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National Dental Telephone Interview Survey 2002

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Symbols used

. . not applicable

– nil or rounded to zero

Executive summary

The 2002 National Dental Telephone Interview Survey was conducted in all States and Territories and resulted in 7,312 participants, with a national participation rate of 64.8%.

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).
- Among dentate adults who visited in the previous 12 months, approximately 50% last visited for a problem, and 50% for a check-up—Table 4.3.1(b).
- Although eligible for public-funded dental care, only 30.0% of dentate adult cardholders who had made a dental visit in the last 12 months last visited a public clinic, and 68.6% 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 (58.1%). A further 21.4% 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 who visited in the previous 12 months made fewer visits on average than non-cardholders (2.24 cf. 2.33 visits), however cardholders received a greater number of extractions per person (0.42 cf. 0.30 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 (0.55 cf. 0.09 extractions), similarly those last visiting for a problem received more fillings than those last visiting for a check-up (1.35 cf. 0.41 fillings)—Table 4.5.3(b).
- Just over one-in-four 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.
- More than 20% of cardholders ho visited a public clinic within the previous 12 months had waited more than 12 months for a dental visit.

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 of 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, nearly one-in-four 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).
- Cardholders and persons without dental insurance were more likely to report their urgency as within the next week when compared with non-cardholders and insured persons—Table 8.2.1(b).

1 Introduction

The purpose of this report is to present findings from the 2002 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.

The majority of the survey was conducted from June 2002 to January 2003 with some final interviews completed during March to May 2003 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' and the fourth NDTIS was conducted in 1999. The 2002 NDTIS forms part of the continued research in this area.

1.2 Methods

The 2002 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 2002 survey were based on those used in previous rounds of the survey. There were only minimal changes to some questions previously used, and some additional questions were added. A copy of the questions used in the 2002 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). In order to shift the sampling frame away from numbers only provided in the electronic white pages, a random digit (between 1 and 9 inclusive) was added to each sampled telephone number as described by Frankel and Frankel (1977, *Journal of Marketing Research* **14**:280–93). This new number then became the phone number that was used in the final sampling frame. These numbers were then back matched against the electronic white pages to obtain addresses where possible. Numbers for which there was a matching phone number and corresponding address listing are subsequently referred to as 'listed' numbers. Conversely those without a matching phone number and therefore no corresponding address listing are referred to as 'unlisted' numbers. The precise sample sizes are provided in Table 1.3.1. The target number of participants for both the Australian Capital Territory and the Northern Territory was 400, and a target of 450 participants for Tasmania. The target number of participants for each of the remaining ten strata was 600. In total there were 7,312 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 pilot 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 listed 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 contacting unlisted numbers the interviewers used a different introductory script. Messages left on answering machines included the toll free number to enable people to contact DSRU staff if they wished. When a person contacted the DSRU to decline being included in the survey, they were recorded as a refusal outcome (see 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 a 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 95 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 74 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). Interviews were also conducted in Italian, Greek, Cantonese, Mandarin, Arabic, Vietnamese, and Polish where appropriate.

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 six workstations) was established by the DSRU within the Dental School at The University of Adelaide. 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.

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 ERPs were obtained from Australian Bureau of Statistics SuperCUBE dataset containing the final estimates of the resident populations of Statistical Local Areas by Sex by Age Group as at 30 June 2001 based on the results of the 2001 Census of Population and Housing). 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:

$$w_{ijkl} = \frac{\frac{c_i}{(c_i + r_i)} \frac{(c_{i\lambda} + r_{i\lambda})}{c_{i\lambda}} h_{ijkl} N_{ijk} \sum_{i=1}^{8} \sum_{j=1}^{15} \sum_{k=1}^{2} n_{ijk}}{\sum_{l=1}^{n_{ijk}} h_{ijkl} \sum_{i=1}^{8} \sum_{j=1}^{15} \sum_{k=1}^{2} N_{ijk}}$$

Where:

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

n_{ijk} is the number of participants in stratum *i*, age group *j*, and sex *k*.

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

λ is an indicator variable such that

λ =1 if the *l*th participant from stratum *i*, age group *j*, and sex *k* was from a listed household and

λ =2 if the *l*th participant from stratum *i*, age group *j*, and sex *k* was from an unlisted household

c_i is the number of participants and r_i is the number of refusals from stratum *i*.

c_{i1} is the number of listed participants and r_{i1} is the number of listed refusals from stratum *i*.

c_{i2} is the number of unlisted participants and r_{i2} is the number of unlisted refusals from stratum *i*.

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. An overall participation rate of 64.8% was achieved in the 2002 survey. Participation among listed households was higher than for unlisted households (67.9% cf. 55.5%). A total of 24,938 unique telephone numbers were called resulting in 7,312 participants (completed interviews). Among the listed numbers, 5,755 participants were obtained from a sample of 11,800 numbers, compared with unlisted numbers, which yielded 1,557 participants from a sample of 13,138 numbers. A large proportion of the unlisted numbers were either out of service, or out of scope (predominantly due to being a business number). For all strata the participation rate was higher among listed numbers than among unlisted numbers. Participation rates among listed numbers ranged from 58.3% in Sydney through to 78.6% in Tasmania. Participation rates among unlisted numbers ranged from 49.5% in Victoria through to 63.5% in the balance of Western Australia. Overall, 21.3% of the participants were from unlisted households.

Table 1.3.1: Participation in the 2002 National Dental Telephone Interview Survey

Stratum Listed/Unlisted	Total sampled	Out of service	Out of scope	Non-contact	Refusal	Participants	Per cent participation
Sydney	**2,640**	**769**	**446**	**346**	**473**	**606**	**56.2%**
Listed	1,157	214	53	129	317	444	58.3%
Unlisted	1,483	555	393	217	156	162	50.9%
Balance of New South Wales	**1,920**	**544**	**263**	**184**	**333**	**596**	**64.2%**
Listed	953	106	46	73	241	487	66.9%
Unlisted	967	438	217	111	92	109	54.2%
Melbourne	**2,400**	**464**	**523**	**334**	**464**	**615**	**57.0%**
Listed	1,189	167	80	152	318	472	59.7%
Unlisted	1,211	297	443	182	146	143	49.5%
Balance of Victoria	**1,801**	**353**	**228**	**269**	**346**	**605**	**63.6%**
Listed	1,015	88	48	128	252	499	66.4%
Unlisted	786	265	180	141	94	106	53.0%
Brisbane	**1,980**	**508**	**332**	**205**	**329**	**606**	**64.8%**
Listed	886	121	30	76	204	455	69.0%
Unlisted	1,094	387	302	129	125	151	54.7%
Balance of Queensland	**2,100**	**585**	**310**	**246**	**356**	**603**	**62.9%**
Listed	1,013	137	42	97	248	489	66.4%
Unlisted	1,087	448	268	149	108	114	51.4%
Adelaide	**1,740**	**422**	**240**	**197**	**278**	**603**	**68.4%**
Listed	804	72	22	71	185	454	71.0%
Unlisted	936	350	218	126	93	149	61.6%
Balance of South Australia	**1,740**	**443**	**235**	**222**	**236**	**604**	**71.9%**
Listed	896	82	40	83	173	518	75.0%
Unlisted	844	361	195	139	63	86	57.7%
Perth	**2,221**	**554**	**390**	**291**	**378**	**608**	**61.7%**
Listed	998	107	57	140	246	448	64.6%
Unlisted	1,223	447	333	151	132	160	54.8%
Balance of Western Australia	**2,310**	**737**	**442**	**272**	**251**	**608**	**70.8%**
Listed	1,000	132	79	111	185	493	72.7%
Unlisted	1,310	605	363	161	66	115	63.5%
Tasmania	**1,206**	**320**	**119**	**151**	**158**	**458**	**74.4%**
Listed	626	65	17	63	103	378	78.6%
Unlisted	580	255	102	88	55	80	59.3%
Australian Capital Territory	**1,260**	**372**	**139**	**173**	**179**	**397**	**68.9%**
Listed	629	61	23	73	134	338	71.6%
Unlisted	631	311	116	100	45	59	56.7%
Northern Territory	**1,620**	**525**	**256**	**251**	**185**	**403**	**68.5%**
Listed	634	133	37	73	111	280	71.6%
Unlisted	986	392	219	178	74	123	62.4%
Total	**24,938**	**6,596**	**3,923**	**3,141**	**3,966**	**7,312**	**64.8%**
Listed	11,800	1,485	574	1,269	2,717	5,755	67.9%
Unlisted	13,138	5,111	3,349	1,872	1,249	1,557	55.5%

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 the major cities of Australia and the other 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 nearly 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 outer regional, remote and very remote areas. 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, New South Wales and the Northern Territory had the greatest percentages of persons from households with an annual income of $80,000 or more, 37.7%, 23.3% and 21.7% respectively. The two Territories also had the lowest percentages of persons from households with an annual income of less than $20,000 (9.7% and 9.2%) compared with 21.1% of persons nationally. The younger age profile of the Territories is likely to be one of the main reasons for the substantially higher income distributions observed. South Australia and Tasmania had the lowest percentages of persons from households of $80,000 or more and the greatest percentages of persons from households of less than $20,000.

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 14.6% and 18.3% of their respective populations eligible for public-funded dental care, compared to 38.9% in Tasmania and 33.3% in South Australia, and 25%–28% 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.

Residential location was classified using the ASGC Remoteness classification as defined by the Australian Bureau of Statistics. 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 the major cities and inner regional areas 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 Victoria are classified very remote and no regions of Tasmania are in the major cities classification. Nearly all of the Australian Capital Territory is in the major cities

classification. The Northern Territory only has areas that are outer regional, remote or very remote.

The Northern Territory had the greatest percentage of persons living in remote and very remote areas (27.5%), followed by Western Australia (4.6%). The percentage of persons living in outer regional areas was 72.5% in the Northern Territory, 29.4% in Tasmania and 18.7% in Queensland. Tasmania and Queensland had the greatest percentage of persons in inner regional areas, 68.4% and 27.7% respectively. Just under three-quarters of people in New South Wales, Victoria, South Australia, and Western Australia were classified as major cities and 51.1% of people in Queensland.

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	10.9	10.5	11.3	10.5	10.9	11.9	10.1	13.3	10.9
12–17 years	8.1	9.2	9.2	8.0	9.1	8.8	8.3	9.6	8.7
18–24 years	10.1	9.3	10.1	9.6	10.8	8.8	13.7	13.0	10.0
25–44 years	32.3	32.6	32.0	30.8	32.6	29.8	33.9	38.6	32.2
45–64 years	24.6	24.5	25.0	25.5	24.9	26.0	24.8	21.5	24.8
65 years or more	14.0	13.9	12.5	15.6	11.8	14.7	9.2	*4.1	13.4
Sex									
Male	49.5	49.1	49.7	49.3	50.0	49.1	49.3	52.4	49.5
Female	50.5	50.9	50.3	50.7	50.0	50.9	50.7	47.6	50.5
Annual household income									
Less than $12,000	8.6	8.6	8.8	11.5	7.5	9.9	*4.2	*3.2	8.6
$12,000–<$20,000	11.6	13.0	13.0	12.6	13.6	18.8	5.5	6.0	12.5
$20,000–<$30,000	11.1	11.5	12.9	14.2	11.3	13.7	5.5	11.4	11.8
$30,000–<$40,000	8.8	11.6	12.7	12.6	12.9	15.0	7.6	11.7	11.1
$40,000–<$50,000	11.8	12.1	11.6	11.1	10.5	10.4	10.2	14.5	11.6
$50,000–<$60,000	10.0	11.0	12.5	10.5	10.1	7.9	12.7	12.2	10.8
$60,000–<$70,000	7.7	7.9	7.7	7.1	9.1	6.4	8.9	11.2	7.8
$70,000–<$80,000	7.2	5.6	6.9	7.1	6.6	*4.8	7.7	8.2	6.7
$80,000 or more	23.3	18.7	14.0	13.4	18.5	13.1	37.7	21.7	19.1
Card status and type									
Pensioner Concession Card	16.3	16.4	15.7	21.3	13.8	22.8	8.3	7.0	16.3
Health Care Card	8.5	10.2	11.8	12.0	13.2	16.1	6.3	11.3	10.5
Non-cardholder	75.1	73.4	72.5	66.7	73.1	61.1	85.4	81.7	73.2
Residential location									
Major Cities	71.9	73.8	51.1	72.4	72.8	. .	99.7	. .	66.6
Inner Regional	21.1	19.9	27.7	13.6	12.5	68.4	0.3	. .	21.2
Outer Regional	6.5	6.2	18.7	10.8	10.2	29.4	. .	72.5	10.5
Remote	*0.4	*0.2	1.8	2.8	3.6	*1.2	. .	21.3	1.3
Very Remote	*0.1	. .	*0.7	*0.4	*1.0	*1.0	. .	6.2	*0.4
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	77.7	77.0	83.8	81.8	72.1	90.6	78.3	83.2	78.8
New Zealand	*1.6	*1.1	4.3	*0.4	*1.8	*0.9	*0.8	*1.4	1.9
Other Oceania	*0.2	*0.2	*0.4	—	—	—	*0.4	*1.3	*0.2
UK & Ireland	5.5	5.0	5.4	9.1	13.5	5.0	6.0	*4.5	6.4
Northern & Western Europe	*0.8	*1.8	*0.9	*2.0	*2.1	*0.7	*1.7	*1.4	1.3
Southern & Eastern Europe	3.0	6.6	*1.3	3.3	*2.2	*1.4	*2.2	*1.8	3.5
North Africa & the Middle East	*1.7	*0.3	*0.1	*0.7	*0.5	—	*1.2	*0.5	0.8
South-East Asia	2.4	2.2	*1.0	*1.1	3.2	*0.1	*1.6	*3.4	2.0
North-East Asia	2.4	*1.2	*0.5	*0.3	*0.5	*0.2	*2.6	—	1.3
Southern & Central Asia	*1.6	*1.6	*0.7	*0.7	*0.5	*0.5	*1.2	*0.2	1.2
Americas	*1.4	*1.5	*0.5	*0.4	*1.1	*0.1	*2.6	*0.7	1.1
Sub-Saharan Africa	*1.5	*1.3	*1.2	*0.1	*2.1	*0.4	*1.3	*1.5	1.3
Language spoken at home									
English	89.3	87.6	95.8	94.3	93.0	98.9	92.0	91.6	91.2
Northern European (excl. English)	*0.3	*0.2	*0.4	*0.4	*1.0	*0.1	*0.1	*0.7	*0.4
Southern European	*1.9	5.4	*0.6	2.2	*0.9	*0.5	*1.5	*3.3	2.4
Eastern European	*1.0	2.3	*0.3	*1.0	*1.4	—	*1.4	*0.2	1.2
Southwest Asian & North African	*1.5	*1.1	*0.1	*0.5	*0.6	—	*0.9	—	0.9
Southern Asian	*1.5	*0.7	*0.3	*0.5	*0.2	*0.4	*1.0	*0.1	0.8
South-East Asian	*1.7	*1.0	*0.5	*0.8	*0.6	—	*1.3	*2.0	1.1
Eastern Asian	2.7	*1.6	*0.8	*0.3	*1.9	*0.1	*1.6	*0.2	1.7
Australian Indigenous	*0.1	—	*0.8	—	—	—	—	*0.8	*0.2
Other	—	—	*0.5	—	*0.3	—	*0.2	*1.0	*0.1
Employed[(a)]									
Yes	61.7	61.4	61.9	57.3	61.1	60.1	70.7	75.5	61.5
No	38.3	38.6	38.1	42.7	38.9	39.9	29.3	24.5	38.5
Highest level of education[(a)]									
Year 7 or less	2.5	4.1	4.9	4.5	*2.1	*5.4	*1.5	*1.9	3.5
Year 8	2.4	3.9	2.7	*2.3	*1.1	*2.7	*0.4	*0.1	2.6
Year 9	4.2	4.1	4.3	3.2	3.0	*2.7	*0.4	*1.6	3.9
Year 10	12.2	7.6	13.7	8.9	13.0	17.4	*4.8	12.3	11.2
Year 11	3.1	7.6	3.7	10.0	4.3	*4.1	*4.2	6.4	5.0
Year 12	13.7	13.3	15.5	13.9	17.5	13.0	22.0	19.0	14.5
University degree or diploma	21.3	24.4	18.5	16.8	19.7	22.5	31.7	20.8	21.2
University masters degree or PhD	3.2	*2.1	*1.5	*1.3	*2.4	*0.7	6.0	*1.4	2.3
CAE or teachers college or nursing	2.4	2.7	3.4	5.2	4.2	*3.8	*2.4	*2.7	3.1
Trade certificate, apprenticeship, vocational	17.6	15.5	18.0	18.2	17.1	13.7	13.1	20.8	17.0
Certificate or diploma course	13.1	9.9	9.9	11.7	11.7	11.0	9.9	10.1	11.3
Other	4.3	4.9	4.0	4.1	4.0	*2.9	*3.6	*2.8	4.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Among persons aged 18 years or more.

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

The majority of persons were born in Australia (78.8%), ranging from 72.1% in Western Australia to 90.6% in Tasmania. Persons born in the United Kingdom and Ireland formed the largest group of persons born overseas (6.4%), followed by Southern and Eastern Europe (3.5%). 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 4.5% in the Northern Territory to 13.5% in Western Australia.

The percentage of persons who mainly speak English at home ranged from 87.6% of persons in Victoria to 98.9% in Tasmania. Southern European languages were the next most frequently spoken group (2.4%), followed by Eastern Asian languages (1.7%) and Eastern European languages (1.2%).

The Northern Territory and the Australian Capital Territory had the highest percentage of adults employed either full-time or part-time (75.5% and 70.7% respectively). South Australia had the lowest percentage of adults employed (57.3%). The remaining States all reported between 60% and 62% employed.

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 living in households that had had an annual household income of less than $20,000 (67.7%). The 45–64-year-old age group had the next highest percentage of persons from households of $20,000 or less (19.3%). The 25–44-year-old age group was slightly wealthier than the 45–64-year-old group with a higher percentage of persons in the higher income groups and a lower percentage of persons in the lower income groups. Compared with the 25–44-year-old age group, the 18–24-year-old age group had a greater percentage of persons in the highest income group, but also higher percentages in the two lowest income groups. The two youngest age groups were most similar in household income distribution to the 25–44-year-old age group, reflecting a cohabitation effect between these groups.

Males had a wealthier annual household income distribution than females, with 21.8% of males in households of $80,000 or more compared with 16.4% 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 6.2% of males.

Persons from very remote areas reported the wealthiest income distribution, with 33.4% reporting an annual household income of $80,000 or more and only 4.9% in the lowest income category. Persons from major cities reported the next wealthiest distribution of annual household income. Compared with differences observed between other areas there was relatively little difference between those from inner and outer regional areas, both recording the least wealthy income distributions.

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– <$60,000	$60,000– <$70,000	$70,000– <$80,000	$80,000 or more
Age group									
5–11 years	*3.5	7.0	11.9	11.8	14.5	12.2	10.3	10.0	18.8
12–17 years	*3.6	9.6	11.1	13.8	10.2	11.8	11.0	9.2	19.7
18–24 years	6.2	10.4	10.3	9.4	11.4	13.2	6.8	6.0	26.2
25–44 years	4.6	6.3	10.3	12.4	14.7	13.2	9.2	7.2	22.0
45–64 years	8.2	11.1	12.2	12.0	11.2	9.6	7.6	6.4	21.7
65 years or more	28.7	39.0	15.8	5.2	2.8	3.5	*1.7	*1.5	*1.9
Sex									
Male	6.2	11.1	11.6	10.8	11.4	11.2	8.6	7.2	21.8
Female	11.1	13.9	11.9	11.4	11.8	10.4	7.0	6.1	16.4
Residential location									
Major Cities	8.3	11.6	10.2	9.9	11.2	10.0	8.4	7.1	23.4
Inner Regional	10.0	14.0	15.2	13.8	12.4	11.8	6.9	6.0	9.9
Outer Regional	8.5	16.0	13.3	12.6	12.3	13.8	6.6	5.5	11.5
Remote	*7.3	*8.7	18.3	14.6	15.0	*8.9	*4.6	*7.9	14.7
Very Remote	*4.9	*9.8	*6.0	*7.7	*8.3	*6.5	*20.6	*2.8	*33.4
Total	**8.6**	**12.5**	**11.8**	**11.1**	**11.6**	**10.8**	**7.8**	**6.7**	**19.1**

* 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 would entitle 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, 34.9% compared with 5.5% of non-cardholders. There was also a far lower proportion of 25–44-year-old cardholders compared with non-cardholders (21.0% cf. 36.4%). 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.

There was a higher percentage of females among cardholders than among non-cardholders (58.1% cf. 47.7%).

Cardholders and non-cardholders also differed in distribution across residential location. Greater proportions of cardholders came from inner and outer regional areas than was the case for non-cardholders. Consequently, cardholders were less likely to live in major cities 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	10.8	8.6	9.3	10.8	12.9	*9.4	*10.9	*13.3	10.2
12–17 years	*6.1	*5.7	*6.3	*4.8	8.9	*9.3	*1.5	*13.5	6.3
18–24 years	8.2	*6.1	8.6	*6.4	14.1	*8.7	*21.4	*15.3	8.3
25–44 years	17.9	24.0	24.1	22.5	16.0	20.5	*12.1	37.0	21.0
45–64 years	19.8	17.7	20.6	19.7	18.3	21.1	*20.8	*8.7	19.3
65 years or more	37.2	38.0	31.1	35.8	29.9	31.0	33.2	*12.1	34.9
Non-cardholder									
5–11 years	11.0	11.2	12.0	10.3	10.1	13.5	10.0	13.2	11.1
12–17 years	8.6	10.5	10.4	9.6	9.1	*8.5	9.6	*8.7	9.5
18–24 years	10.8	10.5	10.7	11.2	9.5	*8.9	11.7	12.4	10.6
25–44 years	37.2	35.8	35.0	35.0	38.9	35.7	37.8	39.0	36.4
45–64 years	26.2	27.1	26.6	28.5	27.4	29.2	25.8	24.4	26.8
65 years or more	6.2	5.0	5.3	5.3	4.9	*4.2	*5.0	*2.3	5.5
Sex									
Cardholder									
Male	40.7	41.6	40.3	45.0	45.3	43.4	43.2	52.7	41.9
Female	59.3	58.4	59.7	55.0	54.7	56.6	56.8	47.3	58.1
Non-cardholder									
Male	52.3	51.9	53.3	51.5	51.7	52.9	50.1	52.4	52.3
Female	47.7	48.1	46.7	48.5	48.3	47.1	49.9	47.6	47.7
Residential location									
Cardholder									
Major Cities	59.8	70.8	47.5	75.3	69.5	. .	99.1	. .	60.5
Inner Regional	32.0	22.1	31.2	12.4	14.6	59.9	0.9	. .	26.3
Outer Regional	7.7	*7.0	19.8	9.6	12.6	38.6	. .	77.0	12.0
Remote	*0.4	*0.1	*1.2	*2.5	*3.3	*1.0	. .	*17.4	*1.1
Very Remote	*0.1	. .	*0.2	*0.3	*0.1	*0.5	. .	*5.7	*0.2
Non-cardholder									
Major Cities	76.1	74.9	52.4	71.1	74.1	. .	99.8	. .	69.0
Inner Regional	17.4	18.9	26.4	14.1	11.6	73.9	0.2	. .	19.3
Outer Regional	6.0	5.9	18.2	11.4	9.3	23.5	. .	71.5	9.9
Remote	*0.4	*0.2	*2.0	*2.9	*3.7	*1.3	. .	22.2	1.4
Very Remote	—	. .	*0.9	*0.5	*1.4	*1.3	. .	*6.3	*0.4

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

Table 2.2.2 provides the age–income distribution by card status. Over three-fifths of all cardholders (61.6%) lived in households with an annual income less than $20,000, compared with 6.1% of non-cardholders. More than one-quarter of non-cardholders came from households of more than $80,000 per annum, compared with 1.3% of cardholders. In excess of one-quarter of cardholders (27.4%) were aged 65 years and over with an annual household income of less than $20,000, compared with 2.1% 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	1.5	*0.8	*1.1	5.2	5.9	11.8	**26.3**
$12,000–<$20,000	2.7	2.1	1.7	5.7	7.6	15.6	**35.3**
$20,000–<$30,000	3.7	1.6	*1.1	5.7	4.1	5.3	**21.5**
$30,000–<$40,000	1.8	*0.7	*1.0	2.5	*1.0	*1.0	**8.1**
$40,000–<$50,000	*0.4	*0.1	*0.6	*1.1	*0.3	*0.6	**3.0**
$50,000–<$60,000	*0.4	*0.3	*0.7	*0.6	*0.2	*0.4	**2.5**
$60,000–<$70,000	*0.2	*0.1	*0.1	*0.3	*0.1	*0.2	***1.0**
$70,000–<$80,000	*0.1	*0.1	*0.3	—	—	*0.2	***0.8**
$80,000 or more	*0.1	*0.2	*0.7	*0.2	—	*0.1	**1.3**
Total	**10.2**	**6.3**	**8.3**	**21.0**	**19.3**	**34.9**	**100.0**
Non-cardholder							
Less than $12,000	—	*0.1	*0.4	*0.2	*0.6	0.8	**2.1**
$12,000–<$20,000	*0.1	*0.2	0.7	0.8	0.9	1.3	**4.0**
$20,000–<$30,000	*0.5	*0.5	0.9	2.7	2.6	0.9	**8.1**
$30,000–<$40,000	1.2	1.2	0.8	4.8	3.7	*0.6	**12.2**
$40,000–<$50,000	2.2	1.0	1.2	6.4	3.7	*0.3	**14.8**
$50,000–<$60,000	1.8	1.1	1.4	5.9	3.2	*0.5	**13.9**
$60,000–<$70,000	1.6	1.1	0.8	4.1	2.5	*0.2	**10.4**
$70,000–<$80,000	1.6	0.9	*0.6	3.3	2.2	*0.2	**8.8**
$80,000 or more	2.9	2.0	3.0	10.1	7.3	*0.3	**25.7**
Total	**11.1**	**9.5**	**10.6**	**36.4**	**26.8**	**5.5**	**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 living in inner and outer regional areas, 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 major 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. Just under half (43.8%) of those aged 75 years and older reported being edentulous, the percentage for those aged 65–74 years was 26%, and 12.8% for 55–64 year age group. The prevalence of edentulism for persons aged less than 54 years was very low. Only 0.5% of the 18–44 year age group were edentulous, and 4.0% of the 45–54 year age group.

There was a greater prevalence of edentulism among females than males. The difference was largest among those aged 65–74 year age group where 33.1% of females were edentulous compared with 18.5% of males.

Edentulism increased inversely to annual household income. That is, the lower the income group the greater the prevalence of edentulism, and vice versa. Among the 55–64 year age there was a large relative disadvantage for lower income groups compared with higher income groups. For this age group, approximately 20% of those in the two lowest income groups were edentulous, compared with less than 10% of those in the highest three income groups. This same pattern is clearly evident also for the 45–54 year age group and the 65–74 year age group.

There were substantial differences between cardholders and non-cardholders in the prevalence of edentulism. Among persons aged 65–74 years, cardholders were nearly twice as likely to be edentulous than were non-cardholders (29.6% cf. 15.9%). The relative difference between cardholders and non–cardholders was more than two-fold for the age groups under 65 years of age.

The rate of edentulism tended to be lower in the major cities than in other areas of Australia. Among the States and Territories edentulism ranged from 2.1% in the Australian Capital Territory and 2.5% in the Northern Territory, up to 14.3% in Tasmania. With the exception of the 18–44 year age group where edentulism rates were negligible, Tasmanians reported the highest edentulism rates for each age group.

Table 3.1.1: Percentage edentulous persons by sociodemographic variables

	Age group					
	18–44 years	45–54 years	55–64 years	65–74 years	75+ years	Total
Sex						
Male	*0.5	*3.0	10.3	18.5	38.2	6.2
Female	*0.4	5.0	15.3	33.1	47.5	10.3
Annual household income						
Less than $12,000	*1.7	*10.9	22.9	30.1	54.6	25.9
$12,000–<$20,000	*0.4	*17.0	19.7	30.2	47.7	22.7
$20,000–<$30,000	*1.8	*9.6	*10.2	*19.0	32.9	9.5
$30,000–<$40,000	*0.7	*2.3	*10.4	*13.7	*34.9	*3.9
$40,000–<$60,000	*0.1	*2.4	*8.5	*11.9	*12.2	*1.8
$60,000–<$80,000	—	*5.3	*6.7	*13.6	—	*2.2
$80,000 or more	*0.2	*0.2	*3.3	*7.8	*53.8	*0.8
Cardholder						
Yes	*1.1	*13.0	21.4	29.6	46.3	20.0
No	*0.3	*2.7	8.4	15.9	39.0	3.7
Residential location						
Major Cities	*0.4	*3.9	9.0	22.2	39.3	6.8
Inner Regional	*0.5	*5.0	17.1	34.5	54.5	12.3
Outer Regional	*1.0	*2.6	25.0	29.7	46.9	10.3
Remote / Very Remote	—	*4.5	*8.2	*28.4	*47.2	*6.1
State/Territory						
New South Wales	*0.2	*2.0	*10.0	21.6	38.8	6.8
Victoria	*0.5	*6.8	13.8	32.6	50.3	10.3
Queensland	*0.8	*4.3	16.5	23.4	43.6	8.4
South Australia	—	*3.0	14.8	33.2	50.2	10.3
Western Australia	*1.0	*3.4	*9.3	22.4	38.4	6.6
Tasmania	*1.2	*9.6	24.3	40.8	52.7	14.3
Australian Capital Territory	—	*2.0	*4.9	*2.7	*20.9	*2.1
Northern Territory	—	*4.0	*9.8	*5.9	*39.0	*2.5
Total	***0.5**	**4.0**	**12.8**	**26.0**	**43.8**	**8.3**

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

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

Table 3.1.1(a) presents updated projections of edentulism by age group. Dramatic reductions in the prevalence of edentulism have occurred in Australia for at least the past two decades. From 1979 to 2002 the percentage of persons edentulous reduced from: 26.5% to 4.0% among 45–54-year-olds; 40.2% to 12.8% among 55–64-year-olds; 60.7% to 26.0% among 65–74-year-olds; and 78.6% to 43.8% among persons aged 75 years and over. Among those aged 75 years or more, edentulism is projected to decline to approximately one-in-three persons by 2010, approximately one-in-four persons by 2020, and approximately one-in-seven persons by 2030. When combined with an ageing Australian population, this will produce much increased need for dental treatment and maintenance among older adults to a level that has not been previously experienced in Australia.

Table 3.1.1(a): Projections of percentage edentulous persons by age group

	Age group			
Year	**45–54 years**	**55–64 years**	**65–74 years**	**75+ years**
1979[(a)]	**26.5**	**40.2**	**60.7**	**78.6**
1980 interpolated estimate	25.3	39.1	59.0	77.1
1989[(b)]	**14.9**	**28.9**	**43.2**	**63.4**
1990 interpolated estimate	14.1	27.7	41.9	61.9
2000 interpolated estimate	6.1	15.7	28.9	46.9
2002[(c)]	**4.0**	**12.8**	**26.0**	**43.8**
2010 projection	2.7	8.1	17.8	32.8
2020 projection	1.9	4.7	10.2	21.7
2030 projection	1.6	3.9	6.7	14.1

(a) ABS 1979 Special Supplementary Survey.

(b) ABS 1989 National Health Survey.

(c) 2002 National Dental Telephone Interview Survey.

Note: The data in this table relate to persons aged 45 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 12.4 missing teeth was reported, representing 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. With the exception of the 18–24 year age group, 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 10.0 missing teeth, compared with 4.4 missing teeth among those from households of $80,000 or more per annum from the same age group.

Cardholders had a greater number of missing teeth than non-cardholders, 8.2 cf. 4.1 missing teeth. This result held true across all age groups, except for the 18–24 year age group. People from inner and outer regional areas tended to have slightly more missing teeth than those from other areas. By State and Territory, the mean number of missing teeth ranged from 3.9 in the Northern Territory to 5.8 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	1.5	2.5	6.6	12.2	4.7
Female	2.5	3.4	6.8	12.6	5.4
Annual household income					
Less than $12,000	*1.9	4.0	10.0	13.7	9.0
$12,000–<$20,000	1.6	4.1	9.1	14.2	8.8
$20,000–<$30,000	1.6	3.4	8.7	10.9	6.3
$30,000–<$40,000	2.0	3.1	8.1	10.0	5.0
$40,000–<$60,000	1.8	2.8	5.6	9.7	3.7
$60,000–<$80,000	2.8	2.6	6.4	*7.8	4.0
$80,000 or more	2.4	3.0	4.4	*11.7	3.5
Cardholder					
Yes	1.8	3.7	10.2	13.3	8.2
No	2.0	2.8	5.9	10.6	4.1
Residential location					
Major Cities	2.0	2.9	6.3	12.3	4.9
Inner Regional	2.0	2.8	7.7	13.0	5.6
Outer Regional	2.0	3.9	6.8	13.4	5.6
Remote / Very Remote	*1.2	2.8	*7.3	*7.7	4.2
State/Territory					
New South Wales	1.9	2.6	7.5	13.0	5.3
Victoria	2.3	3.3	6.3	13.7	5.2
Queensland	1.9	3.3	6.4	10.4	4.9
South Australia	1.8	3.1	6.0	11.2	4.8
Western Australia	2.5	2.6	5.8	12.2	4.6
Tasmania	*0.9	3.2	7.9	14.9	5.8
Australian Capital Territory	*2.0	*3.3	5.3	*7.8	4.2
Northern Territory	*1.5	3.3	*5.1	*13.6	3.9
Total	**2.0**	**3.0**	**6.7**	**12.4**	**5.1**

* 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, 46.9% of those aged 65 and over had only between 1 and 20 teeth remaining, while 64.1% 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 (53.8% cf. 41.0%).

There was a strong association between income and the distribution of the number of teeth remaining. Approximately 30% those from the two lowest income groups had between 1 and 20 teeth, compared with less than 6% of those from the highest three income groups. Conversely, the percentage of persons with 29 to 32 teeth was greatest among the three highest income groups (over 50%) and lowest among the two lowest income groups (approximately 33%).

A similar result was observed when examining the data by card status. Cardholders were four times more likely to have between 1 and 20 teeth (26.8% cf. 6.7%).

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 (47.2%) of dentate persons aged 18 and over had 29 or more 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	*0.5	*2.0	33.4	64.1
25–44 years	2.1	4.9	36.7	56.3
45–64 years	16.5	11.4	33.4	38.6
65 years or more	46.9	10.6	26.9	15.6
Sex				
Male	10.6	6.7	28.9	53.8
Female	12.4	7.6	39.0	41.0
Annual household income				
Less than $12,000	28.3	10.5	27.8	33.4
$12,000–<$20,000	32.5	7.2	28.2	32.1
$20,000–<$30,000	17.5	8.4	32.3	41.8
$30,000–<$40,000	10.3	7.4	39.6	42.7
$40,000–<$60,000	5.5	5.9	34.7	53.9
$60,000–<$80,000	5.5	6.4	35.0	53.0
$80,000 or more	*2.5	8.8	38.4	50.3
Cardholder				
Yes	26.8	8.7	28.3	36.2
No	6.7	6.7	35.9	50.7
Residential location				
Major Cities	10.5	6.8	35.4	47.3
Inner Regional	14.7	7.7	30.4	47.2
Outer Regional	13.6	8.0	33.1	45.3
Remote / Very Remote	*7.7	*9.1	29.2	54.0
State/Territory				
New South Wales	13.2	7.2	30.3	49.3
Victoria	12.2	6.2	37.8	43.7
Queensland	10.1	7.4	34.1	48.4
South Australia	8.8	9.1	37.0	45.1
Western Australia	9.8	7.0	37.1	46.1
Tasmania	14.9	9.1	28.1	48.0
Australian Capital Territory	6.8	6.7	38.3	48.1
Northern Territory	*6.0	8.2	29.0	56.8
Total	**11.5**	**7.2**	**34.1**	**47.2**

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

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

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 over one-sixth (17.8%) of those aged 45–54 years reported denture wearing. This increased to just under one-third of those age 55–64 years, just over one-half of those aged 65–74 years, and two-thirds of dentate persons aged 65 and over. Neither males nor females consistently reported higher denture use across age groups, and there was little difference overall.

There existed a gradient in denture wearing by household income. The effect is most apparent in the 55–64-year-old age groups. Among dentate 55–64-year-olds, 40.8% of those from households of less than $12,000 per annum wore a denture, compared with 27.4% of those from households of $80,000 or more per annum. A higher percentage of cardholders reported denture use than non-cardholders. The differential being greatest within the 55–64 year age group, where 40.2% of dentate cardholders wore a denture, compared with 28.9% of non-cardholders.

There was considerable variation between the States and Territories, with denture use among dentate adults ranging from 12.1% in the Northern Territory, up to 19.0% in Tasmania.

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

	Age group						
	18–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75+ years	Total
Sex							
Male	*1.2	*5.4	16.2	32.6	50.6	69.8	15.5
Female	*0.8	*5.5	19.5	32.0	56.7	63.5	16.2
Annual household income							
Less than $12,000	*1.5	*17.2	*12.5	40.8	49.9	69.8	31.8
$12,000–<$20,000	*1.6	*6.1	*23.4	43.7	68.1	73.0	37.2
$20,000–<$30,000	*0.7	*7.3	35.6	33.4	44.7	73.7	22.7
$30,000–<$40,000	*0.2	*3.2	27.8	32.9	†42.6	†76.8	14.1
$40,000–<$60,000	*1.6	*3.8	16.0	24.8	†44.7	*14.8	8.6
$60,000–<$80,000	*1.5	*6.4	22.7	30.2	*42.1	*44.9	11.7
$80,000 or more	*0.1	*4.7	*9.8	27.4	*55.4	*52.7	7.0
Cardholder							
Yes	*0.9	*7.6	18.6	40.2	56.9	68.1	29.1
No	*1.0	5.1	17.7	28.9	45.4	63.1	11.5
Residential location							
Major Cities	*1.0	*5.1	17.1	29.2	52.8	68.1	15.1
Inner Regional	*1.1	*6.1	19.5	35.4	54.8	65.3	17.8
Outer Regional	*1.0	*7.9	16.4	43.2	58.2	†66.8	17.4
Remote / Very Remote	*2.4	*3.5	*28.7	†60.3	*27.0	*18.3	14.9
State/Territory							
New South Wales	*1.0	*2.5	20.4	32.2	57.7	63.5	16.4
Victoria	*0.3	*5.5	15.1	31.2	52.1	70.7	14.7
Queensland	*1.6	*11.4	19.4	36.9	48.8	55.1	17.1
South Australia	*2.2	*3.3	*11.2	26.7	50.5	62.9	13.9
Western Australia	*0.4	*3.5	19.3	31.6	54.4	87.1	15.9
Tasmania	—	*16.0	*14.7	37.7	55.1	83.1	19.0
Australian Capital Territory	*2.2	*8.3	*13.1	*22.1	39.7	†61.0	12.4
Northern Territory	*3.0	*8.6	*17.6	39.8	*36.1	*74.4	12.1
Total	***1.0**	**5.5**	**17.8**	**32.3**	**53.4**	**66.3**	**15.8**

* 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.

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, 43.8% of persons 75 years or more, compared with 12.8% of those 55–64 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 65–74 years, 29.6% were edentulous, compared with 15.9% 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 65–74 years, 33.1% of females and 18.5% 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 2.1% in the Australian Capital Territory up to 14.3% 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, or 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, just over 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	87.6	10.5	*1.9	—
12–17 years	74.6	15.1	8.3	*1.9
18–24 years	52.8	23.1	13.1	11.0
25–44 years	53.4	21.3	14.5	10.8
45–64 years	63.7	16.3	12.2	7.8
65 years or more	61.9	15.6	11.2	11.4
Total	**62.5**	**17.9**	**11.5**	**8.1**

* 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 major 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 (57.6%) reported a dental visit in the last 12 months, with a further 19.3% 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	53.7	19.3	14.2	12.9
Female	61.4	19.3	12.2	7.1
Annual household income				
Less than $12,000	49.9	16.5	16.1	17.5
$12,000–<$20,000	51.7	20.5	15.7	12.1
$20,000–<$30,000	59.9	15.5	16.2	8.4
$30,000–<$40,000	53.5	20.1	14.4	12.1
$40,000–<$60,000	57.2	20.9	11.6	10.3
$60,000–<$80,000	57.6	20.3	13.8	8.3
$80,000 or more	65.1	17.7	10.8	6.3
Cardholder				
Yes	51.3	18.9	14.9	14.9
No	59.7	19.4	12.6	8.3
Residential location				
Major Cities	59.2	19.5	12.3	9.0
Inner Regional	54.8	18.3	14.9	12.1
Outer Regional	53.1	21.0	13.3	12.7
Remote / Very Remote	50.5	16.1	24.1	*9.4
State/Territory				
New South Wales	58.7	18.3	11.8	11.1
Victoria	55.4	22.7	13.3	8.5
Queensland	60.8	16.8	14.3	8.2
South Australia	58.7	17.4	12.9	11.0
Western Australia	55.6	18.7	15.2	10.6
Tasmania	44.8	23.4	16.4	15.4
Australian Capital Territory	59.5	22.4	9.3	8.9
Northern Territory	45.7	21.1	19.7	13.5
Total	**57.6**	**19.3**	**13.2**	**10.0**

* 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 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 half of edentulous persons had not made a dental visit in the previous five years, and just under a one-sixth (15.2%) had visited in the previous year. More recent visiting was reported by those from higher income households. There was little difference observed by age, sex or card status.

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	16.9	14.0	23.0	46.2
65 years or more	14.4	11.2	21.8	52.7
Sex				
Male	17.2	12.3	21.0	49.6
Female	14.0	12.0	22.8	51.2
Annual household income				
Less than $12,000	11.2	14.0	21.8	53.1
$12,000–<$20,000	17.7	13.2	16.4	52.8
$20,000 or more	16.3	*8.1	30.7	44.9
Cardholder				
Yes	14.9	12.0	22.5	50.5
No	15.7	*12.3	21.3	50.7
Total	**15.2**	**12.1**	**22.1**	**50.6**

* 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 (87.9%) were reported to usually visit the dentist at least once a year. This dropped to 80.9% of adolescents, to around 50–60% 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	41.3	46.6	9.4	*2.7
12–17 years	42.9	38.0	10.9	8.2
18–24 years	27.9	30.1	16.8	25.2
25–44 years	21.4	29.6	19.8	29.3
45–64 years	27.7	30.2	16.4	25.7
65 years or more	31.8	25.9	12.8	29.5
Total	**28.9**	**32.2**	**16.0**	**23.0**

* 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 over a third (34.4%) of males reported that they usually visit the dentist less than once every two years, compared with 20.9% 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 (21.0%) of persons from households of $80,000 or more reported usually visiting less than once every two years, compared with 40.7% 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 major cities were the most likely to make regular dental visits than persons from other areas. Approximately one-third of persons from non–major city areas reported visiting less than once every two years, compared with one-quarter of persons from major cities. The Northern Territory 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	22.2	25.9	17.5	34.4
Female	28.7	33.0	17.5	20.9
Annual household income				
Less than $12,000	17.4	25.2	16.7	40.7
$12,000–<$20,000	26.8	26.0	16.2	31.1
$20,000–<$30,000	24.6	25.0	14.8	35.6
$30,000–<$40,000	22.0	28.0	20.6	29.3
$40,000–<$60,000	26.5	28.6	20.3	24.6
$60,000–<$80,000	22.7	31.5	20.5	25.3
$80,000 or more	29.7	34.8	14.6	21.0
Cardholder				
Yes	21.2	25.5	16.1	37.2
No	26.8	30.6	17.9	24.6
Residential location				
Major Cities	27.9	30.1	16.8	25.1
Inner Regional	20.5	28.8	18.0	32.7
Outer Regional	18.0	26.8	21.6	33.6
Remote / Very Remote	18.5	27.7	19.0	34.8
State/Territory				
New South Wales	25.8	29.2	17.7	27.3
Victoria	28.4	28.6	18.4	24.6
Queensland	23.5	30.6	17.9	28.1
South Australia	25.3	28.7	16.0	30.0
Western Australia	24.8	28.6	14.9	31.7
Tasmania	13.9	32.5	18.0	35.6
Australian Capital Territory	24.3	36.3	17.9	21.4
Northern Territory	16.0	29.9	14.3	39.8
Total	**25.5**	**29.4**	**17.5**	**27.6**

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. For all age groups, 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 (73.3%, 76.3%, and 63.3% respectively). This declined to about 50% or less among dentate adults aged 25 years or more.

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	69.0	74.7	73.3
12–17 years	71.9	77.6	76.3
18–24 years	54.5	65.6	63.3
25–44 years	32.3	54.2	50.8
45–64 years	33.0	45.3	43.4
65 years or more	42.0	58.8	48.3
Total	**46.1**	**58.9**	**56.1**

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 (38.5% cf. 52.6%). Females were marginally more likely than males to have last made a dental visit for a check-up. Overall, there was an association with income, 40.4% of those from households of less than $12,000 per annum last visited for a check-up, increasing to 57.0% among the highest income group. Persons from major cities were more likely to have reported that their last dental visit was for a check-up than were persons from other locations. The Northern Territory had the lowest percentage of persons reporting that their last dental visit was for a check-up, 38.9% compared with 49.5% nationally.

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

	Cardholder	Non-cardholder	Total
Sex			
Male	37.7	51.1	48.9
Female	38.9	54.0	49.9
Annual household income			
Less than $12,000	37.8	50.0	40.4
$12,000–<$20,000	35.7	50.0	40.2
$20,000–<$30,000	37.7	46.5	42.4
$30,000–<$40,000	†46.1	48.1	47.9
$40,000–<$60,000	*43.9	52.3	51.8
$60,000–<$80,000	*24.0	50.3	49.3
$80,000 or more	*20.5	57.8	57.0
Residential location			
Major Cities	39.9	55.6	52.3
Inner Regional	35.8	46.2	43.6
Outer Regional	31.1	44.5	41.3
Remote / Very Remote	*48.2	*25.5	30.9
State/Territory			
New South Wales	33.2	51.2	47.7
Victoria	44.3	55.1	52.8
Queensland	38.3	51.0	47.9
South Australia	36.3	53.2	48.4
Western Australia	47.6	55.5	53.7
Tasmania	36.9	55.0	49.2
Australian Capital Territory	*25.8	49.7	45.5
Northern Territory	*20.6	42.1	38.9
Total	**38.5**	**52.6**	**49.5**

* 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 Tables 4.4.1(a) and (b). Among 5–11-year-olds, 51.5% of those visiting a dentist in the last 12 months last attended a school dental clinic, while 42.0% last attended a private practice. The reverse was the case for 12–17-year-olds, 69.6% last visited a private practice, and 21.9% a school dental clinic. The percentage of persons last visiting a private practice continued to increase across age groups, up to 91.9% among the 45–64-year-olds. There was a decrease in the percentage of persons aged 65 years and over visiting a private practice (82.8%), as the percentage using a public clinic increased to 15.1%.

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	42.0	6.3	51.5	—	*0.1
12–17 years	69.6	8.5	21.9	—	—
18–24 years	86.4	10.5	*1.0	—	*2.0
25–44 years	91.6	7.1	—	*0.1	*1.3
45–64 years	91.9	6.9	*0.1	*0.5	*0.5
65 years or more	82.8	15.1	—	*1.7	*0.4
Total	**80.2**	**8.1**	**10.6**	***0.3**	***0.7**

* 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 (32.1%). However, even in this group a greater percentage still visited a private dentist (66.1%). Nearly 70% of cardholders last visited a private practice, and 30% 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 rather than receive subsidised dental care 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.

The percentage of persons last visiting a private practice declined, and public clinic use increased as the remoteness of the residential location 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 (12.1%–15.3%). Private practice use was highest in New South Wales, Western Australia, and the Australian Capital Territory, all of which had a correspondingly low reported use of public dental services (3.8%–7.5%).

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	88.9	8.2	*0.2	*0.9	*1.9
Female	90.8	8.7	*0.1	*0.1	*0.2
Annual household income					
Less than $12,000	66.1	32.1	*0.2	*0.3	*1.2
$12,000–<$20,000	72.6	27.0	*0.1	*0.1	*0.2
$20,000–<$30,000	82.5	15.3	*0.2	*1.3	*0.7
$30,000–<$40,000	95.3	*4.0	—	*0.2	*0.5
$40,000–<$60,000	95.5	*2.2	*0.2	*0.6	*1.5
$60,000–<$80,000	96.2	*1.0	—	*0.2	*2.6
$80,000 or more	97.8	*0.8	*0.3	*0.6	*0.6
Cardholder					
Yes	68.6	30.0	*0.2	*0.7	*0.6
No	95.8	2.5	*0.2	*0.4	*1.1
Residential location					
Major Cities	90.8	7.6	*0.2	*0.5	*0.8
Inner Regional	89.0	9.4	—	*0.5	*1.1
Outer Regional	87.1	11.1	*0.1	*0.2	*1.5
Remote / Very Remote	70.7	24.3	*1.1	—	*3.9
State/Territory					
New South Wales	94.5	4.5	—	*0.7	*0.4
Victoria	89.1	9.9	—	*0.4	*0.6
Queensland	85.3	12.1	*0.6	*0.3	*1.8
South Australia	83.5	13.7	*0.6	*0.5	*1.7
Western Australia	91.3	7.5	*0.2	*0.1	*1.0
Tasmania	86.1	13.3	—	*0.6	—
Australian Capital Territory	91.9	*3.8	—	—	*4.3
Northern Territory	75.2	15.3	—	—	*9.5
Total	**89.9**	**8.5**	***0.2**	***0.4**	***1.0**

* 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 over a fifth (21.4%) of such cardholders reported that they were not eligible for public care at the time of their last visit, and 8.1% received a government subsidy to visit a private dentist, and hence made a public-funded dental visit. A little under 60% stated that they prefer to see a private dentist, and the remaining 12.3% went to a private dentist for some other reason. The reasons most often given for preferring a private dentist were continuity of care, followed by not having to wait and the quality 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 difficult to get to the public clinic and treatment not available.

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

	%	%
Not eligible for public care at time		**21.4**
Received government subsidy		**8.1**
Prefer to see a private dentist		**58.1**
Continuity of care[(a)]	46.9	
Don't have to wait[(a)]	44.5	
Quality of care[(a)]	43.2	
Other[(a)]	*18.4	
No public clinic to attend[(a)]	*8.2	
Treatment not available at public clinic[(a)]	*2.2	
Other		**12.3**
Had to wait too long at a public clinic[(b)]	64.0	
Difficult to get to the public clinic[(b)]	23.2	
Treatment not available at public clinic[(b)]	19.6	
No public clinic to attend[(b)]	17.0	
Didn't know were eligible for public care[(b)]	*5.3	

(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 2.32 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.

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 and 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. 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	1.96	0.17	0.59	0.55
12–17 years	2.88	*0.30	0.52	0.77
18–24 years	2.17	0.46	0.65	0.88
25–44 years	2.26	0.32	0.83	0.95
45–64 years	2.41	0.29	0.98	0.95
65 years or more	2.32	0.27	1.00	0.99
Total	**2.32**	**0.30**	**0.80**	**0.86**

* 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 2.31 visits. The average number of visits was slightly lower for males than females. Cardholders made fewer visits on average than did non–cardholders. There was no clear relationship between annual household income and the number of dental visits. Persons from major cities made more dental visits than those from other locations, and the number of visits declined as remoteness increased.

Treatment received

The average number of extractions and fillings within the previous 12 months was higher for males than females. There was less difference in the mean number of scale and clean services received, with females reporting a slightly higher receipt of this service.

Persons 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. A similar pattern was also observed for fillings. Average receipt of a scale and clean tended to increase as annual household income increased. Cardholders had on average a greater number of extractions (0.42 cf. 0.30), more fillings (1.01 cf. 0.84), and fewer scale and cleans (0.84 cf. 0.97) than non-cardholders. Persons from less remote areas tended to have fewer extractions, more fillings and more scale and clean services. Overall, the mean number of services per year per person visiting in the last year was 0.32 extractions, 0.88 fillings, and 0.94 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	2.27	0.38	0.97	0.92
Female	2.34	0.28	0.80	0.97
Annual household income				
Less than $12,000	2.18	0.40	0.96	0.69
$12,000–<$20,000	2.44	0.40	0.96	0.83
$20,000–<$30,000	2.20	0.42	1.08	0.87
$30,000–<$40,000	2.33	0.34	0.71	0.87
$40,000–<$60,000	2.25	0.31	0.85	0.96
$60,000–<$80,000	2.43	0.32	0.82	0.98
$80,000 or more	2.30	0.28	0.82	1.10
Cardholder				
Yes	2.24	0.42	1.01	0.84
No	2.33	0.30	0.84	0.97
Residential location				
Major Cities	2.36	0.31	0.90	0.99
Inner Regional	2.29	0.30	0.84	0.84
Outer Regional	2.05	0.42	0.83	0.80
Remote / Very Remote	1.76	*0.49	*0.69	0.80
State/Territory				
New South Wales	2.27	0.30	0.85	0.93
Victoria	2.39	0.30	1.00	0.95
Queensland	2.17	0.35	0.89	0.99
South Australia	2.37	*0.41	0.75	0.87
Western Australia	2.40	0.31	0.80	0.98
Tasmania	2.16	*0.27	0.75	0.81
Australian Capital Territory	2.91	*0.43	*1.05	0.98
Northern Territory	2.35	*0.60	*0.73	0.76
Total	**2.31**	**0.32**	**0.88**	**0.94**

* 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 (15.4%) who made a dental visit in the previous 12 months received one or more extractions. This figure was lowest among children, of whom around 8–11% received an extraction(s). The percentage of persons who received fillings was 32.7% among 5–11- year-olds and 27% of 12–17- and 18–24-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 70–75% 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	87.6	8.2	32.7	46.6
12–17 years	74.6	10.7	27.7	55.9
18–24 years	52.8	17.9	27.5	69.3
25–44 years	53.4	17.6	43.8	72.5
45–64 years	63.7	17.4	50.4	74.2
65 years or more	61.9	17.3	52.3	71.8
Total	**62.5**	**15.4**	**41.3**	**66.8**

(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 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 income groups. Cardholders were more likely to receive extractions and less likely to receive a scale and clean than non-cardholders, and slightly more likely to receive fillings. By residential location, persons from more urban locations tended to have a higher percentage who had a scale and clean. 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 14.3% in the Australian Capital Territory, to 27.1% in the Northern Territory. Overall, just under 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 just over 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	53.7	20.1	45.3	72.2
Female	61.4	15.3	45.0	73.0
Annual household income				
Less than $12,000	49.9	24.3	49.7	54.8
$12,000–<$20,000	51.7	24.3	49.7	64.8
$20,000–<$30,000	59.9	22.5	50.7	70.0
$30,000–<$40,000	53.5	19.3	43.8	70.7
$40,000–<$60,000	57.2	15.7	44.4	73.7
$60,000–<$80,000	57.6	16.4	48.0	70.1
$80,000 or more	65.1	14.4	38.3	82.6
Cardholder				
Yes	51.3	24.4	47.7	66.6
No	59.7	15.6	44.4	74.2
Residential location				
Major Cities	59.2	17.0	45.0	74.9
Inner Regional	54.8	17.8	46.7	65.6
Outer Regional	53.1	21.6	45.9	69.3
Remote / Very Remote	50.5	*17.7	37.6	69.8
State/Territory				
New South Wales	58.7	17.1	42.2	71.8
Victoria	55.4	16.9	49.8	71.4
Queensland	60.8	18.4	47.3	76.4
South Australia	58.7	19.2	44.9	67.5
Western Australia	55.6	17.2	41.5	75.9
Tasmania	44.8	18.5	42.2	68.1
Australian Capital Territory	59.5	14.3	45.0	74.2
Northern Territory	45.7	27.1	41.5	63.9
Total	**57.6**	**17.5**	**45.1**	**72.6**

(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 0.98 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	1.54	3.10	*0.07	*0.42	0.34	1.29	0.54	0.58
12–17 years	2.71	3.43	*0.15	*0.81	0.40	0.89	0.82	0.61
18–24 years	1.63	3.12	*0.16	1.00	*0.20	1.43	0.90	0.84
25–44 years	1.84	2.71	*0.04	0.62	0.36	1.32	1.17	0.72
45–64 years	1.81	2.87	*0.11	0.43	0.46	1.38	1.16	0.78
65 years or more	1.94	2.69	*0.14	0.38	0.74	1.24	1.16	0.84
Total	**1.89**	**2.87**	**0.10**	**0.55**	**0.40**	**1.31**	**0.96**	**0.74**

* 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—1.81 visits and 2.90 visits respectively. There was lesser difference among cardholders in number of visits by reason for last visit—1.79 visits compared with 2.53 visits. Regardless of the reason for last visit, cardholders had more extractions per person visiting than did non-cardholders. 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 more than three 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	1.79	2.74	*0.10	0.63	0.45	1.47	1.11	0.74
Female	1.82	2.86	*0.08	0.48	0.38	1.23	1.13	0.80
Annual household income								
Less than $12,000	1.84	2.42	*0.14	0.58	*0.45	1.31	0.93	0.53
$12,000–<$20,000	1.95	2.80	*0.14	0.58	0.69	1.15	0.97	0.75
$20,000–<$30,000	1.74	2.55	*0.09	0.66	0.54	1.48	1.10	0.69
$30,000–<$40,000	1.71	2.90	*0.09	0.58	0.48	0.91	1.08	0.68
$40,000–<$60,000	1.87	2.66	*0.12	0.51	0.39	1.36	1.19	0.71
$60,000–<$80,000	1.76	3.09	*0.02	0.62	0.43	1.20	1.14	0.82
$80,000 or more	1.82	2.93	*0.08	0.54	0.29	1.54	1.19	0.98
Cardholder								
Yes	1.79	2.53	*0.12	0.61	0.54	1.31	1.06	0.70
No	1.81	2.90	0.09	0.53	0.39	1.36	1.14	0.79
Residential location								
Major Cities	1.81	2.97	0.10	0.55	0.42	1.45	1.14	0.83
Inner Regional	1.93	2.57	*0.06	0.50	0.44	1.16	1.15	0.60
Outer Regional	1.57	2.38	*0.08	0.64	*0.36	1.16	0.97	0.69
Remote / Very Remote	*1.59	1.83	*0.28	*0.58	*0.18	*0.92	*0.82	0.79
State/Territory								
New South Wales	1.73	2.76	*0.08	0.50	0.36	1.30	1.15	0.72
Victoria	1.92	2.92	*0.09	0.54	0.40	1.69	1.04	0.86
Queensland	1.73	2.57	*0.06	0.61	0.47	1.27	1.22	0.77
South Australia	1.75	2.96	*0.13	*0.68	0.39	1.10	1.01	0.75
Western Australia	1.94	2.92	*0.14	0.50	0.50	1.14	1.15	0.78
Tasmania	1.68	2.62	*0.07	*0.48	*0.45	*1.04	1.01	0.60
Australian Capital Territory	1.98	3.68	*0.17	*0.64	*0.48	*1.53	1.16	0.84
Northern Territory	*2.16	2.47	*0.36	*0.57	*0.41	*0.93	*0.97	*0.63
Total	**1.81**	**2.80**	**0.09**	**0.55**	**0.41**	**1.35**	**1.12**	**0.77**

* 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. Among those last visiting for a problem, the 18–24 year age group had the highest percentage reporting extractions (40.2%).

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	*4.0	19.9	22.1	61.6	45.1	50.6
12–17 years	*6.8	*23.2	22.5	44.8	59.7	43.9
18–24 years	*5.0	40.2	*13.3	52.2	69.7	69.4
25–44 years	*2.8	33.1	24.1	64.5	86.0	58.3
45–64 years	*5.5	26.5	30.5	65.8	88.6	63.1
65 years or more	*8.6	25.4	38.9	65.2	85.0	59.9
Total	**4.9**	**28.8**	**24.8**	**62.6**	**72.8**	**59.2**

* 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 just under one-in-three who last visited for a problem. The respective figures for receipt of fillings were about one-in-four if last visit was a check-up, and two-in-three 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 (35.5% cf. 28.3%).

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	5.4	34.2	27.0	63.1	84.8	60.2
Female	4.1	26.6	25.5	64.8	83.5	62.4
Annual household income						
Less than $12,000	*6.0	36.8	25.2	66.1	70.6	44.1
$12,000–<$20,000	*8.6	35.4	35.2	60.4	76.9	58.0
$20,000–<$30,000	*5.8	34.8	33.1	63.9	84.4	59.2
$30,000–<$40,000	*4.2	33.5	29.6	57.0	80.2	61.8
$40,000–<$60,000	*4.3	27.9	26.8	63.3	85.3	61.1
$60,000–<$80,000	*1.1	31.3	31.3	64.2	81.2	59.1
$80,000 or more	*4.8	27.4	19.3	64.2	89.7	73.2
Cardholder						
Yes	*6.9	35.5	30.9	58.5	82.6	56.8
No	4.3	28.3	25.2	65.9	84.4	63.0
Residential location						
Major Cities	5.1	30.2	26.1	66.0	85.1	63.6
Inner Regional	*3.2	29.3	28.3	61.2	80.5	54.3
Outer Regional	*4.5	33.5	26.0	59.9	82.7	59.8
Remote / Very Remote	*5.1	*23.4	*10.8	49.6	†69.2	70.0
State/Territory						
New South Wales	*3.2	30.0	22.0	61.0	87.5	57.5
Victoria	*6.0	29.3	28.1	74.6	77.2	65.3
Queensland	*2.7	32.8	30.7	62.5	88.5	65.2
South Australia	*6.0	31.5	29.7	59.4	75.8	59.8
Western Australia	*8.2	27.5	25.2	60.4	87.4	62.5
Tasmania	*4.8	32.9	23.6	60.1	81.0	54.4
Australian Capital Territory	*9.9	17.9	26.3	60.7	89.5	61.6
Northern Territory	*11.5	35.3	*24.7	52.5	80.5	53.3
Total	**4.7**	**30.2**	**26.2**	**64.0**	**84.1**	**61.4**

* 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.

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 presented are, dental X-ray, fluoride treatment, a new denture, root canal treatment, gum treatment, orthodontics, and crown or bridge work. Other treatments included any other treatment that was specified, that is not presented in these tables. Because the number of individuals who reported some of 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 a sixth of adolescents received fluoride treatment. As would be expected, denture related treatment increased with age. Root canal treatment peaked in the 45–64 year age group. 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 services[(a)]	X-ray	Fluoride	New denture	Root canal	Gum treat	Ortho-dontics	Crown/ bridge	Other treat[(b)]
Age group									
5–11 years	42.2	22.8	26.1	—	—	*0.4	*3.3	*0.4	5.2
12–17 years	50.4	36.0	15.4	*0.1	*1.1	—	9.2	*0.5	*2.0
18–24 years	50.4	45.7	*0.2	*0.6	*7.1	*0.2	*2.5	*2.7	*2.2
25–44 years	54.2	49.0	*1.1	*1.5	8.5	*0.6	*0.6	7.9	*2.7
45–64 years	55.6	45.6	*0.1	9.2	10.4	*0.3	*0.2	10.5	3.4
65 years or more	47.5	34.2	—	13.1	7.4	*0.1	—	9.9	*4.2
Total	**51.3**	**41.0**	**6.2**	**4.1**	**6.6**	***0.3**	**2.0**	**6.2**	**3.3**

(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 was lowest for the lowest two income groups. A lower percentage of cardholders had crown or bridge work than did non-cardholders, and those in major 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)]	X-ray	Fluoride	New denture	Root canal	Gum treat	Ortho-dontics	Crown/ bridge	Other treat[(b)]
Sex									
Male	54.5	46.5	*0.5	6.4	8.5	*0.4	*0.7	9.5	3.3
Female	52.3	44.6	*0.6	4.8	9.2	*0.4	*0.5	7.4	2.9
Annual household income									
Less than $12,000	47.5	34.5	*0.2	11.4	*6.7	—	—	*5.6	*2.1
$12,000–<$20,000	55.6	43.7	—	10.8	8.8	*0.4	*0.1	*5.5	*2.8
$20,000–<$30,000	54.8	43.7	*1.6	8.6	9.8	*1.1	—	12.6	*5.8
$30,000–<$40,000	51.6	44.7	*0.7	*5.6	*4.6	*0.1	*0.7	10.4	*1.6
$40,000–<$60,000	52.5	47.4	*1.0	*3.4	10.3	*0.1	*0.2	7.2	*4.1
$60,000–<$80,000	53.9	47.5	*0.5	*6.2	*7.4	—	*1.0	10.4	*2.4
$80,000 or more	56.2	49.4	*0.1	*1.8	6.9	*0.9	*1.4	7.9	*2.9
Cardholder									
Yes	53.3	40.0	*0.1	11.1	8.5	*0.2	*0.1	6.1	4.0
No	53.4	47.1	*0.7	4.0	9.0	*0.4	*0.8	9.0	2.8
Residential location									
Major Cities	52.9	45.1	0.7	5.8	9.5	*0.2	*0.5	8.9	2.8
Inner Regional	54.7	47.9	—	4.7	8.1	*0.9	*1.1	7.9	*3.5
Outer Regional	54.7	44.1	0.1	*5.8	*5.8	*0.7	*0.5	*5.8	*4.8
Remote / Very Remote	57.6	50.8	—	*2.6	*9.5	—	—	*6.4	*2.4
Total	**53.3**	**45.5**	***0.5**	**5.5**	**8.9**	***0.4**	***0.6**	**8.4**	**3.1**

(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 abscessed or infected teeth. Cardholders who last went to a private dentist also 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.

Further reasons for extraction were also ascertained. All three groups cited wanting to stop the pain, a belief that the tooth would be extracted sooner or later, and the cost of keeping the tooth or teeth as the major reasons for having extraction(s).

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	50.7	34.8	23.4
Abscessed or infected	30.6	*20.8	18.2
Cracked or fractured	*15.8	*12.9	22.5
Had broken down filling	*15.3	*18.5	9.6
Loose	*9.8	*19.5	*3.1
Third molar extraction	*5.1	*18.6	33.5
Removed for orthodontics	*0.6	*0.2	*2.3
Don't know	*5.9	*1.5	*1.6
Reasons for extraction(s) at last dental visit if above reason was: cracked or fractured, filling had broken down, abscessed or infected, or loose[(a)]			
Wanted to stop the pain	69.1	40.9	48.8
Thought it would be extracted sooner or later	44.1	41.4	47.9
Cost of keeping the tooth	*23.2	*16.2	25.3
Failure of previous treatment	*11.5	*17.9	15.7
Extensive time required for treatment	*3.8	*7.4	19.2

(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.

Cardholders who last went public were more likely to receive a filling, and a greater number of fillings than those who last went privately. Cardholders who last went public were far more likely to have extractions than those who last went privately—42.7% cf. 16.9% and 15.6%. Among those receiving extractions, persons visiting a public clinic had slightly fewer extractions per person than those who went privately.

Those who last visited a public clinic for a problem had the highest percentage having an extraction (50.4%), compared with 28.3% of the cardholder private group, and 28.1% of the non-cardholders whose last visit was for a problem. Persons last visiting a public clinic for a check-up were more likely to receive fillings (and also a greater number on average) than those visiting privately, 40.6% compared with 28.6% and 25.6%.

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. However, the percentage of cardholders who last went public that received extractions is quite high compared to the other estimates.

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	50.0	73.5	53.8	2.68	42.7	1.69
Card private	53.2	55.3	46.1	1.85	16.9	1.76
No card private	62.0	47.7	44.9	1.90	15.6	1.89
Problem						
Card public			59.2	2.86	50.4	1.65
Card private			60.3	1.91	28.3	1.79
No card private			66.3	2.05	28.1	1.87
Check-up						
Card public			40.6	1.99	*22.6	*1.92
Card private			28.6	1.67	*3.0	*1.38
No card private			25.6	1.53	4.3	1.96

(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 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 general decline across age groups in the percentage of persons reporting a check-up as their usual reason for visiting a dentist from 86.0% among those aged 5–11 years to 49.6% 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	81.6	87.4	86.0
12–17 years	73.1	82.6	80.6
18–24 years	57.6	65.0	63.3
25–44 years	31.4	53.5	49.6
45–64 years	30.0	59.8	54.1
65 years or more	46.5	63.0	51.9
Total	**46.6**	**63.4**	**59.3**

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 more remote regions were much less likely to visit for a check-up then persons from major cities. Across the States and Territories the percentage of persons who usually visit for a check-up ranged from 44.0% in the Northern Territory to 54.8% in the New South Wales.

Among cardholders, 39.3% reported that they usually visit a dentist for a check-up compared to 57.7% 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	32.6	53.2	48.9
Female	44.0	62.7	57.3
Annual household income			
Less than $12,000	33.9	42.8	35.6
$12,000–<$20,000	36.8	52.9	41.1
$20,000–<$30,000	45.2	45.4	45.3
$30,000–<$40,000	35.1	48.9	46.6
$40,000–<$60,000	35.0	55.6	54.3
$60,000–<$80,000	†66.1	55.0	55.3
$80,000 or more	*66.0	69.5	69.5
Residential location			
Major Cities	41.9	61.6	57.1
Inner Regional	34.8	51.7	46.6
Outer Regional	30.0	44.7	40.5
Remote / Very Remote	†59.3	36.8	41.1
State/Territory			
New South Wales	37.0	60.2	54.8
Victoria	38.0	59.4	54.3
Queensland	42.4	54.2	51.1
South Australia	38.8	53.3	49.0
Western Australia	46.6	55.8	53.5
Tasmania	30.9	57.1	48.2
Australian Capital Territory	43.0	55.6	54.2
Northern Territory	34.0	46.1	44.0
Total	**39.3**	**57.7**	**53.1**

* 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.

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 54.0% of cardholders and 54.1% of non-cardholders reported needing some dental treatment. This was higher for those who usually visit for a problem, 72.8% for cardholders and 72.0% 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 cardholders and non-cardholders, problem based visitors were more likely to make four or more visits than were those usually visiting for a check-up.

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	72.9	37.7	73.8	41.0
1–<2 years	15.0	21.6	16.4	23.8
2–<5 years	7.8	19.8	6.5	20.6
5 years or more	*4.3	20.8	3.3	14.6
Type of visit required				
Check-up only	7.2	4.4	10.2	9.2
Treatment only	14.3	13.0	13.7	12.8
Check-up and treatment	39.7	59.8	40.4	59.2
No visit	38.8	22.8	35.8	18.8
Reason for last dental visit[(a)]				
Problem	40.9	88.0	30.2	88.9
Check-up	59.1	12.0	69.8	11.1
Number of dental visits in the last 12 months				
None	27.1	62.3	26.2	59.0
One	32.3	15.0	29.4	15.1
Two	24.9	9.0	25.4	10.4
Three	6.9	5.5	8.7	6.1
Four or more	8.7	8.2	10.2	9.4
Number of dental visits in the last 12 months[(a)]				
One	44.4	39.8	39.9	36.9
Two	34.2	23.7	34.5	25.4
Three	9.5	14.7	11.7	14.9
Four or more	12.0	21.8	13.9	22.9

(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 88%–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-half of persons last visiting a public clinic for a problem, reported that they waited for longer than 1 month for that visit, 21.3% reporting that they waited for more than a year. 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 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. The same pattern was observed among those whose last visit was for a check-up at a public clinic, with more than 50% waiting longer than 1 month and more than one-in-four waiting for 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	50.5	*9.0	*10.7	*8.4	21.3
Cardholder—private visit	93.5	*5.1	*0.6	—	*0.8
Non-cardholder—private visit	95.2	4.2	*0.7	—	—
Last visit for a check-up					
Cardholder—public visit	48.7	*9.5	*7.9	*7.7	*26.1
Cardholder—private visit	93.2	*4.5	*1.3	—	*0.9
Non-cardholder—private visit	88.6	7.0	3.3	*1.1	—

(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 75%–88% had visited in the previous 12 months, compared with just over 50% of those aged 18–44 years, and over 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-sixth of edentulous persons reported visiting in the previous 12 months, and 50% 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 adolescents (approximately 75%), declining to about 50% or less among dentate adults aged 25 years or more—Table 4.3.1(a).
- Among adults who made a dental visit in the previous 12 months, approximately 50% last visited for a problem, and 50% for a check-up. Cardholders were less likely to have last visited for a check-up than non-cardholders (38.5% cf. 52.6%)—Table 4.3.1(b).
- Despite being eligible for public-funded dental care, only 30.0% of dentate adult cardholders who had made a dental visit in the last 12 months last visited a public clinic, and 68.6% 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 (58.1%). A further 21.4% 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 who visited in the previous 12 months made fewer visits on average than non-cardholders (2.24 cf. 2.33 visits), however cardholders received a greater number of extractions per person (0.42 cf. 0.30 extracted teeth) and a greater number of fillings (1.01 cf. 0.84 fillings) than non-cardholders—Table 4.5.1(b).
- Adult cardholders had fewer scale and clean services per person (0.84 cf. 0.97 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 (0.55 cf. 0.09 extractions), similarly those last visiting for a problem received more fillings than those last visiting for a check-up (1.35 cf. 0.41 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 (73.5%), followed by cardholders who last went private (55.3%) and non-cardholders who went private (47.7%)—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 (59.2%) and the group most likely to have extractions (50.4%). Among adults who last visited for a

check-up, cardholders who last visited a public clinic were the group most likely to receive fillings (40.6%) and the group most likely to have extractions (22.6%)—Table 4.5.7.

- Children and adolescents were more likely to usually visit for a check-up than any other age group, 86.0% and 80.6% respectively, compared with 53.1% 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 (35.6%) than those from households of $80,000 or more (69.5%)—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 73–74% of those who usually visit for a check-up visited in the previous 12 months, compared with 37.7% of cardholders who usually visit for a problem, and 41.0% of non-cardholders who usually visit for a problem—Table 4.6.2.
- Just over one-in-four 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 and 12–17 year age groups, 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 7.9% for children 5–11 years, up to 14.9% among those aged 45–64 years. This association with age probably reflects an increased use of dentures among older dentate persons. Just over one-quarter 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	5.5	. .	7.9	. .	. .
12–17 years	5.6	[c]16.3	8.6	. .	. .
18–24 years	20.5	15.9	13.5	—	—
25–44 years	16.3	21.3	13.6	*15.9	*45.3
45–64 years	10.2	24.9	14.9	21.0	26.4
65 years or more	9.1	16.3	13.3	13.1	27.4
Total	**12.3**	**20.9**	**12.7**	**15.7**	**27.3**

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

(b) Have felt uncomfortable about dental appearance.

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 cardholders were more likely to have avoided foods than edentulous non-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	13.3	18.4	11.5	15.1	29.7
Female	14.9	23.6	16.4	16.0	26.0
Annual household income					
Less than $12,000	20.6	30.7	25.7	13.9	30.4
$12,000–<$20,000	16.9	24.9	23.7	15.6	25.9
$20,000–<$30,000	16.2	23.1	16.2	*12.1	*25.9
$30,000–<$40,000	14.6	22.3	14.1	*19.6	†47.9
$40,000–<$60,000	13.7	18.1	11.3	*28.6	*21.6
$60,000–<$80,000	8.5	21.1	11.3	*56.7	*18.7
$80,000 or more	12.2	18.2	7.7	*19.0	*14.7
Cardholder					
Yes	19.1	28.6	22.3	15.0	30.5
No	12.5	18.7	11.2	17.3	20.6
Residential location					
Major Cities	14.1	20.6	13.5	18.4	28.7
Inner Regional	14.6	22.0	15.6	13.8	25.6
Outer Regional	13.4	22.8	14.5	*9.7	24.0
Remote / Very Remote	*12.8	25.2	13.7	*13.1	*25.6
State/Territory					
New South Wales	14.1	20.4	14.7	*15.7	30.7
Victoria	14.9	22.0	13.8	19.2	27.3
Queensland	14.0	22.6	13.5	*8.6	24.3
South Australia	15.4	23.0	15.6	14.7	26.4
Western Australia	11.8	16.8	10.9	*19.4	28.7
Tasmania	10.1	19.1	13.0	*12.0	*17.2
Australian Capital Territory	17.4	23.6	14.8	*48.0	*31.4
Northern Territory	14.7	24.0	15.7	*41.1	*35.3
Total	**14.1**	**21.1**	**13.9**	**15.7**	**27.3**

(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%.

† Estimate has a standard error greater than 10%.

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 generally 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 (19.1% cf. 12.5%), felt uncomfortable with their dental appearance (28.6% cf. 18.7%), or have avoided some foods because of problems with their teeth, mouth, or dentures (22.3% cf. 11.2%)—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 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 (54.3%). Around 22% of dentate cardholders—even though eligible for public-funded dental care—reported that they were covered by private dental insurance. Approximately 18% 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	. .	16.5	50.8	42.1
12–17 years	. .	*17.9	60.0	51.7
18–24 years	*40.8	24.2	43.3	38.9
25–44 years	—	14.0	51.5	44.7
45–64 years	26.0	27.1	62.4	53.5
65 years or more	15.6	29.4	51.2	29.3
Total	**18.3**	**22.1**	**54.3**	**44.5**

* 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 $80,000 or more were over four times as likely to have insurance as those from households of less than $12,000 per year. A greater percentage of persons from major cities had dental insurance than persons from other areas. 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	19.5	21.2	52.5	44.3
Female	17.7	25.0	55.9	43.9
Annual household income				
Less than $12,000	*9.0	16.8	33.5	17.1
$12,000–<$20,000	*9.4	21.4	30.4	20.5
$20,000–<$30,000	*19.1	24.2	28.2	25.7
$30,000–<$40,000	*30.9	32.0	44.9	42.3
$40,000–<$60,000	†57.5	34.0	51.8	50.8
$60,000–<$80,000	†79.2	*39.3	59.9	59.8
$80,000 or more	†72.2	†81.5	71.6	71.8
Cardholder				
Yes	14.1	23.4	. .	21.5
No	27.5	. .	54.1	53.1
Residential location				
Major Cities	18.6	24.1	56.8	47.2
Inner Regional	19.7	24.0	47.6	37.9
Outer Regional	*13.4	18.2	47.2	36.3
Remote / Very Remote	*27.9	*18.4	49.2	42.4
State/Territory				
New South Wales	*15.7	18.4	57.9	46.5
Victoria	*10.8	18.7	40.8	32.8
Queensland	21.0	25.8	50.7	42.1
South Australia	30.0	34.5	65.4	53.4
Western Australia	29.9	32.2	68.2	57.5
Tasmania	30.4	33.9	67.8	52.6
Australian Capital Territory	*19.1	34.5	52.9	50.1
Northern Territory	*32.5	*10.8	55.7	47.9
Total	**18.4**	**23.4**	**54.1**	**44.1**

* 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 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 less likely to usually visit for a check-up than insured non-cardholders. Among persons without insurance, cardholders were also 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	70.3	16.1	7.6	*6.0	58.7
Non-insured	45.5	19.7	17.1	17.6	32.9
Non-cardholders					
Insured	69.1	18.1	8.4	4.4	67.9
Non-insured	49.4	20.1	17.5	13.0	46.0
Total					
Insured	69.2	17.8	8.3	4.6	66.7
Non-insured	48.0	20.0	17.3	14.7	41.3

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

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

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 20.1% 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	52.1	46.0	1.97	12.8	*1.76
Non-insured	65.6	48.2	2.19	30.2	1.71
Non-cardholders					
Insured	44.3	43.6	1.95	12.7	1.87
Non-insured	52.8	46.6	1.83	20.1	1.92

(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, more than one-in-five dentate cardholders were covered by dental insurance (22.1%)—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 46%–49% of persons without insurance—Table 6.2.1.
- The majority of insured cardholders and insured non-cardholders reported that they usually visit for a check-up (58.7% and 67.9% respectively), this was not the case among cardholders and non-cardholders without insurance (32.9% and 46.0%)—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 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 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, although such a burden was indicated for 12.8% of 12–17-year-old non–cardholders. A strong relationship between age and having a lot of difficulty in paying a $100 dental bill was observed. Around 36%–38% 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 10.5% 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 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	*12.8	8.7	*2.6	*2.5	*3.2	7.2	43.8	7.1
12–17 years	*10.2	10.8	*5.8	7.7	*7.1	12.8	37.3	7.5
18–24 years	38.4	28.3	17.1	11.7	*13.6	*7.3	28.1	10.5
25–44 years	43.3	30.5	28.4	14.1	*11.6	10.4	38.1	7.1
45–64 years	42.2	21.3	21.3	13.0	14.6	9.7	35.9	6.5
65 years or more	24.3	*7.5	9.4	*2.2	11.7	*7.0	17.5	*4.2
Total	**31.3**	**22.5**	**16.0**	**11.1**	**10.5**	**9.6**	**31.8**	**7.2**

(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 19.8% of those on less than $12,000 per annum reported they would have a lot of difficulty, compared with 2.3% of the highest income group. Compared with the highest income group, non-cardholders from the lowest income group were around two times as likely to have experienced a large financial burden due to dental visits in the last 12 months.

Overall, among dentate adults around 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. Cost prevented recommended dental treatment for 19.1% of dentate cardholders and 12.8% of non–cardholders. Among those adults who made a dental visit in the last 12 months, 12.6% of cardholders and 9.6% 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 30% of cardholders would have a lot of difficulty in paying a $100 dental bill, compared with 7.2% 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 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	30.4	24.3	16.7	12.4	*8.3	8.0	27.4	5.9
Female	40.2	27.8	20.7	13.2	14.9	11.1	30.9	8.6
Annual household income								
Less than $12,000	40.8	42.3	23.5	*10.4	18.6	*11.0	41.3	*19.8
$12,000–<$20,000	38.7	23.4	20.6	16.4	14.9	*15.7	35.2	*12.8
$20,000–<$30,000	36.7	33.0	19.5	17.0	*7.4	*12.4	18.6	16.5
$30,000–<$40,000	25.8	38.5	24.7	17.0	*13.6	10.6	*15.8	10.9
$40,000–<$60,000	38.1	27.8	*9.3	14.4	*12.4	12.4	*19.5	6.8
$60,000–<$80,000	*34.7	27.8	*21.5	13.7	*6.7	*6.9	*9.8	*4.5
$80,000 or more	*10.4	15.1	—	7.4	*6.2	*5.8	*15.4	*2.3
Residential location								
Major Cities	33.9	26.1	19.6	12.5	11.9	9.2	30.2	7.0
Inner Regional	42.7	23.6	19.8	11.6	13.1	9.6	29.7	6.6
Outer Regional	36.9	28.5	16.3	14.7	*17.1	12.5	25.1	9.2
Remote / Very Remote	*18.1	29.2	*9.7	24.4	*1.0	*7.0	*26.6	*8.8
State/Territory								
New South Wales	35.0	25.3	17.8	11.3	15.6	7.3	32.9	5.9
Victoria	37.6	24.2	20.3	13.1	*10.6	12.3	26.9	8.8
Queensland	34.0	28.2	17.8	14.7	*7.1	11.6	30.5	7.6
South Australia	34.4	24.4	18.5	13.4	18.4	7.9	33.3	7.3
Western Australia	42.3	28.9	21.7	13.5	*13.5	7.3	21.1	7.2
Tasmania	35.8	21.3	23.0	*8.3	*11.2	*7.7	24.8	*6.7
Australian Capital Territory	36.8	28.9	*17.7	14.7	*17.5	16.7	*19.5	*4.9
Northern Territory	37.8	33.9	*25.4	17.4	*4.0	*9.2	35.1	12.1
Total	**36.1**	**26.0**	**19.1**	**12.8**	**12.6**	**9.6**	**29.5**	**7.2**

(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 a dental visit 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 no visit. 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 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	29.5	18.4	19.1	13.1	12.6	9.6	24.8	3.9
1–<2 years	38.5	31.8	21.9	15.7	. .	. .	38.0	8.2
2–<5 years	48.0	42.6	20.4	10.6	. .	. .	31.6	15.6
5 years or more	43.8	41.4	14.3	*6.7	. .	. .	32.3	15.0
Usual reason for visit								
Check-up	25.1	14.1	13.2	6.5	8.8	7.3	19.1	5.4
Problem	43.1	41.9	23.1	21.4	17.5	15.2	36.8	9.7
Number of dental visits in last 12 months								
None	43.0	37.1	19.1	12.2	. .	. .	34.3	11.9
One	33.0	15.4	20.7	10.2	9.5	4.4	25.4	*3.6
Two	21.7	18.2	*11.2	12.4	*11.2	6.8	21.3	*3.5
Three or more	32.5	22.5	24.8	17.5	18.4	19.3	27.4	4.8
Total	**36.1**	**26.0**	**19.1**	**12.8**	**12.6**	**9.6**	**29.5**	**7.2**

(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.

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 difficulty with $100 were more likely to usually visit for a problem. 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 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	42.1	63.8	58.0	57.6	100.0	100.0	38.6	60.4
1–<2 years	22.6	17.9	23.0	18.6	. .	. .	23.5	18.6
2–<5 years	20.4	10.3	12.2	13.3	. .	. .	20.9	12.1
5 years or more	14.8	8.0	6.8	10.5	. .	. .	17.0	8.9
Reason for last visit in last 12 months[(a)]								
Check-up	24.7	56.0	20.5	54.4	24.5	52.5	29.6	51.4
Problem	75.3	44.0	79.5	45.6	75.5	47.5	70.4	48.6
Usual reason for visit								
Check-up	30.1	62.3	28.6	57.3	49.9	69.7	32.7	56.1
Problem	69.9	37.7	71.4	42.7	50.1	30.3	67.3	43.9
Number of dental visits in last 12 months								
None	58.2	36.6	42.6	42.7	. .	. .	61.8	39.9
One	15.6	25.7	20.2	23.3	21.7	41.7	15.6	23.9
Two	11.9	20.2	15.1	18.3	23.5	32.0	10.1	19.0
Three or more	14.4	17.5	22.1	15.7	54.4	26.2	12.6	17.2

(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 treatment, were more than 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	75.3	58.0	2.04	31.3	1.69
No	44.0	41.8	1.92	13.9	1.93
Cost prevented recommended treatment					
Yes	79.5	55.3	2.11	38.5	1.64
No	45.6	43.4	1.92	14.0	1.94
Financial burden of dental visits in last 12 months					
A large	75.5	60.3	2.26	26.4	2.17
None/hardly any/a little	47.5	43.4	1.91	16.3	1.77
Difficulty in paying a $100 dental bill					
A lot	70.4	47.8	2.56	34.2	1.60
None/hardly any/a little	48.6	45.0	1.89	15.9	1.87

(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 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 three-quarters 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 and treatment. The perceived need for treatment, with or without a check-up, increased with age, from 37.0% of 5–11-year-olds, to 67.5% of persons aged 25–44 years, and declined to 51.0% of those 65 years or more.

For all dentate persons aged five years or more, a little less than one-third reported that they perceived no need for a dental visit, just over 10% perceived a need for a check-up only, and about three-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	15.6	10.4	26.6	47.4
12–17 years	19.5	13.3	30.8	36.4
18–24 years	14.5	10.2	48.6	26.8
25–44 years	8.5	13.8	53.7	24.0
45–64 years	7.9	13.7	48.5	29.9
65 years or more	5.4	15.5	35.5	43.6
Total	**10.6**	**13.1**	**44.8**	**31.5**

* 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	9.4	12.2	50.0	28.4
Female	8.0	14.7	48.5	28.7
Annual household income				
Less than $12,000	5.6	12.7	52.5	29.2
$12,000–<$20,000	7.2	14.3	46.6	31.9
$20,000–<$30,000	6.4	12.5	52.4	28.7
$30,000–<$40,000	9.0	13.0	52.2	25.8
$40,000–<$60,000	9.2	13.1	51.1	26.6
$60,000–<$80,000	10.3	12.8	52.7	24.2
$80,000 or more	9.9	14.0	44.2	31.9
Cardholder				
Yes	5.4	13.6	51.9	29.1
No	9.8	13.4	48.3	28.4
Residential location				
Major Cities	8.6	13.4	48.7	29.2
Inner Regional	8.4	13.8	49.4	28.3
Outer Regional	10.3	12.4	50.7	26.6
Remote / Very Remote	*8.8	18.8	57.1	15.4
Have private dental insurance				
Yes	8.8	12.8	45.3	33.1
No	8.6	14.1	52.6	24.7
State/Territory				
New South Wales	7.9	14.0	48.1	30.1
Victoria	9.8	12.9	50.3	27.0
Queensland	8.5	14.2	47.6	29.6
South Australia	9.7	11.2	52.3	26.8
Western Australia	7.5	14.5	49.8	28.2
Tasmania	10.8	7.0	53.1	29.1
Australian Capital Territory	14.5	16.5	47.3	21.8
Northern Territory	7.7	14.3	58.4	19.6
Total	**8.7**	**13.5**	**49.2**	**28.5**

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

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

There was little difference between males and females in the perceived need for a visit. The need for a check-up only 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 less likely to report that they needed a check-up only. Persons from remote or very remote areas, and those without dental insurance were more likely to have perceived the need for a dental visit (Table 8.1.1(b)).

Table 8.1.2 relates perceived need to affordability and hardship in the purchase of dental care. Around 87% of persons who had avoided or delayed visiting due to the cost, or for whom cost had prevented recommended 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 65% reported the need for a visit. 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	5.1	12.1	70.0	12.8
No	10.2	14.1	41.0	34.8
Cost prevented recommended treatment				
Yes	*2.0	21.5	65.0	11.5
No	9.9	12.1	46.6	31.4
Financial burden of dental visits in last 12 months[(a)]				
A large	*4.1	24.6	41.0	30.3
None/ hardly any/ a little	6.6	17.6	32.9	42.9
Difficulty in paying a $100 dental bill				
A lot	6.0	12.2	63.1	18.7
None/ hardly any/ a little	9.2	13.8	47.2	29.9

(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 needed 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 (44.1%), this need being highest among 25–44-year-olds and lowest among children and persons aged 65 years and over. This was followed by 25.0% 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 3%–5% among children and adolescents, and 8.6%–12.3% among older age groups. The perceived need for a crown or bridge was highest for those aged 45–64 years, with 12.0% reporting such a need.

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

	Filling(s)	Scale/ clean	Extraction	Gum treatment	Crown/ bridge	Other
Age group						
5–11 years	10.4	25.7	*3.1	*2.4	—	7.7
12–17 years	13.1	30.9	5.4	*4.1	*0.4	9.1
18–24 years	27.8	43.5	10.9	10.9	5.1	6.9
25–44 years	30.8	53.9	12.3	11.6	8.9	6.2
45–64 years	28.3	47.5	10.1	8.5	12.0	6.9
65 years or more	22.1	35.6	8.6	5.8	6.4	3.7
Total	**25.0**	**44.1**	**9.6**	**8.5**	**7.2**	**6.6**

* 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 males were more likely to perceive the need for an extraction. By annual household income, the most marked trend was in the perceived need for extraction(s), with a three-fold difference between the highest and lowest income groups. Lower income earners were also more likely to perceive the need for fillings.

Cardholders were more likely to perceive the need for filling(s), and were also more likely than non-cardholders to perceive the need for extraction(s). Persons without insurance were also more likely to perceive a need for filling(s) or extraction(s) than those with insurance. Uninsured persons were around twice as likely to perceive the need for extraction(s), than insured persons.

Overall, 48.3% of dentate adults perceived a need for a scale and clean, 28.6% the need for filling(s), and 11.0% the need for extraction(s).

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

	Filling(s)	Scale/ clean	Extraction	Gum treatment	Crown/ bridge	Other
Sex						
Male	29.3	47.8	12.7	9.9	9.1	5.2
Female	27.8	48.8	9.3	9.8	9.0	7.2
Annual household income						
Less than $12,000	34.9	49.9	18.4	11.8	10.2	7.4
$12,000–<$20,000	32.6	44.5	13.1	12.6	8.8	8.0
$20,000–<$30,000	35.5	49.0	13.0	13.5	9.9	5.5
$30,000–<$40,000	31.6	51.8	14.4	11.0	9.3	6.7
$40,000–<$60,000	27.9	49.8	11.1	8.4	7.5	5.6
$60,000–<$80,000	27.2	50.3	7.4	7.5	9.1	*4.2
$80,000 or more	21.3	44.5	6.2	9.4	7.7	5.6
Cardholder						
Yes	33.5	49.8	16.0	11.0	9.2	8.6
No	27.0	47.9	9.3	9.5	9.0	5.4
Residential location						
Major Cities	27.0	48.7	10.1	10.4	9.2	6.6
Inner Regional	31.5	46.5	10.5	7.9	7.8	4.7
Outer Regional	32.3	46.4	17.1	9.7	8.4	6.5
Remote / Very Remote	29.5	62.6	14.7	*12.7	21.6	*8.9
Have private dental insurance						
Yes	23.3	44.8	6.3	7.6	9.1	4.8
No	33.1	51.9	14.8	12.0	9.2	7.4
State/Territory						
New South Wales	25.5	48.3	11.7	10.8	9.1	5.8
Victoria	31.3	47.8	10.0	9.1	8.0	7.8
Queensland	28.5	49.1	10.2	9.8	9.8	5.9
South Australia	29.7	46.4	11.3	11.1	10.2	5.4
Western Australia	30.0	51.4	11.4	8.5	9.4	5.3
Tasmania	31.8	41.7	13.1	*5.5	*5.5	*5.1
Australian Capital Territory	29.5	42.3	10.0	10.3	9.8	*5.5
Northern Territory	37.0	56.9	16.9	10.6	10.2	6.5
Total	**28.6**	**48.3**	**11.0**	**9.9**	**9.0**	**6.2**

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

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

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 40% of persons aged 5 years and over perceived that they needed to visit within a month, and 86.3% within 6 months. There was not a great difference in urgency across age groups, although the percentage of children, adolescents and young adults that perceived a need within a week was lower than for the older age groups.

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

	Perceived urgency				
	<1 week	1 week–<1 month	1 month–<3 months	3 months–<6 months	6 months or more
Age group					
5–11 years	10.7	28.4	31.2	16.0	13.7
12–17 years	13.8	25.9	27.1	20.4	12.8
18–24 years	13.4	27.6	32.3	15.6	11.2
25–44 years	19.1	24.7	25.0	16.9	14.3
45–64 years	18.1	26.7	25.6	15.8	13.8
65 years or more	17.6	23.4	27.2	16.5	15.3
Total	**16.8**	**25.9**	**27.0**	**16.7**	**13.7**

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 lowest income category reported the greatest immediate urgency with 26.2% reporting their urgency to be within the next week, compared with approximately 16% for higher income groups. Cardholders and persons without dental insurance were also more likely to report their urgency as within the next week compared with non–cardholders and insured persons.

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–<3 months	3 months–<6 months	6 months or more
Sex					
Male	19.9	24.0	25.0	16.5	14.5
Female	15.8	27.2	27.8	16.1	13.1
Annual household income					
Less than $12,000	26.2	22.2	19.8	18.5	13.3
$12,000–<$20,000	24.5	24.1	24.9	15.0	11.4
$20,000–<$30,000	15.7	21.0	30.5	18.4	14.4
$30,000–<$40,000	20.6	23.8	21.0	19.3	15.4
$40,000–<$60,000	14.4	30.9	24.5	14.7	15.5
$60,000–<$80,000	18.2	27.1	27.0	17.4	10.4
$80,000 or more	15.7	25.7	31.0	15.0	12.7
Cardholder					
Yes	22.2	22.0	24.8	17.1	14.0
No	16.5	26.7	26.9	16.1	13.7
Residential location					
Major Cities	17.6	26.6	27.0	16.0	12.8
Inner Regional	18.1	22.5	25.4	17.0	17.0
Outer Regional	19.1	24.8	26.4	16.2	13.6
Remote / Very Remote	17.9	22.9	17.6	21.7	19.9
Have private dental insurance					
Yes	14.2	29.2	28.5	16.9	11.3
No	20.8	22.5	25.2	15.4	16.1
State/Territory					
New South Wales	16.3	24.4	29.9	17.2	12.3
Victoria	17.1	28.3	23.4	15.6	15.7
Queensland	20.2	23.3	25.8	17.0	13.6
South Australia	17.5	26.4	27.5	15.1	13.5
Western Australia	19.8	26.6	22.8	16.0	14.7
Tasmania	20.0	26.8	26.2	11.8	15.1
Australian Capital Territory	18.1	23.8	29.2	15.8	13.1
Northern Territory	24.7	25.0	19.0	16.1	15.1
Total	**17.9**	**25.6**	**26.4**	**16.3**	**13.8**

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)' rows. 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 extractions had the highest immediate perceived urgency of less than one week with 35.8% reporting such urgency.

Only 7.7% of those who perceived a need for a check-up only reported a perceived urgency of less than a week, compared with 21.6% of those who perceived a need for both a check-up and some treatment.

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– <3 months**	**3 months– <6 months**	**6 months or more**
Perceived treatment required[(a)]					
Scale and clean	19.6	25.5	26.9	15.6	12.4
Filling(s)	27.5	30.2	22.8	10.7	8.7
Extraction(s)	35.8	23.7	19.7	11.7	9.1
Gum treatment	26.5	26.3	27.9	10.2	9.1
Crown or bridge	28.9	30.4	17.7	14.1	8.9
Other	30.2	26.2	23.0	*8.6	12.0
Perceived type of dental visit required					
Check-up	7.7	20.2	30.2	22.2	19.5
Treatment	10.7	20.2	22.2	22.4	24.4
Check-up and treatment	21.6	28.0	26.9	13.6	9.9
Total	**17.9**	**25.6**	**26.4**	**16.3**	**13.8**

(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, 28.5% reported no perceived need for a dental visit, 8.7% the need for a check-up only, and 62.7% 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-two dentate adults perceived the need for a scale and clean, over one-in-four the need for a filling or fillings, and one-in-ten a need for an extraction or extractions—Table 8.1.3(b).
- Cardholders were more likely than non-cardholders to perceive the need for extraction(s) (16.0% cf. 9.3%)—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).
- Cardholders and persons without dental insurance were also more likely to report their urgency as within the next week compared with non-cardholders and insured persons—Table 8.2.1(b).

Appendix A

2002 Survey questionnaire

This appendix provides the questions and response categories used in the 2002 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. Currently do you think that you need to have:
   Any filling(s)?
   Any extraction(s)?
   Scaling and cleaning of your teeth?
   Denture(s) made or repaired?
   A dental check-up?
   Gum treatment?
   Dental crown or bridge?
   Any other treatment?
5. How soon do you think you need a dental 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
6. How long ago did you see a dental professional about your teeth, dentures, or gums?
   Less than 12 months
   One to less than two years
   Two to less than five years
   Five to less than ten years
   Ten years or more
   Never attended
   Don't know
7. 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
8. How many dental visits did you make in the last 2 weeks?
   Literal response

9. How many dental visits did you make in the last 12 months?
   Literal response
10. Did you last see the dental professional because you had a dental problem?
11. Was that dental visit for a check-up?
12. Was that dental visit necessary for the relief of pain?
13. How many dental visits in the last 12 months were for a check-up?
    Literal response
14. How many times did you have a scale and clean during the last 12 months?
    Literal response
15. How many fillings did you have during the last 12 months?
    Literal response
16. How many teeth were extracted during the last 12 months?
    Literal response
17. What were the problems with that tooth or teeth?
    Wisdom teeth
    Decayed
    Cracked or fractured
    The filling had broken down
    Abscessed or infected
    Loose
    Orthodontic extractions
    Don't know
    (All offered reasons are recorded)
18. 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?
    No alternative treatment offered?
    Any other reason? → What was that reason? *(Literal response)*
19. In the last 12 months, did you have:
    Any dental X-rays?
    Crowns or bridges?
    Endodontic (root canal) treatment?
    Denture work/New dentures prepared or fitted?
    Any other treatment?
20. What was that treatment?
    Professional fluoride application
    Other oral surgery (besides tooth extraction)
    Gum treatment (periodontal treatment)
    Adjustment, reline or rebase of denture(s)
    Orthodontics
    Cosmetic dentistry (bleaching/laser whitening)
    Other treatment
    (All offered reasons are recorded)

21. Have you had the extracted tooth/teeth replaced by a denture, bridge or implant?
    Yes – denture
    Yes – bridge
    Yes – implant
    No – not replaced
    Don't know

22. Was your last dental visit made at a:
    Private dental practice (including specialist)
    Government dental clinic (including dental hospital)
    School dental service
    Dental technician
    Clinic operated by health insurance fund
    Armed Services/Defence Force clinic
    Other site
    Don't know

23. Do you currently have a pensioners concession card, a Health Care Card or a Department of Veterans Affairs card; or do you receive a pension or allowance from the Government?

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

25. 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

26. Can you tell me what type of pension, allowance or benefit you are receiving?
    Aged pension
    Sole parent
    Invalid pension
    War/Defence Widow's pension
    Carer pension
    Other pension
    Don't know
    (All offered reasons are recorded)

27. Can you tell me what type of [pension], allowance or benefit you are receiving?
    Youth Allowance (Unemployed)
    Newstart Allowance
    Sickness Allowance
    Widow Allowance
    Parenting Payment (Partnered)
    Other pension/allowance
    Don't know
    (All offered reasons are recorded)

28. How long have you had your [card type]?
    Less than 6 months
    6 to less than 12 months
    One to less than two years
    Two to less than five years
    Five to less than ten years
    Ten years or more
    Don't know

29. Were you covered by your 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

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

31. 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?

32. 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)

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

34. Are you currently on a waiting list for public dental care?

35. How long have you been on a waiting list for public dental care?
    Literal response in months

36. For your last dental visit, were you on a waiting list before you were given an appointment [at the government dental clinic]?

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

38. 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

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

40. 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

41. 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

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

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

44. 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

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

46. 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

47. Average number of years between visits?
    Literal response

48. When do you expect to make your next dental visit?
    Less than 6 months
    6 to less than 12 months
    One to less than two years
    Two to less than five years
    Five to less than ten years
    Ten years or more
    Pain/problem
    Don't know

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. How often have you felt that life in general was less satisfying 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

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

54. During the last 12 months has the pain or discomfort of dental problems caused you to limit any of your usual activities?

55. How many days during the last 12 months have you had to limit your usual activities because of the pain or discomfort of dental problems?
    Literal response

56. How often have you had trouble sleeping 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

57. 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?

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

59. Has the cost prevented you from having any dental treatment that was recommended during the last 12 months?

60. What was that treatment?
    Filling(s)
    Replace amalgams
    Extraction(s)
    Crown or bridge
    Endodontic (root canal) treatment
    Gum treatment (periodontal treatment)
    New dentures
    Orthodontics
    Cosmetic dentistry (bleaching/laser whitening)
    Other treatment
    (All offered reasons are recorded)

61. Did you take up an alternative lower-cost option for the treatment that was recommended?

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

63. 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

64. 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

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

66. At any time in the last 5 years, did you have private insurance cover for dental expenses?

67. Can you tell me the main reasons for dropping your dental insurance cover?
    The cost / Too expensive
    Benefits too small
    Rebate too small
    Couldn't afford it any longer
    Not using it
    Circumstances changed/no longer need
    Previously covered by parents' insurance
    Any other reason? → What was that reason? (Literal response)
    (All offered reasons are recorded)

68. How long ago was that dental insurance cover taken up?
    10 or more years ago
    5 to 10 years ago
    1998
    1999 to 2001
    Since 2001
    Don't know

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

70. Do you have an appointment set for a check-up in the next 18 months?

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

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

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

74. 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

75. 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

76. Are you afraid of going to the dentist? Would you say:
    Not at all
    A little
    Yes, quite
    Yes, very
    Don't know

77. You are:
    Male
    Female
    Refusal

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

79. Are you of Aboriginal or Torres Strait Islander origin?
    Yes, Aboriginal
    Yes, Torres Strait Islander
    Yes, Torres Strait Islander & Aboriginal
    No
    Don't know / Refusal

80. In which country were you born?
    Australia
    England
    New Zealand
    Italy
    Vietnam
    Scotland
    Greece
    Germany
    Philippines
    Netherlands
    Don't know / Refusal
    OR Literal response

81. Were either of your parents born overseas?
    Yes, Mother only
    Yes, Father only
    Yes, both
    No, both Australian-born
    Don't know/Refusal

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

83. What language do you mainly speak at home?
    English
    Italian
    Greek
    Chinese (Cantonese)
    Chinese (Mandarin)
    Arabic/Lebanese
    Vietnamese
    German
    Tagalog (Filipino)
    Don't know / Refusal
    OR Literal response

84. What was your first language? {First language learned/spoken as child}
    English
    Italian
    Greek
    Chinese (Cantonese)
    Chinese (Mandarin)
    Arabic/Lebanese
    Vietnamese
    German
    Tagalog (Filipino)
    Don't know / Refusal
    OR Literal response

85. Do you attend school or any other educational institution either full time or part time?
    Full time
    Part time
    Not at school/TAFE/Uni
    Don't know

86. What kind of educational institution do you attend?
    Secondary school
    TAFE
    University or other higher education institution
    Other
    Don't know

87. What is the highest Year level of schooling you have completed?
    Primary school [Year 7 or less]
    Year 8
    Year 9
    Year 10
    Year 11
    Year 12
    Don't know / Refusal

88. Have you completed a trade certificate or any other educational qualification since leaving school?

89. What is the highest qualification/level of education you have completed since leaving school?
    University degree or diploma
    University masters degree or PhD
    CAE or Teacher's College or Nursing
    Trade Certificate/apprenticeship/vocational eg TAFE, hairdressing
    Certificate or diploma course eg TAFE 1–2 year course
    Other
    Don't know / Refusal

90. How would you describe your current employment status?
    Full-time
    Part-time
    Not employed
    Don't know / Refusal

    Are you currently:
    Retired
    Home duties
    Unemployed and looking for work
    Student
    Not employed, and not looking for work
    Don't know / Refusal

91. What is your usual/current occupation?
    Literal response

    What are your tasks?
    Literal response

92. 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*
From 50 to $60,000	*$1924 to $2307*	*$962 to $1153*
From 60 to $70,000	*$2308 to $2692*	*$1154 to $1346*
From 70 to $80,000	*$2693 to $3077*	*$1347 to $1538*
More than $80,000	*More than $3077*	*More than $1538*
Don't know		
Refusal		

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

94. Can you please tell me the postcode where you live [or suburb]?
    Literal response

95. Is this dwelling:?
    Rented accommodation
    Currently being purchased
    Owned outright
    Rent-free accommodation
    Other
    Don't know / Refusal

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 4.4.1(a) presents the percentage distribution of place of last dental visit by age group, among dentate persons whose last dental visit was in the previous 12 months. Say it is of interest to know what the standard error is of the 69.6% figure given for 12–17-year-olds. The first step is to go to Table B.1, the national table (as opposed to Tables B2 and B3 for cardholders or non-cardholders), then to locate the number in the row for the '12–17 years' age group, and the column for 'dentate and visited in previous 12 months age 5+'. It is found that there were 390 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 70% from a sub-population of 400 is 3.28%. 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 3.28% can be regarded as a reasonable estimate of the standard error for the estimate of 69.6% found in Table 4.4.1(a). In light of previous comments, it could be said that there is a 66% chance that the 'true percentage' is in the range 69.6±3.28%, and that there is a 95% chance that the 'true percentage' is in the range 69.6±6.56%.

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	597	. .	597	. .	489	. .
12–17 years	510	. .	510	. .	390	. .
18–24 years	625	625	623	623	314	314
25–44 years	1,943	1,943	1,933	1,933	986	986
45–64 years	2,206	2,206	1,965	1,965	1,225	1,225
65 years or more	1,413	1,413	897	897	548	548
Sex						
Male	3,320	2,717	3,067	2,464	1,738	1,265
Female	3,992	3,470	3,471	2,954	2,222	1,808
Annual household income						
Less than $12,000	935	888	653	607	320	293
$12,000–<$20,000	986	896	761	671	431	367
$20,000–<$30,000	833	716	755	638	455	368
$30,000–<$40,000	780	649	746	615	439	332
$40,000–<$60,000	1,345	1,096	1,309	1,060	830	619
$60,000–<$80,000	799	615	784	600	494	349
$80,000 or more	919	749	906	736	614	462
Cardholder						
Yes	2,419	2,128	1,884	1,595	1,039	829
No	4,885	4,055	4,646	3,819	2,917	2,243
Residential location						
Major Cities	3,673	3,154	3,359	2,842	2,103	1,705
Inner Regional	1,936	1,647	1,645	1,359	975	740
Outer Regional	1,329	1,077	1,191	939	698	493
Remote / Very Remote	326	271	299	244	159	116
State/Territory						
New South Wales	1,202	1,008	1,089	895	654	504
Victoria	1,220	1,043	1,052	876	624	494
Queensland	1,209	1,017	1,097	905	711	549
South Australia	1,207	1,035	1,043	872	642	506
Western Australia	1,216	1,031	1,100	917	658	510
Tasmania	458	379	379	301	211	150
Australian Capital Territory	397	342	386	331	245	206
Northern Territory	403	332	392	321	215	154
Total	**7,312**	**6,187**	**6,538**	**5,418**	**3,960**	**3,073**

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	166	. .	166	. .	128	. .
12–17 years	121	. .	121	. .	80	. .
18–24 years	158	158	158	158	73	73
25–44 years	365	365	359	359	173	173
45–64 years	595	595	472	472	242	242
65 years or more	1,010	1,010	606	606	341	341
Sex						
Male	949	800	787	638	386	274
Female	1,470	1,328	1,097	957	653	555
Annual household income						
Less than $12,000	794	751	550	507	266	241
$12,000–<$20,000	751	677	567	493	320	265
$20,000–<$30,000	375	303	334	262	203	151
$30,000–<$40,000	142	103	132	93	75	42
$40,000–<$60,000	90	70	88	68	47	34
$60,000–<$80,000	32	23	32	23	23	15
$80,000 or more	16	12	15	11	11	7
Residential location						
Major Cities	1,124	1,016	912	805	528	459
Inner Regional	747	664	533	451	281	215
Outer Regional	458	370	365	277	194	128
Remote / Very Remote	79	68	65	54	30	22
State/Territory						
New South Wales	395	343	319	267	166	133
Victoria	407	367	295	256	142	117
Queensland	379	337	309	267	187	155
South Australia	473	424	350	302	198	160
Western Australia	413	355	331	273	194	149
Tasmania	203	175	143	115	75	53
Australian Capital Territory	73	68	66	61	39	37
Northern Territory	76	59	71	54	38	25
Total	**2,419**	**2,128**	**1,884**	**1,595**	**1,039**	**829**

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	430	. .	430	. .	360	. .
12–17 years	387	. .	387	. .	308	. .
18–24 years	466	466	464	464	240	240
25–44 years	1,576	1,576	1,572	1,572	813	813
45–64 years	1,610	1,610	1,492	1,492	983	983
65 years or more	403	403	291	291	207	207
Sex						
Male	2,365	1,914	2,274	1,823	1,349	990
Female	2,520	2,141	2,372	1,996	1,568	1,253
Annual household income						
Less than $12,000	141	137	103	100	54	52
$12,000–<$20,000	235	219	194	178	111	102
$20,000–<$30,000	457	413	420	376	251	217
$30,000–<$40,000	638	546	614	522	364	290
$40,000–<$60,000	1,255	1,026	1,221	992	783	585
$60,000–<$80,000	766	591	751	576	471	334
$80,000 or more	902	736	890	724	602	454
Residential location						
Major Cities	2,546	2,136	2,444	2,035	1,574	1,245
Inner Regional	1,185	982	1,108	907	691	525
Outer Regional	870	706	825	661	504	365
Remote / Very Remote	247	203	234	190	129	94
State/Territory						
New South Wales	804	664	767	627	487	371
Victoria	812	676	756	620	481	377
Queensland	830	680	788	638	524	394
South Australia	733	611	692	570	443	346
Western Australia	802	675	768	643	464	361
Tasmania	255	204	236	186	136	97
Australian Capital Territory	322	272	318	268	205	168
Northern Territory	327	273	321	267	177	129
Total	**4,885**	**4,055**	**4,646**	**3,819**	**2,917**	**2,243**

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	1.43	2.01	2.45	2.81	3.12	3.40	3.89	4.30	5.12	5.73	6.21	6.57	6.84	7.13	7.17
200	1.01	1.42	1.73	1.99	2.21	2.41	2.75	3.04	3.62	4.05	4.39	4.65	4.83	5.04	5.07
300	0.82	1.16	1.41	1.62	1.80	1.97	2.25	2.48	2.96	3.31	3.58	3.79	3.95	4.12	4.14
400	0.71	1.00	1.22	1.40	1.56	1.70	1.94	2.15	2.56	2.87	3.10	3.28	3.42	3.57	3.58
500	0.64	0.90	1.09	1.26	1.40	1.52	1.74	1.92	2.29	2.56	2.78	2.94	3.06	3.19	3.21
600	0.58	0.82	1.00	1.15	1.28	1.39	1.59	1.76	2.09	2.34	2.53	2.68	2.79	2.91	2.93
700	0.54	0.76	0.92	1.06	1.18	1.29	1.47	1.63	1.93	2.17	2.35	2.48	2.58	2.70	2.71
800	0.50	0.71	0.86	0.99	1.10	1.20	1.37	1.52	1.81	2.03	2.19	2.32	2.42	2.52	2.53
900	0.48	0.67	0.82	0.94	1.04	1.13	1.30	1.43	1.71	1.91	2.07	2.19	2.28	2.38	2.39
1000	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
1200	0.41	0.58	0.71	0.81	0.90	0.98	1.12	1.24	1.48	1.66	1.79	1.90	1.97	2.06	2.07
1400	0.38	0.54	0.65	0.75	0.84	0.91	1.04	1.15	1.37	1.53	1.66	1.76	1.83	1.91	1.92
1600	0.36	0.50	0.61	0.70	0.78	0.85	0.97	1.08	1.28	1.43	1.55	1.64	1.71	1.78	1.79
1800	0.34	0.47	0.58	0.66	0.74	0.80	0.92	1.01	1.21	1.35	1.46	1.55	1.61	1.68	1.69
2000	0.32	0.45	0.55	0.63	0.70	0.76	0.87	0.96	1.14	1.28	1.39	1.47	1.53	1.59	1.60
2500	0.29	0.40	0.49	0.56	0.62	0.68	0.78	0.86	1.02	1.15	1.24	1.31	1.37	1.43	1.43
3000	0.26	0.37	0.45	0.51	0.57	0.62	0.71	0.79	0.93	1.05	1.13	1.20	1.25	1.30	1.31
3500	0.24	0.34	0.41	0.47	0.53	0.58	0.66	0.73	0.87	0.97	1.05	1.11	1.16	1.21	1.21
4000	0.23	0.32	0.39	0.44	0.49	0.54	0.61	0.68	0.81	0.91	0.98	1.04	1.08	1.13	1.13
4500	0.21	0.30	0.36	0.42	0.47	0.51	0.58	0.64	0.76	0.85	0.93	0.98	1.02	1.06	1.07
5000	0.20	0.28	0.35	0.40	0.44	0.48	0.55	0.61	0.72	0.81	0.88	0.93	0.97	1.01	1.01
5500	0.19	0.27	0.33	0.38	0.42	0.46	0.52	0.58	0.69	0.77	0.84	0.89	0.92	0.96	0.97
6000	0.18	0.26	0.32	0.36	0.40	0.44	0.50	0.56	0.66	0.74	0.80	0.85	0.88	0.92	0.93
6500	0.18	0.25	0.30	0.35	0.39	0.42	0.48	0.53	0.63	0.71	0.77	0.81	0.85	0.88	0.89
7000	0.17	0.24	0.29	0.34	0.37	0.41	0.46	0.51	0.61	0.69	0.74	0.79	0.82	0.85	0.86
7500	0.16	0.23	0.28	0.32	0.36	0.39	0.45	0.50	0.59	0.66	0.72	0.76	0.79	0.82	0.83
8000	0.16	0.22	0.27	0.31	0.35	0.38	0.43	0.48	0.57	0.64	0.69	0.73	0.76	0.80	0.80

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