DENTAL STATISTICS AND RESEARCH SERIES
Number 44

The National Survey of Adult Oral Health 2004–06

Tasmania

2008

Australian Institute of Health and Welfare
Canberra
Cat. no DEN 180

This publication is part of the Australian Institute of Health and Welfare's Dental statistics and research series. A complete list of the Institute's publications is available from the Institute's website <www.aihw.gov.au>.

ISSN 1321-0254

ISBN 978 1 74024 786 3

Suggested citation

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

Published by the Australian Institute of Health and Welfare

Printed by

Contents

Abbreviations

AAP	American Academy of Periodontology
AHMAC	Australian Health Ministers' Advisory Council
AIHW	Australian Institute of Health and Welfare
ARCPOH	Australian Research Centre for Population Oral Health
CAL	clinical attachment loss
CATI	computer-assisted telephone interview
CDC	US Centers for Disease Control and Prevention
CEJ	cemento-enamel junction
DMFT	number of decayed, missing and filled permanent teeth
DSRU	Dental Statistics and Research Unit
IRSAD	Index of Relative Socioeconomic Advantage/Disadvantage
NCHS	US National Center for Health Statistics
NHANES	US National Health and Nutrition Examination Survey
NHMRC	National Health and Medical Research Council
NOHSA	National Oral Health Survey of Australia
NSAOH	National Survey of Adult Oral Health
SEIFA	Socioeconomic Indices for Areas

Place abbreviations

ACT	Australian Capital Territory
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
SA	South Australia
Tas	Tasmania
UK	United Kingdom
US	United States
Vic	Victoria
WA	Western Australia

Symbols

$	Australian dollars
%	per cent
. .	not applicable
—	nil
>	greater than
<	less than
≥	greater than or equal to
≤	less than or equal to
<0	estimate is less than zero

Acknowledgments

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Funding sources for the 2004–06 National Survey of Adult Oral Health

National Health and Medical Research Council, Project Grant #299060

National Health and Medical Research Council, Project Grant #349514

National Health and Medical Research Council, Capacity Building Grant #349537

Australian Government Department of Health and Ageing, Population Health Division

Australian Institute of Health and Welfare

Colgate Oral Care

Australian Dental Association

US Centers for Disease Control and Prevention, Research Participation Program

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Overview of results

This report describes levels of oral health in the adult population of Tasmania at the beginning of the twenty-first century. The findings are from the 2004–06 National Survey of Adult Oral Health (NSAOH). In Tasmania, 1,042 people were interviewed and 385 people were dentally examined for the survey. This report presents percentages and means for 30 oral health indicators in tables that compare three age groups and classify people according to five sociodemographic characteristics: sex, residential locality, socioeconomic status of residential postcode, government health card status, and dental insurance status.

Oral health status

- 10.0% of people had no natural teeth and among dentate people, an average of 5.3 teeth per person were missing. These and two other indicators of tooth loss were more frequent among government health cardholders compared with non-cardholders.
- 22.4% of people had untreated dental decay and an average of 13.4 teeth per person were decayed, missing or filled. There was relatively little variation among sociodemographic groups in indicators of dental decay experience.
- 13.9% of people had inflamed gums and 29.5% had moderate or severe gum disease. There was relatively little variation among sociodemographic groups in indicators of gum disease.

Oral health care

- 50.0% of people had visited a dentist within the preceding 12 months, and 45.5% said they usually did so. These and two other measures of dental attendance varied according to government health card status and dental insurance status.
- 75.4% of people had a dentist that they usually attended, although 32.6% said that they avoided or delayed dental care due to its cost. Barriers to dental care were most strongly associated with low socioeconomic status, having a government health card and a lack of dental insurance.

Oral health perceptions

- 17.5% of people said they had avoided some foods due to dental problems, and 12.9% had experienced toothache, in the preceding 12 months. Perceptions of poor oral health were more likely in low socioeconomic areas.
- 33.4% of people felt they needed an extraction or filling, although only 9.2% said they needed dentures. Perceived dental treatment needs were more frequent among government health cardholders and the uninsured.

Age-standardised analysis revealed that government health cardholders had poorer outcomes for 17 of the 29 indicators reported, while the uninsured had poorer outcomes for 16 of the 30 indicators.

1 Introduction

This report presents findings from the Tasmanian component of the 2004–06 National Survey of Adult Oral Health (NSAOH). Information was collected using interviews and standardised dental examinations that were conducted among a random sample of Tasmanian residents aged 15 years or more. Three major themes are reported in chapters describing oral health status, oral health care and perceptions of oral health. Statistics summarising those themes are tabulated for the Tasmanian adult population and for three age groups that are further classified according to: sex, residential locality, socioeconomic status of the area in which they live, government health cardholder status and dental insurance.

The 2004–06 NSAOH took place 17 years after the first oral examination survey of Australians conducted in the six states and the Australian Capital Territory (Barnard 1993). State/territory reports from that 1987-88 National Oral Health Survey of Australia (NOHSA) highlighted variations among age groups, between the sexes and between people living in or outside capital cities. The major findings reported from the survey were:

- children's dental decay rates were low by historical standards and when compared internationally
- nearly one-half (48%) of adults had made a dental visit within the preceding year, the majority of them to a private dental practice (88%)
- however, 44% of adults were found to need one or more dental fillings
- the percentage of Australians with complete tooth loss had reduced compared with earlier interview surveys, although 50% of people aged 65 years or more had no natural teeth and
- one of the four national oral health targets had been achieved, and it was expected that the remaining three targets would be achieved by 2000.

However, the first survey did not collect information about government health cardholder status or socioeconomic status, and results were not contrasted between insured and uninsured.

In the 17-year period since the NOHSA, there has been substantial growth in public sector dental care and dental insurance. Increasingly, national and state/territory health goals call for reductions in socioeconomic inequalities in health, including oral health. For those reasons, this report includes a focus on the relationship between oral health and indicators of socioeconomic status and access to dental care, as well as the traditional demographic markers of age, sex and residential location.

Purpose and organisation of this report

The purpose of this report is to provide a descriptive 'snapshot' of oral health in the adult population of Tasmania. The findings are intended to provide up-to-date evidence that can contribute to the development of oral health policies and programs in Tasmania.

This introductory chapter outlines the motives for undertaking the survey. Chapter 2 reviews the survey's methods and describes the population distribution of sociodemographic and dental access characteristics presented in later tables. Statistical findings regarding oral health status are tabulated and described in Chapter 3, followed by statistical findings regarding oral health care (Chapter 4) and perceptions of oral health (Chapter 5). The Appendix contains additional tables of oral health statistics for conventional 10-year age groups. These are narrower than the age ranges reported in the Chapters, and are presented to permit comparisons with surveys conducted at other places and other times.

The national report of the survey's findings (Slade et al. 2007) provides additional details about the survey, including participation rates and analysis of potential biases due to non-participation. The national report also presents qualitative findings from 'oral histories' conducted with a small number of survey participants to document historical influences on the nation's oral health. Further appendix material is available at:

<http://www.arcpoh.adelaide.edu.au/project/distribution/NSAOH.html>.

Background to the survey

Up-to-date information about population oral health is important because oral diseases have broad implications for the health of the public. Dental problems are ranked among the most frequently reported illness episodes by Australians (AIHW 2000), and provision of dental care accounts for 6.6% of recurrent health expenditure in 2005–06 (AIHW 2007). In the United States the Surgeon General characterised oral disease as a 'silent epidemic' (Surgeon General 2000).

In the 17 years following the 1987–88 NOHSA, no state-wide oral examination surveys of adults have been conducted. Instead, published oral examination surveys were restricted to special groups of the adult population and often they were conducted within selected locations in states. They included studies of oral health in:

- military recruits (Dawson & Smales 1994; Hopcraft & Morgan 2003a,b, 2005, 2006; Morgan et al. 1992)
- adults in Melbourne (Wright et al. 1994)
- community-dwelling elderly people (Bergman et al. 1991; Chalmers, Carter & Spencer 2002; Slade et al. 1993; Slade & Spencer 1995, 1997; Thomson et al. 1995)
- elderly people living in nursing homes or hostels (Chalmers, Carter, Fuss et al. 2002; Chalmers, Hodge et al. 2002; Chalmers et al. 2005; Saub & Evans 2001)
- Aboriginals and Torres Strait Islanders (Endean et al. 2004; Smith et al. 2007)
- immigrants (Marino et al. 2001, 2007) or refugees (Kingsford Smith & Szuster 2000)
- prisoners (Osborn et al. 2003)
- patients receiving dental care in public dental services (Brennan et al. 2000, 2001, 2007; Brennan & Spencer 2004) and
- patients with selected medical conditions (Coates et al. 1996, 2000).

By the late 1990s, several collaborative efforts among federal and state/territory stakeholders attempted to secure support for a second national oral health survey, although none were funded. Renewed impetus for a national survey began with the work of the National Advisory Committee on Oral Health (AHMAC 2001). The committee formulated a National Oral Health Plan for the period 2004–13 comprising seven action areas:

- promotion of oral health across the population
- children and adolescents
- older people
- people with low income and social disadvantage
- people with special needs
- Aboriginal and Torres Strait Islander people and
- workforce development.

One of four short-term goals listed for the plan's first action area was the conduct of a national survey of adult oral health. Fulfilment of that goal became possible in 2003 when researchers at the Australian Research Centre for Population Oral Health (ARCPOH) in The University of Adelaide sought project grant funding from the National Health and Medical Research Council (NHMRC). The proposal was for funding to support a collaborative project that pooled resources already committed or promised from the following sources: funding from the Australian Government Department of Health and Ageing to the Dental Statistics and Research Unit (DSRU) within ARCPOH to undertake a telephone interview survey; commitment of staff from oral health sections within state and territory health departments to conduct oral epidemiological examinations; and core funding from the Australian Institute of Health and Welfare (AIHW) to DSRU. Following peer review, the NHMRC awarded a project grant to ARCPOH in November 2003.

Aspects of oral health and dental care relevant to the National Oral Health Plan

The National Oral Health Plan outlined nine population indicators that were informative in developing the plan and that are cited as key performance indicators to evaluate the outcomes of the plan. This survey reports findings that relate to six of those key performance indicators:

- The percentage of the dentate population reporting a social impact (for example toothache, difficulty chewing, concerned about appearance) because of problems with teeth, mouth or gums in the last 12 months, by age group, living circumstance, government health cardholder status, Indigenous identity and special needs.
- The percentage of the population with untreated decay, by age group, living circumstance, government health cardholder status and Indigenous identity.
- The proportion of the dentate population with a maximum periodontal pocketing of 3.5 mm and 5.5 mm, by age group.
- The mean number of missing teeth and proportion of existing teeth with untreated decay, by age group, living circumstance, government health cardholder status and card status, and Indigenous identity.
- The percentage of the dentate population who visited a dental practitioner in the last 2 years, by age group, living circumstance, government health cardholder status and Indigenous identity.
- The percentage of the dentate population whose reason for visiting a dental practitioner in the last 12 months was for a check-up, by age group, living circumstance, government health cardholder status and Indigenous identity.

2 Methods

Full details of the survey's methods have been described in Chapter 2 of the national report (Slade et al. 2007). The following summary highlights the main methodological features of the survey.

Study population and sampling

A three-stage, stratified clustered sampling design was used to select people from the target population of Australian residents aged 15 years or more:

- Postcodes were sampled at random from capital city and non-capital city strata in six states and the Northern Territory, and from a single stratum in the Australian Capital Territory. Postcodes represented the geographic clustering in the design and were selected with probability proportional to size, where size was defined as the number of households listed in the 'electronic white pages' in each postcode.
- A systematic sample of households listed in the 'electronic white pages' was selected for each sampled postcode. Thirty households per metropolitan stratum and 40 households per ex-metropolitan stratum were selected.
- One person aged 15 years or more was randomly selected per household. In households with only one person aged 15 years or more, that person was selected. In other households telephone interviewers asked for the name of the person aged ≥15 years who most recently had had a birthday and the name of the person aged ≥15 years who would next have a birthday. A computer algorithm then selected one of those two people at random.

Sampled postcodes

In Tasmania the following postcodes were sampled: 7000, 7004, 7007, 7008, 7010, 7011, 7015, 7018, 7030, 7050, 7053, 7109, 7140, 7172, 7184, 7248, 7249, 7250, 7253, 7270, 7300, 7306, 7310, 7315, 7320, 7322, 7330.

Computer-assisted telephone interview

Self-reported information about oral health and characteristics associated with it was obtained though telephone interviews. Interviewers read questions from a computer screen and recorded answers directly onto the computer. They were conducted from a dedicated computer-assisted telephone interview (CATI) suite at University of Adelaide research offices. The methods were based on those advocated by Dillman (2000), including the mailing of a letter to households prior to telephoning, a protocol for contacting each household and standardised procedures for asking questions and recording answers. Interviews were conducted by 29 interviewers, each of whom was trained in the survey methods. Every effort was made to interview the target person although, in certain circumstances, the questions were answered by another adult in the form of a proxy interview.

The interview consisted of 79 questions, several with multiple response categories. A copy of the questions used is included in an Appendix available online:

<http://www.arcpoh.adelaide.edu.au/project/distribution/NSAOH.html>.

Oral epidemiological examination

Information about clinical oral status was collected during standardised dental examinations conducted by dentists who undertook training in the survey procedures. Examinations were limited to people who reported having some or all of their own natural teeth at the time of the interview. Examining dentists followed a standardised protocol to record levels of tooth loss, dental decay experience, tooth wear and—for subjects with no medical contraindications to periodontal probing—signs of gum disease. During data collection, replicate examinations were conducted for approximately five study participants per examiner to evaluate the consistency of their findings when judged against the principal survey examiner.

There were 30 examiners nationwide (Table 1). Prior to their work on the survey, they undertook a 2-day training and calibration session at The University of Adelaide. Separate training sessions were held for the examination teams from each state and territory. Prior to the scheduled training session, each examiner was sent a 50-page manual and a DVD detailing the survey protocol, including the criteria and coding for the examination.

Table 1: Distribution of examiners and examinations among states and territories

			No. of examinations per examiner		
State	No. of examiners	No. of people examined	Minimum	Maximum	Mean
NSW	11	1,113	32	164	101
Vic	3	1,181	267	585	394
Qld	3	824	217	305	275
SA	2	629	241	388	315
WA	3	470	134	196	157
Tas	3	385	49	186	128
ACT	2	386	125	261	193
NT	3	517	154	203	172
All states	**30**	**5,505**	**32**	**585**	**184**

Scope of examination

Survey participants were examined in a supine position in standard dental chairs with illumination provided by the chair's overhead dental light. Examiners used an intra-oral mirror that additionally had its own battery-powered light source. A periodontal probe with 2-mm markings was used to record distances, for example when assessing periodontal destruction (described further below); however, sharp explorers were not used and no radiographs were taken. Full details of the examination protocol are provided online:

<http://www.arcpoh.adelaide.edu.au/project/distribution/NSAOH.html>.

The following overview summarises criteria used to assess the main oral health variables reported in this volume.

Tooth loss

For people aged less than 45 years, examiners distinguished between missing teeth that had been extracted due to decay or periodontal disease and teeth that were absent for any other reason (that is, congenitally missing; unerupted; or extracted for orthodontics, trauma or impaction). For people aged 45 years or more, no such distinction was made, so that an extracted or otherwise absent tooth was recorded as missing. Dental implants, root fragments and deciduous teeth were coded separately and not counted as missing or absent teeth.

Replacement teeth

All lost teeth were further classified as replaced or not replaced by a fixed bridge or a removable denture that was worn to the examination.

Decay experience of coronal tooth surfaces

All teeth present were subdivided into five tooth surfaces: mesial, buccal, distal, lingual, and either occlusal (for premolars or molars) or incisal (for incisors and canines). Each coronal surface was assessed and categorised using visual criteria (no explorer was used) and one of the following codes was assigned:

- decay: cavitation of enamel or dentinal involvement or both are present
- recurrent caries: visible caries that is contiguous with a restoration
- filled unsatisfactorily: a filling placed for any reason in a surface that requires replacement but that has none of the above conditions
- filling to treat decay: a filling placed to treat decay in a surface that had none of the above conditions
- filling placed for reasons other than decay: in a surface that has none of the above conditions (incisors and canines only)
- fissure sealant: where none of the above conditions were found
- sound: when none of the above conditions was found.

Decay experience of tooth root surfaces

All teeth present were subdivided into four root surfaces: medial, buccal, distal and lingual. Each root surface was assessed visually and, if necessary, using a ball-ended periodontal probe. One of the following codes was assigned:

- decay: a discrete, well-defined or discoloured lesion on the root surface that is soft to exploration using the periodontal probe
- recurrent caries: detectable caries that is contiguous with a restoration
- filled unsatisfactorily: a filling placed for any reason in a surface that has unacceptable defects but meeting none of the above conditions
- filled root surface: one or more permanent restorations placed for any reason but none of the above conditions
- wear of 2 mm or more: recorded only on buccal surfaces with none of the above conditions
- sound root surface: when none of the above conditions was found
- no visible root surface.

Periodontal tissue destruction

The assessment of periodontal tissue destruction was based on methods used in the US National Health and Nutrition Examination Survey (NHANES 2005). Assessments were made of probing pocket depth and gingival recession, both recorded in millimetres using a periodontal probe that had 2-mm markings. Measurements were made at the mesio-buccal, mid-buccal and disto-buccal aspects of all teeth present, except for third molars. All fractional millimetre measurements were rounded down to the lowest whole millimetre before calling the number. For recession, the cemento-enamel junction (CEJ) was identified or its position was estimated (for example, if a filling obscured its position), and the distance from the CEJ to the free gingival margin was recorded in millimetres. When the CEJ was subgingival, the number called was negative; otherwise it was positive. For probing pocket depth, the distance from the free gingival margin to the bottom of the periodontal crevice/pocket was called.

Examiners did not make a direct measurement of clinical attachment loss; instead, it was computed during data analysis.

Gingival inflammation around six index teeth

The Loe and Silness (1963) gingival index was used to assess inflammation of the marginal gingival tissues around six index teeth (if present)—the most anterior molar in each dental quadrant (up to four teeth), the right maxillary central incisor and the left mandibular central incisor. Pressure was applied to the free gingival margin on the buccal aspect of the tooth by swiping with the side of a periodontal probe that was held at approximately 90 degrees to the long axis of the tooth. One of the following codes was assigned:

- severe inflammation: marked redness and oedema, ulceration or tendency to spontaneous bleeding
- moderate inflammation: redness, oedema, glazing or bleeding after applying pressure with the probe
- mild inflammation: slight change in colour or slight oedema but no bleeding after applying pressure with the probe
- none of the above.

Data recording for examinations

Each code called by an examiner was recorded directly onto a laptop computer by state/territory staff who had experience in clinical dental procedures. They were trained in use of the software during the 2-day training session for examination teams held at The University of Adelaide.

Assessment of inter-examiner reliability

In order to measure inter-examiner reliability, the principal survey examiner attended examination sessions for all but one examiner to conduct masked replicate examinations of survey participants. The remaining examiner withdrew from the survey after completing 32 examinations. Replicate examination entailed assessments of tooth presence, periodontal assessment of teeth in one jaw, and assessment of caries experience in both crowns and roots of teeth. The observed levels of agreement for most oral health indicators were equivalent to benchmarks reported for national oral health surveys conducted in the United Kingdom and the United States.

Period of data collection

Data collection began in July 2004 and was completed in September 2006 (Table 2). Interviews were timed to begin approximately 1 month prior to the planned start of examinations in each jurisdiction.

Table 2: Periods of data collection in states and territories

	Dates of interviews		Dates of examinations	
State/territory	Beginning	End	Beginning	End
ACT	July 2004	October 2004	July 2004	October 2004
SA	September 2004	December 2004	September 2004	May 2005
WA	October 2004	March 2005	November 2004	May 2005
Vic	January 2005	September 2005	February 2005	September 2005
NSW	May 2005	November 2005	June 2005	July 2006
NT	August 2005	October 2005	September 2005	March 2006
Tas	January 2006	May 2006	March 2006	September 2006
Qld	March 2006	September 2006	June 2006	September 2006
Australia	July 2004	September 2006	July 2004	September 2006

Ethical conduct of research

This project was reviewed and approved by The University of Adelaide's Human Research Ethics Committee. Interviewed subjects provided verbal consent prior to answering questions. All examined subjects provided signed, informed consent prior to the examination.

Target sample size

Sample size requirements were calculated for a range of key outcome variables to be reported nationally. One outcome, the capacity to detect a 25% or greater reduction in national age-specific estimates of mean number of decayed teeth since 1987–88, was nominated as the critical threshold that should be detectable with standard statistical power of 80%. Another outcome was a capacity to detect a 10% or greater reduction in national age-specific mean DMFT. This identified a need for 7,500 examinations and 13,560 interviews, assuming a 65% participation rate in the examination. The sample size within each state and territory was planned to be approximately proportional to the population of the jurisdiction.

Participation in the survey

National participation rates were lower than intended, both in the interview, where 49.0% of sampled people participated, and the examination, where 43.7% of those eligible took part. Interview participation rates varied from 43.9% in NSW to 61.8% in SA. Examination rates varied from 33.2% in NSW to 57.5% in SA (Table 3).

Table 3: Number and percentage of people sampled, interviewed and examined[(a)]

	No. of people sampled	No. of people interviewed	Per cent of sampled people interviewed	No. of people eligible for exam	No. of people examined	Per cent of eligible people examined
Australia	**28,812**	**14,123**	**49.0**	**12,606**	**5,505**	**43.7**
State/territory						
NSW	8,270	3,630	43.9	3,310	1,099	33.2
Vic	6,013	2,667	44.4	2,360	1,181	50.0
Qld	4,219	2,052	48.6	1,841	824	44.8
SA	2,159	1,335	61.8	1,093	629	57.5
WA	2,365	1,290	54.5	1,109	470	42.4
Tas	1,745	1,042	59.7	873	385	44.1
ACT	1,892	1,025	54.2	981	400	40.8
NT	2,149	1,082	50.3	1,039	517	49.8

(a) Unweighted data.

Data analysis

The aim of the data analysis was to generate summary statistics describing oral health for the Tasmanian population. With the exception of data regarding participation rates, results in this report have been weighted to compensate for individuals' different probabilities of selection and survey participation rates. For the telephone interview survey, weights were adjusted to ensure survey estimates were consistent with the 2005 Australian Bureau of Statistics Estimated Residential Population data. For the oral examination survey, which was restricted to dentate people aged 15 years or more; estimates of the dentate population were derived from the telephone interview survey and used to derive examination weights. This means that results can be generalised to the Tasmanian population.

Tables 35 and 36 contain age-standardised estimates for each indicator presented in preceding tables. Age-standardisation is a statistical procedure that aims to remove any effects of age that might account for differences in each oral health indicator between the two comparison groups: health cardholders versus non-health cardholders (Table 35) and insured versus non-insured people (Table 36). For these tables, percentages and means were standardised using the direct method. The reference population was the 2005 Australian Estimated Residential Population classified into 14 five-year age categories within the range 15–84 years and a fifteenth category aged 85 years of more.

Presentation of results

Oral health measures are tabulated for each of three age groups representing the survey participant's age reported in the telephone interview, plus an 'all ages' summary. The three age groups are: 15–34 years, 35–54 years and ≥55 years. The tables report estimates for mutually exclusive subgroups of people created for each of six characteristics based on responses to the telephone interview questions. The subgroups and unweighted number of respondents are listed in the Appendix to this volume and the six characteristics are described below:

Sex was classified as 'Male' or 'Female' recorded during the interview.

Residential location was classified as 'Capital city' or 'Other places' based on the sampling postcode used in selection of households.

Postcode socioeconomic status was used to classify individuals according to the Index of Relative Socioeconomic Advantage/Disadvantage (IRSAD) of the postcode in which they lived. The IRSAD is an aggregate measure of a postcode's socioeconomic status based on characteristics of its residents recorded in the 2001 Population Census. A postcode that has a relatively high proportion of people with high incomes or a skilled labour force is assigned a relatively higher value on this index. Conversely, a low score on the index indicates that an area has a higher proportion of individuals with low incomes and more people who work in unskilled occupations. Postcodes were classified into three groups of ascending socioeconomic status, each group comprising approximately one-third of the Tasmanian population. This type of analysis is said to be 'ecological' because it is not based on individuals' own socioeconomic status, but on the socioeconomic status of the area in which they live. Hence, care should be taken in the interpretation of results—because Socioeconomic Indices for Areas (SEIFA) scores refer to areas, not individuals, results are not interpretable at the level of the individual.

Government health card status identified whether or not people were covered either by a pensioner concession card or health care card. Both cards are issued according to a means test administered by Centrelink, an agency of the Australian Government's Family Assistance Office. People with either card and their dependents are eligible for public-sector dental care in most states and territories.

Place of last dental visit further disaggregated health cardholders according to the location of their last dental visit. The latter was established during the interview by asking people 'Where did you make your last dental visit?'. Health cardholders who responded 'Government dental clinic' or 'School dental service' were classified as 'Cardholder/Public'. Otherwise, eligible people were classified as 'Cardholder/Non-public' if they reported any of the other locations: Private dental practice (including specialist); Dental technician; Clinic operated by health insurance fund; Armed Services/Defence Force clinic; Other site. People who were not health cardholders were classified as 'Non-cardholder/Non-public' regardless of their reported visit location.

Dental insurance coverage was based on responses to the question 'Do you have private insurance cover for dental expenses?'. People were classified as insured if they responded 'yes' and uninsured if they responded 'no'.

Criteria for determining statistical significance

As with any survey where data are collected from only some of the people in the population, proportions and means in this report are estimates of the true population values. The estimates have some degree of uncertainty, which is expressed in this report using 95% confidence intervals (95% CIs). The 95% CI signifies the likely lower and upper limits of the range of values within which the true population percentage would fall. In this context 'likely' means that there is a 95% probability that the true population value lies between those two values.

In this report 95% CIs are used additionally as a guideline to identify differences between population subgroups that are statistically significant. Specifically, when there is no overlap between 95% CIs for two groups, the difference between the groups is deemed to be statistically significant. This criterion for judging statistical significance is more conservative than the alternative method of calculating P-values. In fact, when 95% CIs do not overlap, it means that a test of statistical significance for the difference between the groups would have a P-value of less than 0.05 (the conventional threshold used in many reports), and it could be as small as less than 0.005. The 'conservative' nature of the criterion used in this report comes about because 95% CIs that overlap to a small degree could, nevertheless, be found to differ to a statistically significant degree (at $P<0.05$) using a hypothesis test.

Data files were managed and summary variables computed using SAS software version 9.1.[1] Means and their associated 95% CIs were generated using SUDAAN software release 9.0.0.[2] The SUDAAN procedures used sampling weights to generate population estimates and calculated 95% CIs that allowed for the complex sampling design used in this survey. To do so, 'with replacement' sampling was specified with two levels of stratification (state and section of state). The subject's sampling postcode was specified as the primary sampling unit, which was used by SUDAAN as the clustering variable.

[1] SAS Institute Inc. 100 SAS Campus Drive, Cary, NC 27513–2414, USA.

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Distribution of sociodemographic and dental access characteristics

Approximately one-half of the Tasmanian population was female, with little variation in the proportion among age groups (Table 4). Slightly less than half lived in the capital city, a proportion that was consistent among groups. By design, people of all ages were approximately evenly distributed among tertiles of postcode socioeconomic status, and there was no consistent pattern of variation in the distribution among age groups. Approximately one-third of the population had a government health card, although the proportion was noticeably greater for people aged 55 years or more. People who had a government health card were less likely to have last attended a public dental clinic than other dental care providers, a pattern that was consistent in each age group. Approximately one-half of the Tasmanian population had dental insurance, a figure that was highest for 35–54-year-olds and lowest for 15–34-year-olds.

Table 4: Percentage of people with selected sociodemographic and dental access characteristics in the Tasmanian population and three age groups

		Age group (years)		
	All ages	15–34	35–54	>=55
Sex				
Males	50.4	50.0	49.7	52.1
Females	49.6	50.0	50.3	47.9
Residential location				
Capital city	44.3	44.4	43.0	45.9
Other places	55.7	55.6	57.0	54.1
Postcode socioeconomic status				
Lowest	28.7	24.3	33.7	27.3
Middle	33.2	36.6	28.2	36.0
Highest	38.1	39.1	38.2	36.7
Government health card				
Health care card or pensioner concession card	35.1	30.2	23.0	58.3
Neither card	64.9	69.8	77.0	41.7
Place of last dental visit				
Cardholder/Public	9.0	8.1	6.7	13.3
Cardholder/Non-public	26.1	22.1	16.3	44.9
Non-cardholder/Non-public	64.9	69.8	77.0	41.7
Dental insurance				
Insured	52.9	46.9	58.9	52.5
Uninsured	47.1	53.1	41.1	47.5

3 Oral health status

Complete tooth loss

In NSAOH, complete tooth loss was assessed in the interview by asking people 'Do you have any of your own natural teeth?'. People who answered 'no' were classified as edentulous. In Tasmania, edentulous people represented 10.0% of the population aged 15 years of more (Table 5), which was significantly greater than the national estimate of 6.4% (Slade et al. 2007).

Key findings

- The prevalence of edentulism was strongly associated with age, ranging from fewer than 1% of 15–34-year-olds to 25.4% of Tasmanian adults aged 55 years or more.
- Prevalence of complete tooth loss was consistently higher among females than males although the difference did reach statistical significance, either in all ages combined or within age groups.
- People living in other parts of the state were more likely than residents of Hobart to be edentulous, a finding that was statistically significant for all ages combined and for people aged 55 years or more.
- Among the three age groups, there were inconsistent and statistically non-significant patterns of variation between prevalence of complete tooth loss and socioeconomic status of postcodes. Similarly, for all ages combined, the small difference in prevalence between people living in postcodes with high socioeconomic status (11.4%) and low socioeconomic status (7.2%) was not statistically significant.
- Among all ages, people who had a government health card were more than five times more likely to be edentulous (21.8%) than non-cardholders (4.0%). Within age groups, cardholder status was statistically significantly associated with edentulism among 35–54-year-olds and people aged 55 years or more.
- Among people who had a government health card, there was no clear pattern of variation in prevalence of edentulism according to the place of most recent dental visit.
- The prevalence of complete tooth loss was lower for people with dental insurance compared with the uninsured, a difference that was statistically significant for all ages combined and for people aged 55 years or more.

Discussion

As emphasised in the national report, variation among age groups in prevalence of edentulism can be attributed primarily to the differing historical experiences of generations born in different time periods during the 20th century, rather than the effects of ageing. Because edentulism prevalence was so strongly dependent upon age group, comparisons between population groups were observed most clearly for the oldest age group. Among 15–34 -year-olds, prevalence estimates were close to zero and did not reveal any differences between population groups.

In summary, complete tooth loss in Tasmania was a condition observed infrequently below the age of 55 years, while among people aged 55 years or more, it was most likely to occur among residents who lived outside Hobart, people who had a government health card and the uninsured.

Table 5: Percentage of adults with complete tooth loss

		Population: all people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**10.0**	**0.5**	**4.1**	**25.4**
	95% CI[(a)]	*7.6–12.9*	*0.1–3.3*	*2.1–7.9*	*19.4–32.4*
Sex					
Males	% of people	7.1	0.9	3.2	17.6
	95% CI	4.6–10.7	0.1–6.4	0.8–11.9	9.9–29.4
Females	% of people	12.7	0.0	5.0	32.3
	95% CI	*9.7–16.6*	—	*2.3–10.6*	*26.1–39.1*
Residential location					
Capital city	% of people	5.8	0.0	2.1	15.9
	95% CI	*4.0–8.3*	—	*0.9–5.0*	*11.7–21.1*
Other places	% of people	13.0	0.8	5.6	31.9
	95% CI	*9.3–18.0*	*0.1–6.1*	*2.5–12.3*	*22.4–43.2*
Postcode socioeconomic status					
Lowest	% of people	11.4	0.0	7.2	26.1
	95% CI	*7.5–16.9*	—	*2.6–18.5*	*17.4–37.2*
Middle	% of people	11.7	1.5	2.3	29.8
	95% CI	*6.4–20.5*	*0.2–10.3*	*0.8–6.4*	*16.6–47.4*
Highest	% of people	7.2	0.0	2.8	20.2
	95% CI	*4.9–10.6*	—	*1.3–6.1*	*13.4–29.4*
Government health card					
Health care card or pensioner concession card	% of people	21.8	0.0	13.7	32.5
	95% CI	*15.9–29.2*	—	*6.4–27.1*	*25.2–40.7*
Neither card	% of people	4.0	0.6	1.7	15.2
	95% CI	*2.9–5.5*	*0.1–4.5*	*0.6–5.0*	*10.3–21.8*
Place of last dental visit					
Cardholder/Public	% of people	20.7	0.0	17.2	40.7
	95% CI	*10.1–37.9*	—	*5.6–42.4*	*21.1–63.8*
Cardholder/Non-public	% of people	22.3	0.0	11.6	30.5
	95% CI	*17.1–28.4*	—	*5.4–23.2*	*24.6–37.0*
Non-cardholder/Non-public	% of people	4.0	0.6	1.7	15.2
	95% CI	*2.9–5.5*	*0.1–4.5*	*0.6–5.0*	*10.3–21.8*
Dental insurance					
Insured	% of people	5.8	0.0	2.0	15.6
	95% CI	*4.1–8.2*	—	*0.4–8.3*	*11.0–21.9*
Uninsured	% of people	14.6	0.9	7.2	34.5
	95% CI	*11.1–19.1*	*0.1–6.6*	*3.4–14.4*	*26.4–43.5*

(a) 95% CI = 95% confidence interval for estimated percentage.

Inadequate natural dentition among dentate people

Adults who have approximately 20 teeth or more usually have satisfactory chewing function (Elias & Sheiham 1998), diet and nutritional status (Sheiham et al. 2002), whereas people with fewer teeth are more likely to suffer impaired quality of oral health (McGrath & Bedi 2002). In NSAOH, people were asked during the interview to report either the number of remaining teeth or the number of missing teeth in their upper jaw and lower jaw. Responses were used to classify people as having an inadequate natural dentition if they reported having fewer than 21 natural teeth, the same threshold that has been reported for the UK population. In Tasmania, 16.5% of dentate adults had fewer than 21 teeth (Table 6), which was significantly higher than the national figure of 11.4% (Slade et al. 2007).

Key findings

- The prevalence of an inadequate natural dentition was strongly associated with age, occurring in fewer than 1% of people aged 15–34 years but affecting nearly half of dentate people aged 55 years or more.
- Differences in prevalence between males and females were small and statistically non-significant, both for the population as a whole and within the three age groups.
- Similarly, prevalence did not differ to a statistically significant degree between residents of Hobart and the rest of the state.
- Among all ages combined, people living in postcodes with low socioeconomic status were approximately twice as likely to report an inadequate natural dentition (20.0%) as those in postcodes of high socioeconomic status (11.3%). A similar gradient was observed within age groups, although in none of them was it statistically significant.
- The most pronounced differences in prevalence were associated with government health cardholder status, where a three-fold difference was observed between cardholders (31.7% for all ages combined) compared with non-cardholders (10.0% for all ages combined). Within age groups, the difference was statistically significant only in the oldest age group, where an approximate two-fold difference was observed.
- Within the population of government health cardholders, there was a tendency for age-group-specific prevalence to be higher for those whose last dental visit was to the public sector than for those who attended a private dentist, and the difference was statistically significant among 35–54-year-olds.
- Dental insurance was associated with lower prevalence of an inadequate dentition among people aged 55 years or more, while the pattern was inconsistent and statistically non-significant among other age groups and in all ages combined.

Discussion

A threshold of fewer than 21 teeth is used here as an indicator of likely impairment in oral function, nutrition and quality of life, rather than a cardinal sign of those problems. As observed for complete tooth loss, there was a pronounced age-gradient in prevalence of an inadequate natural dentition. Because of this age-association, valid comparisons between other sociodemographic groups should be made only within age groups. Those comparisons reveal that prevalence was associated with postcode socioeconomic status, government health cardholder status and dental insurance status.

Table 6: Percentage of people with fewer than 21 teeth

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**16.5**	**0.8**	**8.8**	**47.2**
	95% CI[(a)]	*13.9–19.5*	*0.3–2.7*	*6.0–12.7*	*41.0–53.4*
Sex					
Males	% of people	16.8	0.4	6.9	50.0
	95% CI	*13.7–20.4*	*0.1–2.8*	*3.3–13.8*	*41.8–58.2*
Females	% of people	16.2	1.2	10.7	44.1
	95% CI	*12.3–21.0*	*0.3–4.9*	*7.1–15.8*	*34.9–53.7*
Residential location					
Capital city	% of people	14.5	1.4	4.4	44.0
	95% CI	*10.7–19.5*	*0.3–6.0*	*1.7–10.8*	*33.8–54.7*
Other places	% of people	18.1	0.4	12.2	49.9
	95% CI	*14.9–21.8*	*0.1–2.6*	*8.1–17.9*	*43.0–56.8*
Postcode socioeconomic status					
Lowest	% of people	20.0	2.8	11.5	52.4
	95% CI	*16.7–23.8*	*0.9–8.5*	*7.6–17.0*	*42.9–61.7*
Middle	% of people	19.4	0.0	14.2	50.0
	95% CI	*15.1–24.4*	—	*8.9–22.1*	*44.1–56.0*
Highest	% of people	11.3	0.0	1.9	40.2
	95% CI	*8.0–15.8*	—	*0.4–8.5*	*28.3–53.3*
Government health card					
Health care card or pensioner concession card	% of people	31.7	0.0	10.0	58.3
	95% CI	*27.1–36.7*	—	*4.6–20.5*	*50.7–65.6*
Neither card	% of people	10.0	1.1	8.6	32.7
	95% CI	*7.4–13.2*	*0.3–3.5*	*5.2–13.8*	*24.7–42.0*
Place of last dental visit					
Cardholder/Public	% of people	29.8	0.0	25.9	75.9
	95% CI	*21.5–39.6*	—	*11.9–47.5*	*57.6–88.0*
Cardholder/Non-public	% of people	32.5	0.0	1.0	54.7
	95% CI	*26.3–39.3*	—	*0.1–7.0*	*45.8–63.3*
Non-cardholder/Non-public	% of people	10.0	1.1	8.6	32.7
	95% CI	*7.4–13.2*	*0.3–3.5*	*5.2–13.8*	*24.7–42.0*
Dental insurance					
Insured	% of people	14.7	0.7	8.2	38.0
	95% CI	*11.3–18.9*	*0.1–5.5*	*5.1–12.9*	*29.6–47.2*
Uninsured	% of people	19.5	1.0	9.9	58.3
	95% CI	*15.8–23.7*	*0.2–4.2*	*5.7–16.8*	*50.4–65.7*

(a) 95% CI = 95% confidence interval for estimated percentage.

Denture wearing by dentate people

Removable dentures, also called 'false teeth', are worn to replace missing teeth, with the objective to improve function (for example eating), appearance or both. Whereas virtually all edentulous people wear dentures, the decision of dentate people to wear dentures is influenced by numerous factors in addition to the number and location of missing teeth. In NSAOH, removable denture wearing was assessed during the interview by asking two similar questions, 'Do you have a denture or false teeth for your upper (lower) jaw?'. There were 15.3% of dentate adults in Tasmania who reported wearing one or two dentures (Table 7), a figure that was significantly greater than the estimate of 14.9% reported nationally (Slade et al. 2007).

Key findings

- The frequency of denture wearing was strongly associated with age, ranging from 1.4% among 15–34-year-olds to 52.1% among people aged 55 years or more.
- There were small and statistically non-significant differences between the sexes in the percentage of denture wearers.
- Similarly, there were small and statistically non-significant differences in prevalence between residents of Hobart and the rest of the state.
- There was no clear gradient in frequency of denture wearing according to the socioeconomic status of residential postcode. Instead, within age groups, there was a tendency for the percentage to be highest in middle-ranked postcodes. However, none of the differences were statistically significant.
- Pronounced differences in frequency of denture wearing were seen between people who had a government health card (33.9%) and people who did not (14.1% for all ages combined). The difference was statistically significant for all ages combined and people aged 55 years or more.
- Within the population of government health cardholders, there were no statistically significant differences between those who attended the public sector compared with people who attended non-public sources of dental care. However, there were large absolute differences for 35–54-year-olds and for those aged 55 years or more, with higher prevalence seen in cardholders whose last visit was to the public sector.
- There was no clear pattern and no statistically significant differences in frequency of denture wearing between people with dental insurance and the uninsured.

Discussion

The percentage of dentate adults in Tasmania who wore dentures (20.1%) exceeded the percentage with fewer than 21 natural teeth (16.5 %%), illustrating that the decision to wear dentures is dictated by factors other than the number of missing teeth. Having a government health card was strongly associated with both conditions, while postcode socioeconomic status was not associated with variation in frequency of denture wearing, as it was with inadequate natural dentition.

Table 7: Percentage of dentate people who wear denture(s)

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**20.1**	**1.4**	**14.1**	**52.1**
	95% CI[(a)]	*17.1–23.4*	*0.5–3.6*	*10.4–18.9*	*45.0–59.1*
Sex					
Males	% of people	20.5	1.3	15.1	51.3
	95% CI	*16.7–25.0*	*0.3–5.4*	*8.7–24.8*	*43.0–59.5*
Females	% of people	19.6	1.4	13.2	53.0
	95% CI	*15.3–24.7*	*0.4–4.9*	*9.2–18.5*	*44.1–61.7*
Residential location					
Capital city	% of people	18.3	1.4	11.5	48.0
	95% CI	*13.9–23.8*	*0.3–6.0*	*6.0–20.9*	*35.8–60.4*
Other places	% of people	21.4	1.3	16.1	55.6
	95% CI	*17.8–25.6*	*0.4–4.9*	*11.9–21.5*	*48.5–62.5*
Postcode socioeconomic status					
Lowest	% of people	22.0	2.8	14.6	55.1
	95% CI	*18.1–26.4*	*0.9–8.5*	*10.9–19.2*	*49.0–61.1*
Middle	% of people	24.0	1.5	17.8	60.0
	95% CI	*18.6–30.4*	*0.2–9.7*	*11.3–26.8*	*48.0–70.9*
Highest	% of people	15.2	0.2	10.6	42.5
	95% CI	*11.5–19.8*	*0.0–1.4*	*4.8–21.7*	*31.2–54.7*
Government health card					
Health care card or pensioner concession card	% of people	33.9	0.4	16.0	59.7
	95% CI	*29.0–39.1*	*0.1–2.6*	*8.3–28.6*	*52.3–66.7*
Neither card	% of people	14.1	1.7	13.7	42.0
	95% CI	*11.0–17.9*	*0.6–4.6*	*9.1–20.1*	*32.6–52.0*
Place of last dental visit					
Cardholder/Public	% of people	32.0	0.0	31.5	77.9
	95% CI	*23.7–41.6*	—	*14.7–55.2*	*57.9–90.0*
Cardholder/Non-public	% of people	34.7	0.7	7.2	56.0
	95% CI	*27.4–42.8*	*0.1–5.1*	*2.6–18.1*	*48.4–63.3*
Non-cardholder/Non-public	% of people	14.1	1.7	13.7	42.0
	95% CI	*11.0–17.9*	*0.6–4.6*	*9.1–20.1*	*32.6–52.0*
Dental insurance					
Insured	% of people	19.8	1.8	15.1	44.4
	95% CI	*15.4–25.1*	*0.4–7.6*	*9.6–23.0*	*33.9–55.4*
Uninsured	% of people	21.4	1.2	12.9	61.4
	95% CI	*17.6–25.8*	*0.3–4.1*	*8.2–19.6*	*53.1–69.1*

(a) 95% CI = 95% confidence interval for estimated percentage.

Average number of teeth per person missing due to pathology

During NSAOH examinations of people aged less than 45 years, dentists counted the number of teeth judged to be missing due to decay or gum disease; for older age groups, dentists counted the number of teeth missing for any reason. The distinction according to age was made because often it is very difficult to judge in older people whether teeth have been extracted because of decay, gum disease or other causes (for example orthodontic reasons), or whether the teeth never developed or remain unerupted. Instead, the convention is to assume that teeth not present among people aged 45 years or more are missing due to pathology. In Tasmania, dentate people had an average of 5.3 teeth per person missing due to pathology (Table 8), a figure that was similar to the national average of 4.5 (Slade et al. 2007).

Key findings

- The average number of missing teeth per person was strongly associated with age, ranging from less than 1 among 15–34-year-olds to 13.1 among people aged 55 years or more.
- There was little difference between males and females, and the differences were inconsistent between age groups.
- Similarly, the average number of missing teeth per person did not differ significantly between residents of Hobart and the rest of the state, and did not vary according to socioeconomic status of the postcodes within which people lived.
- Average levels of tooth loss tended to be higher among people who had a government health card compared with those who did not, and the differences were statistically significant in the oldest age group and among all ages combined.
- Within the group of government health cardholders, there was no statistically significant difference in average number of missing teeth between people whose last dental visit was in the public sector compared with the non-public sector. However, among cardholders aged 35–54 years, there was a three-fold difference between those who visited in the public sector (9.1 teeth) compared with the non-public sector (3.5 teeth).
- Average levels of tooth loss due to pathology were not significantly associated with dental insurance status.

Discussion

Consistent with findings from preceding tables describing other aspects of tooth loss, the average number of teeth per person missing due to pathology was very low among the youngest age group (15–34 years). Furthermore, because average levels of tooth loss were so strongly associated with age, it is prudent to limit inferences about sociodemographic variation to comparisons only within age groups. It follows that the most reliable assessments of sociodemographic differences were observed among the oldest age group. As observed for all other measures of tooth loss, the average number of teeth per person missing due to pathology was associated with government health cardholder status.

Table 8: Average number of teeth per person due to pathology

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**mean**	**5.3**	**0.8**	**3.8**	**13.1**
	95% CI[(a)]	*4.4–6.2*	*0.3–1.4*	*3.0–4.6*	*11.4–14.7*
Sex					
Males	mean	5.0	0.2	2.9	13.7
	95% CI	*3.7–6.4*	*<0–0.5*	*2.0–3.7*	*11.8–15.7*
Females	mean	5.6	1.4	4.8	12.3
	95% CI	*4.6–6.6*	*0.5–2.3*	*3.4–6.1*	*10.1–14.6*
Residential location					
Capital city	mean	4.8	0.9	2.7	12.4
	95% CI	*3.5–6.2*	*0.1–1.8*	*1.5–3.9*	*9.6–15.2*
Other places	mean	5.7	0.7	4.6	13.6
	95% CI	*4.4–6.9*	*<0–1.5*	*3.5–5.8*	*11.8–15.4*
Postcode socioeconomic status					
Lowest	mean	6.1	1.4	4.2	14.5
	95% CI	*4.3–7.8*	*<0–2.7*	*2.7–5.8*	*12.8–16.2*
Middle	mean	5.9	0.9	4.4	14.2
	95% CI	*4.3–7.6*	*<0–2.0*	*2.7–6.1*	*11.8–16.6*
Highest	mean	4.2	0.5	3.0	10.8
	95% CI	*3.0–5.3*	*0.2–0.8*	*1.9–4.2*	*7.9–13.6*
Government health card					
Health care card or pensioner concession card	mean	8.3	0.8	5.0	15.1
	95% CI	*6.1–10.5*	*<0–1.6*	*2.4–7.5*	*13.5–16.8*
Neither card	mean	3.6	0.9	3.5	9.9
	95% CI	*2.8–4.4*	*0.2–1.5*	*2.6–4.3*	*7.6–12.3*
Place of last dental visit					
Cardholder/Public	mean	9.6	0.6	9.1	17.1
	95% CI	*5.5–13.7*	*<0–1.4*	*3.8–14.5*	*13.2–21.0*
Cardholder/Non-public	mean	7.8	0.9	3.2	14.6
	95% CI	*5.1–10.5*	*<0–1.9*	*1.5–5.0*	*12.8–16.3*
Non-cardholder/Non-public	mean	3.6	0.9	3.5	9.9
	95% CI	*2.8–4.4*	*0.2–1.5*	*2.6–4.3*	*7.6–12.3*
Dental insurance					
Insured	mean	4.8	0.9	3.5	11.1
	95% CI	*3.6–5.9*	*<0–2.0*	*2.5–4.6*	*8.8–13.3*
Uninsured	mean	6.0	0.8	4.4	15.2
	95% CI	*4.6–7.4*	*0.2–1.3*	*2.6–6.1*	*13.2–17.3*

(a) 95% CI = 95% confidence interval for estimated mean.

Prevalence of untreated coronal decay

The prevalence of untreated coronal dental decay is reported in Table 9 as the percentage of dentate people who have at least one or more decayed surfaces on the crowns of their teeth. Untreated coronal decay reflects both the prevalence of dental decay in the population and access to dental care for treatment. The prevalence of untreated coronal decay in Tasmania was 22.4% (Table 9), which is lower than the national estimate of 25.5% (Slade et al. 2007).

Key findings

- The prevalence of untreated coronal decay was not significantly associated with age.
- The highest prevalence was seen among government health cardholders who resided in an area of low socioeconomic status (26.3%), and the lowest among cardholders whose last dental visit was in the public sector (6.8%).
- While not reaching statistical significance, a number of trends may be discerned in the results in relation to sociodemographic factors. More people living outside Hobart appeared to have untreated coronal decay than residents of Hobart (25.5% versus 18.4%), and more of those who last visited a public clinic than non-government health cardholders who visited elsewhere (25.2% versus 6.8%).

Discussion

Prevalence of untreated coronal decay was significantly associated with age but not other sociodemographic variables. However, markedly differing numbers of missing teeth between sociodemographic groups would affect the figures, and small numbers in the Tasmanian sample in some categories would reduce the power of analysis, resulting in few significant differences.

In summary, more than one-quarter of all people in Tasmania had untreated coronal decay.

Table 9: Percentage of people with untreated coronal decay

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**22.4**	**24.5**	**23.5**	**18.1**
	95% CI[(a)]	*17.4–28.3*	*13.5–40.5*	*17.2–31.1*	*8.9–33.3*
Sex					
Males	% of people	25.1	25.0	25.4	24.8
	95% CI	*16.8–35.7*	*9.7–50.7*	*17.0–36.2*	*9.9–49.5*
Females	% of people	19.6	24.1	21.5	10.8
	95% CI	*14.7–25.6*	*14.4–37.5*	*14.1–31.5*	*4.7–22.9*
Residential location					
Capital city	% of people	18.4	34.0	12.6	6.7
	95% CI	*12.1–26.9*	*18.9–53.3*	*6.2–23.7*	*2.2–18.9*
Other places	% of people	25.5	17.0	31.7	27.7
	95% CI	*18.4–34.3*	*5.2–43.4*	*22.6–42.4*	*12.2–51.4*
Postcode socioeconomic status					
Lowest	% of people	26.3	29.5	21.5	30.9
	95% CI	*16.3–39.6*	*9.7–61.8*	*15.5–29.2*	*11.1–61.6*
Middle	% of people	20.9	11.0	34.3	19.0
	95% CI	*14.7–28.7*	*2.9–33.8*	*19.6–52.7*	*5.3–49.8*
Highest	% of people	20.7	34.2	17.2	7.6
	95% CI	*12.8–31.8*	*15.3–59.9*	*7.9–33.4*	*2.1–24.2*
Government health card					
Health care card or pensioner concession card	% of people	16.5	1.9	29.6	19.0
	95% CI	*10.3–25.3*	*0.2–13.5*	*16.0–48.1*	*8.4–37.5*
Neither card	% of people	25.2	34.4	21.6	14.8
	95% CI	*18.7–33.0*	*19.9–52.5*	*15.7–29.0*	*5.1–35.7*
Place of last dental visit					
Cardholder/Public	% of people	6.8	6.9	12.9	2.3
	95% CI	*2.1–19.4*	*0.8–41.9*	*2.7–43.8*	*0.3–15.8*
Cardholder/Non-public	% of people	19.9	0.0	36.4	23.9
	95% CI	*13.1–29.0*	–	*19.7–57.3*	*10.8–44.9*
Non-cardholder/Non-public	% of people	25.2	34.4	21.6	14.8
	95% CI	*18.7–33.0*	*19.9–52.5*	*15.7–29.0*	*5.1–35.7*
Dental insurance					
Insured	% of people	21.9	30.8	17.2	18.9
	95% CI	*14.9–31.0*	*13.7–55.6*	*10.4–27.3*	*6.6–43.7*
Uninsured	% of people	23.3	19.0	33.6	17.1
	95% CI	*16.3–32.1*	*7.9–39.2*	*23.0–46.1*	*8.8–30.6*

(a) 95% CI = 95% confidence interval for estimated percentage.

Percentage of people with untreated root decay

The prevalence of untreated root decay is reported as the percentage of people who had at least one natural tooth and one or more surfaces of the roots of their teeth decayed. Decay of the root surface requires that it be exposed in the mouth, usually by recession of the gums. The prevalence of untreated root decay in Tasmania was 6.8% (Table 10), which is close to the figure for the Australian population (6.7%) (Slade et al. 2007).

Key findings

- Prevalence of untreated root decay was significantly associated with age. There was a seven-fold relative difference between prevalence in those aged 55 years or more and those aged 15–34 years (13.2% versus 1.8%).
- Among people of all ages, the highest prevalence was recorded in people who had a government health card who lived outside Hobart (9.6%), and the lowest in those who lived in Hobart (3.3%).
- Prevalence of root decay was not significantly associated with any of the sociodemographic variables examined, as indicated by the overlapping of 95% CIs.
- While not reaching statistical significance, a number of trends may be discerned in the results in relation to sociodemographic factors (for example the difference in relation to location, as described above).

Discussion

The association of root decay with gum recession more commonly seen in older people explains the strong relationship of untreated root decay with age. Because untreated disease reflects access to timely dental care, it is more common among people who are socially disadvantaged. The lack of statistical association between untreated root decay and indicators of social disadvantage may be related to insufficient numbers to detect small differences.

Table 10: Percentage of people with untreated root decay

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**6.8**	**1.8**	**6.8**	**13.2**
	95% CI[(a)]	*4.7–9.7*	*0.4–8.0*	*3.9–11.7*	*8.0–21.1*
Sex					
Males	% of people	6.1	0.0	5.2	15.0
	95% CI	*3.3–11.2*	—	*1.7–14.7*	*8.0–26.3*
Females	% of people	7.5	3.5	8.5	11.3
	95% CI	*4.2–12.9*	*0.8–14.6*	*4.0–16.8*	*4.5–25.6*
Residential location					
Capital city	% of people	3.3	1.3	2.2	7.5
	95% CI	*1.8–6.1*	*0.1–9.9*	*0.7–6.2*	*3.6–14.7*
Other places	% of people	9.6	2.1	10.3	18.1
	95% CI	*6.0–14.9*	*0.3–15.3*	*5.4–18.8*	*9.6–31.5*
Postcode socioeconomic status					
Lowest	% of people	8.6	0.0	8.1	19.1
	95% CI	*4.8–14.9*	—	*4.9–13.1*	*9.3–35.2*
Middle	% of people	8.1	3.2	11.9	10.4
	95% CI	*3.8–16.5*	*0.4–23.0*	*4.1–30.3*	*3.9–24.9*
Highest	% of people	4.3	1.4	1.9	11.7
	95% CI	*2.2–8.2*	*0.2–11.0*	*0.5–7.5*	*4.7–26.0*
Government health card					
Health care card or pensioner concession card	% of people	8.3	1.9	7.2	13.2
	95% CI	*4.6–14.6*	*0.2–13.5*	*2.2–21.1*	*7.2–22.9*
Neither card	% of people	5.6	1.7	6.7	11.0
	95% CI	*3.3–9.4*	*0.2–11.8*	*3.2–13.6*	*4.8–23.1*
Place of last dental visit					
Cardholder/Public	% of people	6.7	6.9	6.2	6.8
	95% CI	*2.4–17.3*	*0.8–41.9*	*0.8–35.5*	*1.6–25.2*
Cardholder/Non-public	% of people	8.9	0.0	7.6	15.1
	95% CI	*4.6–16.3*	—	*1.7–27.7*	*7.9–27.1*
Non-cardholder/Non-public	% of people	5.6	1.7	6.7	11.0
	95% CI	*3.3–9.4*	*0.2–11.8*	*3.2–13.6*	*4.8–23.1*
Dental insurance					
Insured	% of people	5.1	0.0	5.8	9.7
	95% CI	*2.4–10.3*	—	*2.2–14.0*	*4.5–19.9*
Uninsured	% of people	8.9	3.3	8.7	17.1
	95% CI	*5.6–13.9*	*0.7–14.4*	*3.8–18.8*	*9.1–29.8*

(a) 95% CI = 95% confidence interval for estimated percentage.

Percentage of people with one or more filled teeth

Fillings for treatment of tooth decay leave permanent marks on the teeth and are one measure of people's lifetime experience of decay. Filled teeth also indicate patterns of dental treatment and access to dental care. The prevalence of filled teeth in Tasmania was 87.4% (Table 11), which is slightly higher than the Australian population figure (83.9%) (Slade et al. 2007).

Key findings

- Prevalence of filled teeth was significantly associated with age; among people aged 35–54 years, it was 1.3 times that of those in the 15–34 years age group (95.8% versus 74.7%).
- Among people of all ages, the highest prevalence was seen among people with private dental insurance (95.1%), and the lowest among people who had a government health card (76.2%).
- Government health cardholder status was significantly associated with prevalence of filled teeth, with non-cardholders having 1.2 times the prevalence compared with cardholders (93.8% versus 76.2%).
- Prevalence of filled teeth was significantly associated with place of last dental visit, with those who did not have a government health card who last visited a non-public practitioner having the highest prevalence (93.8%), significantly higher than that of people who did have a government health card whose last visit was at a public clinic (69.8%).
- Dental insurance was significantly associated with percentage of people having filled teeth, with insured people having 1.2 times the prevalence compared with the uninsured (95.1% versus 80.2%).

Discussion

The percentage of people with filled teeth relates to lifetime experience of dental decay, and hence is associated with age. Prevalence also reflects access to timely dental care, and type of care used to treat caries being a restoration rather than an extraction.

In summary, prevalence of filled teeth varied by age, government health cardholder status, place of last dental visit and dental insurance status.

Table 11: Percentage of people with one or more filled teeth

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**87.4**	**74.7**	**95.8**	**91.9**
	95% CI[(a)]	*80.7–92.0*	*55.3–87.5*	*88.1–98.6*	*85.6–95.5*
Sex					
Males	% of people	86.8	74.5	95.0	90.8
	95% CI	*73.7–93.9*	*42.0–92.2*	*76.2–99.1*	*82.1–95.5*
Females	% of people	88.0	74.8	96.5	93.1
	95% CI	*82.9–91.8*	*59.1–85.9*	*90.8–98.7*	*82.0–97.5*
Residential location					
Capital city	% of people	89.5	82.4	93.6	92.8
	95% CI	*73.8–96.2*	*38.5–97.2*	*74.0–98.7*	*86.3–96.3*
Other places	% of people	85.7	68.5	97.4	91.1
	95% CI	*79.1–90.5*	*46.9–84.3*	*92.4–99.1*	*79.7–96.4*
Postcode socioeconomic status					
Lowest	% of people	81.8	51.1	97.6	89.5
	95% CI	*73.7–87.8*	*25.0–76.6*	*92.1–99.3*	*76.8–95.6*
Middle	% of people	93.8	92.3	97.6	91.6
	95% CI	*87.8–96.9*	*76.8–97.7*	*85.3–99.7*	*75.8–97.4*
Highest	% of people	86.0	72.9	92.7	94.0
	95% CI	*70.7–94.0*	*37.9–92.2*	*71.4–98.5*	*86.2–97.5*
Government health card					
Health care card or pensioner concession card	% of people	76.2	43.3	94.0	88.2
	95% CI	*60.6–86.9*	*16.5–74.7*	*83.2–98.0*	*79.0–93.7*
Neither card	% of people	93.8	88.3	96.3	99.4
	95% CI	*89.0–96.6*	*76.9–94.5*	*84.7–99.2*	*95.6–99.9*
Place of last dental visit					
Cardholder/Public	% of people	69.8	39.1	93.2	77.3
	95% CI	*47.7–85.4*	*9.3–80.1*	*61.2–99.2*	*54.5–90.6*
Cardholder/Non-public	% of people	78.3	44.8	94.3	91.4
	95% CI	*57.0–90.8*	*13.4–81.1*	*79.2–98.6*	*84.6–95.3*
Non-cardholder/Non-public	% of people	93.8	88.3	96.3	99.4
	95% CI	*89.0–96.6*	*76.9–94.5*	*84.7–99.2*	*95.6–99.9*
Dental insurance					
Insured	% of people	95.1	91.7	98.9	93.1
	95% CI	*91.9–97.1*	*85.3–95.5*	*95.8–99.7*	*82.2–97.5*
Uninsured	% of people	80.2	59.6	96.3	90.6
	95% CI	*67.1–89.0*	*34.0–80.9*	*88.8–98.9*	*82.0–95.3*

(a) 95% CI = 95% confidence interval for estimated percentage.

Average number of decayed, missing and filled teeth per person

The number of decayed, missing because of pathology, and filled teeth (DMFT) reflects a person's lifetime experience of dental caries. In this survey all missing teeth in people aged 45 years or more were counted as missing due to pathology, while for people aged less than 45 years, the count only included teeth where the examiner judged that dental decay or gum disease was the likely reason for the extraction. The average DMFT number in Tasmania was 13.4 teeth (Table 12), which is the slightly higher than that for the Australian population (12.8 teeth) (Slade et al. 2007).

Key findings

- The average number of affected teeth was significantly associated with age, being highest in people aged 55 years or more (23.4 teeth). This was 1.7 times that of the 35–44-year-olds (14.1 teeth) and five times that of those in the 15–34 years age group (4.9 teeth).
- Among people of all ages, the highest average was seen among government health cardholders who last attended a non-public clinic (15.5 teeth), and the lowest among non-cardholders who last visited a non-public clinic (12.4 teeth).
- Caries experience was not significantly associated with any of the sociodemographic variables examined, as indicated by the overlapping of 95% CIs.
- While not reaching statistical significance, a number of trends may be discerned in the results in relation to sociodemographic factors. It appeared that higher DMFT scores were seen among cardholders than non-cardholders (15.3 versus 12.4 teeth).

Discussion

The average number of teeth with caries experience over a lifetime is a cumulative score, and hence is strongly associated with age. The lack of statistical association between average number of teeth with caries experience and indicators of social disadvantage may be related to insufficient numbers to detect small differences.

Table 12: Average number of decayed, missing or filled teeth per person

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**mean**	**13.4**	**4.9**	**14.1**	**23.4**
	95% CI[(a)]	*12.2–14.7*	*3.2–6.7*	*12.8–15.3*	*22.6–24.3*
Sex					
Males	mean	13.4	4.9	13.6	23.4
	95% CI	*11.2–15.5*	*1.8–8.0*	*11.8–15.4*	*22.2–24.6*
Females	mean	13.5	4.9	14.5	23.5
	95% CI	*12.2–14.9*	*3.0–6.9*	*13.0–16.1*	*22.3–24.6*
Residential location					
Capital city	mean	13.0	4.3	13.3	23.3
	95% CI	*11.0–15.0*	*2.7–6.0*	*11.7–14.9*	*22.3–24.2*
Other places	mean	13.8	5.4	14.7	23.6
	95% CI	*12.3–15.3*	*2.7–8.1*	*12.9–16.4*	*22.3–24.9*
Postcode socioeconomic status					
Lowest	mean	13.7	3.5	14.2	24.3
	95% CI	*11.5–15.8*	*1.2–5.9*	*12.5–15.8*	*23.0–25.5*
Middle	mean	14.4	7.4	14.4	23.4
	95% CI	*12.2–16.6*	*4.9–9.9*	*11.4–17.5*	*21.7–25.1*
Highest	mean	12.5	3.5	13.7	22.8
	95% CI	*10.6–14.3*	*2.1–4.8*	*12.0–15.4*	*21.9–23.7*
Government health card					
Health care card or pensioner concession card	mean	15.3	3.0	14.6	23.9
	95% CI	*12.2–18.4*	*0.1–5.9*	*11.7–17.5*	*23.0–24.8*
Neither card	mean	12.4	5.8	13.9	22.8
	95% CI	*10.9–13.9*	*3.8–7.7*	*12.6–15.2*	*21.5–24.1*
Place of last dental visit					
Cardholder/Public	mean	14.9	2.5	15.5	24.1
	95% CI	*10.8–18.9*	*<0–5.6*	*10.4–20.6*	*22.2–25.9*
Cardholder/Non-public	mean	15.5	3.2	14.2	23.8
	95% CI	*11.5–19.5*	*<0–6.9*	*10.7–17.8*	*22.8–24.9*
Non-cardholder/Non-public	mean	12.4	5.8	13.9	22.8
	95% CI	*10.9–13.9*	*3.8–7.7*	*12.6–15.2*	*21.5–24.1*
Dental insurance					
Insured	mean	14.3	5.9	14.3	23.8
	95% CI	*12.8–15.8*	*3.5–8.4*	*12.8–15.7*	*22.7–24.9*
Uninsured	mean	12.7	4.0	14.5	23.0
	95% CI	*10.6–14.9*	*2.3–5.7*	*12.7–16.3*	*21.9–24.2*

(a) 95% CI = 95% \ confidence interval for estimated percentage.

Prevalence of moderate or severe periodontitis

A case definition of periodontitis has been developed jointly by the US Centers for Disease Control and Prevention (CDC) and the American Academy of Periodontology (AAP) to describe prevalence of moderate and severe periodontitis. The CDC/AAP defines moderate periodontitis as the presence of either two sites between adjacent teeth where the gum has lost its attachment to the tooth for 4 mm or more, or at least two such sites that have pockets of 5 mm or more. Severe periodontitis has been defined as having at least two sites between adjacent teeth where the gum has lost its attachment to the tooth for 6 mm or more, and there is at least one pocket of 5 mm or greater depth. Table 13 reports estimates of a combined moderate or severe periodontitis. In Tasmania, a total of 29.5% of the dentate population had moderate or severe periodontitis (Table 13), which was significantly higher than the national estimate of 22.9% (Slade et al. 2007).

Key findings

- The prevalence of moderate or severe periodontitis was strongly associated with age, being negligible in 15–34-year-old adults but affecting 34.5% of middle-aged Tasmanian adults and 58.1% of those aged 55 years or more. The difference between the three age groups was statistically significant.
- Residents in regional parts of the state were more likely to have periodontitis compared with Hobart's residents. The difference was significant in the oldest age group.
- The prevalence of periodontitis in people who had a government health card was higher than in those who did not. The difference was borderline non-significant when only cardholder status was considered. However, those people who had a government health card and attended a public dental care service had significantly higher prevalence of periodontitis compared with non-cardholders.

Discussion

Components of periodontal disease measurement reflect both concurrent disease state and historical accumulation of the disease. Therefore, a strong association with age was fully expected. Because periodontitis was more prevalent in the middle-aged and older people, comparisons between the population groups were observed most clearly in those age groups.

In summary, moderate or severe periodontitis affected one-quarter of the Tasmanian adult population, with the highest proportion of those affected being in the older age group. The disease was most likely to be observed in the residents of regional areas. There was also a trend of higher likelihood of the disease among people in a lower socioeconomic position.

Table 13: Percentage of people with moderate or severe periodontitis

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**29.5**	**2.6**	**34.5**	**58.1**
	95% CI[(a)]	*24.6–34.8*	*0.6–10.1*	*25.1–45.3*	*47.1–68.2*
Sex					
Males	% of people	30.8	0.0	35.8	64.3
	95% CI	*22.8–40.1*	—	*21.2–53.7*	*46.5–78.8*
Females	% of people	28.2	5.3	33.3	51.6
	95% CI	*22.3–35.0*	*1.4–18.4*	*22.1–46.8*	*42.7–60.5*
Residential location					
Capital city	% of people	22.3	3.0	29.7	39.5
	95% CI	*15.7–30.7*	*0.5–17.0*	*17.7–45.4*	*26.5–54.3*
Other places	% of people	34.7	2.3	37.6	72.4
	95% CI	*28.1–42.0*	*0.3–16.5*	*24.6–52.6*	*59.7–82.3*
Postcode socioeconomic status					
Lowest	% of people	40.4	0.0	47.2	66.4
	95% CI	*29.5–52.4*	—	*30.8–64.2*	*50.5–79.3*
Middle	% of people	27.7	3.4	25.2	64.9
	95% CI	*19.9–37.2*	*0.4–23.4*	*9.1–53.2*	*44.9–80.7*
Highest	% of people	22.8	3.2	29.2	44.5
	95% CI	*17.2–29.7*	*0.5–17.5*	*20.4–39.8*	*26.4–64.1*
Government health card					
Health care card or pensioner concession card	% of people	40.1	0.0	37.6	67.3
	95% CI	*31.4–49.4*	—	*22.6–55.4*	*58.3–75.3*
Neither card	% of people	23.7	3.6	33.5	44.2
	95% CI	*17.0–31.9*	*0.9–13.3*	*22.6–46.5*	*28.1–61.6*
Place of last dental visit					
Cardholder/Public	% of people	59.1	0.0	74.9	68.4
	95% CI	*42.6–73.7*	—	*37.2–93.8*	*48.0–83.5*
Cardholder/Non-public	% of people	35.1	0.0	22.4	67.1
	95% CI	*24.8–47.0*	—	*10.0–42.9*	*55.8–76.7*
Non-cardholder/Non-public	% of people	23.7	3.6	33.5	44.2
	95% CI	*17.0–31.9*	*0.9–13.3*	*22.6–46.5*	*28.1–61.6*
Dental insurance					
Insured	% of people	28.8	2.7	36.1	49.1
	95% CI	*20.4–38.9*	*0.4–15.6*	*21.8–53.3*	*32.8–65.6*
Uninsured	% of people	30.4	2.6	32.2	68.7
	95% CI	*23.4–38.3*	*0.3–16.9*	*19.0–48.9*	*56.3–79.0*

(a) 95% CI = 95% confidence interval for estimated percentage.

Prevalence of deep pocket depth

Deep periodontal pockets have been defined as 4 mm or more. The depth of the pocket, measured in millimetres using a periodontal probe, is an indication of the severity of the destructive process. In Tasmania, a total of 22.3% of the dentate adult population had at least one site with periodontal pocket depth of 4 mm or more (Table 14), which was higher, but not significantly, than the national estimate of 19.8% (Slade et al. 2007).

Key findings

- There was a tendency that prevalence of deep periodontal pocket increased with age. The oldest age group had the highest prevalence of the condition, and the difference was significant between the youngest and middle-aged groups.
- The prevalence of deep periodontal pockets was significantly higher among people who had a government health card and had visited a public dental care service at their last visit compared with those who did not have a government health card.
- This trend remained significant among the middle-aged and oldest age groups.

Discussion

The depth of periodontal pockets reflects a more current activity of periodontal inflammation. This activity may be more dependent on oral hygiene status, which was found to not vary widely between groups.

In summary, there was a tendency of higher prevalence of deep periodontal pockets among people who were in a lower socioeconomic position.

Table 14: Percentage of people with 4+ mm periodontal pocket depth

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**22.3**	**7.3**	**36.2**	**22.2**
	95% CI[(a)]	*16.4–29.7*	*2.5–20.0*	*26.2–47.6*	*14.7–32.1*
Sex					
Males	% of people	27.3	10.7	47.1	21.8
	95% CI	*17.5–39.8*	*2.5–35.6*	*30.7–64.2*	*11.3–37.9*
Females	% of people	17.5	3.9	26.1	22.6
	95% CI	*12.3–24.2*	*1.0–14.7*	*15.8–40.0*	*13.4–35.6*
Residential location					
Capital city	% of people	24.6	10.0	43.9	19.7
	95% CI	*15.3–37.0*	*2.6–31.6*	*31.1–57.7*	*10.1–34.9*
Other places	% of people	20.7	5.1	31.4	24.1
	95% CI	*13.6–30.1*	*0.7–28.8*	*18.7–47.7*	*14.1–37.9*
Postcode socioeconomic status					
Lowest	% of people	32.0	14.1	42.2	29.9
	95% CI	*20.5–46.0*	*2.9–47.5*	*20.2–67.8*	*17.9–45.4*
Middle	% of people	16.2	0.0	30.2	22.9
	95% CI	*9.1–27.2*	—	*16.7–48.1*	*10.8–42.0*
Highest	% of people	20.6	10.8	35.1	15.4
	95% CI	*12.6–31.9*	*3.0–32.7*	*25.2–46.5*	*6.1–33.7*
Government health card					
Health care card or pensioner concession card	% of people	24.8	2.2	43.0	27.9
	95% CI	*17.6–33.7*	*0.3–16.1*	*25.1–63.0*	*17.6–41.2*
Neither card	% of people	21.2	9.3	34.1	15.0
	95% CI	*14.1–30.6*	*2.6–27.7*	*23.7–46.2*	*8.1–26.0*
Place of last dental visit					
Cardholder/Public	% of people	55.9	17.7	75.5	53.8
	95% CI	*35.7–74.2*	*2.0–69.9*	*51.0–90.1*	*32.0–74.3*
Cardholder/Non-public	% of people	16.6	0.0	29.8	21.1
	95% CI	*10.0–26.5*	—	*12.0–56.9*	*10.9–37.1*
Non-cardholder/Non-public	% of people	21.2	9.3	34.1	15.0
	95% CI	*14.1–30.6*	*2.6–27.7*	*23.7–46.2*	*8.1–26.0*
Dental insurance					
Insured	% of people	20.9	7.8	32.1	19.1
	95% CI	*13.6–30.7*	*1.9–27.6*	*20.1–46.9*	*10.4–32.5*
Uninsured	% of people	24.1	6.9	42.6	25.9
	95% CI	*16.6–33.5*	*1.4–27.6*	*28.2–58.3*	*16.1–38.8*

(a) 95% CI = 95% confidence interval for estimated percentage.

Prevalence of 4+ mm clinical attachment loss

Clinical attachment loss (CAL) is the loss of supporting periodontal structure around the tooth. Attachment may be lost through gum recession or the development of periodontal pockets from the inflammatory disease periodontitis. In NSAOH, CAL was measured using a combination of gum recession and periodontal probing depth on three sites per tooth. In Tasmania, a total of 45.2% of dentate adults had at least one site with 4 mm or more CAL (Table 15), which was higher, but not significantly, than the national estimate of 42.5% (Slade et al. 2007).

Key findings

- The prevalence of 4+ mm CAL was strongly associated with age, being 14.2% in 15–34-year-old adults but affecting 52.8% of middle-aged Tasmanian adults and 75.7% of those aged 55 years or more. The differences between age groups were statistically significant.
- There was a tendency that males had higher prevalence of CAL of 4+ mm compared with females. However, the difference was not statistically significant.
- People who were government health cardholders had significantly higher prevalence of clinical attachment loss of 4+ mm.
- This difference was exacerbated when comparing people who attended a public care dental service with those who were non-cardholders.
- There was a tendency that people who did not have private insurance were more likely to have CAL of 4+ mm. However, the difference was not statistically significant.

Discussion

Clinical attachment loss reflects an accumulation of activity of periodontal inflammation as well as a physiological process in the gums. Therefore, a strong age effect was observed. This condition was highly prevalent in certain groups of the oldest population.

In summary, clinical attachment loss was highly prevalent in this population. It was more likely to occur in the older population and among people with lower socioeconomic status.

Table 15: Percentage of people with 4+ mm clinical attachment loss

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**45.2**	**14.2**	**52.8**	**75.7**
	95% CI[(a)]	*38.4–52.2*	*5.7–31.2*	*42.4–62.9*	*67.6–82.3*
Sex					
Males	% of people	52.6	21.7	60.6	82.1
	95% CI	*39.2–65.5*	*6.2–53.8*	*40.8–77.4*	*67.8–90.9*
Females	% of people	37.9	6.5	45.5	69.1
	95% CI	*31.2–45.1*	*2.1–18.6*	*32.0–59.7*	*58.5–78.0*
Residential location					
Capital city	% of people	42.8	22.3	48.7	63.5
	95% CI	*33.0–53.2*	*7.1–51.9*	*37.2–60.4*	*52.5–73.3*
Other places	% of people	46.9	7.5	55.3	85.1
	95% CI	*37.6–56.4*	*1.7–27.4*	*39.8–69.8*	*74.5–91.7*
Postcode socioeconomic status					
Lowest	% of people	55.3	14.1	61.4	83.3
	95% CI	*43.6–66.5*	*2.9–47.5*	*40.5–78.8*	*66.8–92.5*
Middle	% of people	39.7	3.4	50.5	78.6
	95% CI	*28.6–52.1*	*0.4–23.4*	*31.5–69.3*	*64.3–88.2*
Highest	% of people	42.5	24.1	45.7	66.7
	95% CI	*33.7–51.8*	*8.3–52.9*	*32.6–59.3*	*52.8–78.2*
Government health card					
Health care card or pensioner concession card	% of people	59.5	20.1	63.3	82.4
	95% CI	*52.7–66.0*	*3.8–61.5*	*45.9–77.8*	*73.7–88.7*
Neither card	% of people	37.5	11.9	49.4	65.8
	95% CI	*28.0–48.2*	*4.2–29.5*	*37.0–61.8*	*51.6–77.7*
Place of last dental visit					
Cardholder/Public	% of people	76.3	0.0	94.5	90.2
	95% CI	*57.8–88.3*	—	*70.7–99.2*	*69.7–97.4*
Cardholder/Non-public	% of people	55.1	23.0	50.6	80.4
	95% CI	*45.8–64.1*	*4.5–65.4*	*31.3–69.7*	*70.6–87.5*
Non-cardholder/Non-public	% of people	37.5	11.9	49.4	65.8
	95% CI	*28.0–48.2*	*4.2–29.5*	*37.0–61.8*	*51.6–77.7*
Dental insurance					
Insured	% of people	41.0	9.1	45.9	72.6
	95% CI	*31.7–51.1*	*2.6–27.3*	*31.2–61.4*	*61.1–81.7*
Uninsured	% of people	50.3	19.3	63.1	79.4
	95% CI	*42.8–57.8*	*6.3–45.7*	*47.6–76.3*	*66.7–88.1*

(a) 95% CI = 95% confidence interval for estimated percentage.

Prevalence of gingival inflammation

The gingival index is a measure of gingivitis, inflammation of the gums. Gingivitis occurs as a response to the bacteria in plaque accumulation near the gum line. In NSAOH, gingivitis was assessed on six index teeth. A gingival index score of 2 or more indicated bleeding on probing or spontaneous bleeding and was classified as indicating gingival inflammation (gingivitis). In Tasmania, a total of 13.9% of the dentate adult population had at least one site with a gingival score of 2 or more (Table 16), which was lower, but not significantly, than the national estimate of 19.7% (Slade et al. 2007).

Key findings

- There was a similar rate of gingival inflammation in all age groups.
- Males were more likely to have gingival inflammation compared with females. However, the difference did not reach statistical significance.
- There was a tendency that people in a lower socioeconomic position were more likely to have gingival inflammation. However, the differences were not statistically significant.

Discussion

Gingival inflammation is a condition observed in people of all ages at a similar rate. There was a tendency that people with lower socioeconomic status had higher prevalence of gingival inflammation. However, some differences were small and relatively low numbers of people in each population group made the confidence interval wide, overlapping between most groups.

In summary, gingival inflammation was more likely to affect people with lower socioeconomic status.

Table 16: Percentage of people with gingival inflammation

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**13.9**	**10.2**	**16.0**	**15.9**
	95% CI[(a)]	*10.3–18.7*	*3.8–24.7*	*10.6–23.6*	*10.7–23.1*
Sex					
Males	% of people	16.7	8.6	23.5	17.9
	95% CI	*10.4–25.6*	*1.7–33.6*	*13.8–37.1*	*10.5–28.9*
Females	% of people	11.3	11.8	9.1	13.9
	95% CI	*7.9–15.9*	*4.9–25.7*	*4.4–17.6*	*7.6–24.1*
Residential location					
Capital city	% of people	12.3	10.0	17.8	8.4
	95% CI	*6.7–21.5*	*2.6–31.6*	*11.1–27.2*	*3.5–18.7*
Other places	% of people	15.2	10.3	14.9	21.9
	95% CI	*10.8–20.8*	*2.4–34.8*	*7.9–26.5*	*14.0–32.5*
Postcode socioeconomic status					
Lowest	% of people	17.1	21.9	15.7	15.2
	95% CI	*10.3–27.2*	*4.0–65.2*	*7.6–29.9*	*4.9–38.3*
Middle	% of people	7.9	3.4	3.5	19.1
	95% CI	*5.0–12.3*	*0.4–23.4*	*0.4–22.6*	*12.6–27.9*
Highest	% of people	17.1	10.8	26.8	13.2
	95% CI	*11.4–24.9*	*3.0–32.7*	*21.8–32.5*	*6.1–26.4*
Government health card					
Health care card or pensioner concession card	% of people	12.2	5.7	6.3	20.0
	95% CI	*7.7–18.8*	*1.1–23.9*	*2.0–18.1*	*11.4–32.7*
Neither card	% of people	14.9	11.9	19.2	10.9
	95% CI	*9.8–22.1*	*3.8–31.4*	*12.1–29.0*	*4.1–25.9*
Place of last dental visit					
Cardholder/Public	% of people	20.7	45.0	12.0	18.8
	95% CI	*11.3–34.9*	*12.8–81.9*	*2.9–38.5*	*6.3–44.3*
Cardholder/Non-public	% of people	9.9	0.0	4.0	20.4
	95% CI	*5.8–16.5*	—	*0.6–22.7*	*11.7–33.0*
Non-cardholder/Non-public	% of people	14.9	11.9	19.2	10.9
	95% CI	*9.8–22.1*	*3.8–31.4*	*12.1–29.0*	*4.1–25.9*
Dental insurance					
Insured	% of people	12.4	7.8	15.4	13.3
	95% CI	*7.7–19.4*	*1.9–27.6*	*8.0–27.4*	*6.7–24.8*
Uninsured	% of people	15.8	12.6	17.0	19.0
	95% CI	*10.7–22.7*	*3.6–35.8*	*9.0–29.8*	*10.8–31.2*

(a) 95% CI = 95% confidence interval for estimated percentage.

4 Oral health care

Dental attendance within the preceding 12 months

Time since last visiting a dentist is a key indicator of access to dental care. In NSAOH, the time since last dental visit was assessed in the interview by asking 'How long ago did you last see a dental professional about your teeth, dentures or gums?'. Five responses were possible including 'Less than 12 months'. In Tasmania, 50.0% of people aged 15 years or more had visited a dentist within the last 12 months (Table 17), which was significantly lower than the national estimate of 59.4% (Slade et al. 2007).

Key findings

- Among age groups, adults aged 35–54 years were most likely to report dental attendance within the last 12 months (55.4%) although this was not significantly different from the youngest (47.3%) and oldest age groups (46.6%).
- The percentage was similar for males and females (47.4% versus 52.4%). Within age groups, the largest difference between the sexes occurred for adults aged 15–34 years (41.3% versus 53.4%) although this difference was not significant.
- Dental attendance among Hobart residents was slightly more frequent than among people living in the rest of Tasmania (53.2% versus 47.6%). Adults aged 55 years or more who lived in regional areas reported the lowest percentage (39.8%), much lower than Hobart residents of the same age (56.6%).
- Socioeconomic area had little impact, with those living in low socioeconomic postcodes almost as likely to have visited in the last 12 months as people living in high socioeconomic postcodes (50.6% versus 55.8%). Within age groups, visiting behaviour was inconsistent and showed no obvious pattern.
- Government health cardholders recorded much lower percentages than non-cardholders (37.9% versus 56.1%). Large differences were evident in the 15–34 years (28.5% versus 51.9%) and 55 years or more (37.5% versus 61.2%) age groups.
- Among people who had a government health card, the percentage was similar between those who attended a public practice at their last dental visit and those who attended a private practice (34.6% versus 39.3%). However, within age groups, only 22.0% of cardholders aged 15–34 years who last visited a public practice reported recently visiting a dentist.
- Insured people were more likely than the uninsured to have recently visited a dentist (58.4% versus 40.3%). Significant differences were evident in the 35–54 years and 55 years or more age groups

Discussion

One in two Tasmanian residents aged 15 years or more visited a dentist within the last 12 months. Being a non-government health cardholder and having dental insurance were associated with regular dental visiting. Differences between population groups were most evident in adults aged 55 years or more.

Table 17: Percentage of people visiting dentist within last 12 months

		Population: all people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**50.0**	**47.3**	**55.4**	**46.6**
	95% CI[(a)]	*45.8–54.1*	*39.8–54.9*	*49.7–61.0*	*40.7–52.7*
Sex					
Males	% of people	47.4	41.3	54.1	45.9
	95% CI	*41.2–53.6*	*29.5–54.1*	*46.5–61.6*	*37.8–54.3*
Females	% of people	52.4	53.4	56.6	47.3
	95% CI	*47.3–57.5*	*43.1–63.3*	*49.2–63.7*	*40.7–53.9*
Residential location					
Capital city	% of people	53.2	47.9	55.1	56.6
	95% CI	*46.7–59.6*	*36.0–60.1*	*46.1–63.7*	*46.3–66.3*
Other places	% of people	47.6	46.8	55.6	39.8
	95% CI	*42.1–53.1*	*37.3–56.6*	*48.2–62.8*	*33.5–46.5*
Postcode socioeconomic status					
Lowest	% of people	50.6	46.3	62.5	40.4
	95% CI	*45.1–56.1*	*36.8–56.1*	*51.4–72.5*	*32.4–49.0*
Middle	% of people	42.7	42.4	50.6	35.2
	95% CI	*34.6–51.1*	*26.8–59.7*	*40.9–60.4*	*28.3–42.8*
Highest	% of people	55.8	51.8	52.6	63.8
	95% CI	*49.8–61.5*	*39.7–63.6*	*45.1–60.1*	*55.8–71.1*
Government health card					
Health care card or pensioner concession card	% of people	37.9	28.5	48.3	37.5
	95% CI	*33.6–42.5*	*15.9–45.6*	*38.3–58.4*	*31.7–43.6*
Neither card	% of people	56.1	51.9	57.3	61.2
	95% CI	*50.8–61.3*	*42.4–61.3*	*50.7–63.7*	*53.3–68.6*
Place of last dental visit					
Cardholder/Public	% of people	34.6	22.0	55.5	30.3
	95% CI	*26.1–44.2*	*7.1–51.2*	*37.8–71.9*	*17.1–47.6*
Cardholder/Non-public	% of people	39.3	34.1	43.9	39.2
	95% CI	*34.4–44.5*	*18.3–54.6*	*31.4–57.2*	*32.6–46.2*
Non-cardholder/Non-public	% of people	56.1	51.9	57.3	61.2
	95% CI	*50.8–61.3*	*42.4–61.3*	*50.7–63.7*	*53.3–68.6*
Dental insurance					
Insured	% of people	58.4	47.4	63.4	61.1
	95% CI	*51.9–64.5*	*33.1–62.1*	*56.4–69.9*	*52.3–69.2*
Uninsured	% of people	40.3	43.0	45.5	33.1
	95% CI	*35.4–45.4*	*33.4–53.1*	*35.2–56.2*	*26.1–40.9*

(a) 95% CI = 95% confidence interval for estimated percentage.

Attendance at private dental practice

While most Australians obtain dental care at private dental practices, alternatives exist in the public sector for targeted population groups. The two largest public programs are school dental services targeted to children; and adult public programs provided through dental hospitals, community health centres and regional facilities, and targeted to adults holding a government concession card. In NSAOH, people were asked 'Where did you make your last dental visit?', and seven responses were offered. People who reported having visited a general dental practice, a specialist dental practice or a dental clinic associated with a health insurance fund were classified as having attended a private dental practice. In Tasmania, 76.5% of people aged 15 years or more attended a private practice at their last dental visit (Table 18), significantly lower than the national estimate of 83.1% (Slade et al. 2007).

Key findings

- Among age groups, 15–34 year-olds were least likely to have visited a private practice at their last dental visit (64.5%), significantly lower than that reported for 35–54-year-olds (85.0%).
- The percentages for males and females were very similar (74.5% versus 78.5%). Males aged 15–34 years (53.9%) were the least likely group to have attended a private practice at their last visit.
- The percentage was higher for Hobart residents than people living in the rest of Tasmania (85.6% versus 76.2%) although this difference was not statistically significant. Similar differences by residential location were also evident within each age group.
- Residents living in high socioeconomic postcodes were more likely to have visited a private practice than those living in postcodes of low socioeconomic status (85.3% versus 68.2%). Large differences by socioeconomic status were evident in all age groups although these differences were only statistically significant for 35–54-year-olds.
- Despite having a government health card, 60.8% of cardholders reported that they visited a private practice at their last dental visit. Among government health cardholders, the percentage was lower for 15–34 year-olds (49.5%) but this was not significantly different from age groups that had government health cards.
- Insured people were far more likely to have visited a private practice at their last dental visit than those without dental insurance (91.2% versus 63.0%). Significant differences between insurance groups were also evident within each age group.

Discussion

Over three-quarters of Tasmania residents aged 15 years or more visited a private practice at their last dental visit. Dental insurance was strongly associated with private visiting, and living in areas of high socioeconomic status was moderately associated. The percentage was lowest for young adults, which may be due to them having visited the school dental service at their last visit. Despite having a government health card, over 6 in 10 cardholders attended a private practice at their last dental visit, and this may be due to long public waiting lists.

Table 18: Percentage of people who attended a private dental practice at last dental visit

		Population: all people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**76.5**	**64.5**	**85.0**	**78.7**
	95% CI[(a)]	*72.8–79.9*	*55.6–72.4*	*80.5–88.6*	*73.6–83.0*
Sex					
Males	% of people	74.5	53.9	89.3	78.1
	95% CI	*67.7–80.3*	*40.7–66.5*	*82.5–93.6*	*69.0–85.1*
Females	% of people	78.5	74.8	80.9	79.2
	95% CI	*74.2–82.2*	*64.3–83.1*	*74.7–85.8*	*74.4–83.3*
Residential location					
Capital city	% of people	80.5	67.7	89.2	84.1
	95% CI	*72.3–86.8*	*50.5–81.2*	*80.6–94.3*	*75.3–90.2*
Other places	% of people	73.6	61.8	81.9	74.9
	95% CI	*70.3–76.6*	*53.5–69.4*	*76.2–86.5*	*68.7–80.2*
Postcode socioeconomic status					
Lowest	% of people	68.2	52.7	75.5	73.2
	95% CI	*65.3–71.0*	*38.2–66.7*	*68.5–81.4*	*64.8–80.2*
Middle	% of people	74.6	58.8	87.6	75.1
	95% CI	*70.9–78.0*	*48.0–68.8*	*81.2–92.1*	*66.5–82.1*
Highest	% of people	85.3	77.0	91.7	87.3
	95% CI	*77.8–90.5*	*61.8–87.3*	*86.6–95.0*	*79.8–92.2*
Government health card					
Health care card or pensioner concession card	% of people	60.8	49.5	54.3	67.1
	95% CI	*54.3–66.9*	*30.8–68.3*	*40.3–67.6*	*60.1–73.5*
Neither card	% of people	84.7	68.6	92.8	96.0
	95% CI	*79.4–88.8*	*57.9–77.7*	*89.4–95.1*	*91.9–98.1*
Dental insurance					
Insured	% of people	91.2	83.3	95.3	92.3
	95% CI	*87.6–93.7*	*72.1–90.6*	*89.2–98.0*	*87.9–95.2*
Uninsured	% of people	63.0	52.5	70.8	65.8
	95% CI	*57.9–67.8*	*41.4–63.3*	*62.7–77.7*	*59.0–72.0*

(a) 95% CI = 95% confidence interval for estimated percentage.

Payments by patients for dental care

While the place of last visit was dominated by private practice, some visits made to private dentists are paid for by public funds. In order to identify such visits, NSAOH participants who had a government health card and who had visited a dentist within the last 5 years were asked 'Did the government or an insurance fund pay any part of the expense for your last dental visit?'. A number of response options were available including 'Paid all own expenses', 'Insurance paid some—patient paid some', 'Insurance paid all', 'Government paid some—patient paid some' and 'Government paid all'. People who reported one of the first three payment mechanisms were classified as having paid for their care, together with people who were non-government health cardholders and had visited within the last 5 years. In Tasmania, 90.7% of people aged 15 years or more who had seen a dentist within the preceding 5 years paid for that visit (Table 19). This estimate was not significantly different from the national estimate of 91.4% (Slade et al. 2007).

Key findings

- There was little variation across age groups in the percentage of Tasmanian residents reporting they had paid for their last dental visit.
- The percentage did not vary significantly between males and females (91.3% versus 90.2%). Within age groups, variations between the sexes remained small.
- Residential location had no influence, with 91.4% of Hobart residents and 90.2% of other Tasmanian residents reporting they had paid for their last dental visit.
- The percentage was lower for people living in low socioeconomic postcodes than people living in high socioeconomic postcodes (85.2% versus 93.4%) although the difference was not statistically significant. Similar results were evident within each age group.
- Despite having a government health card, 69.7% of cardholders who visited a dentist within the preceding 5 years paid for their last dental visit. The percentage was higher for government health cardholders aged 55 years (77.6%).
- Virtually all insured people paid for their last dental visit compared with 81.1% of uninsured people. Within the uninsured population, those aged 15–34 years reported the highest percentage (89.4%).

Discussion

The majority of adults who have a government health card pay for their own dental care.

Table 19: Percentage of people who paid for their last dental visit

		Population: people who visited dentist within last 5 years Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**90.7**	**93.9**	**90.7**	**87.6**
	95% CI[(a)]	*87.4–93.2*	*88.2–96.9*	*85.9–93.9*	*82.0–91.6*
Sex					
Males	% of people	91.3	94.6	92.4	86.4
	95% CI	*86.3–94.5*	*83.1–98.4*	*83.7–96.7*	*78.2–91.9*
Females	% of people	90.2	93.3	89.1	88.6
	95% CI	*86.7–92.9*	*86.6–96.7*	*82.7–93.3*	*83.7–92.2*
Residential location					
Capital city	% of people	91.4	92.9	92.7	88.1
	95% CI	*85.0–95.2*	*81.0–97.5*	*85.1–96.6*	*76.7–94.3*
Other places	% of people	90.2	94.8	89.2	87.2
	95% CI	*86.3–93.1*	*88.0–97.8*	*82.3–93.6*	*80.7–91.8*
Postcode socioeconomic status					
Lowest	% of people	85.2	89.9	82.5	84.2
	95% CI	*78.7–89.9*	*75.5–96.2*	*74.0–88.7*	*73.8–91.0*
Middle	% of people	92.9	95.2	96.5	86.8
	95% CI	*86.9–96.2*	*86.9–98.3*	*92.7–98.3*	*75.0–93.5*
Highest	% of people	93.4	95.7	93.4	90.9
	95% CI	*89.6–95.8*	*84.3–98.9*	*86.3–97.0*	*82.4–95.5*
Government health card					
Health care card or pensioner concession card	% of people	69.7	65.9	54.9	77.6
	95% CI	*61.3–77.0*	*45.1–82.0*	*38.9–70.0*	*68.7–84.5*
Neither card	% of people	100.0	100.0	100.0	100.0
	95% CI	—	—	—	—
Place of last dental visit					
Cardholder/Public	% of people	5.6	0.0	6.8	7.7
	95% CI	*2.4–12.7*	—	*1.9–22.0*	*2.1–24.6*
Cardholder/Non-public	% of people	93.8	100.0	85.9	94.8
	95% CI	*89.7–96.4*	—	*72.9–93.2*	*89.4–97.6*
Non-cardholder/Non-public	% of people	100.0	100.0	100.0	100.0
	95% CI	—	—	—	—
Dental insurance					
Insured	% of people	98.9	98.9	99.5	98.1
	95% CI	*97.3–99.6*	*93.4–99.8*	*97.7–99.9*	*95.2–99.3*
Uninsured	% of people	81.1	89.4	78.0	75.5
	95% CI	*75.0–86.0*	*78.8–95.0*	*67.9–85.6*	*66.9–82.5*

(a) 95% CI = 95% confidence interval for estimated percentage.

Government-subsidised dental care in private sector

In some states and territories, public sector dental programs provide care to people eligible for their services by referring them to private practitioner dentists. The cost of such care is then subsidised by the state or territory dental program. In Tasmania, 1.4% of the adult population received state-subsidised dental care in the private sector (Table 20). This statistic was not reported nationally.

- There was no meaningful variation among age groups in the percentage who received state-subsidised dental care in the private sector.
- Dental insurance status was the only characteristic associated with a significant difference in likelihood of state-subsidised dental care in private practice.

Discussion

Variation in this statistic according to dental insurance reflected similar variation in the distribution of people who were eligible for state dental services.

Table 20: Percentage of people who received government-subsidised dental care in private sector

		Population: people who visited dentist within last 5 years Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**1.4**	**1.3**	**1.4**	**1.7**
	95% CI[(a)]	*0.8–2.7*	*0.3–5.3*	*0.6–3.3*	*0.8–3.7*
Sex					
Males	% of people	1.7	1.7	1.4	1.9
	95% CI	*0.7–3.8*	*0.2–11.8*	*0.4–5.6*	*0.6–5.7*
Females	% of people	1.2	0.9	1.3	1.5
	95% CI	*0.6–2.8*	*0.1–6.4*	*0.4–4.5*	*0.5–4.1*
Residential location					
Capital city	% of people	1.7	2.7	0.2	2.5
	95% CI	*0.7–4.4*	*0.6–11.4*	*0.0–1.9*	*1.0–6.0*
Other places	% of people	1.2	0.0	2.2	1.1
	95% CI	*0.5–2.7*	—	*0.9–5.3*	*0.3–4.8*
Postcode socioeconomic status					
Lowest	% of people	2.7	2.9	3.0	2.0
	95% CI	*1.2–5.8*	*0.4–18.8*	*1.2–7.5*	*0.4–9.0*
Middle	% of people	0.9	1.5	0.4	0.9
	95% CI	*0.2–3.1*	*0.2–9.6*	*0.1–2.4*	*0.1–5.8*
Highest	% of people	0.9	0.0	0.6	2.2
	95% CI	*0.3–2.6*	—	*0.1–3.8*	*0.8–5.7*
Government health card					
Health care card or pensioner concession card	% of people	4.7	6.9	6.5	3.1
	95% CI	*2.6–8.3*	*1.5–26.0*	*2.8–14.6*	*1.4–6.7*
Neither card	% of people	0.0	0.0	0.0	0.0
	95% CI	—	—	—	—
Dental insurance					
Insured	% of people	0.2	0.0	0.0	0.5
	95% CI	*0.0–0.6*	—	—	*0.1–1.9*
Uninsured	% of people	2.7	1.7	3.3	3.1
	95% CI	*1.5–4.9*	*0.2–11.5*	*1.4–7.6*	*1.3–7.5*

(a) 95% CI = 95% confidence interval for estimated percentage.

People's usual pattern of dental visits

While time since last visiting a dentist provides a snapshot of dental visiting behaviour, people's usual dental attendance patterns reflects longer term behaviours and intentions. In NSAOH, people who were dentate were asked 'How often on average do you seek care from a dental professional?', and four categories of response were offered. In Tasmania, 45.5% of people aged 15 years or more usually visit a dentist at least once a year (Table 21), significantly lower than the national estimate of 53.1% (Slade et al. 2007).

Key findings

- There was little variation across age groups in the percentage of Tasmanian residents reporting they usually visit a dentist one or more times a year.
- Females were more likely than males to usually attend annually (50.4% versus 40.7%) although this difference was not statistically significant. Larger differences by sex were observed in the 55 years or more age group (55.6% versus 40.4%).
- Adults living outside the metropolitan area were almost as likely to usually visit a dentist one or more times a year as Hobart residents (44.2% versus 47.1%). Within age groups, the largest difference between residential locations was observed for adults aged 55 years or more (41.0% versus 55.5%) but this difference was not statistically significant.
- Socioeconomic status had little impact on dental visiting behaviour except for those in the oldest age group. Adults aged 55 years or more who lived in high socioeconomic postcodes recorded a much higher percentage compared with residents in low socioeconomic postcodes (66.4% versus 39.3%).
- Residents who had a government health card were less likely to usually visit a dentist one or more times a year than non-cardholders (35.0% versus 49.8%). Within age groups, large differences were evident for those aged 35–54 years (26.0% versus 46.4%) and 55 years or more (38.0% versus 60.2%).
- Among government health cardholders, the percentage was much higher among adults who visited a private practice at their last dental visit than a public practice (42.0% versus 18.0%). For the 55 years or more age group, the difference was nearly eight-fold (44.7% versus 5.7%).
- Insured people were far more likely to usually visit a dentist one or more times a year than the uninsured (56.3% versus 31.6%). Large differences by insurance status were evident for adults aged 35–54 years (55.9% versus 24.4%) and 55 years or more (64.5% versus 27.3%).

Discussion

Approximately 45% of Tasmanian residents aged 15 years or more usually visit the dentist at least once a year. Living in areas of high socioeconomic status, not having a government health card, last visiting a private practice and having dental insurance were all associated with regular dental visiting. Differences between population groups were particularly evident for adults in the oldest age group.

Table 21: Percentage of people who usually visit a dental professional at least once a year

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**45.5**	**46.9**	**42.6**	**47.6**
	95% CI[(a)]	*40.7–50.3*	*39.0–55.0*	*35.3–50.3*	*40.1–55.3*
Sex					
Males	% of people	40.7	44.3	37.5	40.4
	95% CI	*34.5–47.1*	*30.7–58.8*	*26.6–49.9*	*31.3–50.1*
Females	% of people	50.4	49.6	47.7	55.6
	95% CI	*43.9–56.9*	*39.0–60.2*	*39.8–55.7*	*47.2–63.6*
Residential location					
Capital city	% of people	47.1	46.2	41.5	55.5
	95% CI	*38.3–56.1*	*32.6–60.4*	*32.1–51.6*	*43.1–67.3*
Other places	% of people	44.2	47.5	43.5	41.0
	95% CI	*39.4–49.2*	*38.8–56.4*	*33.1–54.4*	*33.0–49.4*
Postcode socioeconomic status					
Lowest	% of people	41.5	45.5	39.8	39.3
	95% CI	*36.5–46.6*	*34.9–56.5*	*31.7–48.5*	*28.5–51.2*
Middle	% of people	44.1	50.5	45.3	34.5
	95% CI	*34.5–54.1*	*37.1–63.9*	*28.8–63.0*	*27.5–42.4*
Highest	% of people	50.0	45.2	42.9	66.4
	95% CI	*41.8–58.1*	*31.6–59.6*	*32.0–54.6*	*58.7–73.3*
Government health card					
Health care card or pensioner concession card	% of people	35.0	37.1	26.0	38.0
	95% CI	*28.3–42.3*	*21.3–56.2*	*16.1–39.3*	*29.7–47.2*
Neither card	% of people	49.8	49.0	46.4	60.2
	95% CI	*44.9–54.8*	*40.6–57.5*	*38.4–54.7*	*50.5–69.0*
Place of last dental visit					
Cardholder/Public	% of people	18.0	24.7	20.9	5.7
	95% CI	*10.1–29.9*	*10.6–47.6*	*6.8–49.0*	*1.2–23.7*
Cardholder/Non-public	% of people	42.0	48.0	29.0	44.7
	95% CI	*34.7–49.7*	*23.6–73.4*	*17.8–43.4*	*36.0–53.8*
Non-cardholder/Non-public	% of people	49.8	49.0	46.4	60.2
	95% CI	*44.9–54.8*	*40.6–57.5*	*38.4–54.7*	*50.5–69.0*
Dental insurance					
Insured	% of people	56.3	48.7	55.9	64.5
	95% CI	*50.3–62.2*	*35.5–62.1*	*46.5–64.9*	*54.8–73.1*
Uninsured	% of people	31.6	40.8	24.4	27.3
	95% CI	*25.6–38.3*	*30.9–51.6*	*17.7–32.7*	*20.6–35.3*

(a) 95% CI = 95% confidence interval for estimated percentage.

Usual attendance at the same dentist

In NSAOH, usual source of care was assessed in the interview by asking people 'Is there a dentist you usually go to for dental care?'. People who answered 'yes, have a usual source of care' were classified as having a dentist they usually attend. In Tasmania, 75.4% of the dentate population aged 15 years or more who visited a dentist within the last 5 years reported having a dentist they usually attend (Table 22), which was lower, but not significantly, than the national estimate of 78.6% (Slade et al. 2007).

Key findings

- A significantly lower percentage of adults in the youngest age group (15–34 years) reported having a dentist they usually attend (64.3%) compared with those aged 35–54 years (81.6%) and 55 years or more (80.4%).
- Among those aged 15–34 years, the percentage was significantly greater among females than males (77.0% versus 51.4%).
- For all ages combined and across age groups, there were no significant differences among groups classified by residential location.
- People living in postcodes with low socioeconomic status were less likely to report a usual source of care compared with those in postcodes with high socioeconomic status (66.2% versus 81.0%). Significant age-specific differences were found among those in low and high socioeconomic postcodes, particularly in the 35–54 years (70.6% versus 87.6%) and 55 years or more (74.9% versus 88.5%) age groups.
- The percentage was significantly lower for people who had a government health card than for those who did not (65.2% versus 79.5%). Statistically significant differences were observed in the 35–54 years (67.0% versus 84.96%) and 55 years or more (70.5% versus 91.1%) age groups
- Within the population of government health cardholders, people whose last dental visit was to the public sector were significantly less likely to report having a dentist they usually attend than those who attended elsewhere (39.0% versus 74.4%). The largest difference occurred in the 55 years or more age group (20.1% versus 80.2%). Note that because 95% CIs were large in the younger age groups, observed differences were not statistically significant.
- The percentage was significantly higher among adults with dental insurance than for the uninsured (86.4% versus 62.2%). Statistically significant differences were observed in the two oldest age groups, 35–54 years (90.2% versus 68.4%) and 55 years or more (90.6% versus 66.3%).

Discussion

In summary, just over three-quarters of Tasmanian adults reported that they usually visit the same dentist. This type of visiting was more frequent among the older age groups, non-government health cardholders and those who were insured.

Choice of an individual dentist is not possible within most public dental clinics.

Table 22: Percentage of people who have a dentist they usually attend

		Population: dentate people who visited dentist within last 5 years Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**75.4**	**64.3**	**81.6**	**80.4**
	95% CI[(a)]	*70.2–79.9*	*54.4–73.2*	*75.3–86.5*	*74.8–85.0*
Sex					
Males	% of people	69.4	51.4	80.4	77.0
	95% CI	*60.9–76.7*	*36.0–66.5*	*70.0–87.8*	*69.4–83.1*
Females	% of people	81.0	77.0	82.6	83.7
	95% CI	*76.1–85.2*	*66.7–84.9*	*75.6–87.9*	*77.0–88.8*
Residential location					
Capital city	% of people	77.2	64.3	85.1	83.5
	95% CI	*67.9–84.5*	*47.7–78.0*	*75.6–91.3*	*76.2–88.9*
Other places	% of people	73.8	64.4	78.9	77.8
	95% CI	*68.0–78.9*	*52.4–74.9*	*70.1–85.6*	*69.9–84.2*
Postcode socioeconomic status					
Lowest	% of people	66.2	53.3	70.6	74.9
	95% CI	*58.5–73.1*	*35.9–70.0*	*62.0–77.9*	*65.2–82.6*
Middle	% of people	77.3	69.8	85.8	75.7
	95% CI	*72.4–81.5*	*59.9–78.1*	*76.6–91.8*	*65.5–83.6*
Highest	% of people	81.0	67.8	87.6	88.5
	95% CI	*71.8–87.7*	*47.7–82.9*	*78.0–93.4*	*84.2–91.8*
Government health card					
Health care card or pensioner concession card	% of people	65.2	51.9	67.0	70.5
	95% CI	*57.5–72.2*	*30.2–72.9*	*54.0–77.8*	*59.7–79.5*
Neither card	% of people	79.5	67.7	84.9	91.1
	95% CI	*73.9–84.2*	*58.6–75.7*	*78.8–89.4*	*86.2–94.4*
Place of last dental visit					
Cardholder/Public	% of people	39.0	46.7	48.8	20.1
	95% CI	*27.3–52.1*	*21.5–73.7*	*33.1–64.8*	*8.6–40.2*
Cardholder/Non-public	% of people	74.4	54.7	77.6	80.2
	95% CI	*66.3–81.1*	*26.8–79.9*	*61.3–88.4*	*72.6–86.1*
Non-cardholder/Non-public	% of people	79.5	67.7	84.9	91.1
	95% CI	*73.9–84.2*	*58.6–75.7*	*78.8–89.4*	*86.2–94.4*
Dental insurance					
Insured	% of people	86.4	76.3	90.2	90.6
	95% CI	*80.4–90.8*	*61.6–86.6*	*84.1–94.1*	*84.5–94.5*
Uninsured	% of people	62.2	53.8	68.4	66.3
	95% CI	*55.4–68.5*	*42.4–64.8*	*58.3–77.0*	*57.4–74.1*

(a) 95% CI = 95% confidence interval for estimated percentage.

Usual dental attendance for a check-up

In NSAOH, dentate people were asked 'Is your usual reason for visiting a dental professional for check-ups or when you have a dental problem?'. In Tasmania, 51.3% of the adult dentate population reported usually visiting a dentist for a check-up (Table 23), which was lower, but not significantly, than the national estimate of 56.2% (Slade et al. 2007).

Key findings

- Although a slightly higher percentage of adults aged 15–34 years reported usually visiting for a check-up (54.4%) compared with those aged 35–54 years (49.1%) and 55 years or more (50.5%), differences between age groups were not statistically significant.
- For all ages combined and across age groups, there were no significant differences among groups classified by sex or residential location.
- The percentage of adults reporting usually visiting for a check-up was significantly lower for people living in low socioeconomic postcodes (41.7%) than high socioeconomic postcodes (60.6%), with statistically significant differences observed in the 35–54 years (37.9% versus 56.4%) and 55 years or more (38.7% versus 65.8%) age groups. Among those aged 55 years or more, people living in postcodes with middle socioeconomic status recorded significantly lower percentage compared with those in postcodes with high socioeconomic status (44.7% versus 65.8%).
- For all ages combined and among those aged 55 years or more, the percentage was significantly lower for adults who had a government health card than for those who did not (39.5% versus 56.2% and 39.7% versus 64.4% respectively).
- Within the population of cardholders, people whose last dental visit was to the public sector were 2.4 times less likely to report usually visiting a dentist for a check-up than those who attended elsewhere (19.9% versus 47.6%). Among those aged 55 years or more, an eight-fold difference was observed (3.7% versus 47.2%). Note that 95% CIs were large in the younger age groups, hence the differences observed in these groups were not statistically significant.
- The percentage was significantly higher among adults with dental insurance than for those without insurance (63.1% versus 36.6%). Statistically significant differences were observed in the 35–54 years (61.5% versus 32.2%) and 55 years or more (68.1% versus 29.2%) age groups.

Discussion

In summary, just over half the Tasmanian adult population usually visit the dentist for a check-up, with this percentage being slightly higher for adults aged 15–34 years. There was significant association with living in high socioeconomic postcodes, not having a government health card and having dental insurance. Dental insurance status showed the strongest association, with check-up visiting more frequent among the insured compared with those without insurance.

Table 23: Percentage of people who usually visit a dentist for a check-up

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**51.3**	**54.4**	**49.1**	**50.5**
	95% CI[(a)]	*46.0–56.6*	*46.8–61.8*	*42.0–56.1*	*44.4–56.6*
Sex					
Males	% of people	47.5	54.2	44.4	43.5
	95% CI	*40.3–54.8*	*42.2–65.7*	*33.3–56.0*	*36.2–51.1*
Females	% of people	55.2	54.6	53.7	58.2
	95% CI	*48.6–61.6*	*43.3–65.4*	*45.9–61.3*	*49.7–66.3*
Residential location					
Capital city	% of people	54.6	54.3	52.9	57.1
	95% CI	*45.3–63.5*	*41.5–66.6*	*43.4–62.3*	*45.7–67.7*
Other places	% of people	48.7	54.5	46.1	44.9
	95% CI	*42.5–55.0*	*45.5–63.1*	*36.2–56.4*	*40.5–49.5*
Postcode socioeconomic status					
Lowest	% of people	41.7	48.8	37.9	38.7
	95% CI	*33.8–50.0*	*33.5–64.4*	*31.1–45.2*	*32.4–45.4*
Middle	% of people	49.7	50.9	52.3	44.7
	95% CI	*39.3–60.0*	*36.5–65.1*	*35.5–68.5*	*37.6–51.9*
Highest	% of people	60.6	61.1	56.4	65.8
	95% CI	*54.9–66.1*	*50.8–70.5*	*49.1–63.5*	*58.8–72.1*
Government health card					
Health care card or pensioner concession card	% of people	39.5	43.1	35.0	39.7
	95% CI	*32.3–47.2*	*27.1–60.6*	*21.0–52.3*	*31.4–48.6*
Neither card	% of people	56.2	57.0	52.3	64.4
	95% CI	*50.0–62.3*	*47.9–65.7*	*44.0–60.5*	*55.7–72.3*
Place of last dental visit					
Cardholder/Public	% of people	19.9	31.3	20.0	3.7
	95% CI	*10.4–34.8*	*13.7–56.6*	*6.6–47.0*	*0.9–14.7*
Cardholder/Non-public	% of people	47.6	53.4	43.6	47.2
	95% CI	*39.4–56.1*	*33.3–72.5*	*24.7–64.5*	*37.8–56.8*
Non-cardholder/Non-public	% of people	56.2	57.0	52.3	64.4
	95% CI	*50.0–62.3*	*47.9–65.7*	*44.0–60.5*	*55.7–72.3*
Dental insurance					
Insured	% of people	63.1	60.6	61.5	68.1
	95% CI	*56.3–69.4*	*47.0–72.7*	*51.9–70.2*	*58.3–76.5*
Uninsured	% of people	36.6	45.5	32.2	29.2
	95% CI	*30.1–43.7*	*32.9–58.7*	*25.0–40.3*	*23.6–35.4*

(a) 95% CI = 95% confidence interval for estimated percentage.

Dental care avoided or delayed due to cost

In NSAOH, cost as a barrier to receipt of dental care was assessed with the question 'During the last 12 months, have you avoided or delayed visiting a dental professional because of the cost?'. People who answered 'yes' were classified as having delayed or avoided dental care due to cost. In Tasmania, they represented 32.6% of the population aged 15 years or more (Table 24), which was slightly higher, but not significantly, than the national estimate of 30.0% (Slade et al. 2007).

Key findings

- There was some age variation in the percentage reporting cost as a barrier to receipt of dental care (35.1% of adults aged 15–34 years and 41.2% of those aged 35–54 years compared with 21.0% of those aged 55 years or more).
- For all ages combined and across age groups, there were no significant differences by sex.
- For all ages combined and across age groups, there were no significant differences among groups classified by residential location. Note that 95% CIs were large in some groups, hence the differences observed were not statistically significant.
- There was little variation in the percentage of adults reporting that they had avoided or delayed care due to cost among groups classified by postcode socioeconomic status. People living in postcodes with low and middle socioeconomic status recorded higher percentages than those in postcodes with high socioeconomic status. Among people aged 55 years or more, the difference was greatest between those living in postcodes with low compared with high socioeconomic status (28.3% versus 14.3%).
- The percentage was higher for adults who had a government health card than for those who did not (36.3% versus 31.0%). This pattern was consistent across all age groups, with statistically significant differences between cardholders and non-cardholders observed in the 55 years or more age group (25.7% versus 14.4%).
- Within the population of government health cardholders, for all ages combined, the percentage was greater for people whose last dental visit was to the public sector than for those who attended elsewhere (48.0% versus 31.6%). This difference was mainly attributable to those aged 55 years or more (52.1% versus 19.3%).
- The percentage of adults reporting that they had avoided or delayed care due to cost was significantly higher among uninsured than insured adults (41.1% versus 24.9%). Statistically significant differences were observed in the 35–54 years (57.4% versus 28.5%) and 55 years or more (27.5% versus 14.1%) age groups.

Discussion

Adults aged 55 years or more were less likely to report they had avoided or delayed dental care due to cost compared with their younger counterparts. Dental insurance was strongly associated with having avoided or delayed receipt of dental care due to cost.

Table 24: Percentage of people who avoided or delayed dental care

		Population: all people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**32.6**	**35.1**	**41.2**	**21.0**
	95% CI[(a)]	*29.0–36.5*	*28.2–42.7*	*33.7–49.1*	*17.3–25.2*
Sex					
Males	% of people	28.7	32.5	35.4	17.5
	95% CI	*23.1–35.1*	*22.7–44.2*	*24.7–47.8*	*12.2–24.4*
Females	% of people	36.3	37.6	46.7	24.1
	95% CI	*33.0–39.7*	*30.9–44.9*	*40.1–53.5*	*20.7–27.9*
Residential location					
Capital city	% of people	33.0	36.1	41.8	19.8
	95% CI	*27.3–39.2*	*25.2–48.8*	*31.0–53.5*	*15.0–25.6*
Other places	% of people	32.3	34.3	40.7	21.8
	95% CI	*27.7–37.3*	*26.0–43.5*	*30.7–51.5*	*16.9–27.7*
Postcode socioeconomic status					
Lowest	% of people	32.6	37.7	32.7	28.3
	95% CI	*27.5–38.2*	*24.5–52.9*	*24.7–41.9*	*21.8–35.7*
Middle	% of people	33.3	39.7	40.4	20.8
	95% CI	*25.0–42.8*	*25.2–56.3*	*26.5–56.1*	*17.1–25.1*
Highest	% of people	32.0	29.6	49.8	14.3
	95% CI	*27.9–36.4*	*23.7–36.4*	*37.6–62.0*	*10.3–19.7*
Government health card					
Health care card or pensioner concession card	% of people	36.3	42.7	59.3	25.7
	95% CI	*31.1–42.0*	*25.6–61.8*	*45.1–72.1*	*20.7–31.3*
Neither card	% of people	31.0	33.4	36.7	14.4
	95% CI	*26.0–36.5*	*25.9–41.8*	*28.6–45.6*	*10.3–19.7*
Place of last dental visit					
Cardholder/Public	% of people	48.0	40.9	50.5	52.1
	95% CI	*36.3–59.9*	*16.8–70.5*	*31.1–69.8*	*34.9–68.8*
Cardholder/Non-public	% of people	31.6	44.3	64.6	19.3
	95% CI	*25.2–38.8*	*21.3–70.1*	*45.0–80.3*	*14.9–24.6*
Non-cardholder/Non-public	% of people	31.0	33.4	36.7	14.4
	95% CI	*26.0–36.5*	*25.9–41.8*	*28.6–45.6*	*10.3–19.7*
Dental insurance					
Insured	% of people	24.9	32.6	28.5	14.1
	95% CI	*20.3–30.2*	*23.1–43.7*	*20.5–38.2*	*10.6–18.4*
Uninsured	% of people	41.1	40.3	57.4	27.5
	95% CI	*35.6–46.8*	*27.4–54.6*	*48.2–66.1*	*21.7–34.1*

(a) 95% CI = 95% confidence interval for estimated percentage.

Recommended dental treatment foregone due to cost

In NSAOH, treatment foregone due to cost was assessed with the question 'Has the cost prevented you from having any dental treatment that was recommended during the last 2 years?'. People who answered 'yes' were classified as having foregone dental treatment due to cost. In Tasmania, they represented 21.0% of the population aged 15 years or more (Table 25), which was slightly higher, but not significantly, than the national estimate of 20.6% (Slade et al. 2007).

Key findings

- There was some age variation in the percentage of people reporting that they had forgone recommended treatment due to cost (26.8% of adults aged 35–54 years compared with 14.1% of those aged 55 years or more).
- For all ages combined and across all age groups, there was little variation in the percentage of people forgoing recommended dental treatment due to cost among groups classified by sex, residential location, postcode socioeconomic status, government health cardholder status, place of last dental visit and dental insurance status.
- Large 95% CIs in some of these groups resulted in differences not being statistically significant.

Discussion

In summary, having foregone recommended dental treatment due to cost was moderately associated with age, with the percentage decreasing in the older age group.

Table 25: Percentage of people who reported that cost had prevented recommended dental treatment

		Population: people who visited dentist within last 2 years Age (years)			
		All ages	15–34	35–54	≥55
All people	**Per cent of people**	**21.0**	**20.4**	**26.8**	**14.1**
	95% CI[(a)]	*18.0–24.3*	*12.5–31.4*	*20.7–34.0*	*10.1–19.4*
Sex					
Males	% of people	18.6	21.2	23.9	9.3
	95% CI	*14.1–24.2*	*9.6–40.5*	*14.4–37.0*	*5.0–16.6*
Females	% of people	23.1	19.7	29.3	18.4
	95% CI	*19.4–27.1*	*11.8–30.9*	*22.8–36.8*	*12.5–26.2*
Residential location					
Capital city	% of people	19.3	17.5	26.0	12.9
	95% CI	*15.3–24.0*	*7.4–35.9*	*17.9–36.1*	*9.4–17.5*
Other places	% of people	22.3	22.9	27.4	15.0
	95% CI	*18.1–27.1*	*12.5–38.2*	*19.1–37.7*	*8.8–24.4*
Postcode socioeconomic status					
Lowest	% of people	22.6	15.0	30.0	18.7
	95% CI	*18.1–27.8*	*6.3–31.6*	*18.2–45.3*	*9.8–32.6*
Middle	% of people	17.8	15.0	25.7	11.0
	95% CI	*12.7–24.4*	*5.6–34.4*	*15.6–39.4*	*5.1–22.3*
Highest	% of people	22.2	28.3	24.6	13.2
	95% CI	18.0–27.0	15.6–45.6	18.1–32.5	8.8–19.3
Government health card					
Health care card or pensioner concession card	% of people	24.1	10.4	45.9	17.3
	95% CI	*17.8–31.7*	*2.8–31.8*	*28.6–64.3*	*11.4–25.2*
Neither card	% of people	20.0	22.4	22.3	10.9
	95% CI	*15.9–24.9*	*13.8–34.2*	*16.7–29.1*	*6.4–18.0*
Place of last dental visit					
Cardholder/Public	% of people	27.3	12.6	45.5	18.3
	95% CI	*16.0–42.4*	*2.0–50.6*	*23.5–69.3*	*5.8–45.0*
Cardholder/Non-public	% of people	22.8	8.5	46.2	17.0
	95% CI	*15.8–31.8*	*1.1–44.7*	*25.6–68.1*	*10.8–25.8*
Non-cardholder/Non-public	% of people	20.0	22.4	22.3	10.9
	95% CI	*15.9–24.9*	*13.8–34.2*	*16.7–29.1*	*6.4–18.0*
Dental insurance					
Insured	% of people	18.8	24.2	20.6	12.1
	95% CI	*15.2–23.0*	*12.8–41.0*	*15.7–26.5*	*7.8–18.3*
Uninsured	% of people	25.3	20.3	37.0	17.1
	95% CI	*20.2–31.2*	*10.6–35.3*	*25.9–49.6*	*10.1–27.7*

(a) 95% CI = 95% confidence interval for estimated percentage.

Difficulty paying a $100 dental bill

In NSAOH, difficulty paying for dental care was assessed with the question '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?'. People who answered 'a lot' were classified as having difficulty paying a $100 dental bill. They represented 25.2% of the Tasmanian population aged 15 years or more (Table 26), which was significantly higher than the national estimate of 18.2% (Slade et al. 2007).

Key findings

- A significantly higher percentage of adults in the youngest age group (15–34 years) reported that they would have difficulty paying a $100 dental bill (32.0%) compared with those aged 35–54 years (20.4%). Differences between the youngest and oldest age groups and between the two oldest age groups were not statistically significant.
- For all ages combined, the percentage was significantly greater among females compared with males (31.5% versus 18.6%). This difference was mainly attributable to those aged 15–34 years (43.3% versus 20.8%).
- For all ages combined and across age groups, there were no significant differences in the percentage of adults reporting that they would have difficulty paying a $100 dental bill among groups classified by residential location.
- For all ages combined, the percentage was significantly higher among people living in postcodes with low socioeconomic status compared with high socioeconomic status (29.9% versus 20.0%). However, for each age group, there was little variation among groups classified by postcode socioeconomic status.
- There was a greater than two-fold difference in the percentage who reported that they would have difficulty paying a $100 dental bill between people who had a government health card (41.0%) and those who did not (16.8%). The relative difference was largest in the 35–54 years age group (55.4% versus 11.3%), followed by those aged 55 years or more (33.0% versus 9.6%).
- For all ages combined, within the population of government health cardholders, the percentage was higher among people whose last dental visit was to the public sector compared with those who attended elsewhere (55.5% versus 35.0%). However, due to large 95% CIs, there were no statistically significant age-specific differences observed.
- For all ages combined, adults with no dental insurance recorded percentages 2.5 times greater compared with the insured (36.5% versus 14.2%). The relative difference was largest in the 35–54 years age group (31.9% versus 11.0%), followed closely by those aged 55 years or more (34.8% versus 12.3%) and 15–34 years (42.5% versus 21.5%).

Discussion

In summary, government health cardholder status and dental insurance status were strongly associated with having a lot of difficulty paying a $100 dental bill. There was a moderate association with sex, postcode socioeconomic status and place of last dental visit.

Table 26: Percentage of people who would have a lot of difficulty paying a $100 dental bill

		Population: all people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**25.2**	**32.0**	**20.4**	**23.9**
	95% CI[(a)]	*21.9–28.8*	*25.2–39.7*	*16.7–24.7*	*19.6–28.7*
Sex					
Males	% of people	18.6	20.8	15.1	20.4
	95% CI	*15.1–22.8*	*12.2–33.4*	*9.8–22.6*	*16.5–24.9*
Females	% of people	31.5	43.3	25.5	27.0
	95% CI	*26.5–36.9*	*34.5–52.5*	*20.8–31.0*	*20.4–34.8*
Residential location					
Capital city	% of people	26.0	36.8	17.9	23.9
	95% CI	*20.7–32.1*	*25.3–50.1*	*12.6–24.9*	*17.3–32.0*
Other places	% of people	24.6	28.2	22.2	23.9
	95% CI	*20.7–29.0*	*20.6–37.2*	*17.6–27.7*	*18.6–30.1*
Postcode socioeconomic status					
Lowest	% of people	29.9	39.2	24.3	28.3
	95% CI	*24.4–36.0*	*29.3–50.2*	*19.1–30.3*	*20.9–37.0*
Middle	% of people	26.5	34.3	21.5	24.6
	95% CI	*21.0–32.9*	*21.2–50.4*	*14.8–30.1*	*17.9–32.7*
Highest	% of people	20.0	25.0	15.8	19.1
	95% CI	*16.9–23.4*	*17.6–34.2*	*10.5–23.2*	*13.4–26.4*
Government health card					
Health care card or pensioner concession card	% of people	41.0	48.6	55.4	33.0
	95% CI	*36.2–45.9*	*32.7–64.7*	*40.2–69.7*	*27.3–39.2*
Neither card	% of people	16.8	27.2	11.3	9.6
	95% CI	*13.0–21.4*	*19.3–36.7*	*8.0–15.8*	*5.7–15.6*
Place of last dental visit					
Cardholder/Public	% of people	55.5	52.1	73.9	45.4
	95% CI	*45.7–64.9*	*25.9–77.3*	*55.4–86.5*	*34.8–56.3*
Cardholder/Non-public	% of people	35.0	45.5	44.2	30.0
	95% CI	*30.2–40.2*	*27.6–64.6*	*26.5–63.5*	*24.0–36.7*
Non-cardholder/Non-public	% of people	16.8	27.2	11.3	9.6
	95% CI	*13.0–21.4*	*19.3–36.7*	*8.0–15.8*	*5.7–15.6*
Dental insurance					
Insured	% of people	14.2	21.5	11.0	12.3
	95% CI	*11.4–17.6*	*14.0–31.5*	*7.6–15.5*	*8.4–17.6*
Uninsured	% of people	36.5	42.5	31.9	34.8
	95% CI	*31.1–42.2*	*32.2–53.4*	*23.8–41.3*	*29.2–40.8*

(a) 95% CI = 95% confidence interval for estimated percentage.

Percentage of people avoiding foods due to dental problems

Avoiding food due to dental problems is a sign of poor oral health and may reflect an inability to eat properly. This reduces enjoyment of food and could affect the ability to maintain a healthy nutritional status.

In NSAOH, avoiding food was assessed in the interview by asking people 'How often have you had to avoid eating some foods because of problems with your teeth, mouth or dentures during the last 12 months? Was it: very often, often, sometimes, hardly ever, never during the last 12 months, don't know?'. People who answered 'very often', 'often' or 'sometimes' were classified as having avoided certain foods. They represented 17.5% of the Tasmanian population aged 15 years or more (Table 27), which slightly higher than the national estimate of 17.4% (Slade et al. 2007). This difference was not statistically significant.

Key findings

- The percentage who avoided food decreased as the socioeconomic status of the postcode increased. It was highest in the lowest socioeconomic postcode at 23.1% and lowest in the highest socioeconomic postcode at 13.8%.
- The percentage who avoiding food was more than twice as high among people who had a government health card (27.6%) than among non-cardholders (12.0%).
- Within the population of cardholders, those who last visited a public dental clinic were almost twice as likely (41.0%) as those who visited a private dentist (22.1%) to avoid foods.
- People with no dental insurance were more likely (22.8%) than those with insurance (12.9%) to avoid foods.

Discussion

Residents of Tasmania were equally as likely to avoid some foods because of problems with their teeth, mouth or gums the rest of the Australian population. Avoiding some foods because of dental problems was associated with living in a low socioeconomic postcode, having a government health card, having last visited a public clinic and not having dental insurance.

Table 27: Percentage of people avoiding foods due to dental problems

		Population: all people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**17.5**	**15.7**	**15.2**	**21.8**
	95% CI[(a)]	*14.6–20.8*	*9.2–25.3*	*12.2–18.8*	*17.3–26.9*
Sex					
Males	% of people	14.3	13.0	10.9	19.6
	95% CI	*10.9–18.7*	*7.5–21.7*	*6.1–18.6*	*14.0–26.7*
Females	% of people	20.5	18.3	19.4	23.7
	95% CI	*16.5–25.2*	*10.0–31.1*	*16.2–23.0*	*18.1–30.5*
Residential location					
Capital city	% of people	15.5	14.9	13.1	18.9
	95% CI	*11.5–20.6*	*6.1–32.2*	*9.9–17.2*	*11.9–28.8*
Other places	% of people	18.9	16.2	16.7	23.7
	95% CI	*15.2–23.4*	*8.5–28.7*	*12.2–22.4*	*18.7–29.6*
Postcode socioeconomic status					
Lowest	% of people	23.1	26.9	15.3	28.7
	95% CI	*18.3–28.7*	*13.4–46.7*	*10.0–22.8*	*19.7–39.8*
Middle	% of people	16.2	10.7	15.2	22.0
	95% CI	*11.9–21.6*	*3.7–27.4*	*9.8–22.7*	*16.5–28.6*
Highest	% of people	13.8	11.4	15.1	15.0
	95% CI	*10.3–18.2*	*5.4–22.5*	*11.2–20.1*	*9.4–23.0*
Government health card					
Health care card or pensioner concession card	% of people	27.6	22.2	34.2	27.1
	95% CI	*22.8–33.1*	*10.6–40.9*	*23.3–47.2*	*21.4–33.6*
Neither card	% of people	12.0	13.2	10.4	13.1
	95% CI	*9.0–15.7*	*6.6–24.8*	*7.6–14.1*	*9.1–18.4*
Place of last dental visit					
Cardholder/Public	% of people	41.0	36.7	47.5	40.0
	95% CI	*33.5–48.9*	*18.4–59.9*	*33.7–61.8*	*27.7–53.7*
Cardholder/Non-public	% of people	22.1	9.5	26.2	23.9
	95% CI	*17.5–27.7*	*2.9–27.4*	*14.9–41.9*	*18.7–30.1*
Non-cardholder/Non-public	% of people	12.0	13.2	10.4	13.1
	95% CI	*9.0–15.7*	*6.6–24.8*	*7.6–14.1*	*9.1–18.4*
Dental insurance					
Insured	% of people	12.9	13.3	8.6	18.0
	95% CI	*9.9–16.5*	*6.0–26.9*	*5.4–13.4*	*13.0–24.4*
Uninsured	% of people	22.8	18.7	24.3	25.3
	95% CI	*18.8–27.3*	*10.1–31.9*	*17.7–32.4*	*19.4–32.3*

(a) 95% CI = 95% confidence interval for estimated percentage.

5 Oral health perceptions

Percentage of people rating their oral health fair or poor

Self-reported global measures of oral health reflect an individual's own experience of their oral health. Single-item, self-rated oral health measures are associated with functional impairment and discomfort as well as clinical measures of dental health. They are used widely in research and provide a summary measure of oral symptoms and functioning (Benyamini et al. 2004).

In NSAOH, self-rated oral health was assessed in the interview by asking people 'And how would you rate your own DENTAL health. Would you say that it is: excellent, very good, good, fair, poor, don't know?'. People who answered 'fair' or 'poor' were classified as having fair or poor self-rated oral health. They represented 18.3% of the Tasmanian population aged 15 years or more (Table 28), which is a little higher than the national estimate of 16.4% (Slade et al. 2007). This difference was not statistically significant.

Key findings

- The percentage who reported fair or poor oral health decreased as the socioeconomic status of the postcode increased. It was highest in the lowest socioeconomic postcode at 25.5% and lowest in the highest socioeconomic postcode at 12.9%.
- Those who last visited a public dental clinic were more than twice as likely (35.3%) as people who visited a private dentist (15.7%) to report fair or poor oral health.

Discussion

Dentate residents of Tasmania were equally as likely to report that their oral health was 'fair' or 'poor' as other Australians. Reporting fair or poor oral health was associated with living in a low socioeconomic postcode, having last visited a public dental service and not having dental insurance. While there were large differences in the point estimates for some other comparisons, small numbers in the sample have resulted in wide confidence intervals, and no conclusions about differences can therefore be drawn.

Table 28: Percentage of people rating their oral health fair or poor

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**17.5**	**15.7**	**15.2**	**21.8**
	95% CI[(a)]	*14.6–20.8*	*9.2–25.3*	*12.2–18.8*	*17.3–26.9*
Sex					
Males	% of people	14.3	13.0	10.9	19.6
	95% CI	*10.9–18.7*	*7.5–21.7*	*6.1–18.6*	*14.0–26.7*
Females	% of people	20.5	18.3	19.4	23.7
	95% CI	*16.5–25.2*	*10.0–31.1*	*16.2–23.0*	*18.1–30.5*
Residential location					
Capital city	% of people	15.5	14.9	13.1	18.9
	95% CI	*11.5–20.6*	*6.1–32.2*	*9.9–17.2*	*11.9–28.8*
Other places	% of people	18.9	16.2	16.7	23.7
	95% CI	*15.2–23.4*	*8.5–28.7*	*12.2–22.4*	*18.7–29.6*
Postcode socioeconomic status					
Lowest	% of people	23.1	26.9	15.3	28.7
	95% CI	*18.3–28.7*	*13.4–46.7*	*10.0–22.8*	*19.7–39.8*
Middle	% of people	16.2	10.7	15.2	22.0
	95% CI	*11.9–21.6*	*3.7–27.4*	*9.8–22.7*	*16.5–28.6*
Highest	% of people	13.8	11.4	15.1	15.0
	95% CI	*10.3–18.2*	*5.4–22.5*	*11.2–20.1*	*9.4–23.0*
Government health card					
Health care card or pensioner concession card	% of people	27.6	22.2	34.2	27.1
	95% CI	*22.8–33.1*	*10.6–40.9*	*23.3–47.2*	*21.4–33.6*
Neither card	% of people	12.0	13.2	10.4	13.1
	95% CI	*9.0–15.7*	*6.6–24.8*	*7.6–14.1*	*9.1–18.4*
Place of last dental visit					
Cardholder/Public	% of people	41.0	36.7	47.5	40.0
	95% CI	*33.5–48.9*	*18.4–59.9*	*33.7–61.8*	*27.7–53.7*
Cardholder/Non-public	% of people	22.1	9.5	26.2	23.9
	95% CI	*17.5–27.7*	*2.9–27.4*	*14.9–41.9*	*18.7–30.1*
Non-cardholder/Non-public	% of people	12.0	13.2	10.4	13.1
	95% CI	*9.0–15.7*	*6.6–24.8*	*7.6–14.1*	*9.1–18.4*
Dental insurance					
Insured	% of people	12.9	13.3	8.6	18.0
	95% CI	*9.9–16.5*	*6.0–26.9*	*5.4–13.4*	*13.0–24.4*
Uninsured	% of people	22.8	18.7	24.3	25.3
	95% CI	*18.8–27.3*	*10.1–31.9*	*17.7–32.4*	*19.4–32.3*

(a) 95% CI = 95% confidence interval for estimated percentage.

Percentage of people experiencing toothache

Toothache is caused when the nerve root of a tooth is irritated. It is most commonly caused by infection, decay, injury or loss of a tooth. However, pain sometimes originates from other areas, most commonly the jaw joint and the ear, and radiates to the jaw, thus appearing to be tooth pain.

In NSAOH, experience of toothache was assessed in the interview by asking dentate people '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?'. People who answered 'very often', 'often' or 'sometimes' were classified as having experienced toothache. They represented 12.9% of the dentate Tasmanian population aged 15 years or more (Table 29), which was lower than the national estimate of 15.1% (Slade et al. 2007). This difference was not statistically significant.

Key findings

- The experience of toothache decreased with age, from 16.7% in 15–34-year-olds to 7.8% in those aged 55 years or more.
- Among Tasmanian residents, experience of toothache was highest in those who lived in the lowest socioeconomic postcode (17.5%) and lowest in the middle socioeconomic postcode (10.8%).
- Government health cardholders who last visited a public dental clinic were almost twice as likely (24.6%) as non-cardholders (11.9%) to report experience of toothache.

Discussion

Residents of Tasmania were equally as likely to report experiencing toothache as the rest of the Australian population. Experience of toothache was associated being young, living in the lowest socioeconomic status postcode and having last visited a public dental clinic.

Table 29: Percentage of people experiencing toothache

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**12.9**	**16.7**	**13.1**	**7.8**
	95% CI[(a)]	*10.8–15.4*	*11.5–23.8*	*9.7–17.5*	*5.4–11.1*
Sex					
Males	% of people	10.0	11.8	10.8	6.6
	95% CI	*7.5–13.2*	*6.4–20.7*	*6.4–17.7*	*3.6–11.8*
Females	% of people	15.9	21.7	15.5	9.1
	95% CI	*12.4–20.2*	*14.9–30.4*	*10.9–21.5*	*5.9–13.7*
Residential location					
Capital city	% of people	12.2	17.7	9.8	8.6
	95% CI	*8.6–16.9*	*9.7–30.2*	*5.8–16.0*	*5.1–14.1*
Other places	% of people	13.5	15.9	15.7	7.1
	95% CI	*11.1–16.3*	*9.8–24.9*	*10.8–22.3*	*4.3–11.6*
Postcode socioeconomic status					
Lowest	% of people	17.5	27.1	16.8	7.5
	95% CI	*14.4–21.2*	*15.9–42.1*	*10.4–26.0*	*4.5–12.2*
Middle	% of people	10.8	10.7	13.3	7.4
	95% CI	*8.1–14.1*	*6.0–18.3*	*8.2–21.1*	*3.8–14.0*
Highest	% of people	10.9	13.9	9.7	8.4
	95% CI	*7.5–15.5*	*7.2–25.3*	*5.4–16.7*	*4.3–15.6*
Government health card					
Health care card or pensioner concession card	% of people	15.7	21.8	23.6	8.9
	95% CI	*11.4–21.3*	*9.8–41.7*	*14.6–35.9*	*5.7–13.6*
Neither card	% of people	11.9	15.5	10.9	6.6
	95% CI	*9.4–14.9*	*10.8–21.8*	*7.6–15.3*	*3.3–12.9*
Place of last dental visit					
Cardholder/Public	% of people	24.6	27.1	29.6	16.3
	95% CI	*16.6–34.8*	*9.4–57.1*	*15.5–49.1*	*7.2–32.9*
Cardholder/Non-public	% of people	12.1	17.1	20.4	7.4
	95% CI	*7.5–19.0*	*6.4–38.4*	*10.5–35.9*	*4.3–12.5*
Non-cardholder/Non-public	% of people	11.9	15.5	10.9	6.6
	95% CI	*9.4–14.9*	*10.8–21.8*	*7.6–15.3*	*3.3–12.9*
Dental insurance					
Insured	% of people	10.0	15.3	8.7	6.8
	95% CI	*7.3–13.6*	*8.9–25.0*	*5.5–13.6*	*3.4–13.0*
Uninsured	% of people	16.2	18.1	19.7	9.0
	95% CI	*12.1–21.2*	*10.4–29.6*	*13.0–28.8*	*5.6–14.1*

(a) 95% CI = 95% confidence interval for estimated percentage.

Percentage of people experiencing orofacial pain

Orofacial pain can be debilitating and indicates temporomandibular joint dysfunction.

In NSAOH, orofacial pain was assessed in the interview by asking people 'During the last month, have you had pain in the face, jaw, temple, in front of the ear or in the ear?'. People who answered 'yes' were classified as having orofacial pain. They represented 24.5% of the Tasmanian population aged 15 years or more (Table 30), which was slightly higher than the national estimate of 22.6% (Slade et al. 2007). This difference was not statistically significant.

Key findings

- The experience of orofacial pain decreased with age, from 31.7% in 15–34-year-olds to 16.7 % in those aged 55 years or more.
- Females were more likely to report that they had orofacial pain (32.5%) than males (16.0%).
- Government health cardholders in the 35–54 years and 55 years or more age groups were twice as likely as non-cardholders of the same ages to report that they had experienced orofacial pain.
- People in the 35–54 years and 55 years or more age groups who visited a public dentist were more than twice as likely as non-government health cardholders of the same ages to report an experience of orofacial pain.

Discussion

Residents of Tasmania were equally as likely to report experiencing orofacial pain as the rest of the Australian population. Experience of orofacial pain was associated with being young and being female. In the 35–54 years and 55 years or more age groups, it was also associated with having a government health card and having last visited a public dental clinic. While there were large differences in the point estimates for some other comparisons, small numbers in the sample have resulted in wide confidence intervals, and no conclusions about differences can therefore be drawn.

Table 30: Percentage of people experiencing orofacial pain

		Population: all people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**24.5**	**31.7**	**25.2**	**16.7**
	95% CI[(a)]	*21.2–28.1*	*24.9–39.4*	*19.5–31.9*	*13.4–20.7*
Sex					
Males	% of people	16.0	20.8	17.8	9.1
	95% CI	*12.0–21.0*	*12.5–32.5*	*10.5–28.7*	*5.7–14.3*
Females	% of people	32.5	42.7	32.4	23.5
	95% CI	*26.7–39.0*	*31.5–54.8*	*25.7–39.9*	*18.4–29.6*
Residential location					
Capital city	% of people	23.2	37.3	17.9	14.4
	95% CI	*16.9–31.0*	*25.4–51.0*	*9.9–30.2*	*9.5–21.2*
Other places	% of people	25.4	27.3	30.5	18.3
	95% CI	*22.5–28.5*	*19.8–36.2*	*23.6–38.4*	*14.1–23.4*
Postcode socioeconomic status					
Lowest	% of people	27.8	38.4	27.6	18.9
	95% CI	*22.6–33.8*	*23.6–55.8*	*17.2–41.2*	*12.2–28.1*
Middle	% of people	23.9	25.1	28.1	18.8
	95% CI	*19.2–29.4*	*18.4–33.1*	*18.9–39.6*	*14.2–24.5*
Highest	% of people	22.0	32.0	20.4	12.5
	95% CI	*16.3–29.0*	*20.8–45.8*	*12.2–32.1*	*8.2–18.6*
Government health card					
Health care card or pensioner concession card	% of people	27.1	33.0	40.1	20.3
	95% CI	*22.1–32.8*	*18.2–52.2*	*28.1–53.3*	*16.5–24.8*
Neither card	% of people	23.0	31.8	21.3	10.5
	95% CI	*18.9–27.7*	*23.9–40.9*	*15.9–27.8*	*6.6–16.3*
Place of last dental visit					
Cardholder/Public	% of people	35.8	32.6	49.4	28.9
	95% CI	*23.8–49.8*	*12.5–62.1*	*28.8–70.2*	*19.5–40.5*
Cardholder/Non-public	% of people	23.6	33.4	34.5	18.2
	95% CI	*18.4–29.8*	*15.7–57.5*	*22.3–49.0*	*13.9–23.4*
Non-cardholder/Non-public	% of people	23.0	31.8	21.3	10.5
	95% CI	*18.9–27.7*	*23.9–40.9*	*15.9–27.8*	*6.6–16.3*
Dental insurance					
Insured	% of people	22.1	34.7	21.0	13.1
	95% CI	*17.3–27.9*	*22.4–49.5*	*15.0–28.6*	*9.0–18.8*
Uninsured	% of people	26.7	29.4	31.4	20.1
	95% CI	*22.1–31.9*	*20.3–40.4*	*23.4–40.6*	*15.4–25.7*

(a) 95% CI = 95% confidence interval for estimated percentage.

Perceived need for dentures

In NSAOH, people were asked at the time of the interview, 'Currently, which of the following dental treatments do you think you need to have?'. The possible responses varied for dentate and edentulous people. All people were asked if they felt they needed dentures. In Tasmania, 9.2% of people thought they needed dentures (Table 31), which was a little, but not significantly, higher than the national estimate of 7.2% (Slade et al. 2007).

Key findings

- The percentage of adults who thought they needed dentures was strongly age-related, increasing from 1.4% among 15–34-year-olds to 6.5% among those aged 35–54 years and 19.5% among those aged 55 years or more.
- There were no significant differences by sex, residential location in the capital city or other places, postcode socioeconomic status or dental insurance status.
- The need for a denture was more than three times higher among government health cardholders (17.1%) compared with non-cardholders (5.0%).
- The percentage was highest among government health cardholders who last visited a public clinic (19.4%). It was similar among cardholders who last visited a private dentist (16.2%) but significantly lower among non-cardholders who last visited a private dentist (5.0%).
- The age-relatedness of the need for dentures was evident within subgroups of adults formed by socioeconomic characteristics. For instance, among residents of regional areas outside Hobart, the percentage increased from 1.9% among 15–34-year-olds to 9.2% among those aged 35–54 years and 21.8% among those aged 55 years or more.
- Among people aged 55 years or more, the percentage was higher among government health cardholders who last visited a public dental clinic (32.6%) than non-cardholders who last visited a private dentist (12.0%).

Discussion

The percentage of people who said they needed dentures was low. It is related to the observed pattern for complete tooth loss and numbers of missing teeth. However, the level of need for dentures was considerably lower than the percentage of people with either complete tooth loss or reasonable numbers of missing teeth. The relationship between perceived need and professional judgement of the need for dentures is complex, but people generally express a lower need than is assessed by dentists.

Table 31: Percentage of people who need dentures

		Population: all people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**9.2**	**1.4**	**6.5**	**19.5**
	95% CI[(a)]	*6.7–12.4*	*0.5–3.7*	*4.1–10.1*	*15.3–24.6*
Sex					
Males	% of people	6.7	0.0	6.1	14.2
	95% CI	*4.1–10.7*	—	*2.6–13.6*	*9.1–21.5*
Females	% of people	11.5	2.9	6.8	24.3
	95% CI	*8.4–15.7*	*1.1–7.3*	*4.1–11.1*	*19.1–30.3*
Residential location					
Capital city	% of people	6.5	1.4	2.7	16.2
	95% CI	*3.4–12.1*	*0.3–6.0*	*0.6–10.9*	*10.1–25.0*
Other places	% of people	11.1	1.5	9.2	21.8
	95% CI	*7.9–15.4*	*0.4–5.1*	*5.8–14.4*	*16.5–28.2*
Postcode socioeconomic status					
Lowest	% of people	11.1	3.6	8.7	20.3
	95% CI	*7.3–16.5*	*1.1–11.0*	*4.3–16.9*	*15.2–26.6*
Middle	% of people	11.3	1.0	6.4	25.1
	95% CI	*6.9–18.2*	*0.1–6.8*	*2.9–13.8*	*17.6–34.4*
Highest	% of people	5.6	0.2	4.4	13.2
	95% CI	*2.8–11.0*	*0.0–1.4*	*1.7–10.8*	*7.2–22.9*
Government health card					
Health care card or pensioner concession card	% of people	17.1	2.3	12.6	24.0
	95% CI	*12.8–22.5*	*0.4–10.9*	*5.2–27.2*	*19.0–29.9*
Neither card	% of people	5.0	1.2	5.0	12.0
	95% CI	*2.9–8.3*	*0.4–3.9*	*2.7–9.1*	*6.8–20.1*
Place of last dental visit					
Cardholder/Public	% of people	19.4	4.0	19.0	32.6
	95% CI	*11.7–30.3*	*0.6–24.0*	*6.7–43.3*	*22.2–45.1*
Cardholder/Non-public	% of people	16.2	0.7	8.8	21.9
	95% CI	*11.9–21.7*	*0.1–5.1*	*2.8–24.4*	*16.9–27.9*
Non-cardholder/Non-public	% of people	5.0	1.2	5.0	12.0
	95% CI	*2.9–8.3*	*0.4–3.9*	*2.7–9.1*	*6.8–20.1*
Dental insurance					
Insured	% of people	7.4	0.7	5.6	15.3
	95% CI	*4.9–11.0*	*0.1–5.5*	*3.0–10.1*	*10.3–22.0*
Uninsured	% of people	11.4	2.2	7.8	23.5
	95% CI	*8.0–15.9*	*0.7–6.3*	*3.8–15.3*	*17.9–30.2*

(a) 95% CI = 95% confidence interval for estimated percentage.

Perceived need for dental extraction or filling

Dentate adults were asked about other dental services, including extractions or fillings that they might need. The responses to the options 'Any extractions' or 'Any fillings' have been combined so that the response indicates a perceived dental problem for which one or other of these two aspects of routine dental care is thought to be required, most likely as a sequelae for dental caries. Which of these two dental services was provided would be determined by a process of negotiation between patient and provider, influenced by both provider and patient circumstances. In Tasmania, 33.4% of dentate adults perceived a need for an extraction or filling (Table 32), which was very similar to the national estimate of 32.9% (Slade et al. 2007).

Key findings

- The percentage of dentate adults who thought they needed extractions or fillings was highest among the 35–54 years age group (36.5%) and lowest among the 15–34 years age group (30.7%) However, these differences were not statistically significant.
- There were no significant differences by sex or residential location in a capital city or other place.
- The percentage was significantly higher among adults who lived in the lowest socioeconomic status postcodes (40.6 %) compared with those in the highest socioeconomic status postcodes (27.7%).
- The percentage of dentate adults who thought they needed an extraction or filling was significantly higher among people who had a government health card (44.5%) than those who did not (28.8%).
- Government health cardholders who last visited a public dental clinic had the highest perceived need for an extraction or filling (51.7%), which was not significantly different from that of cardholders who last visited a private dentist (41.6%). However, the percentage was significantly lower among non-cardholders who last visited a private dentist (28.8%).
- Those adults who were uninsured recorded a higher percentage (40.0%) than those who were insured (28.3%).
- The lack of an age–related pattern of need for an extraction or filling was seen within all subgroups of adults formed by socioeconomic characteristics.

Discussion

Just over one-third of dentate adults perceived a need for an extraction or filling. This percentage was not significantly different across the three age groups, and showed some socioeconomic characteristic variations. Perceived need was higher in postcodes with the lowest compared with the highest socioeconomic status, among cardholders compared with non-cardholders, among cardholders who last visited a public dental clinic compared with non-cardholders who last visited a private dentist, and among the uninsured compared with the insured.

Table 32: Percentage of people who need an extraction or filling

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**33.4**	**30.7**	**36.5**	**32.4**
	95% CI[(a)]	*29.2–37.8*	*22.8–39.9*	*31.3–42.0*	*27.2–38.1*
Sex					
Males	*% of people*	35.5	31.2	39.6	35.1
	95% CI	*29.7–41.7*	*20.3–44.6*	*30.9–49.1*	*27.2–43.9*
Females	% of people	31.2	30.2	33.4	29.4
	95% CI	*27.3–35.5*	*22.0–39.8*	*28.8–38.3*	*23.5–36.2*
Residential location					
Capital city	% of people	31.8	35.6	31.0	28.2
	95% CI	*25.3–39.1*	*21.6–52.5*	*22.6–40.9*	*21.4–36.3*
Other places	% of people	34.6	26.8	40.6	36.0
	95% CI	*29.5–40.1*	*19.3–36.0*	*34.7–46.9*	*28.9–43.7*
Postcode socioeconomic status					
Lowest	% of people	40.6	38.0	42.3	41.2
	95% CI	*34.4–47.1*	*24.2–54.0*	*34.4–50.7*	*33.5–49.3*
Middle	% of people	33.0	28.2	37.8	32.3
	95% CI	*26.0–40.8*	*16.2–44.4*	*31.1–45.0*	*24.2–41.8*
Highest	% of people	27.7	27.2	30.1	25.0
	95% CI	*22.0–34.2*	*14.9–44.3*	*20.6–41.7*	*17.8–33.9*
Government health card					
Health care card or pensioner concession card	% of people	44.5	43.8	54.5	40.1
	95% CI	*37.9–51.4*	*25.7–63.8*	*45.5–63.3*	*33.4–47.2*
Neither card	% of people	28.8	26.6	32.6	24.1
	95% CI	*24.8–33.2*	*19.7–34.9*	*26.7–39.0*	*17.4–32.4*
Place of last dental visit					
Cardholder/Public	% of people	51.7	47.4	54.8	54.6
	95% CI	*40.7–62.5*	*25.6–70.2*	*38.5–70.2*	*33.0–74.6*
Cardholder/Non-public	% of people	41.6	40.9	54.4	37.1
	95% CI	*32.9–50.8*	*17.8–68.8*	*43.1–65.3*	*28.8–46.3*
Non-cardholder/Non-public	% of people	28.8	26.6	32.6	24.1
	95% CI	*24.8–33.2*	*19.7–34.9*	*26.7–39.0*	*17.4–32.4*
Dental insurance					
Insured	% of people	28.3	32.2	28.8	23.7
	95% CI	*23.4–33.7*	*20.0–47.5*	*22.2–36.3*	*17.1–31.7*
Uninsured	% of people	40.0	30.8	48.2	42.9
	95% CI	*34.2–46.0*	*21.6–41.9*	*39.8–56.7*	*35.3–50.8*

(a) 95% CI = 95% confidence interval for estimated percentage.

Perceived need for a dental check-up

Dentate adults were asked about their perceived need for a check-up. This is regarded as an indicator of compliance with the recommendation of dentists to visit regularly when asymptomatic so as to detect disease earlier and receive prompt treatment for any dental problems. A check-up also provides an opportunity for preventive services to be received. In Tasmania, 63.2% of dentate adults perceived a need for a check-up (Table 33), which was a little higher than, but significantly different from, the national estimate of 59.6% (Slade et al. 2007).

Key findings

- The percentage of dentate adults who thought they needed a check-up showed no significant difference across the three age groups, ranging from 57.2% in the oldest to 67.5% in the youngest age group.
- There were no significant differences among dentate adults people by sex, residential location, postcode socioeconomic status, government health cardholder status or place of last dental visit.
- The percentage of dentate adults who thought they needed a check-up was significantly higher among the uninsured (70.0%) than those with dental insurance (58.0%).
- The lack of an age-related pattern of perceived need for a check-up was repeated within subgroups of adults formed by all the socioeconomic characteristics.

Discussion

Just over 6 out of 10 dentate adults perceived a need for a check-up. The percentage was similar for the two younger age groups but a little lower among adults aged 55 years or more. However, this difference was not significant. There was little variation by socioeconomic characteristics, which might reflect a confounding of perceived need for a check-up by time since last dental visit. Those dentate adults with a higher likelihood of compliance with the recommendation of dentists for a regular check-up visit may have last visited more recently, and hence not perceive a need for a further check-up at the time of the interview.

Table 33: Percentage of people perceiving a need for a check-up

		Population: dentate people Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**63.2**	**67.5**	**63.6**	**57.2**
	95% CI[(a)]	*60.2–66.2*	*60.2–74.1*	*57.5–69.3*	*50.9–63.2*
Sex					
Males	% of people	60.2	63.4	61.1	55.0
	95% CI	*54.0–66.0*	*49.5–75.3*	*50.0–71.1*	*46.1–63.6*
Females	% of people	66.3	71.7	66.1	59.6
	95% CI	*61.0–71.2*	*60.3–80.8*	*59.7–71.9*	*52.1–66.6*
Residential location					
Capital city	% of people	62.9	69.1	65.4	52.1
	95% CI	*57.6–68.0*	*59.6–77.2*	*54.9–74.5*	*41.0–63.1*
Other places	% of people	63.4	66.3	62.2	61.5
	95% CI	*59.9–66.8*	*55.4–75.7*	*55.0–69.0*	*56.0–66.7*
Postcode socioeconomic status					
Lowest	% of people	64.9	70.3	61.9	62.8
	95% CI	*60.5–68.9*	*52.6–83.5*	*52.4–70.5*	*54.5–70.5*
Middle	% of people	61.3	64.2	59.3	60.3
	95% CI	*56.1–66.2*	*50.0–76.3*	*50.6–67.5*	*51.5–68.5*
Highest	% of people	63.4	68.1	68.8	49.5
	95% CI	*57.6–68.9*	*58.9–76.1*	*57.1–78.5*	*38.1–60.9*
Government health card					
Health care card or pensioner concession card	% of people	62.5	69.2	66.7	57.0
	95% CI	*55.6–68.9*	*49.9–83.5*	*56.0–75.9*	*48.0–65.6*
Neither card	% of people	64.2	68.0	63.1	58.6
	95% CI	*60.1–68.0*	*60.5–74.6*	*56.3–69.3*	*49.2–67.4*
Place of last dental visit					
Cardholder/Public	% of people	74.1	81.6	64.9	72.5
	95% CI	*63.2–82.6*	*51.6–94.9*	*45.4–80.4*	*50.5–87.2*
Cardholder/Non-public	% of people	57.7	58.2	67.7	53.8
	95% CI	*48.3–66.5*	*36.7–77.0*	*52.7–79.8*	*42.7–64.6*
Non-cardholder/Non-public	% of people	64.2	68.0	63.1	58.6
	95% CI	*60.1–68.0*	*60.5–74.6*	*56.3–69.3*	*49.2–67.4*
Dental insurance					
Insured	% of people	58.0	66.0	58.0	50.2
	95% CI	*52.5–63.3*	*50.7–78.5*	*50.1–65.5*	*41.6–58.7*
Uninsured	% of people	70.0	72.2	71.0	65.6
	95% CI	*64.8–74.7*	*57.5–83.2*	*63.1–77.7*	*57.3–73.1*

(a) 95% CI = 95% confidence interval for estimated percentage.

Perceived urgency of dental treatment needs

Dentate adults who perceived a need for an extraction or filling were asked about their perceived urgency of needed dental treatment. Dental problems vary from truly urgent problems like dental trauma, swelling in or around the jaws, or bleeding (usually as a complication of dental treatment); through situations where treatment is highly desirable in a short period of time (usually associated with pain); to problems that can wait reasonable periods of time to be treated. In NSAOH, dentate adults who perceived a need for an extraction or filling were asked at the time of the interview 'How soon do you think you need this dental treatment?'. The possible responses included a wide range of time periods. These have been collapsed to perceiving a need for treatment within 3 months or longer than 3 months. In Tasmania, 72.2% of dentate adults needing an extraction or filling perceived a need for dental treatment within 3 months (Table 34), which was a little higher, but not significantly, than the national estimate of 69.3% (Slade et al. 2007).

Key findings

- The percentage of dentate adults needing an extraction or filling who thought they needed treatment within 3 months showed no significant trend by age group, varying from 61.3% to 76.6% across the three age groups.
- There were no significant differences among subgroups formed by any social characteristic.

Discussion

Over 7 out of 10 dentate adults who needed an extraction or filling perceived a need for dental treatment within 3 months. The percentage who perceived a need for more urgent treatment was not significantly different across the three age groups. There was also no significant variation by socioeconomic characteristics, which might reflect a confounding of perceived need for dental treatment within 3 months by time since last dental visit.

Table 34: Percentage of people perceiving a need for treatment within 3 months

		Population: dentate people who need an extraction or filling Age (years)			
		All ages	**15–34**	**35–54**	**≥55**
All people	**Per cent of people**	**72.2**	**74.3**	**76.6**	**61.3**
	95% CI[(a)]	*65.6–78.0*	*60.9–84.3*	*66.2–84.6*	*50.0–71.5*
Sex					
Males	% of people	72.5	83.6	72.4	60.1
	95% CI	*62.6–80.6*	*65.7–93.1*	*56.3–84.2*	*41.2–76.4*
Females	% of people	71.9	65.7	81.4	62.8
	95% CI	*62.4–79.8*	*46.1–81.1*	*69.8–89.2*	*48.8–74.9*
Residential location					
Capital city	% of people	71.2	69.6	81.9	55.1
	95% CI	*58.8–81.0*	*50.9–83.4*	*64.1–92.0*	*33.3–75.1*
Other places	% of people	73.0	80.0	73.5	65.2
	95% CI	*65.5–79.3*	*57.3–92.3*	*60.0–83.7*	*54.4–74.6*
Postcode socioeconomic status					
Lowest	% of people	78.0	85.2	78.9	67.7
	95% CI	*68.3–85.3*	*56.6–96.2*	*65.8–87.9*	*50.1–81.3*
Middle	% of people	71.7	79.4	76.8	55.0
	95% CI	*59.3–81.5*	*53.9–92.7*	*51.7–91.1*	*42.7–66.7*
Highest	% of people	65.5	60.0	73.4	59.3
	95% CI	*55.6–74.3*	*44.0–74.2*	*53.4–86.9*	*32.4–81.6*
Government health card					
Health care card or pensioner concession card	% of people	67.8	76.1	72.6	58.9
	95% CI	*56.6–77.3*	*47.2–91.9*	*53.4–86.0*	*45.9–70.8*
Neither card	% of people	74.4	72.8	78.1	65.2
	95% CI	*65.5–81.6*	*53.9–85.9*	*66.3–86.6*	*41.4–83.3*
Place of last dental visit					
Cardholder/Public	% of people	70.6	94.0	56.5	51.8
	95% CI	*52.3–84.1*	*63.6–99.3*	*30.6–79.2*	*26.6–76.1*
Cardholder/Non-public	% of people	66.2	51.0	81.8	60.8
	95% CI	*54.0–76.6*	*19.9–81.4*	*64.0–92.0*	*45.2–74.5*
Non-cardholder/Non-public	% of people	74.4	72.8	78.1	65.2
	95% CI	*65.5–81.6*	*53.9–85.9*	*66.3–86.6*	*41.4–83.3*
Dental insurance					
Insured	% of people	76.1	73.2	83.4	65.7
	95% CI	*67.9–82.7*	*52.8–87.0*	*71.6–90.9*	*46.8–80.7*
Uninsured	% of people	69.9	78.1	70.8	57.7
	95% CI	*58.7–79.2*	*54.4–91.5*	*54.1–83.3*	*45.1–69.4*

(a) 95% CI = 95% confidence interval for estimated percentage.

Age-standardised comparison between government health cardholders and non-health cardholders

Findings from 29 of the preceding tables are summarised in Table 35, to compare oral health indicators between people with a government health card and non-cardholders. Percentages and means for the two groups are age-standardised, a statistical procedure that aims to remove any effects of age that might account for differences between the two groups in each oral health indicator. As noted in Table 4, smaller percentages of people in the two younger age groups had a health care card or pensioner concession card than in the oldest age group. Age standardisation seeks to compensate for that difference in age distribution, so that differences in any single indicator between the two groups are not confounded by age.

- For 17 indicators reported in Table 35, health cardholders had significantly poorer oral health status, oral health care and perceived oral health.
- For measures relating to tooth loss, the magnitude of difference in age-standardised estimates between the two groups was noticeably smaller than the difference between the same two groups noted in preceding tables where there was no adjustment for age. For example, health cardholders had 2.7-fold greater prevalence of complete tooth loss when the comparison was adjusted for age (Table 35), whereas prevalence differed by a factor of 5.5 when all ages were contrasted in Table 5 (21.8% for health cardholders compared with 4.0% for non-cardholders). This degree of attenuation indicates that age was an important confounder of the relationship between health card status and complete tooth loss.
- Marked attenuation of the difference between the two groups also occurred for periodontal attachment loss.
- In contrast, the relative difference between the two groups were amplified in the age-standardised results compared with the unstandardised results for five indicators: two measures of cost barriers and three indicators of oral health perceptions.
- However, for most other indicators, relative differences in age-standardised results between the two groups were similar in magnitude to the preceding tables. This is because there was only a weak association between age and indicators such as dental attendance, with the consequence that there was little confounding of the difference between the two groups by age.

In summary, the findings in Table 35 confirm that health cardholders are disadvantaged with respect to several indicators of oral health status, oral health care and perceived oral health, and that the disadvantage is not due to the older age profile of health cardholders compared to non-health cardholders. Exceptions occurred for some indicators relating to tooth loss and periodontal disease, where adjustment by age produced attenuated differences between the two groups.

Table 35: Age-standardised comparison of health cardholders and non-health cardholders

	Cardholders	Non-cardholders
Variable	**Estimate (95%CI)**	**Estimate (95%CI)**
% of people with complete tooth loss	14.1 (9.7–18.6)	5.3 (3.7–6.9)
% of people with fewer than 21 teeth	21.9 (18.6–25.2)	13.4 (10.1–16.7)
% of dentate people who wear denture(s)	25.1 (21.1–29.0)	18.5 (14.9–22.0)
Average number of missing teeth per person	6.8 (5.8–7.8)	4.6 (3.7–5.6)
% of people with untreated coronal decay	16.8 (9.9–23.6)	22.1 (16.1–28.2)
% of people with untreated root decay	7.1 (3.1–11.1)	5.7 (2.4–9.0)
% of people with one or more filled teeth	78.0 (68.9–87.0)	90.5 (86.3–94.7)
Average number of DMF teeth per person	13.5 (12.2–14.8)	13.4 (12.7–14.1)
% of people with moderate or severe periodontitis	33.9 (28.7–39.1)	28.6 (20.9–36.3)
% of people with 4+ mm periodontal pocket depth	25.9 (17.8–34.1)	17.7 (11.7–23.6)
% of people with 4+ mm clinical attachment loss	51.8 (46.0–57.6)	41.0 (34.3–47.7)
% of people with gingival inflammation	11.6 (6.5–16.8)	12.8 (6.8–18.8)
% of people visiting dentist within last 12 months	37.2 (32.6–41.8)	56.4 (51.8–61.0)
% of people who attended a private dental practice at last dental visit	57.1 (48.1–66.2)	85.8 (82.2–89.4)
% of people who paid for their last dental visit	65.4 (55.2–75.5)	100.0 (100.0–100.0)
% of people who usually visit a dental professional at least once a year	32.4 (26.8–38.0)	51.3 (47.2–55.3)
% of people who have a dentist they usually attend	61.9 (55.0–68.9)	80.5 (75.3–85.6)
% of people who usually visit a dentist for a check up	38.2 (30.0–46.4)	58.5 (52.9–64.1)
% of people who avoided or delayed dental care	43.7 (37.7–49.6)	28.0 (23.3–32.7)
% of people who reported that cost had prevented recommended dental treatment	31.6 (24.4–38.7)	19.2 (14.7–23.7)
% of people who would have a lot of difficulty paying a $100 dental bill	48.7 (42.5–55.0)	16.7 (13.0–20.5)
% of people avoiding foods due to dental problems	30.6 (24.6–36.5)	11.7 (8.7–14.7)
% of people rating their oral health fair or poor	25.6 (19.8–31.5)	15.3 (11.5–19.2)
% of people experiencing toothache	20.3 (14.7–25.8)	10.5 (8.1–12.9)
% of people experiencing orofacial pain	32.7 (25.6–39.9)	21.2 (17.4–24.9)
% of people who need dentures	12.2 (7.7–16.6)	5.6 (2.7–8.4)
% of people who need an extraction or filling	47.2 (41.4–53.1)	26.7 (22.7–30.6)
% of people perceiving a need for a check up	65.7 (60.4–71.1)	63.7 (59.5–67.8)
% of people perceiving a need for treatment within 3 months	71.3 (61.7–80.9)	66.5 (59.4–73.7)

Age-standardised comparison between the dentally insured and the uninsured

Age standardisation has been used in Table 36 to make comparisons between dentally insured and uninsured people in each of the 30 oral health indicators presented in Tables 5–34. These comparisons are based on the same principles noted for Table 35. That is, age-standardisation aims to compare insured and uninsured people after adjusting for potential differences in the age distribution between the two groups. In principle, however, there should be little confounding of these effects because there were only small differences in dental insurance coverage among the three age groups (Table 4).

- The results in Table 36 show statistically significantly poorer outcomes for uninsured people in 16 of the 30 indicators. For most of those indicators, statistically significant differences were also observed in the preceding tables.
- Conversely, the 14 indicators that did not differ to a statistically significantly degree between insured and uninsured people in Table 36 were similarly non-significant when contrasted between the two groups in previous tables that did not use age standardisation.
- Overall, age standardisation produced very little attenuation of the relative difference between the two groups.

In summary, the findings in Table 36 confirm generally poorer oral health outcomes for uninsured people compared to insured people. Age-standardisation did not appreciably alter the relationship between insurance status and any of the indicators, inferring that there was very little confounding of the effects of insurance due to age.

Table 36: Age-standardised comparison of dentally insured and uninsured people

	Insured	Uninsured
Variable	**Estimate (95%CI)**	**Estimate (95%CI)**
% of people with complete tooth loss	6.4 (4.4–8.4)	12.4 (9.7–15.2)
% of people with fewer than 21 teeth	15.2 (11.6–18.9)	21.9 (19.2–24.7)
% of dentate people who wear denture(s)	19.5 (15.1–24.0)	24.4 (21.0–27.8)
Average number of missing teeth per person	5.0 (4.1–5.9)	6.8 (6.0–7.5)
% of people with untreated coronal decay	20.1 (12.8–27.4)	23.8 (17.6–30.0)
% of people with untreated root decay	4.7 (2.0–7.3)	9.6 (7.2–12.0)
% of people with one or more filled teeth	93.4 (88.6–98.2)	82.2 (74.8–89.7)
Average number of DMF teeth per person	14.0 (13.0–15.0)	13.6 (12.8–14.4)
% of people with moderate or severe periodontitis	29.6 (19.9–39.3)	33.5 (28.9–38.1)
% of people with 4+ mm periodontal pocket depth	20.3 (11.7–28.9)	25.0 (17.3–32.8)
% of people with 4+ mm clinical attachment loss	42.4 (33.5–51.4)	54.1 (47.3–60.8)
% of people with gingival inflammation	15.0 (7.6–22.3)	17.3 (12.0–22.6)
% of people visiting dentist within last 12 months	56.5 (50.4–62.6)	41.1 (36.3–45.9)
% of people who attended a private dental practice at last dental visit	89.2 (84.9–93.5)	63.6 (59.2–68.0)
% of people who paid for their last dental visit	98.6 (97.1–100.1)	81.1 (76.1–86.1)
% of people who received government-subsidised dental care in private sector	0.1 (<0–0.3)	2.7 (1.1–4.3)
% of people who usually visit a dental professional at least once a year	55.7 (50.4–60.9)	31.3 (25.9–36.6)
% of people who have a dentist they usually attend	84.8 (79.4–90.2)	62.7 (57.2–68.2)
% of people who usually visit a dentist for a check up	64.1 (58.4–69.8)	35.4 (30.0–40.9)
% of people who avoided or delayed dental care	26.3 (21.2–31.4)	44.4 (39.0–49.7)
% of people who reported that cost had prevented recommended dental treatment	18.2 (12.6–23.9)	26.3 (21.4–31.2)
% of people who would have a lot of difficulty paying a $100 dental bill	16.1 (13.0–19.3)	36.7 (31.2–42.1)
% of people avoiding foods due to dental problems	12.8 (9.1–16.5)	23.6 (19.4–27.8)
% of people rating their oral health fair or poor	14.2 (10.3–18.1)	24.5 (19.9–29.2)
% of people experiencing toothache	10.8 (7.0–14.5)	17.0 (13.0–21.1)
% of people experiencing orofacial pain	24.1 (19.1–29.1)	28.1 (22.6–33.6)
% of people who need dentures	7.1 (4.5–9.8)	10.6 (7.4–13.7)
% of people who need an extraction or filling	28.1 (22.6–33.6)	41.8 (36.6–46.9)
% of people perceiving a need for a check up	58.5 (52.2–64.9)	70.2 (65.7–74.8)
% of people perceiving a need for treatment within 3 months	77.2 (69.2–85.1)	70.0 (60.3–79.7)

Appendix

Sample counts

Table A.1: Table counts of interviewed people

	Age group (years)			
	All ages	**15–34**	**35–54**	**≥55**
All people	**1,042**	**193**	**384**	**465**
Sex				
Males	377	66	129	182
Females	665	127	255	283
Residential location				
Capital city	440	79	154	207
Other places	602	114	230	258
Postcode socioeconomic status				
Lowest	327	59	127	141
Middle	306	55	110	141
Highest	409	79	147	183
Government health card				
Blank but applicable	5	2	1	2
Health care card or pensioner concession card	432	49	95	288
Neither card	605	142	288	175
Place of last dental visit				
Cardholder/Public	111	23	32	56
Cardholder/Non-public	321	26	63	232
Dental insurance				
Blank but applicable	12	11	1	—
Insured	515	83	213	219
Uninsured	515	99	170	246

Table A.2: Sample counts of examined people

	Age group (years)			
	All ages	**15–34**	**35–54**	**≥55**
All people	**385**	**61**	**152**	**172**
Sex				
Males	152	16	57	79
Females	233	45	95	93
Residential location				
Capital city	180	24	68	88
Other places	205	37	84	84
Postcode socioeconomic status				
Lowest	113	15	50	48
Middle	95	16	31	48
Highest	177	30	71	76
Government health card				
Blank but applicable	1	0	0	1
Health care card or pensioner concession card	166	18	43	105
Neither card	218	43	109	66
Place of last dental visit				
Cardholder/Public	39	6	12	21
Cardholder/Non-public	127	12	31	84
Dental insurance				
Blank but applicable	1	0	1	—
Insured	208	30	85	93
Uninsured	176	31	66	79

Glossary

95% confidence interval Defines the uncertainty around an estimated value—there is a 95% probability that the true value falls within the range of the upper and lower limits.

Attachment loss The distance in millimetres measured from the edge of the enamel of a tooth to the gum tissue that is adherent to its root.

Calibration A procedure to promote standardisation between examiners performing the oral examinations.

Canine One of four 'eye teeth' positioned next to the incisors and used for tearing food.

Capital city The administrative seat of government of each of Australia's six states and two territories—each capital city also represents the most populous location of its respective state or territory.

Cemento-enamel junction Point on a tooth surface where the tooth crown joins the tooth root.

Census The Census of Population and Housing conducted every 5 years by the Australian Bureau of Statistics.

Complete tooth loss Loss of all natural teeth (also referred to as edentulism).

Coronal Pertaining to the crown of a tooth.

Crown The portion of tooth covered by white enamel that usually is visible in the mouth.

Dental attendance Behaviour related to the use of dental services.

Dental caries The process in which tooth structure is destroyed by acid produced by bacteria in the mouth—see dental decay.

Dental caries experience The cumulative effect of the caries process through a person's lifetime, manifesting as teeth that are decayed, missing or filled.

Dental decay Cavity resulting from dental caries.

Dental insurance Dental care is not covered under Australia's universal public health insurance vehicle, Medicare, and consequently people seeking cover can elect to carry private dental insurance.

Dentate Having one or more natural teeth.

Dentition The set of teeth—a complete dentition comprises 32 adult teeth.

Denture A removable dental prosthesis that substitutes for missing natural teeth and adjacent tissues.

DMFT An index of dental caries experience measured by counting the number of decayed (D), missing (M) and filled (F) teeth (T).

Edentulous A state of complete loss of all natural teeth.

Enamel Hard white mineralised tissue covering the crown of a tooth.

Epidemiology The study of the distribution and causes of health and disease in populations.

Examination protocol Methods and guidelines for conducting standardised oral examinations in a survey.

Extraction Removal of a natural tooth.

Generation A group of people born during a defined period of time (also referred to as a birth cohort).

Gingiva Gum tissue.

Gingivitis Redness, swelling or bleeding of the gums caused by inflammation.

Government health card A concession card issued by the Australian Government that entitles the holder to services including public dental care.

Incisor One of eight front teeth used during eating for cutting food.

Index of Relative Socioeconomic Advantage/Disadvantage (IRSAD) One of four indices measuring area-level disadvantage derived by the Australian Bureau of Statistics—the IRSAD is derived from attributes such as low income, low educational attainment, high unemployment and jobs in relatively unskilled occupations.

Indigenous identity A person who states that they are of Aboriginal and/or Torres Strait Islander descent is an Indigenous Australian.

Mean The arithmetic average of a set of values.

Molar One of 12 back teeth used in grinding food.

Natural teeth Refers to a person's own teeth as opposed to artificial teeth.

Orofacial pain Pain located in the face, jaw, temple, in front of the ear or in the ear.

Participation rate The proportion of people from whom survey information is collected from among the total number of people selected as intended study participants.

Periodontal disease Disease of the gums and other tissues that attach to and anchor teeth to the jaws.

Periodontal pocket A space below the gum line that exists between the root of a tooth and the gum surrounding that tooth.

Periodontitis Disease of the gums caused by bacteria, characterised by swelling and bleeding of the gums and loss of tissue that attaches the tooth to the jaw.

Permanent teeth Adult teeth (secondary teeth).

Plaque A film composed of bacteria and food debris that adheres to the tooth surface.

Prevalence The proportion of people with a defined disease within a defined population.

Probing pocket depth The measured depth of the periodontal pocket.

Recorder A person, usually a dental assistant, who recorded the results of an oral examination onto a laptop computer.

Relative difference The difference between two values calculated as a ratio of one value divided by another.

Restoration A filling to repair a tooth damaged by decay or injury.

Root That part of the tooth below the crown which is anchored to the jaw.

Root surface The surface of the root of a tooth.

Socioeconomic Indices for Areas (SEIFA) A set of four indices derived by the Australian Bureau of Statistics from population census data to measure aspects of socioeconomic position for geographic areas.

Socioeconomic position Descriptive term for a position in society and usually measured by attributes such as income, education, occupation or characteristics of residential area.

State/territory Geographic regions of Australia—the nation has six states and two territories.

Statistical significance An indication from a statistical test that an observed association is unlikely (usually less than 5% probability) to be due to chance created when a random sample of people is selected from a population.

Trend The general direction in which change over time is observed.

Unerupted tooth A tooth that has failed to emerge through the gums into the mouth.

Weights Numbers applied to groups of study participants to correct for differences in probability of selection and in participation.

Wisdom tooth One of four molars, each positioned at the back of the mouth.

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