persons who made more visits in the last year tended to report that they were less likely to have a lot of difficulty in paying a $100 dental bill, than those who had made fewer visits. This provides further support for the notion that persons may modify the dental care they receive to match their ability to afford such care.

Table 7.2.1: Percentage distribution of affordability and hardship in purchasing dental care by visiting patterns, split by card status

	Avoided or delayed visiting because of cost		Cost prevented recommended or wanted dental treatment		Dental visits in last 12 months were a large financial burden[(a)]		A lot of difficulty in paying $100 dental bill	
	Card holder	Non-card holder	Card holder	Non-card holder	Card holder	Non-card holder	Card holder	Non-card holder
Time since last visit								
Less than 12 months	32.3	20.6	28.9	18.4	16.9	13.7	27.2	6.2
1–<2 years	43.4	32.8	38.5	24.6	. .	. .	32.5	7.8
2–<5 years	42.3	33.6	31.9	21.5	. .	. .	32.6	8.8
5 years or more	42.3	37.3	35.7	25.9	. .	. .	42.0	17.2
Usual reason for visit								
Check-up	26.7	18.9	20.1	14.0	13.6	8.9	23.0	5.3
Problem	44.8	35.2	40.1	28.8	20.6	22.9	36.1	11.0
Number of dental visits in last 12 months								
None	42.8	34.1	35.7	23.9	. .	. .	34.9	10.2
One	38.9	22.1	33.4	16.4	14.0	8.0	27.1	7.1
Two	21.6	13.2	22.4	13.7	16.1	6.9	27.1	6.0
Three or more	33.0	26.2	29.5	25.8	22.9	29.3	28.3	4.7
Total	**37.5**	**26.2**	**32.3**	**20.7**	**16.9**	**13.6**	**31.2**	**7.8**

(a) Among dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

Note: The data in this table relate to dentate persons aged 18 years or more.

Table 7.2.2 extends the information on these relationships by examining whether reported affordability or hardship is associated with visiting pattern. Persons reporting affordability and hardship difficulties were less likely to have made a recent dental visit than persons who reported no such difficulties. Among persons who made a dental visit in the last 12 months, persons with affordability difficulties were considerably more likely to have last visited for a dental problem, and far more likely to experience a financial burden as a result of these visits. Similarly, persons with difficulties were more likely to usually visit for a problem than those without. Persons experiencing a large financial burden in the last 12 months as a result of dental care were more likely to have made more than three visits, than those who did not experience such a burden.

Table 7.2.2: Visiting patterns for dental care by affordability and hardship associated with paying for dental care (%)

	Avoided or delayed visiting because of cost		Cost prevented recommended or wanted dental treatment		Dental visits in last 12 months were a large financial burden[(a)]		A lot of difficulty in paying $100 dental bill	
	Yes	No	Yes	No	A large	None/ hardly any/ a little	A lot	None/ hardly any/ a little
Time since last visit								
Less than 12 months	44.8	61.0	49.8	58.4	100.0	100.0	44.7	58.1
1–<2 years	24.2	17.8	23.4	18.5	. .	. .	21.1	19.5
2–<5 years	17.4	12.6	14.5	13.8	. .	. .	15.8	13.8
5 years or more	13.6	8.6	12.3	9.3	. .	. .	18.4	8.7
Reason for last visit in last 12 months								
Check-up	29.5	49.6	25.5	50.0	21.1	49.0	32.0	46.5
Problem	70.5	50.4	74.5	50.0	78.9	51.0	68.0	53.5
Usual reason for visit								
Check-up	36.7	57.9	33.9	57.3	43.2	67.4	34.3	54.5
Problem	63.3	42.1	66.1	42.7	56.8	32.6	65.7	45.5
Number of dental visits in last 12 months								
None	55.7	40.0	51.0	42.4	. .	. .	56.2	42.8
One	20.7	24.7	20.0	24.7	26.9	44.5	20.2	24.2
Two	8.6	19.5	10.9	18.0	17.2	31.0	12.6	16.8
Three or more	15.0	15.8	18.1	14.9	55.1	23.3	11.1	16.2

(a) Among dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

Note: The data in this table relate to dentate persons aged 18 years or more.

Persons who had affordability difficulties in accessing and purchasing dental care were more likely to have visited for a problem, and consequently were more likely to have had fillings and extractions. Persons for whom the cost had prevented recommended or wanted treatment, were twice as likely to have had an extraction than those for whom cost had presented no such barrier.

Persons for whom dental visits in the last 12 months had been a large financial burden were more likely to have received fillings (and a greater number of fillings per person), and more likely to have had an extraction (and a greater number of extractions per person). So not only were these disadvantaged groups more likely to receive treatment, the treatment received was also more likely to be of a more extensive nature.

Table 7.2.3: Type of dental care received by affordability and hardship associated with paying for dental care

	% of persons who last visited for a problem	Filling(s)		Extraction(s)	
		%	Mean[(a)]	%	Mean[(b)]
Avoided or delayed visiting because of cost					
Yes	70.5	54.8	1.95	21.6	1.75
No	50.4	43.6	1.90	15.2	1.93
Cost prevented wanted or recommended treatment					
Yes	74.6	54.2	1.99	27.3	1.54
No	50.0	44.1	1.89	13.9	2.04
Financial burden of dental visits in last 12 months					
A large	78.9	62.3	2.46	29.5	2.07
None/hardly any/a little	50.9	43.3	1.78	14.4	1.80
Difficulty in paying a $100 dental bill					
A lot	68.0	51.0	1.88	28.2	1.85
None/hardly any/a little	53.5	45.4	1.92	15.4	1.88

(a) The mean among those who received a filling or fillings.

(b) The mean among those who had an extraction or extractions.

Note: The data in this table relate to dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

7.3 Summary

Affordability and hardship encountered in purchasing dental services influences the use dental services by cardholders and non-cardholders. While affordability and hardship will influence access, they also will reflect the coverage and continuity of public-funded dental care for cardholders. It would appear that many of those who experience affordability and hardship difficulties reduce their actual financial burden by modifying their use of services to more closely match their ability to afford such care.

- Among dentate persons, cardholders were more likely than non-cardholders to:
  - have avoided or delayed visiting because of cost;
  - report that cost prevented recommended or wanted dental treatment; and
  - have a lot of difficulty in paying a $100 dental bill—Table 7.1.1(a).
- Among dentate adults, females and persons from low-income households were more likely to report affordability and hardship difficulties than were males and persons from high-income households—Table 7.1.1(b).
- A lower percentage of dentate adults who had made a dental visit in the previous 12 months, or whose usual reason for a dental visit was for a check-up, experienced affordability and hardship difficulties than among those who had not visited recently or who usually visit for a problem—Table 7.2.1.
- The financial burden of dental visits in the previous 12 months increased with the number of visits made—Table 7.2.1.
- Dentate adults with affordability and hardship difficulties were less likely to have made a dental visit in the previous 12 months, and more likely to usually visit for a dental problem, than persons without such difficulties—Table 7.2.2.
- Among dentate adults who visited in the previous 12 months, those reporting affordability and hardship difficulties were more likely to have received fillings, and about twice as likely to have had extractions than those who reported no such level of difficulties—Table 7.2.3.

8 Perceived needs

Perception of the need for dental treatment acts both as an important predictor of the use of dental services, and also as an outcome measure of the success of dental programs.

If a person is aware of signs or symptoms requiring treatment or a need for a periodic check-up to have a professional assessment of their needs then there may be a greater likelihood of the use of services. However, perceived need itself is not sufficient to ensure use of services. A range of predisposing and enabling factors may influence the translation of a perceived need into actual dental visits. One result of those visits should be modification of the perceived need. Hence, levels of perceived need can also be regarded as an outcome of dental programs. Programs with high coverage of target groups and provision of appropriate dental care should lead to lower percentages of persons reporting need for specific treatments. Conversely, an increased perception of the need for a periodic check-up may accompany the meeting of specific treatment needs and the raising of persons' interest in maintenance of improved oral health.

8.1 Perceived need for dental treatment

Tables 8.1.1(a) and (b) examine perceived need for dental treatment by sociodemographic variables among dentate persons. Approximately half of persons aged 18–64 years perceived a need for a dental visit. Most of those perceiving a need for a dental visit perceived a need for a check-up only. The perceived need for treatment, with or without a check-up, increased with age, from 9.2% of 5–11-year-olds, to 26.3% of persons aged 45–64 years.

For all dentate persons aged five years or more, a little over one-half reported that they perceived no need for a dental visit, just over a quarter a check-up only, and about one-in-five perceived a need for treatment of some kind.

Table 8.1.1(a): Perceived need for dental visits by age

	Treatment need (%)			
	Check-up	Treatment	Check-up and treatment	No visit required
Age group				
5–11 years	21.8	6.4	*2.8	69.0
12–17 years	26.7	8.3	*2.3	62.7
18–24 years	31.7	10.7	6.9	50.7
25–44 years	29.2	17.7	7.7	45.5
45–64 years	26.1	19.5	6.8	47.7
65 years or more	18.1	15.5	5.8	60.5
Total	**26.6**	**14.9**	**6.1**	**52.4**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons.

Table 8.1.1(b): Perceived need for dental visits by sociodemographic variables

	Treatment need (%)			
	Check-up	Treatment	Check-up and treatment	No visit required
Sex				
Male	24.5	18.2	7.2	50.1
Female	30.1	15.6	7.0	47.3
Annual household income				
Less than $12,000	17.3	23.0	8.5	51.2
$12,000–<$20,000	22.1	24.2	6.9	46.8
$20,000–<$30,000	23.5	21.3	8.0	47.2
$30,000–<$40,000	27.2	13.9	8.6	50.3
$40,000–<$50,000	29.4	17.8	7.6	45.1
$50,000 or more	32.3	13.4	6.1	48.2
Cardholder				
Yes	20.3	22.9	8.4	48.4
No	29.0	15.4	6.7	48.8
Residential location				
Capital City	27.7	15.5	7.0	49.9
Other Major Urban	30.8	15.4	7.3	46.5
Rural Major	25.5	22.1	7.5	44.9
Rural Other	24.3	19.9	7.8	48.1
Remote	24.0	24.9	*7.4	43.7
Have private dental insurance				
Yes	27.7	12.6	6.1	53.6
No	27.2	19.4	7.7	45.6
State/Territory				
New South Wales	28.2	16.5	5.9	49.4
Victoria	29.0	15.1	9.4	46.5
Queensland	26.3	20.1	6.2	47.5
South Australia	22.4	18.9	6.6	52.1
Western Australia	24.6	14.9	6.4	54.2
Tasmania	27.2	18.3	11.3	43.2
Australian Capital Territory	33.4	17.4	5.7	43.5
Northern Territory	27.0	19.4	10.4	43.2
Total	**27.3**	**16.9**	**7.1**	**48.7**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

Females were more likely to have perceived the need for a visit than males, and this need was more likely to be for a check-up. The need for a check-up was more likely among persons from higher income households. There was little difference in the percentage of cardholders and non-cardholders reporting a perceived need for a dental visit, however cardholders were more likely to report that they needed treatment. Those without dental insurance were more likely to have perceived the need for a dental visit, and the type of visit required was more likely to involve some form of treatment.

Table 8.1.2 relates perceived need to affordability and hardship in the purchase of dental care. Around 72% of persons who had avoided or delayed visiting due to the cost, or for whom cost had prevented recommended or wanted dental treatment reported the need for a dental visit. The type of visit required was more likely to involve some form of treatment than a visit for a check-up only. Among those reporting no such affordability difficulties around 45% reported the need for a visit, and the visit was more likely to be for a check-up only rather than for treatment. Adults who had experienced a large financial burden in the last 12 months, or who would have a lot of difficulty in paying a $100 dental bill were more likely to report the need for a treatment based visit than were those who experienced less difficulties.

Table 8.1.2: Perceived need for dental visits by affordability and hardship associated with paying for dental care

	Treatment need (%)			
	Check-up	Treatment	Check-up and treatment	No visit required
Avoided or delayed visiting because of cost				
Yes	29.9	29.9	12.4	27.9
No	26.3	11.8	5.0	56.9
Cost prevented wanted or recommended treatment				
Yes	24.4	34.5	12.7	28.5
No	28.1	11.7	5.4	54.7
Financial burden of dental visits in last 12 months[(a)]				
A large	14.3	28.2	*4.6	52.9
None/ hardly any/ a little	20.1	14.5	4.3	61.1
Difficulty in paying a $100 dental bill				
A lot	24.1	25.8	10.7	39.4
None/ hardly any/ a little	27.8	15.7	6.6	49.9

(a) Among dentate persons aged 18 years or more whose last dental visit was in the previous 12 months.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

The type of dental treatments which were perceived to be need by dentate persons are presented by sociodemographic variables in Tables 8.1.3(a) and (b). The most frequently reported treatment need was for a scale and clean (31.6%), this need being highest among 25–44-year-olds and lowest among children and persons aged 65 years and over. This was followed by with 13.2% of persons perceiving the need for filling(s). The perceived need for fillings was lowest among children and adolescents, highest among 25–44-year-olds, and then declined with increasing age. The need for extractions was around 2% among children and adolescents, and 3.4%–4.6% among older age groups. The repair or making of a new denture increased with age, and was highest among persons 65 years and over. The perceived need for a crown or bridge was highest for those aged 45–64 years, with 5.5% reporting such a need.

Table 8.1.3(a): Perceived need for dental treatments by age

	Filling(s)	Scale/ clean	Extraction	Denture(s)	Gum treatment	Crown/ bridge	Other
Age group							
5–11 years	*4.6	11.2	*2.1	—	*0.1	*0.1	*3.5
12–17 years	*3.0	22.7	*2.0	—	*0.2	*0.8	*4.8
18–24 years	10.5	32.0	*4.3	*0.1	*1.2	*1.1	*5.3
25–44 years	18.4	40.2	4.6	1.5	2.0	3.8	4.3
45–64 years	16.1	34.9	3.8	5.4	3.8	5.5	4.3
65 years or more	11.6	24.4	3.4	6.0	*1.7	*2.3	*3.0
Total	**13.2**	**31.6**	**3.7**	**2.3**	**1.9**	**3.0**	**4.2**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons.

There were few differences between males and females, however females were more likely to perceive the need for a scale and clean. By annual household income, the most marked trends were in the perceived need for extraction(s), or for the repair of, or new dentures, with a four-fold difference between the highest and lowest income groups. Lower income earners were more likely to perceive the need for crown or bridge work.

Cardholders were more likely to perceive the need for filling(s), and were more than twice as likely as non-cardholders to perceive the need for extraction(s). Consistent with the finding for household income, cardholders had a greater perceived need for the repair of, or making of new dentures than non-cardholders. Persons without insurance were also more likely to perceive a need for filling(s) or extraction(s) than those with insurance. Uninsured persons were one and a half times as likely to perceive the need for filling(s), and around five times as likely to perceive the need for extraction(s), than insured persons. Nearly one-in-ten dentate adults in Tasmania perceived the need for the extraction of teeth.

Overall, 35.5% of adults perceived a need for a scale and clean, 15.7% the need for filling(s), and 4.2% the need for extraction(s).

Table 8.1.3(b): Perceived need for dental treatments by sociodemographic variables

	Filling(s)	Scale/ clean	Extraction	Denture(s)	Gum treatment	Crown/ bridge	Other
Sex							
Male	16.0	33.9	4.5	2.9	3.2	3.7	4.8
Female	15.4	37.2	3.9	3.0	1.5	3.7	3.7
Annual household income							
Less than $12,000	19.6	32.6	9.5	10.8	*4.0	*4.0	*3.1
$12,000–<$20,000	19.3	31.7	6.0	5.5	*3.6	*4.3	*2.8
$20,000–<$30,000	18.3	34.9	7.4	*3.8	*3.5	5.3	4.5
$30,000–<$40,000	16.9	33.9	*3.5	*2.4	*2.0	*3.0	*3.7
$40,000–<$50,000	15.1	40.1	*2.6	*2.9	*2.4	*3.4	5.5
$50,000 or more	12.9	38.3	2.3	*1.3	*1.9	3.5	4.7
Cardholder							
Yes	21.4	34.3	8.1	6.1	3.8	3.9	3.6
No	14.4	35.9	3.3	2.2	2.0	3.7	4.3
Residential location							
Capital City	14.5	36.5	3.2	2.6	2.4	3.8	4.3
Other Major Urban	14.2	35.4	*5.6	*3.3	*2.4	*3.7	*3.8
Rural Major	20.1	32.3	6.0	*3.2	*2.1	*3.4	*3.9
Rural Other	19.9	32.5	7.2	4.5	*2.5	3.4	5.3
Remote	21.9	33.0	*5.9	*5.3	*2.3	*4.1	*3.9
Have private dental insurance							
Yes	12.0	32.9	*1.2	1.7	*1.5	4.2	4.0
No	18.0	37.4	5.9	3.7	2.9	3.5	4.5
State/Territory							
New South Wales	14.9	36.1	2.8	2.6	*2.2	4.0	3.6
Victoria	16.2	35.5	4.6	3.5	*2.5	*2.7	5.6
Queensland	16.7	36.7	5.0	3.0	2.4	4.1	4.4
South Australia	16.4	33.3	5.7	3.3	3.8	3.2	4.5
Western Australia	14.3	32.0	3.9	*2.9	*1.7	4.8	*2.3
Tasmania	19.0	35.8	9.1	*3.2	*1.6	*2.7	*4.3
Australian Capital Territory	13.2	39.8	*4.0	*1.4	*1.2	*4.0	4.6
Northern Territory	20.4	38.9	5.3	*2.5	*3.3	*4.4	7.2
Total	**15.7**	**35.5**	**4.2**	**3.0**	**2.4**	**3.7**	**4.3**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more.

8.2 Perceived urgency of dental treatment

The perceived urgency of dental treatment is a further characteristic of need that may comment on the likelihood of the use of dental services and the success of dental programs. Those persons with a perceived need for a dental visit were asked to indicate the urgency of that visit. Tables 8.2.1(a) and (b) present the distribution of perceived urgency by sociodemographic variables.

Just over half of persons aged 5 years and over perceived that they needed to visit within a month, and 93.9% within 6 months. There was not a great difference in urgency across age groups, those aged 65 years or more had the highest percentage reporting a need within a month (61.1%).

Table 8.2.1(a): Percentage distribution of perceived urgency of visit by age

	Perceived urgency			
	<1 week	1 week–<1 month	1 month–<6 months	6 months or more
Age group				
5–11 years	16.4	37.2	42.1	*4.3
12–17 years	*11.3	37.3	46.7	*4.7
18–24 years	*10.4	40.0	46.8	*2.8
25–44 years	18.0	37.9	37.3	6.8
45–64 years	17.0	39.9	35.2	7.9
65 years or more	25.0	36.1	33.8	*5.1
Total	**16.8**	**38.3**	**38.8**	**6.1**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons who perceived the need for a dental visit.

Table 8.2.1(b) presents perceived urgency of visit among dentate adults. Generally there were no clear patterns that emerged with regard to urgency. Persons in the lowset income category reported the greatest immediate urgency with 30.6% reporting their urgency to be within the next week, compared with approximately 16% for other income groups. Those from the highest two income groups had the lowest percentages reporting the urgency of visiting as 6 months or more.

Table 8.2.1(b): Percentage distribution of perceived urgency of visit by sociodemographic variables

	Perceived urgency			
	<1 week	1 week–<1 month	1 month–<6 months	6 months or more
Sex				
Male	17.7	36.5	39.1	6.6
Female	16.8	40.6	36.5	6.2
Annual household income				
Less than $12,000	30.6	33.5	26.9	*9.0
$12,000–<$20,000	15.9	42.8	33.4	*7.9
$20,000–<$30,000	16.8	35.8	37.8	9.5
$30,000–<$40,000	14.1	32.6	44.3	9.0
$40,000–<$50,000	16.3	40.2	39.4	*4.1
$50,000 or more	17.7	39.7	38.1	4.5
Cardholder				
Yes	19.5	37.8	36.5	6.2
No	16.8	38.9	37.9	6.4
Residential location				
Capital City	16.9	40.5	37.0	5.7
Other Major Urban	13.6	36.7	44.0	*5.7
Rural Major	19.2	34.4	39.4	*7.0
Rural Other	19.7	32.5	36.2	11.7
Remote	*11.8	42.3	40.4	*5.5
Have private dental insurance				
Yes	16.3	39.5	39.6	4.6
No	17.9	38.1	36.9	7.1
State/Territory				
New South Wales	17.3	38.0	37.4	7.3
Victoria	15.9	40.0	38.2	5.9
Queensland	17.1	36.8	40.1	6.0
South Australia	15.4	39.2	36.4	9.0
Western Australia	21.6	41.3	33.8	*3.3
Tasmania	20.2	31.6	42.6	*5.6
Australian Capital Territory	16.6	42.6	34.1	*6.7
Northern Territory	19.4	37.5	36.6	*6.5
Total	**17.3**	**38.6**	**37.8**	**6.4**

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more who perceived the need for a dental visit.

Table 8.2.2 presents the perceived urgency of visit by the perceived need for specific treatments and also by the type of dental visit required. Urgency by perceived treatment required presents the perceived urgency among persons reporting a need for each of the listed treatments and therefore this list does not form a block of mutually exclusive categories—the urgency reported by a person who reported a need for a filling and an extraction will be included in both the 'Filling(s)' and the 'Extraction(s)' lines. The urgency reported by an individual is the urgency they perceive to make the dental visit and is not therefore individually matched to each specific treatment needed. Those who perceived the need for gum treatment had the highest immediate perceived urgency of less than one week with 44.2% reporting such urgency; this was followed by: 34.7% of those perceiving the need for the making or repair of a denture, 30.7% of the 'other' category and 29.2% for those needing extractions.

Those who perceived a need for a check-up only had a lower perceived urgency than those perceiving a need for treatment only, while those who perceived a need for both a check-up and some treatment were in between in the level of immediate urgency, but generally more like the check-up group than the treatment only group.

Table 8.2.2: Percentage distribution of perceived urgency of visit by perceived treatment required and type of visit perceived to be required

	Perceived urgency			
	<1 week	1 week–<1 month	1 month–<6 months	6 months or more
Perceived treatment required[(a)]				
Scale and clean	15.9	37.3	40.9	5.9
Filling(s)	25.0	38.9	30.1	6.0
Extraction(s)	29.2	32.3	24.7	13.8
Making or repair of denture	34.7	32.7	28.0	*4.5
Gum treatment	44.2	27.3	23.3	*5.2
Crown or bridge	22.9	45.7	23.0	*8.4
Other	30.7	37.4	28.8	*3.1
Perceived type of dental visit required				
Check-up	11.1	38.0	45.3	5.6
Treatment	26.9	43.1	24.2	5.8
Check-up and treatment	18.0	30.1	41.2	10.7
Total	**17.3**	**38.6**	**37.8**	**6.4**

(a) The distribution of urgency of visit is among those who perceived a need for each treatment. For example, an individual who reported a perceived need for a filling and an extraction is represented in both of those respective rows.

* Estimate has a relative standard error greater than 25%.

Note: The data in this table relate to dentate persons aged 18 years or more who perceived the need for a dental visit.

8.3 Summary

Perception of the need for dental treatment acts both as an important predictor of the use of dental services, and also as an outcome measure of the success of dental programs.

- Among dentate adults, 48.7% reported no perceived need for a dental visit, 27.3% the need for a check-up only, and 24.0% some form of dental treatment—Table 8.1.1(b).
- Persons who reported affordability and hardship difficulties were far more likely to perceive the need for a dental visit, and that visit was more likely to be for treatment, than persons who did not report such difficulties—Table 8.1.2.
- Around one-in-three dentate adults perceived the need for a scale and clean, one-in-six the need for a filling or fillings, and one-in-twenty-five a need for an extraction or extractions—Table 8.1.3(b).
- Cardholders were more than twice as likely as non-cardholders to perceive the need for extraction(s) (8.1% cf. 3.3%), and nearly three times as likely to perceive a need for the repair of, or new denture—Table 8.1.3(b).
- Uninsured persons were more likely to perceive the need for extraction(s) and filling(s) than insured persons—Table 8.1.3(b).
- Despite the greater perceived need for some form of treatment, the urgency of need for cardholders and uninsured adults was approximately the same as for non-cardholders and insured persons. This may indicate that the perceived urgency of dental treatment may be modified by the perceived ability to obtain the dental care perceived to be needed—Table 8.2.1(b).

Appendix A

1999 Survey questionnaire

This appendix provides the questions and response categories used in the 1999 National Dental Telephone Interview Survey. Unless otherwise specified responses were '*Yes*', '*No*', and '*Don't know*'. Response categories used are indicated by italicised text. This appendix does not include: the skip sequences used; inbuilt range and error checking; the numerical coding of responses; additional onscreen notes for interviewers; and lead in statements to questions or question blocks.

1. Do you have any of your own natural teeth?
2. Have you been without natural teeth for more than one year?
3. How many years would that be?
   Literal response
4. Do you think that you need to make a dental visit now?
5. Would that visit be for a check-up or for dental treatment?
   Check-up
   Treatment
   Both
   Don't know
6. Do you think you need to have a scale and clean at that check-up?
7. What treatment do you think you need to have done? Do you need:
   Scaling and cleaning of teeth?
   Filling(s)?
   Extraction(s)?
   Denture(s) made or repaired?
   Gum treatment?
   Dental crown or bridge?
   Other treatment?
8. How soon do you think you need this visit?
   In less than a week
   From one week to less than a month
   From one month to less than three months
   From three months to less than six months
   Six months or more
   Don't know
9. Do you think that you will make this visit within that time?
10. How long ago did you see a dental professional about your teeth, dentures, or gums?
    Less than 12 months
    One to less than 2 years
    Two to less than 5 years
    Five to less than ten years
    Ten years or more
    Never attended
    Don't know

11. How long ago was that in months?
    Less than 3 months
    3 to less than 6 months
    6 to less than 12 months
    Don't know
12. How many dental visits did you make in the last 2 weeks?
    Literal response
13. How many dental visits did you make in the last 12 months?
    Literal response
14. Did you last see the dental professional because you had a dental problem?
15. Was that dental visit necessary for the relief of pain?
16. How many times did you have a scale and clean during the last 12 months?
    Literal response
17. How many fillings did you have during the last 12 months?
    Literal response
18. How many teeth were extracted during the last 12 months?
    Literal response
19. What were the problems with that tooth or teeth?
    Wisdom teeth
    Impacted
    Decayed
    Cracked or fractured
    The filling had broken down
    Abscessed or infected
    Loose
    Orthodontic extractions
    In the wrong position
    Don't know
    (All offered reasons are recorded)
20. Did you think that there was any alternative treatment available other than extraction?
21. Were any of the following the reasons for having the tooth/teeth extracted?
    The cost of keeping the tooth or teeth?
    The extensive time required for treatment?
    Failure of previous treatment?
    Feeling that the tooth would be extracted sooner or later?
    Wanted to stop the pain?
    Any other reason? → What was that reason? *(Literal response)*
22. Have you had the extracted tooth/teeth replaced by a denture or a bridge?
23. Was there any [other] treatment done during the last 12 months?

24. What was that treatment?
    Professional fluoride application
    New dentures prepared or fitted
    Other oral surgery (besides tooth extraction)
    Gum treatment (periodontal treatment)
    Adjustment, reline or rebase of denture(s)
    Orthodontics
    Crowns or bridge
    Other treatment
    (All offered reasons are recorded)

25. Was your last dental visit made at a:
    Private dental practice (including specialist)
    Government dental clinic (including dental hospital)
    School dental service
    Dental technician
    Other site
    Don't know

26. Are you covered by any Government Health Concession cards?

27. So you are NOT covered by any Social Security such as an aged pension, Veterans Affairs, unemployment, sole parent or invalid pension?
    Yes – have a card or pension
    No card or pension
    Don't know

28. Which Health Card(s) are you covered by?
    Health Care Card
    Commonwealth Seniors Card
    Department of Veterans Affairs treatment card
    Other card
    Don't know
    (All offered reasons are recorded)

29. Did the Government or an insurance fund pay any part of the expenses for your last dental visit?
    Paid all own expenses
    Insurance paid some - patient paid some
    Insurance paid all - patient paid none
    Government paid some - patient (or insurance) paid some
    Government paid all - patient paid none
    Other payment arrangement
    Don't know

30. Were you covered by Social Security or a government concession card at the time of that [last] visit? [to a private dental practice]
    Not eligible at time
    Eligible at time
    Don't know

31. Did you last go to a private practice because you prefer to see a private dentist?

32. Was it because:
    The treatment wasn't available at the public clinic?
    You had to wait too long at the public clinic?
    You didn't know you were eligible for public care?
    There was no public clinic to attend?
    It was difficult to get to the public clinic?

33. Why do you prefer to see a private dentist?
    The quality of care
    Don't have to wait
    Treatment not available at the public clinic
    No public clinic to attend
    Continuity of care
    Other
    Don't know/refusal
    (All offered reasons are recorded)

34. Were all of your visits made at a *{lastsite}* during the last 12 months?

35. For your last dental visit, was there a waiting time between your contacting the dental clinic or hospital and being given an appointment?

36. How long did you have to wait before being given an appointment?
    Literal response in months and weeks

37. For your last dental visit, how long did you have to wait between the time you made an appointment and the time of visiting the dental professional?
    Literal response in weeks and days

38. Is there a public dental service in your local area?

39. Is there a waiting period for dental care at that public dental service?

40. How much influence did that waiting period have on your not having dental care in the last 2 years?
    None
    Hardly any
    A little
    A lot of influence
    Don't know

41. There are 16 teeth, including wisdom teeth in the upper jaw.
    Could you tell me EITHER:
    the number of MISSING teeth in your upper jaw, OR
    the number of REMAINING teeth in your upper jaw?
    Literal response

42. There are also 16 teeth, including wisdom teeth in the lower jaw.
    Could you tell me EITHER:
    the number of MISSING teeth in your lower jaw, OR
    the number of REMAINING teeth in your lower jaw?
    Literal response

43. Do you have a denture or false teeth for your upper jaw?

44. Do you have a denture or false teeth for your lower jaw?

45. Which is your usual reason for visiting a dental professional, for check-ups or when you have a dental problem?
    Check-ups
    Dental problem
    Don't know

46. Would your dental visits usually be (necessary) for the relief of pain?

47. How often on average would you seek care from a dental professional?
    Two or more times a year
    Once a year
    Once in two years
    Less often than that
    Don't know

48. Average number of years between visits?
    Literal response

49. During the last 12 months how often have you had toothache? Was it:
    Very often
    Often
    Sometimes
    Hardly ever
    Never during the last 12 months
    Don't know

50. How often have you felt uncomfortable about the appearance of your teeth, mouth or dentures during the last 12 months?
    Very often
    Often
    Sometimes
    Hardly ever
    Never during the last 12 months
    Don't know

51. How often have you had to avoid eating some foods because of problems with your teeth, mouth or dentures during the last 12 months?
    Very often
    Often
    Sometimes
    Hardly ever
    Never during the last 12 months
    Don't know

52. During the last 12 months did your NATURAL teeth or gums cause you any pain or discomfort?

53. During the last 12 months have you had:
    A broken or chipped NATURAL tooth?
    Gums that hurt or bleed?
    Sores on the tongue or the inside of the mouth?
    A bad taste in the mouth or bad breath?

54. During the last 12 months, have you avoided or delayed visiting a dental professional because of the cost?

55. During the last 12 months, has the cost prevented you from having any dental treatment which was recommended or which you wanted?

56. During the last 12 months, has the waiting list at government dental services prevented you from having any dental treatment which was recommended or which you wanted?

57. In the last 12 months, how much of a financial burden have dental visits been for you? Would you say:
    None
    Hardly any
    A little
    A large burden
    Don't know

58. At most times of the year, how much difficulty would you have paying a $100 dental bill? Would you say:
    None
    Hardly any
    A little
    A lot of difficulty
    Don't know

59. Do you have private insurance cover for dental expenses?

60. Was that dental insurance cover taken up …
    More than 2 years ago
    in 1998
    in 1999
    Don't know

61. Has dental insurance caused you to make dental visits …
    More often
    Less often
    No change
    Don't know

62. Has dental insurance caused you to accept recommended dental treatment …
    More often
    Less often
    No change
    Don't know

63. Are you aware of the tax rebate for private health insurance, which also applies to dental insurance?

64. Was the tax rebate a factor in deciding to take up dental insurance cover?

65. Was the tax rebate a factor in deciding to maintain dental insurance cover?

66. Is the insurance cover single or family cover?
    Single
    Family
    Don't know

67. Do you have an appointment set for a checkup in the next 18 months?

68. Do you expect to receive an appointment or reminder notice for a visit within the next 18 months?

69. Is there a dentist you usually go to for dental care?

70. How long have you gone to that dentist for dental care?
    12 months or less
    One to less than 2 years
    Two to less than 5 years
    Five to less than ten years
    Ten years or more
    Don't know

71. How would you rate your own GENERAL health? Would you say that it is:
    Excellent
    Very good
    Good
    Average
    Poor
    Very poor
    Don't know

72. And how would you rate your DENTAL health? Would you say that it is:
    Excellent
    Very good
    Good
    Average
    Poor
    Very poor
    Don't know

73. You are:
    Male
    Female
    Refusal

74. Could you tell me your age please?
    Literal response

75. In which country were you born?
    Australia
    New Zealand
    Other Oceania
    UK and Ireland
    Other Europe (include old USSR)
    Middle East / N Africa
    SE Asia
    NE Asia
    Southern Asia
    North America
    South or Central America
    Africa (excl. N Africa)
    Don't know / Refusal
    OR Literal response

76. Are you of Aboriginal or Torres Strait Islander origin?

77. Do you speak a language other than English at home?

78. What language do you mainly speak at home?
    English
    Italian
    Greek
    Chinese
    Arabic/Lebanese
    German
    Vietnamese
    Spanish
    Polish
    Don't know / Refusal
    OR Literal response

79. Do you attend school either full time or part time?
    Full time
    Part time
    Not at school
    Don't know

80. How old were you when you left school (full time)?
    Literal response

81. Have you undertaken a trade course or any other educational studies since leaving school?

82. What is the highest level of education you have attained since leaving school?
    Completed secondary
    Some University, CAE or Teacher's College (still studying or ceased study)
    Completed a University, CAE or Teacher's College Course
    Part completed a vocational course eg nursing, a trade or apprenticeship
    Completed a vocational course eg nursing, a trade or apprenticeship
    Other
    Don't know / Refusal

83. What is the highest level of schooling you have had?
    Primary school
    Some secondary school
    Completed secondary school

84. Are you employed full-time or part-time in a job, business or on a farm?
    Full-time
    Part-time
    Retired
    No – not employed
    Don't know / Refusal

85. Could you please indicate the category of your total household income?

Per year	*Per fortnight*	*Per week*
Up to $12,000	*Up to $460*	*Up to $230*
From 12 to $20,000	*$461 to $770*	*$231 to $385*
From 20 to $30,000	*$771 to $1154*	*$386 to $577*
From 30 to $40,000	*$1155 to $1538*	*$578 to $769*
From 40 to $50,000	*$1539 to $1923*	*$770 to $961*
More than $50,000	*More than $1923*	*More than $961*
Don't know		
Refusal		

86. How many people aged 5 years or more live in the household?
    Literal response

Appendix B

Standard errors

In any survey involving a sample of the target population, the estimates obtained from that sample are subject to errors. The errors are of two types; non-sampling errors (e.g. most human-based errors in the reporting and recording of the data), and sampling errors (incurred due to having only a sample of the population as opposed to a complete census). Clearly a sample cannot exactly represent the characteristics of the population in its entirety. So the question to be asked is, "How precisely does the selected sample represent the characteristics of the population as a whole?" The answer lies with standard errors, which provide a measure of the magnitude of variability (due to sampling errors), of estimates obtained from a sample of observations. Given an estimate p, and its standard error SE(p), then there are approximately two chances in three that the 'true value' will lie in the interval between p-SE(p) and p+SE(p), and approximately 19 chances in 20 that the 'true value' will lie in the interval between p-2SE(p) and p+2SE(p). Hence the larger the standard error the more uncertain we are as to what the true value of the outcome measure may be.

For a given characteristic, the greater the number of persons sampled, the better the estimate obtained will be. As a consequence of reporting percentage estimates of select sub-populations, and for the sake of brevity, two stages are required in order to obtain the standard error of an estimate. Firstly, the number of sampled cases (for the sub-population in question) must be determined, Tables B.1 to B.3 aid in achieving this. Secondly, the standard error must be obtained from the relevant table of standard errors—Tables B.4 to B.6.

The following example is provided to illustrate the use of tables in this section. Table 4.3.1(a) presents the percentage of persons whose last dental visit was for a check-up, among dentate persons whose last dental visit was in the previous 12 months. This is further broken down by age and card status. Say it is of interest to know what the standard error is of the 74.4% figure given for 5–11-year-old non-cardholders. The first step is to go to Table B.3, the non-cardholder table, then to locate the number in the row for the '5–11 years' age group, and the column for 'dentate and visited in previous 12 months age 5+'. It is found that there were 393 persons (unweighted) from this group in the sample. The next step is to go to Table B.4, the table for national estimates (as opposed to one of the tables for State or Territory estimates). From here it is found that the approximate standard error for an estimate of 75% from a sub-population of 400 is 3.25%. If desired, interpolation of both the number of persons and the percentage could be used to adjust this figure. However, it should be noted that the standard errors provided are themselves approximations, and it is unclear how such adjustments would produce closer approximations unless there was a significant degree of interpolation required. The figure of 3.25% can be regarded as a reasonable estimate of the standard error for the estimate of 74.4% found in Table 4.3.1(a). In light of previous comments, it could be said that there is a 66% chance that the 'true percentage' is in the range 74.4±3.25%, and that there is a 95% chance that the 'true percentage' is in the range 74.4±6.5%.

Due to consideration of space, the tables required for all of the different sub-populations presented in the report cannot be included. However, the tables provided in this appendix were selected to cover the majority of tables with a minimum number of conversion tables to consult. This section drew on material by Foreman (1991, *Survey Sampling Principles*, NY: Dekker).

Table B.1: National sub-population determination

			Dentate		Dentate and visited in previous 12 months	
	Age 5+	Age 18+	Age 5+	Age 18+	Age 5+	Age 18+
Age group						
5–11 years	622	. .	622	. .	504	. .
12–17 years	578	. .	577	. .	450	. .
18–24 years	560	560	558	558	278	278
25–44 years	2311	2311	2281	2281	1208	1208
45–64 years	2248	2248	1956	1956	1209	1209
65 years or more	1471	1471	933	932	547	547
Sex						
Male	3435	2875	3133	2574	1796	1355
Female	4389	3715	3824	3153	2419	1887
Annual household income						
Less than $12,000	996	938	683	625	352	315
$12,000–<$20,000	1079	961	848	729	453	365
$20,000–<$30,000	1003	863	908	768	524	414
$30,000–<$40,000	1004	817	958	771	579	437
$40,000–<$50,000	831	674	797	640	503	378
$50,000 or more	2212	1802	2159	1749	1401	1059
Cardholder						
Yes	2108	1819	1610	1322	885	670
No	5679	4752	5313	4389	3308	2565
Residential location						
Capital City	4316	3662	3926	3271	2458	1948
Other Major Urban	539	470	467	399	265	213
Rural Major	1015	864	869	719	523	400
Rural Other	1355	1103	1146	896	654	454
Remote	498	398	450	351	250	168
State/Territory						
New South Wales	1191	1039	1076	924	632	523
Victoria	1211	1034	1032	856	601	472
Queensland	1218	1011	1103	899	688	526
South Australia	1207	1007	1047	846	666	502
Western Australia	1204	1016	1079	891	668	504
Tasmania	603	517	496	411	288	214
Australian Capital Territory	602	509	568	475	358	290
Northern Territory	588	457	556	425	314	211
Total	**7824**	**6590**	**6957**	**5727**	**4215**	**3242**

Table B.2: Cardholder sub-population determination

			Dentate		Dentate and visited in previous 12 months	
	Age 5+	Age 18+	Age 5+	Age 18+	Age 5+	Age 18+
Age group						
5–11 years	145	. .	145	. .	108	. .
12–17 years	136	. .	136	. .	102	. .
18–24 years	131	131	130	130	60	60
25–44 years	316	316	308	308	146	146
45–64 years	517	517	399	399	214	214
65 years or more	855	855	486	485	250	250
Sex						
Male	789	664	638	513	327	234
Female	1319	1155	972	809	558	436
Annual household income						
Less than $12,000	712	668	469	425	242	213
$12,000–<$20,000	684	602	522	439	269	207
$20,000–<$30,000	322	255	289	222	185	131
$30,000–<$40,000	102	79	92	69	46	32
$40,000–<$50,000	40	28	37	25	27	17
$50,000 or more	56	38	55	37	29	17
Residential location						
Capital City	1047	911	825	688	465	362
Other Major Urban	177	155	132	111	70	56
Rural Major	332	291	237	197	133	102
Rural Other	450	378	329	257	176	122
Remote	85	69	70	54	31	19
State/Territory						
New South Wales	271	230	211	170	116	88
Victoria	367	322	261	217	128	101
Queensland	342	298	275	232	157	129
South Australia	433	370	331	267	194	143
Western Australia	301	265	237	201	145	111
Tasmania	216	192	145	121	76	54
Australian Capital Territory	98	85	83	70	37	28
Northern Territory	80	57	67	44	32	16
Total	**2108**	**1819**	**1610**	**1322**	**885**	**670**

Table B.3: Non-cardholder sub-population determination

			Dentate		Dentate and visited in previous 12 months	
	Age 5+	Age 18+	Age 5+	Age 18+	Age 5+	Age 18+
Age group						
5–11 years	474	. .	474	. .	393	. .
12–17 years	427	. .	426	. .	336	. .
18–24 years	424	424	423	423	215	215
25–44 years	1993	1993	1971	1971	1062	1062
45–64 years	1722	1722	1550	1550	992	992
65 years or more	613	613	445	445	296	296
Sex						
Male	2627	2201	2477	2052	1460	1119
Female	3052	2551	2836	2337	1848	1446
Annual household income						
Less than $12,000	282	268	213	199	109	101
$12,000–<$20,000	393	358	324	289	183	157
$20,000–<$30,000	675	605	614	544	337	283
$30,000–<$40,000	899	736	863	700	532	405
$40,000–<$50,000	791	646	760	615	476	361
$50,000 or more	2150	1760	2098	1708	1367	1039
Residential location						
Capital City	3248	2744	3081	2577	1978	1582
Other Major Urban	360	313	333	286	194	156
Rural Major	682	572	631	521	390	298
Rural Other	898	719	811	634	477	332
Remote	410	327	378	296	217	148
State/Territory						
New South Wales	915	806	860	751	513	434
Victoria	840	709	768	637	472	371
Queensland	870	711	822	665	526	395
South Australia	770	634	712	576	472	359
Western Australia	900	750	839	689	521	393
Tasmania	383	322	348	288	210	159
Australian Capital Territory	500	422	482	404	318	261
Northern Territory	501	398	482	379	276	193
Total	**5679**	**4752**	**5313**	**4389**	**3308**	**2565**

Table B.4: Approximate standard errors for national estimates

Sub-population sample size	Estimated Percentage														
	1.0	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**15.0**	**20.0**	**25.0**	**30.0**	**35.0**	**45.0**	**50.0**
	99.0	**98.0**	**97.0**	**96.0**	**95.0**	**94.0**	**92.0**	**90.0**	**85.0**	**80.0**	**75.0**	**70.0**	**65.0**	**55.0**	**50.0**
100	1.49	2.10	2.56	2.94	3.27	3.56	4.07	4.50	5.36	6.00	6.50	6.87	7.15	7.46	7.50
200	1.06	1.48	1.81	2.08	2.31	2.52	2.88	3.18	3.79	4.24	4.59	4.86	5.06	5.28	5.30
300	0.86	1.21	1.48	1.70	1.89	2.06	2.35	2.60	3.09	3.46	3.75	3.97	4.13	4.31	4.33
400	0.75	1.05	1.28	1.47	1.63	1.78	2.03	2.25	2.68	3.00	3.25	3.44	3.58	3.73	3.75
500	0.67	0.94	1.14	1.31	1.46	1.59	1.82	2.01	2.40	2.68	2.90	3.07	3.20	3.34	3.35
600	0.61	0.86	1.04	1.20	1.33	1.45	1.66	1.84	2.19	2.45	2.65	2.81	2.92	3.05	3.06
700	0.56	0.79	0.97	1.11	1.24	1.35	1.54	1.70	2.02	2.27	2.45	2.60	2.70	2.82	2.83
800	0.53	0.74	0.90	1.04	1.16	1.26	1.44	1.59	1.89	2.12	2.30	2.43	2.53	2.64	2.65
900	0.50	0.70	0.85	0.98	1.09	1.19	1.36	1.50	1.79	2.00	2.17	2.29	2.38	2.49	2.50
1000	0.47	0.66	0.81	0.93	1.03	1.13	1.29	1.42	1.69	1.90	2.05	2.17	2.26	2.36	2.37
1200	0.43	0.61	0.74	0.85	0.94	1.03	1.17	1.30	1.55	1.73	1.88	1.98	2.07	2.15	2.17
1400	0.40	0.56	0.68	0.79	0.87	0.95	1.09	1.20	1.43	1.60	1.74	1.84	1.91	1.99	2.00
1600	0.37	0.53	0.64	0.73	0.82	0.89	1.02	1.13	1.34	1.50	1.62	1.72	1.79	1.87	1.88
1800	0.35	0.49	0.60	0.69	0.77	0.84	0.96	1.06	1.26	1.41	1.53	1.62	1.69	1.76	1.77
2000	0.33	0.47	0.57	0.66	0.73	0.80	0.91	1.01	1.20	1.34	1.45	1.54	1.60	1.67	1.68
2500	0.30	0.42	0.51	0.59	0.65	0.71	0.81	0.90	1.07	1.20	1.30	1.37	1.43	1.49	1.50
3000	0.27	0.38	0.47	0.54	0.60	0.65	0.74	0.82	0.98	1.10	1.19	1.25	1.31	1.36	1.37
3500	0.25	0.35	0.43	0.50	0.55	0.60	0.69	0.76	0.91	1.01	1.10	1.16	1.21	1.26	1.27
4000	0.24	0.33	0.40	0.46	0.52	0.56	0.64	0.71	0.85	0.95	1.03	1.09	1.13	1.18	1.19
4500	0.22	0.31	0.38	0.44	0.49	0.53	0.61	0.67	0.80	0.89	0.97	1.02	1.07	1.11	1.12
5000	0.21	0.30	0.36	0.42	0.46	0.50	0.58	0.64	0.76	0.85	0.92	0.97	1.01	1.06	1.06
5500	0.20	0.28	0.35	0.40	0.44	0.48	0.55	0.61	0.72	0.81	0.88	0.93	0.96	1.01	1.01
6000	0.19	0.27	0.33	0.38	0.42	0.46	0.53	0.58	0.69	0.77	0.84	0.89	0.92	0.96	0.97
6500	0.19	0.26	0.32	0.36	0.41	0.44	0.50	0.56	0.66	0.74	0.81	0.85	0.89	0.93	0.93
7000	0.18	0.25	0.31	0.35	0.39	0.43	0.49	0.54	0.64	0.72	0.78	0.82	0.86	0.89	0.90
7500	0.17	0.24	0.30	0.34	0.38	0.41	0.47	0.52	0.62	0.69	0.75	0.79	0.83	0.86	0.87
8000	0.17	0.23	0.29	0.33	0.37	0.40	0.45	0.50	0.60	0.67	0.73	0.77	0.80	0.83	0.84

Table B.5: Approximate standard errors for NSW, Qld, Tas, ACT and NT estimates

Sub-population sample size	Estimated Percentage														
	1.0	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**15.0**	**20.0**	**25.0**	**30.0**	**35.0**	**45.0**	**50.0**
	99.0	**98.0**	**97.0**	**96.0**	**95.0**	**94.0**	**92.0**	**90.0**	**85.0**	**80.0**	**75.0**	**70.0**	**65.0**	**55.0**	**50.0**
100	1.19	1.68	2.05	2.35	2.62	2.85	3.26	3.60	4.28	4.80	5.20	5.50	5.72	5.97	6.00
200	0.84	1.19	1.45	1.66	1.85	2.02	2.30	2.55	3.03	3.39	3.67	3.89	4.05	4.22	4.24
300	0.69	0.97	1.18	1.36	1.51	1.65	1.88	2.08	2.47	2.77	3.00	3.17	3.30	3.45	3.46
400	0.60	0.84	1.02	1.18	1.31	1.42	1.63	1.80	2.14	2.40	2.60	2.75	2.86	2.98	3.00
500	0.53	0.75	0.92	1.05	1.17	1.27	1.46	1.61	1.92	2.15	2.32	2.46	2.56	2.67	2.68
600	0.49	0.69	0.84	0.96	1.07	1.16	1.33	1.47	1.75	1.96	2.12	2.24	2.34	2.44	2.45
700	0.45	0.63	0.77	0.89	0.99	1.08	1.23	1.36	1.62	1.81	1.96	2.08	2.16	2.26	2.27
800	0.42	0.59	0.72	0.83	0.92	1.01	1.15	1.27	1.51	1.70	1.84	1.94	2.02	2.11	2.12
900	0.40	0.56	0.68	0.78	0.87	0.95	1.09	1.20	1.43	1.60	1.73	1.83	1.91	1.99	2.00
1000	0.38	0.53	0.65	0.74	0.83	0.90	1.03	1.14	1.35	1.52	1.64	1.74	1.81	1.89	1.90
1100	0.36	0.51	0.62	0.71	0.79	0.86	0.98	1.09	1.29	1.45	1.57	1.66	1.73	1.80	1.81
1200	0.34	0.48	0.59	0.68	0.75	0.82	0.94	1.04	1.24	1.39	1.50	1.59	1.65	1.72	1.73
1300	0.33	0.47	0.57	0.65	0.73	0.79	0.90	1.00	1.19	1.33	1.44	1.53	1.59	1.66	1.66

Table B6: Approximate standard errors for Vic, SA and WA estimates

Sub-population sample size	Estimated Percentage														
	1.0	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**15.0**	**20.0**	**25.0**	**30.0**	**35.0**	**45.0**	**50.0**
	99.0	**98.0**	**97.0**	**96.0**	**95.0**	**94.0**	**92.0**	**90.0**	**85.0**	**80.0**	**75.0**	**70.0**	**65.0**	**55.0**	**50.0**
100	1.29	1.82	2.22	2.55	2.83	3.09	3.53	3.90	4.64	5.20	5.63	5.96	6.20	6.47	6.50
200	0.91	1.29	1.57	1.80	2.00	2.18	2.49	2.76	3.28	3.68	3.98	4.21	4.38	4.57	4.60
300	0.75	1.05	1.28	1.47	1.64	1.78	2.04	2.25	2.68	3.00	3.25	3.44	3.58	3.73	3.75
400	0.65	0.91	1.11	1.27	1.42	1.54	1.76	1.95	2.32	2.60	2.81	2.98	3.10	3.23	3.25
500	0.58	0.81	0.99	1.14	1.27	1.38	1.58	1.74	2.08	2.33	2.52	2.66	2.77	2.89	2.91
600	0.53	0.74	0.91	1.04	1.16	1.26	1.44	1.59	1.90	2.12	2.30	2.43	2.53	2.64	2.65
700	0.49	0.69	0.84	0.96	1.07	1.17	1.33	1.47	1.75	1.97	2.13	2.25	2.34	2.44	2.46
800	0.46	0.64	0.78	0.90	1.00	1.09	1.25	1.38	1.64	1.84	1.99	2.11	2.19	2.29	2.30
900	0.43	0.61	0.74	0.85	0.94	1.03	1.18	1.30	1.55	1.73	1.88	1.99	2.07	2.16	2.17
1000	0.41	0.58	0.70	0.81	0.90	0.98	1.12	1.23	1.47	1.64	1.78	1.88	1.96	2.05	2.06
1100	0.39	0.55	0.67	0.77	0.85	0.93	1.06	1.18	1.40	1.57	1.70	1.80	1.87	1.95	1.96
1200	0.37	0.53	0.64	0.74	0.82	0.89	1.02	1.13	1.34	1.50	1.63	1.72	1.79	1.87	1.88
1300	0.36	0.50	0.62	0.71	0.79	0.86	0.98	1.08	1.29	1.44	1.56	1.65	1.72	1.79	1.80