

Oral health in South Australia 2004

ARCPOH Population Oral Health Series no. 4

A Ellershaw, AJ Spencer, GD Slade
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Oral health in South Australia 2004

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Executive summary

Caries experience

Dental decay begins in pre-school aged children. One in four children aged 3 years, and one in three children aged 4 years, who attended School Dental Service clinics in 2002, had decay experience. Untreated dental decay accounted for over 70% of this decay experience suggesting that treatment is not being provided early enough.

Since the late 1990's dental decay in both primary and secondary school aged children attending the School Dental Service has steadily increased. In 1999, children aged 6–7 years had an average of 1.44 decayed deciduous teeth but by 2002 this had increased by 27% to 1.83. The level of decay experience in permanent teeth also increased for children of all ages. In 1999, children aged 14–15 years had an average of 1.12 decayed permanent teeth but by 2002 this had increased by 37% to 1.53.

This upward trend may be due to a number of factors including the availability of a low fluoride concentrated children's toothpaste, increased consumption of bottled/rain water, a reduction in the number of children receiving fissure sealants to prevent decay, and changes in the dietary behaviours of children.

Indigenous children had more decay experience than other children. At 4–5 years of age, Indigenous children had more than twice the number of decayed deciduous teeth than other children. Whilst this is partly due to the School Dental Service targeting pre-school Indigenous children requiring treatment, this pattern continued as children developed permanent teeth. For all ages from 7 to 15 years, Indigenous children had higher levels of decay experience in their permanent teeth than other children.

Data on the decay experience of adults is limited by necessity to the following special interest groups – young adults aged 20–24 years, Indigenous adults, and adults attending public care. A national survey of adult oral health is currently being conducted to obtain data on the wider adult community.

The oral health of young adults deteriorates significantly after eligibility for the School Dental Service ceases at 18 years of age. Young adults had an average of 3.68 decayed teeth and only 1 in 5 young adults were completely free of decay. Untreated decay accounted for 19% of this decay suggesting that some young adults were not accessing timely care. This is confirmed by survey results, which indicate that over 20% of young adults have not made a dental visit in the last 2 years and 35% usually visited the dentist for a problem rather than a check-up.

Young concession cardholders fared worse with an average of 4.28 decayed teeth compared with 3.27 for other young adults. Cardholders were two times more likely to have lost teeth through decay than non-cardholders and also had higher levels of untreated decay. The poorer state of oral health for young cardholders may be due to long waiting lists in the public dental sector preventing regular, timely care.

Adults attending public care had high levels of decay with the situation deteriorating since 1996 for all age groups except young adults. Overall, decay experience increased from an average of 13.95 decayed teeth in 1996 to 15.68 in 2002, an increase of 12%. The major reason for this change was a significant increase (over 50%) in the number of teeth lost through

decay, increasing from 4.43 in 1996 to 6.68 in 2002. A possible reason for this increase is that patients with better oral health may be electing to attend a private clinic due to the long waiting lists associated with public care.

Despite little change in the decay experience of young adults attending public care, they still had almost twice the number of decayed teeth (7.17) as other young adults (3.68). Untreated decay accounted for almost half their decay experience compared with 19% for other young adults.

Young Indigenous adults had higher levels of decay than other young adults, with an average of 5.23 decayed teeth compared with 3.68. Untreated decay accounted for over half of this decay experience. Older Indigenous adults had high levels of tooth loss with this accounting for more than half of the decay experience of adults aged over 44 years. On average, Indigenous adults aged 25–44 years had 8.74 decayed teeth, and those aged over 44 years had 13.21 decayed teeth. Despite high levels of decay, Indigenous adults had less decay experience than adults attending public care.

Periodontal disease

The majority of 5-year-olds examined by the School Dental Service had completely healthy gums (92%). However, as children progressed through their primary and secondary school years the prevalence of gingival bleeding and calculus increased. By 14–15 years of age, 20% of children had calculus present on their teeth and 20% had gingival bleeding. Whilst most of this disease is of the mildest severity it can progress to more severe gum disease if left untreated.

Gum disease was more prevalent in Indigenous children. At 6–7 years of age, only 64% of Indigenous children had completely healthy gums compared with 80% of other children. By 14 years of age, this had declined to 43% for Indigenous children compared with 58% of other children. Indigenous children had higher levels of gingival bleeding, but lower levels of calculus present on their teeth, than other children.

State-wide data on the prevalence of periodontal disease in the wider adult community is limited by necessity to the following special interest groups – young adults aged 20–24 years, Indigenous adults, and adults attending public care.

As teenagers progressed to adulthood the prevalence of mild gum disease increased significantly. For adults aged 20–24 years, only 17% had completely healthy gums, 62% had calculus, and 6% had developed periodontal pockets, which if left untreated could eventually lead to tooth loss. In contrast to caries experience, the level of periodontal disease in young concession cardholders was similar to that for other young adults.

The majority of young adults attending public care had mild gum disease similar to that of other young adults. However, a significant number of older adults had progressed to more severe gum disease with 30% of adults aged over 44 years having periodontal pockets.

One in five Indigenous adults had completely healthy gums. Calculus was the most common periodontal condition for Indigenous adults aged less than 45 years. Older Indigenous adults, however, were more likely to have developed periodontal pockets with 25% of those examined having moderate pockets and 23% deep pockets. The higher prevalence of more severe gum disease suggests that some Indigenous adults may be more susceptible to the progression of periodontal disease. This is partly due to the high prevalence of diabetes in older Indigenous adults, with the link between periodontal disease and diabetes well established.

Tooth retention and loss

The percentage of adults who have had all their teeth extracted has declined significantly from 23% in 1979 to 7% in 2002. Despite this decline there still remain a significant number of older adults who are edentulous (i.e. have no natural teeth). In 2002, one in three persons aged 65–74 years, and one in two persons aged over 74 years, reported they were edentulous. Concession cardholders were significantly more likely to have lost all their teeth than non-cardholders.

The use of dentures among adults with some natural teeth remaining was strongly related to age. In 2002, over 50% of dentate adults aged 65–74 years, and 63% aged over 74 years, reported they wore a denture. Conversely, less than 3% of adults aged 18–44 years wore a denture.

Cardholders reported higher levels of tooth loss than non-cardholders. Cardholders aged 45–64 years reported an average of 8.3 teeth missing compared with 5.3 for non-cardholders. For adults aged over 64 years, cardholders had lost an average of 12 teeth compared with 9.3 for non-cardholders.

Preventive interventions

The increase in caries among children in recent years may, in part, be due to the reduced use of preventive fissure sealants by the South Australian School Dental Service. Since 1992 the application of fissure sealants has declined significantly for children of all ages. This is particularly evident for children aged 8–9 years where the proportion of children with fissure-sealed teeth almost halved from 33% in 1992 to 17% in 2002. Significant declines also occurred for older children.

Fissure sealants were used preferentially in children with previous caries experience. In 2002, 7% of 6-year-olds with caries experience had at least one tooth sealed compared with less than 1% of children without decay. By 12 years of age, one in two children with decay experience had fissure-sealed teeth compared with 31% of children without caries experience.

Use of dental services

The majority of children aged 5–11 years had visited a dentist in the last 12 months (85%) and nearly 100% had visited within the last 2 years. Of those children who had made a recent dental visit, 68% visited the School Dental Service and 29% visited a private clinic.

Children aged 12–17 years were also likely to have made a recent dental visit with over 77% visiting in the last 12 months and 97% within the last 2 years. Of those children who had made a recent dental visit, 58% visited a private clinic and 37% used the School Dental Service. The high use of the private sector in secondary school years reflects the decline in School Dental Service participation, which became more pronounced when co-payments were introduced for secondary school-age children who did not have concession cards.

Adults visited the dentist less frequently than children with less than 60% reporting they had visited in the last 12 months. Adults aged 25–44 years were least likely to have made a recent dental visit with nearly 30% reporting they had not visited in the last 2 years. Visiting patterns of concession cardholders were similar to non-cardholders with 55% of cardholders

and 60% of non-cardholders visiting within the last 12 months. The majority of adults who made a recent visit attended a private clinic. Despite concession cardholders being eligible for publicly funded care, 58% visited a private clinic. This may, in part, be due to the long waiting lists associated with public care.

Over 90% of children, 65% of young adults, and less than 50% of adults aged over 24 years usually visited the dentist for a check-up rather than a problem. Concession cardholders were more likely to usually visit for a problem (53%) than non-cardholders (38%).

A scale and clean was the most common dental treatment received in the last 12 months with over 60% of adults reporting this. Adult cardholders were less likely to have had their teeth cleaned (53%) than non-cardholders (73%).

Approximately 1 in 4 children and 45% of adults had had a filling in the last 12 months. Cardholders were equally likely to have had a filling as non-cardholders. As expected, extractions were less common with 1 in 10 children and 1 in 5 adults reporting they had had a tooth extracted in the last 12 months. Adult cardholders were 1.6 times more likely to have had an extraction (26%) than non-cardholders (16%). Males (25%) and adults aged 25–44 years (24%) also had higher extraction rates than other adults.

The reason for visiting a dentist significantly influenced the treatment received. Adults who usually visited for a problem were 3 times more likely to have had a tooth extracted and 1.4 times more likely to have a filling, than adults who usually visited for a check-up. Adults visiting for a problem were far less likely to have had their teeth cleaned in the last 12 months (49%) than those who usually visited for a check-up (78%).

Social impact of oral health

Painful toothache, avoidance of certain foods, and dissatisfaction with dental appearance can all adversely impact on the quality of a person's life and hence it is important to gain some understanding of the extent of these problems in the community. In 2002, 15% of adults reported they had experienced toothache during the last 12 months, with adults aged 25–44 years most likely to report this (20%). Dissatisfaction with dental appearance was higher among adults with natural teeth (23%) than edentulous adults (15%). However, edentulous adults were more likely to report they had avoided certain foods during the last 12 months (26%) than adults with natural teeth (16%). In particular, 40% of edentulous adults aged 45–64 years reported they had avoided certain foods.

Satisfaction with dental services received

Measuring consumer satisfaction with dental care is an important issue as it can influence use of dental services. Satisfied customers are more likely to seek regular preventive dental care. In rating dental care, the community was asked about a range of issues relating to their most recent dental visits including ease of making an appointment, waiting time, dentist seen, clinic used, whether explanations of treatment options were provided, and outcome of care received. Cost of dental care was not included in the overall rating.

The majority of adults who visited a dentist in the last 12 months were satisfied with the dental care they received. Only 7% of adults aged over 44 years, and 15% of adults aged less than 44 years, reported dissatisfaction with recent dental care.

Cardholders treated at public clinics reported higher levels of dissatisfaction (37%) than cardholders who elected to attend a private clinic (15%). However, only 3% of non-cardholders treated at private clinics were dissatisfied.

Major areas of dissatisfaction for patients attending public care were problems remaining untreated, difficulty in arranging suitable times for dental visits, and dissatisfaction with the thoroughness of the examination and explanation of possible treatment options. Adults treated at private clinics were most concerned with the cost of dental care with nearly 3 in 10 consumers reporting that dentists had not avoided expensive treatment options.

Cost of dental care

The community often cites cost as a deterrent to accessing regular dental care. In 2002, over one in five South Australians reported that they had avoided or delayed visiting a dentist because of cost, and nearly 12% reported that cost prevented recommended treatment. Adults aged 25–44 years were most likely to report that cost was a deterrent.

More cardholders reported they had avoided or delayed visiting because of cost than non-cardholders. The biggest impact occurred for cardholders aged 45–64 years with 44% reporting this. Cardholders were also more likely to report they would have difficulty paying a \$100 dental bill (30%) than non-cardholders (7%).

Dental insurance coverage was higher for South Australians (54%) than the national average of 45%. Coverage was highest among adults aged 45–64 years (68%) and children aged 12–17 years (63%). Only 35% of adults aged over 64 years had dental insurance. Adults with natural teeth were more likely to have dental insurance (56%) than edentulous adults (30%), and non-cardholders were twice as likely to be insured (65%) as cardholders (33%).

Expenditure on dental services in South Australia has increased from \$169 million in 1999–00 to \$266 million in 2002–03. South Australian residents were the major source of this expenditure with out-of-pocket expenses accounting for 39% of total dental expenditure in 1999–00, increasing to 46% in 2002–03. Dental services expenditure accounted for 3.8% of total health expenditure in 1999–00, increasing to 4.7% in 2002–03. This was lower than the 2002–03 national average of 6.1%.

Dental labour force

South Australia had more practising dentists on a per capita basis (54.8 per 100,000) than the national average (46.9 per 100,000). In the year 2000, there were 1,085 practising oral health providers in South Australia comprising 821 dentists (76%), 128 dental therapists (12%), 109 hygienists (10%) and 27 prosthetists (2%).

Dentists were more likely to practice in the Adelaide metropolitan area with a practising rate per 100,000 of 64.6 compared with 28.1 for the rest of South Australia. The majority of dentists practised in the private sector (73%) with a further 23% practising in the public sector. Public sector dentists were employed in the Community Dental Service (33%), dental hospitals (24%), tertiary institutions (21%), and the School Dental Service (15%).

Most dentists were employed as general practitioners (75%), a further 15% were employed in specialty/restricted practice, and the remaining 10% were employed in non-clinical roles such as administrators, educators and researchers.

Males accounted for 77% of practising dentists and 79% of dentists employed in specialist/restricted practice. The most common speciality area for males was orthodontics (50%). Females were equally likely to specialise in orthodontics and paedodontics (30%). South Australia had a similar number of practising dental therapists as the national average. However, the practising rate of hygienists in South Australia was far higher than the national average (7.3 compared with 2.3 per 100,000). The majority of hygienists worked in the Adelaide metropolitan area.

1 Introduction

Oral health is an integral aspect of general health and poor oral health is likely to exist when general health is poor (AHMAC 2001). Oral health is a standard of health of the oral and related tissues that enable an individual to eat, speak and socialise without active disease, discomfort or embarrassment (UK Department of Health 1994).

Oral diseases are widespread but are largely preventable through good personal oral hygiene and regular, preventative dental care. Better oral health should be a significant public health goal and good dental care should be a significant health service goal.

This report summarises key findings on the state of oral health of the South Australian population. Data have been sourced from surveys managed by the Australian Research Centre of Population Oral Health (ARCPOH) and administrative data provided by the South Australian Dental Service. Topics included in this report are described below.

Caries experience and periodontal disease

Dental caries is the most prevalent health problem in Australia and periodontal diseases are the fifth most prevalent health problem among Australians. About 90% of all tooth loss can be attributed to these two health problems. Data are presented on the dental caries experience and periodontal health of children, young adults and adult concession cardholders attending publicly funded dental care.

Deciduous caries experience is recorded as the number of deciduous teeth that are either decayed, missing because of dental caries or filled because of dental caries, and is based on the World Health Organization protocol (WHO 1997) with additional guidelines from Palmer et al. (1984). Permanent caries experience is recorded as the number of permanent teeth that are either decayed, missing because of dental caries or filled because of dental caries, and is also based on the WHO protocol (WHO 1997). Periodontal health is measured using the Community Periodontal Index (CPI) developed by the WHO. The CPI is a numerical rating scale used for classifying the periodontal status of a person with a single figure that takes into consideration prevalence as well as severity of the condition. It is based upon probing measurements of periodontal pockets and on gingival tissue status. People are categorised according to their most severe periodontal condition.

Indigenous oral health

The health status of Indigenous Australians is generally worse than that of other Australians. Whilst some historical reports indicated an advantage in terms of oral health, recent studies have shown high experience of dental decay among Indigenous children and high levels of tooth loss among adults. Data on the caries experience and prevalence of periodontal conditions for Indigenous children and adults is presented in this report.

Use of dental services

Many factors influence how frequently individuals use dental services. Comparisons of the use of dental services including time since last dental visit, usual dental visiting patterns and place of last dental visit are presented by age, sex and cardholder status. A cardholder is defined as a person who has a Pensioner Concession Card or Health Care Card. Possession of one of these cards entitles an adult to publicly funded care.

A person's reason for seeking dental care influences the type of care they are likely to receive, and the level of untreated problems they may have at any time. Individuals who visit a dental professional for the purpose of a routine dental check-up are most likely to benefit from early detection and treatment, and to receive preventive services. Conversely, those who seek care when they are experiencing a dental problem may receive less complete treatment, and may be less likely to receive preventive services. Comparisons of the reason for visiting a dentist are presented by age and cardholder status.

Generally, people who seek regular and routine dental care should report low levels of extractions and relatively low levels of fillings. Comparisons of the dental treatment received for dentate persons visiting a dentist in the last 12 months are presented by age, sex and cardholder status.

Social impact of oral health

Poor oral health can affect a person's quality of life. This topic investigates the prevalence of people experiencing toothache, being uncomfortable with their dental appearance, and avoiding certain foods due to poor oral health.

Satisfaction with dental care

Consumer satisfaction with dental care is an important issue as it influences the use of dental services. Satisfied customers are more likely to seek regular visits to the dentist and hence limit future oral health problems. This topic presents the percentage of people dissatisfied with the dental care they recently received. Items measured include location of clinic, waiting time, dentist's choice of treatment, explanation of treatment provided and outcome of treatment received. Dissatisfaction levels are presented for different age groups, cardholders attending public clinics, cardholders attending private clinics who payed out-of-pocket expenses even though they were eligible for publicly funded dental care, and non-cardholders attending private clinics.

Cost of dental care

Financial burden is one often cited reason why individuals delay seeking dental care. This report presents a number of measures that assess the financial burden of dental care and presents data on the number of South Australians covered by dental insurance. Expenditure on dental services by government and private funding sources is also presented. Expenditure data are sourced from the Australian Institute of Health and Welfare (AIHW).

Dental labour force

The dental labour force, consisting of registered dentists, dental therapists, dental hygienists and dental prosthetists, has a vital role to play in the improvement of oral health of South Australians. This report provides data on the number of dental practitioners by demographic and geographic characteristics, and the area and type of practice in which they are employed.

2 Data sources

The data presented in this report are sourced from the following surveys:

- Child Dental Health Survey
- Young Adult Survey
- Adult Dental Programs Survey
- National Dental Telephone Interview Survey
- Dental Satisfaction Survey
- National Dental Labour Force Survey.

Child Dental Health Survey

Purpose

The Child Dental Health Survey (CDHS) provides time-series data on the oral health status of Australian school students attending the School Dental Service. The aims of the survey are to:

- maintain the time-series of statistics providing annual estimates of children's oral health status;
- examine temporal changes in oral health status among children;
- examine the distribution of oral health status by geographic location and demographic factors; and
- identify high risk groups according to geographic location and demographic status.

Data collection

Data on the dental health of children attending the South Australian School Dental Service is collected through routine dental examinations undertaken by dental therapists and dentists. A count of the number of teeth that are decayed, missing or filled due to caries is collected to provide a measure of children's cumulative experience in dental decay. Separate data are collected for children's deciduous teeth, reported as dmft, and permanent teeth, reported as DMFT.

Data are entered into the EXACT Management Information System by the School Dental Service clinics and supplied to the AIHW Dental Statistics and Research Unit for processing and analysis.

The School Dental Service population consists of approximately 16% of pre-school children, 87% of primary school children and 45% of secondary school children. Due to the length of time between examinations, not all children under care by the School Dental Service are seen within a calendar year.

Sampling procedure and weighting

The target population for CDHS was children attending School Dental Service clinics in South Australia. Prior to 2001 a sample of children attending the School Dental Service in a particular calendar year were randomly selected by including children whose birthday fell on designated dates of each month.

Data were weighted to adjust for the different probabilities of selection of children in clinics across South Australia, and to reflect the age by sex estimated residential population (ERP) estimates produced by the Australian Bureau of Statistics for each statistical division within South Australia.

From mid 2001, data were collected from all children attending the South Australian School Dental Service and were weighted to reflect the appropriate ERP estimates for each statistical division.

Young Adult Survey

Purpose

Recent research indicates that young adults may be neglecting their oral health. Gains in oral health in childhood may be at risk when young people reach early adulthood. The purpose of the Young Adult Survey (YAS) is to obtain both self-reported and clinical data on the oral health status of this age group.

Data collection

The survey consisted of two phases. The first phase involved a telephone interview to collect data on sociodemographic status, health behaviour such as smoking and exercise, and use of dental services. At the conclusion of the interview respondents were asked to participate in a dental examination. Examinations were performed by three calibrated examiners in a clinical setting to obtain data on a person's caries experience, measured by DMFT, and periodontal health, measured by the Community Periodontal Index (CPI).

Sampling procedure and weighting

The target population for YAS was adults aged 20 to 24 years living in the Adelaide metropolitan area. A random sample of persons aged 20–24 years was selected from the electoral roll. Names and addresses were matched to the electronic white pages to obtain telephone numbers. Unmatched records were sent a letter explaining the survey and requesting they contact the survey team for inclusion. Telephone interviews were conducted using computer-assisted telephone interviewing software.

Overall, 1,261 young adults participated in the telephone interview phase in 1998–99, representing a participation rate of 61%, and 644 adults were examined.

Adult Dental Programs Survey

Purpose

All Australian states and territories provide public dental services, largely by publicly employed dentists in government clinics at minimal or no cost to the patient. The purpose of the Adult Dental Programs Survey (ADPS) is to monitor the oral health of patients attending public dental care across Australia. Patients eligible for public dental care are primarily holders of government entitlement cards such as aged pensioners and the unemployed, and are of particular interest as they represent a financially disadvantaged group of adults among the Australian population.

Data collection

Data were collected from a sample of patients undergoing publicly funded dental care primarily by staff of state or territory dental services. Examining dentists recorded the oral health status of each patient including caries experience, periodontal health, demographic and use characteristics, and services received throughout a course of care.

Sampling procedure and weighting

The target population for ADPS was adults aged 18 years and over attending public dental care in South Australia. The survey was conducted in 1995–96 and 2001–02, with data obtained from 753 patients in 1995–96 and 1,904 patients in 2001–02. Data were collected from a random sample of adult patients at the beginning of a course of care by identifying patients with designated birth dates. All publicly funded dental clinics in South Australia were included in the survey. Data were not weighted as the sample design ensured all patients attending publicly funded dental care in South Australia within a survey year had an equal chance of selection.

National Dental Telephone Interview Survey

Purpose

The purpose of the National Dental Telephone Interview Survey (NDTIS) is to:

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

Data collection

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

Sampling procedure and weighting

The target population for NDTIS was residents aged 5 years and over living in Australia. A multi-stage stratified design was employed with the electronic White Pages used as the sampling framework. Telephone numbers were assigned to metropolitan/non-metropolitan strata and selected randomly to yield a state quota. Households were contacted by phone and a random person was selected, based on birth date, from each household to be interviewed. If the target person was home they were interviewed; otherwise a call-back was scheduled. Up to six calls were made to contact the target person, ensuring that attempts were spread throughout the day, evening and weekends to maximise contact.

A total of 1,207 people across South Australia participated in the 2002 survey, representing a participation rate of 70%.

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

Dental Satisfaction Survey

Purpose

Consumer satisfaction with health care is an issue when evaluating health care programs. The investigation of patient satisfaction as a measure in health care was addressed in the 1970s. Care that is less satisfactory to the consumer has been shown to be less effective. Links exist between satisfaction and health behaviours such as appointment keeping, seeking care, understanding and retention of instructions, intention to comply with recommended treatment, and medication use. Neglect in any of these behaviours could be detrimental to dental health status. The purpose of the Dental Satisfaction Survey (DSS) is to:

- examine differences in the levels of satisfaction with dental care in a cross-sectional survey of the Australian population; and
- identify and investigate changes over time in the satisfaction levels of cardholders participating in the Commonwealth Dental Health Program.

Data collection

Data was collected via a self-completed questionnaire mailed to the respondent. The questionnaire was designed to cover the following dimensions of a dental visit:

- **Context** – including location, travel and appointments, waiting time, helpfulness of clinic staff, seeing the preferred dentist.
- **Content** – including the thoroughness of procedures carried out, explanations and communication during treatment, usefulness of advice.
- **Outcome** – including concordance with desired services, success of treatment in terms of problems solved, speed of improvement in oral health.
- **Cost** – including affordability of dental care.

The respondent was required to score from 1 (very dissatisfied) to 5 (very satisfied) a series of statements relating to their satisfaction with the service provided at their last dental visit or series of dental visits.

Data presented for the context, content and outcome scales reflect the percentage of persons who were dissatisfied (reported either 1 or 2) with 2 or more items included in each scale. Data presented for the overall rating reflects the percentage of persons who were dissatisfied with 5 or more items included in the overall rating scale. Cost was not included in the overall rating but is presented separately.

Sampling procedure and weighting

The target population for DSS was limited to dentate adults who had visited a dentist in the last 12 months. A sub-sample of respondents from the National Dental Telephone Interview Survey (NDTIS) was selected for DSS. Only dentate adults who had visited a dentist in the previous 12 months were eligible for selection. To measure the difference in satisfaction levels of cardholders and non-cardholders, all cardholders and one in four non-cardholders participating in NDTIS were selected for DSS to achieve approximately equal numbers in each group. Overall, 209 people responded to the survey in 2002, representing a participation rate of 78%.

Dental Labour Force Survey

Purpose

The main purpose of the Dental Labour Force Survey is to provide national labour force statistics on registered dentists, dental therapists, dental hygienists and dental prosthetists. Monitoring the dental labour force over time enables appropriate planning and informed decision-making by all involved in the dental profession. In addition, survey data has enabled the projection of growth in the South Australian dental labour force and modelling of the future capacity of the dental labour force to supply dental visits.

Data collection

Data collected is part of a national data set agreed by the Australian Health Minister's Advisory Council to facilitate appropriate health planning and administration. A questionnaire is included with the annual re-registration form sent to dental practitioners by each state dental board.

Data collected from participants includes practising status, hours worked, area and type of practice, specialty area and geographic location. Dental boards provided demographic characteristics, place and year of initial qualification, and year of first registration.

Sampling procedure and weighting

All dental practitioners registered with the Dental Board of South Australia receive a mail out questionnaire annually. In 2000, 92% of registered practitioners participated in the survey. Data were weighted to adjust for non-response using dental board registration data.

3 Caries experience

Caries experience of children

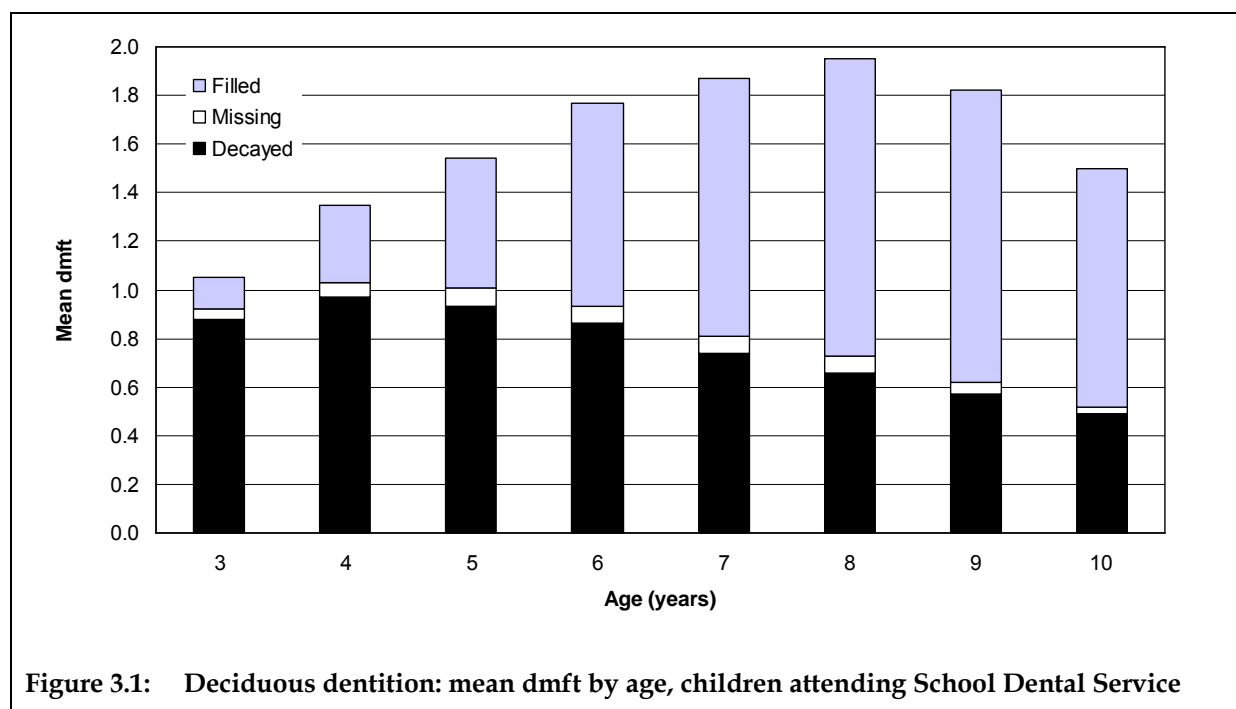
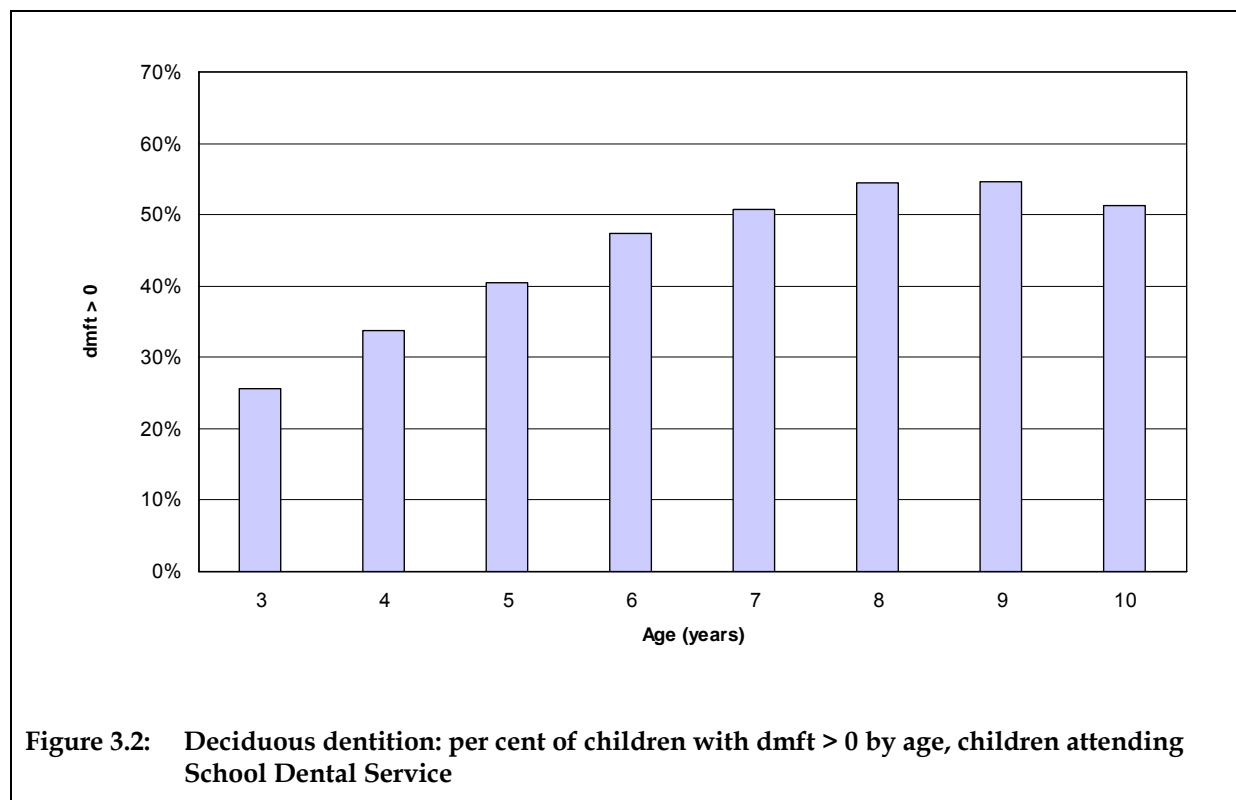


Figure 3.1: Deciduous dentition: mean dmft by age, children attending School Dental Service

Mean dmft	3 yrs	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs
Decayed	0.88	0.97	0.93	0.86	0.74	0.66	0.57	0.49
Missing	0.04	0.06	0.08	0.07	0.07	0.07	0.05	0.03
Filled	0.13	0.32	0.53	0.84	1.06	1.22	1.20	0.98
Total	1.05	1.35	1.54	1.77	1.88	1.94	1.82	1.50
Mean number of teeth	19.45	19.81	19.41	17.36	14.38	12.36	10.74	8.60

Source: 2002 Child Dental Health Survey.

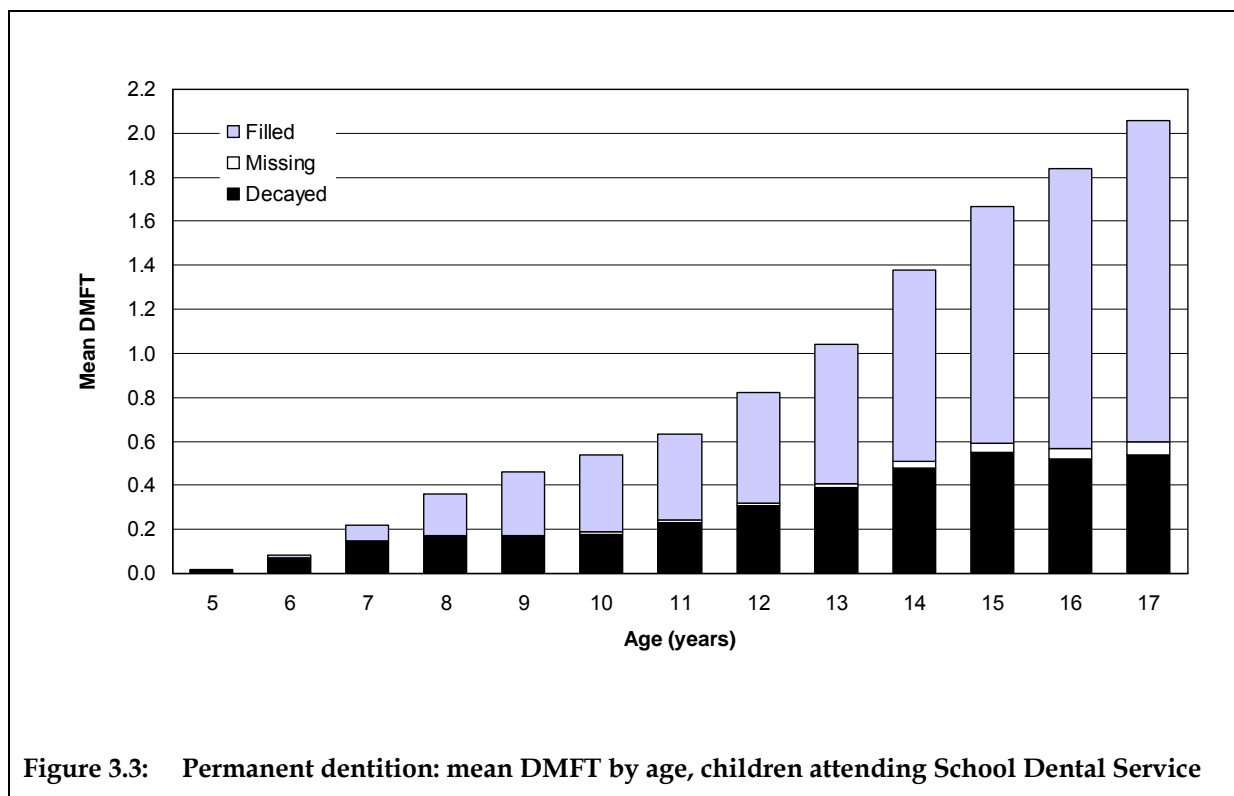
- Children aged 4-5 years had the highest level of untreated decay accounting for over 60% of their caries experience.
- As children grew older the number of untreated decayed teeth declined and number of filled teeth increased, reflecting treatment provided by the School Dental Service. On average, children aged 7-9 years had at least one filling in their deciduous teeth.
- Eight-year-olds had the highest mean dmft score (1.94) with 16% of their deciduous teeth experiencing caries. However, due to the exfoliation of deciduous teeth, the proportion of deciduous teeth with caries experience was higher for 9- and 10-year-olds (17%).



Persons (%)	3 yrs	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs
With dmft > 0	25.7	33.7	40.4	47.3	50.8	54.5	54.6	51.3
Mean number of teeth	19.5	19.8	19.4	17.4	14.4	12.4	10.7	8.6

Source: 2002 Child Dental Health Survey.

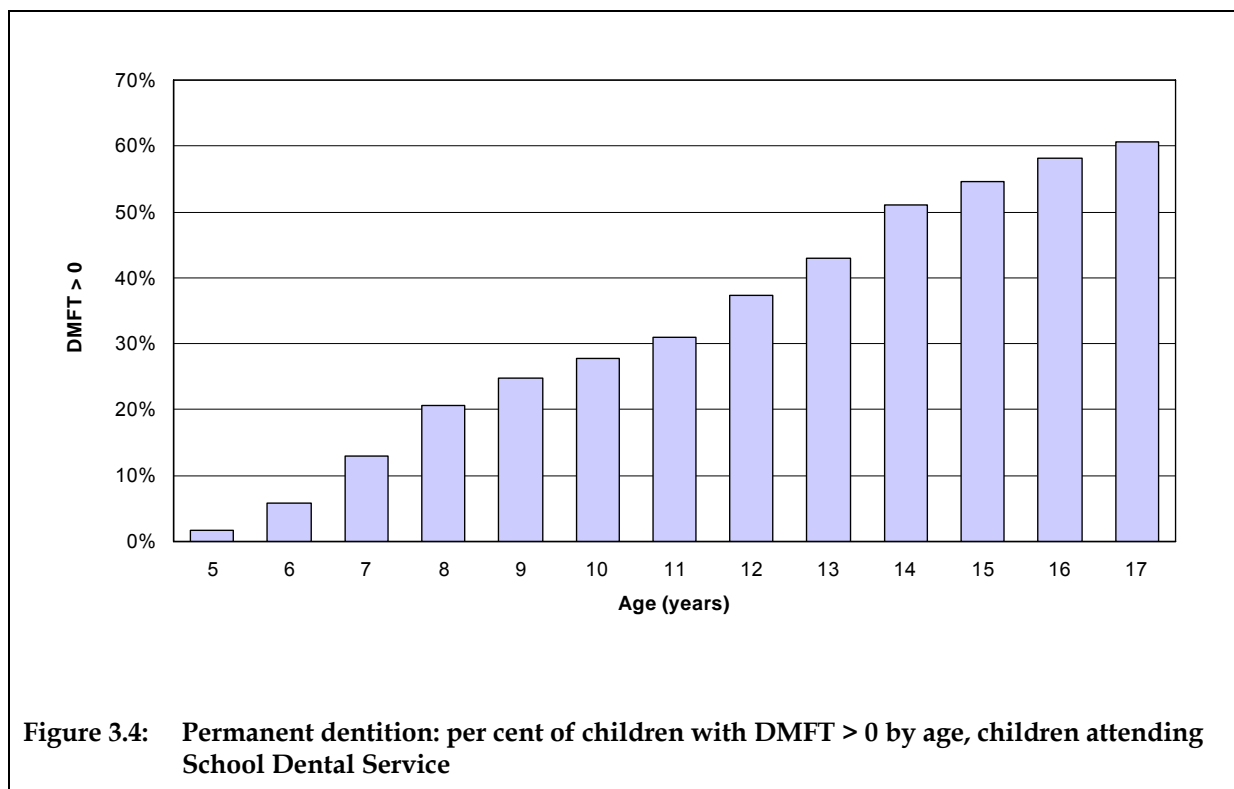
- This chart indicates the percentage of children attending the School Dental Service with caries experience in their deciduous teeth at a particular age.
- One in four children aged 3 years, and one in three children aged 4 years, had some caries experience in their deciduous teeth.
- The percentage of children with caries experience in their deciduous teeth increased across the age group reaching a peak of 55% for children aged 8 and 9 years.



Mean DMFT	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs	16 yrs	17 yrs
Decayed	0.02	0.07	0.15	0.17	0.17	0.18	0.23	0.31	0.39	0.48	0.55	0.52	0.54
Missing	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.06
Filled	0.00	0.01	0.07	0.19	0.29	0.35	0.39	0.50	0.63	0.87	1.08	1.27	1.46
Total	0.02	0.08	0.22	0.36	0.46	0.54	0.63	0.82	1.04	1.38	1.67	1.84	2.06
Mean number of teeth	3.52	5.58	8.75	11.15	13.11	16.19	20.42	24.08	26.22	27.15	27.35	27.52	27.77

Source: 2002 Child Dental Health Survey.

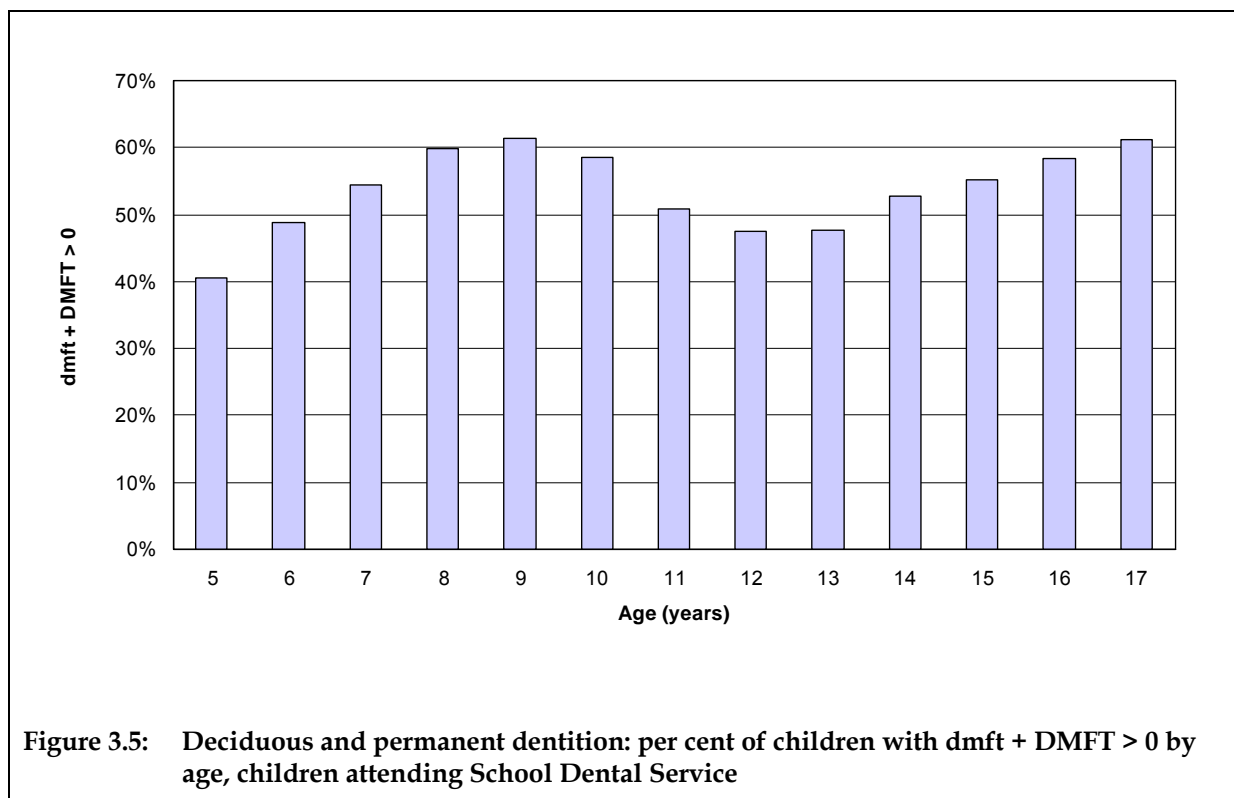
- Mean DMFT steadily increased across age as the number of permanent teeth present increased.
- Seventeen-year-olds had the highest DMFT with an average of 2 permanent teeth being affected by caries.
- The number of untreated decayed permanent teeth increased with age to a peak of 0.5 for 14–17-year-olds.
- The number of permanent teeth missing due to caries remained low throughout the adolescent years.



Persons (%)	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs	16 yrs	17 yrs
With DMFT > 0	1.7	5.9	12.9	20.6	24.8	27.8	30.9	37.3	43.0	51.1	54.6	58.1	60.6
Mean number of teeth	3.5	5.6	8.8	11.2	13.1	16.2	20.4	24.1	26.2	27.2	27.4	27.5	27.8

Source: 2002 Child Dental Health Survey.

- This chart indicates the percentage of children attending the School Dental Service with caries experience in their permanent teeth at a particular age.
- The percentage of children with caries experience in their permanent teeth increased steadily with age.
- Nearly 2% of children aged 5 years and 6% of children aged 6 years had experienced caries in their permanent teeth despite having few permanent teeth at this age.
- By 14 years of age over 50% of children had experienced caries in their permanent teeth increasing to over 60% by 17 years of age.



Persons (%)	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs	16 yrs	17 yrs
dmft+DMFT > 0	40.5	48.7	54.5	59.9	61.3	58.5	50.9	47.4	47.6	52.8	55.2	58.4	61.1

Source: 2002 Child Dental Health Survey.

- This chart indicates the percentage of children attending the School Dental Service with caries experience in either their deciduous or permanent teeth at a particular age.
- The percentage of children with caries experience in either their deciduous or permanent teeth increased steadily from 40% for 5-year-olds to a high of 61% for 9-year-olds, then declined to a low of 47% for 12-13-year-olds. This decline is most likely a result of the exfoliation of deciduous teeth and the time lag between this event and the development of caries in permanent teeth.
- As children aged beyond 13 years the percentage with caries experience increased steadily to a high of 61% for 17-year-olds.

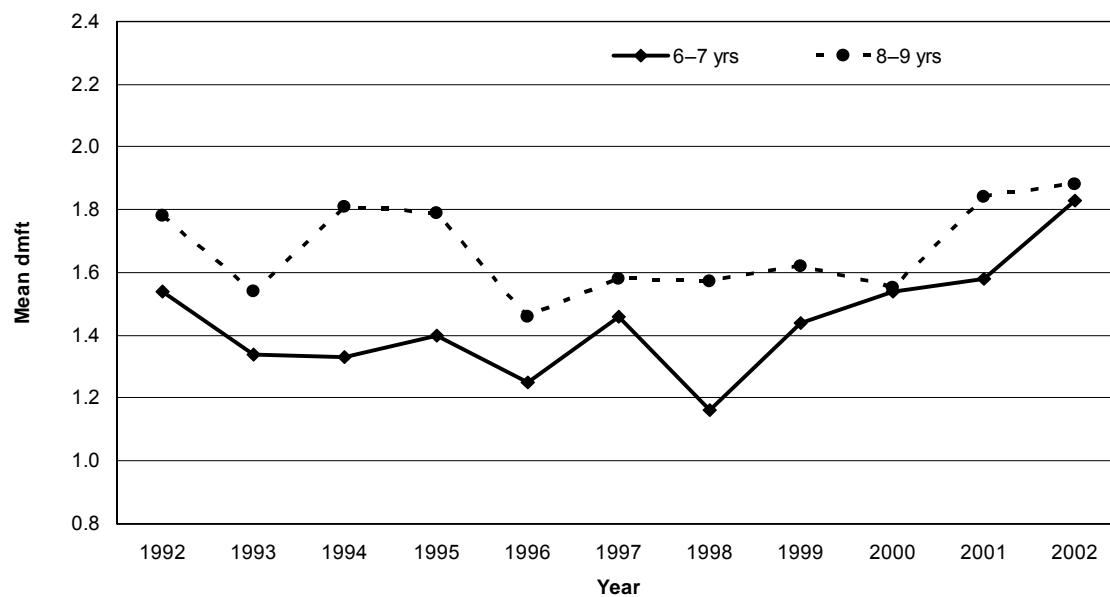


Figure 3.6: Deciduous dentition: mean dmft by age for years 1992 to 2002, children attending School Dental Service

Mean dmft	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
6-7 years	1.54	1.34	1.33	1.40	1.25	1.46	1.16	1.44	1.54	1.58	1.83
8-9 years	1.78	1.54	1.81	1.79	1.46	1.58	1.57	1.62	1.55	1.84	1.88

Source: 1992-2002 Child Dental Health Surveys.

- Decay experience in children aged 6-9 years who attended the School Dental Service has steadily increased over the last 5 years. For 6-7-year-olds, the number of decayed deciduous teeth increased from 1.44 in 1999 to 1.83 in 2002. For 8-9 year-olds decay experience increased from 1.62 in 1999 to 1.88 in 2002.
- During the 10-year period 1992-2002, the mean dmft score increased by 19% for 6-7-year-olds and 6% for 8-9-year-olds, despite fluctuations during the intervening years.

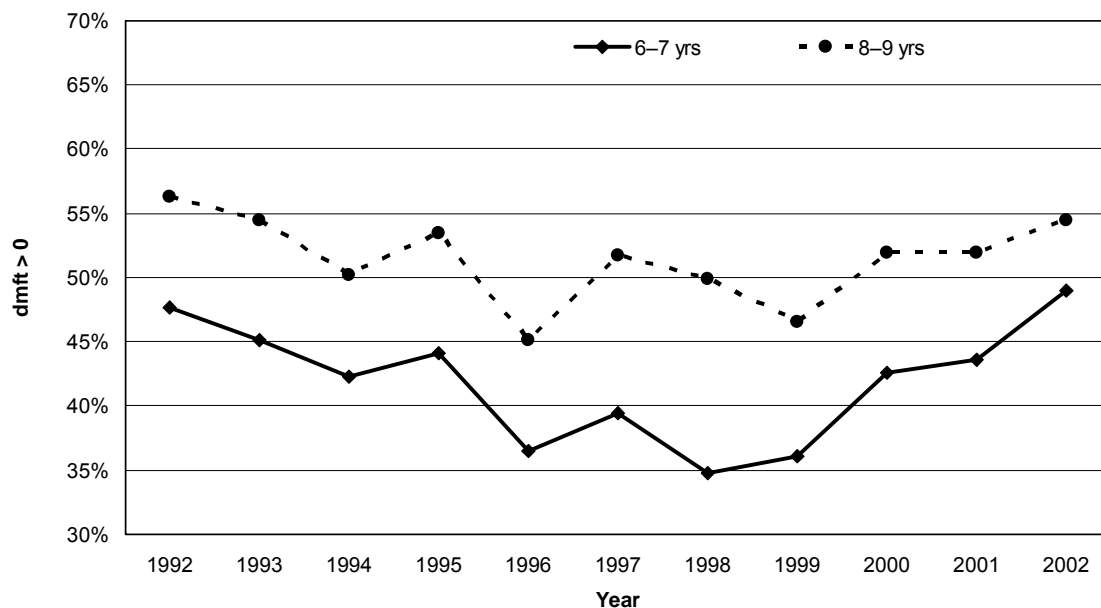


Figure 3.7: Deciduous dentition: per cent of children with dmft > 0 by age for years 1992 to 2002, children attending School Dental Service

Persons with dmft > 0 (%)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
6-7 years	47.7	45.1	42.3	44.1	36.5	39.4	34.8	36.1	42.6	43.6	49.0
8-9 years	56.3	54.5	50.2	53.5	45.1	51.7	49.9	46.5	51.9	51.9	54.5

Source: 1992-2002 Child Dental Health Surveys.

- During the period 1992-96 the percentage of children aged 6-9 years with caries experience in their deciduous teeth declined. However, since 1999 there has been an increase in the number of children with caries experience, particularly for children aged 6-7 years.
- In 1999, 36% of 6-7-year-olds had experienced caries in their deciduous teeth, however, by 2002 this had increased to 49%. Similarly, the prevalence of caries experience in 8-9-year-olds increased from 47% in 1999 to 55% in 2002.

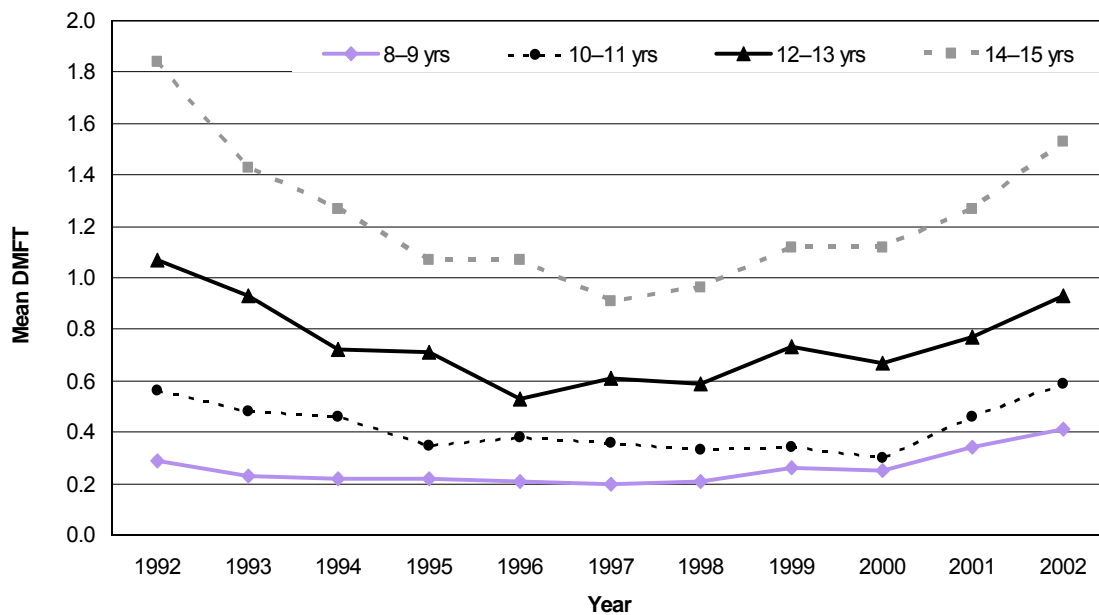


Figure 3.8: Permanent dentition: mean DMFT by age for years 1992 to 2002, children attending School Dental Service

Mean DMFT	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
8-9 years	0.29	0.23	0.22	0.22	0.21	0.20	0.21	0.26	0.25	0.34	0.41
10-11 years	0.56	0.48	0.46	0.35	0.38	0.36	0.33	0.34	0.30	0.46	0.59
12-13 years	1.07	0.93	0.72	0.71	0.53	0.61	0.59	0.73	0.67	0.77	0.93
14-15 years	1.84	1.43	1.27	1.07	1.07	0.91	0.96	1.12	1.12	1.27	1.53

Source: 1992-2002 Child Dental Health Surveys.

- Since 1998 the mean DMFT score for children attending the School Dental Service has steadily increased in all age groups from 8 to 15 years old. This is in contrast to the decline in DMFT during the period 1992-97.
- The largest percentage increase in DMFT occurred in children aged 8-9 years with mean DMFT almost doubling from 0.21 in 1998 to 0.41 in 2002.

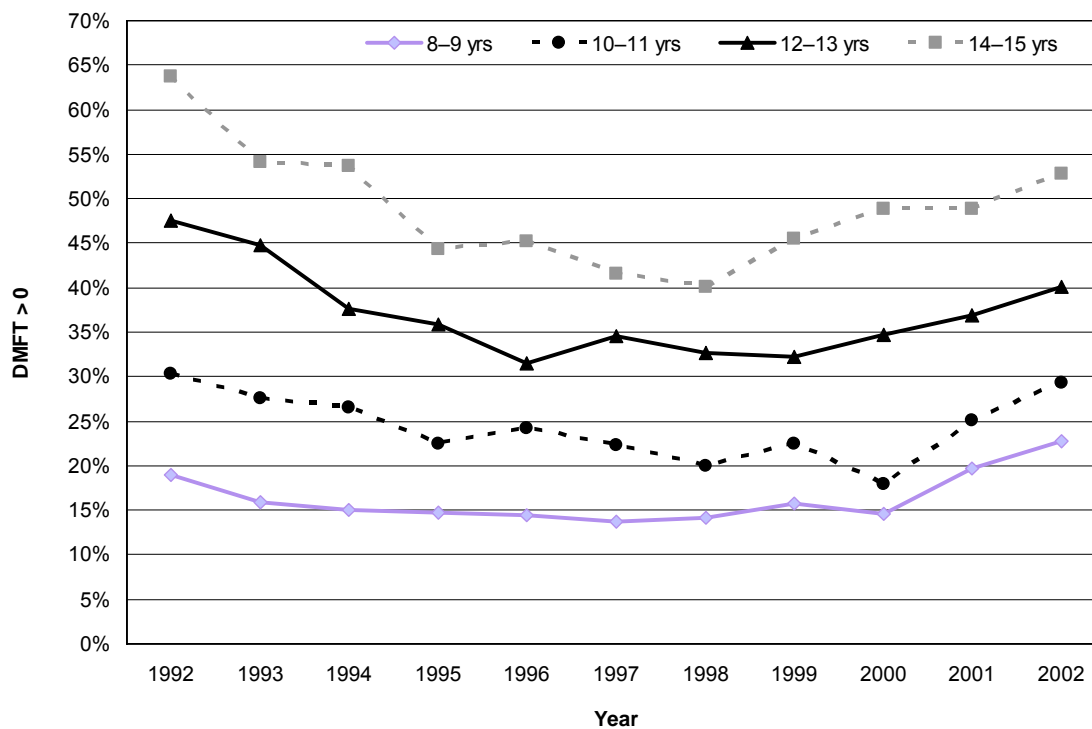


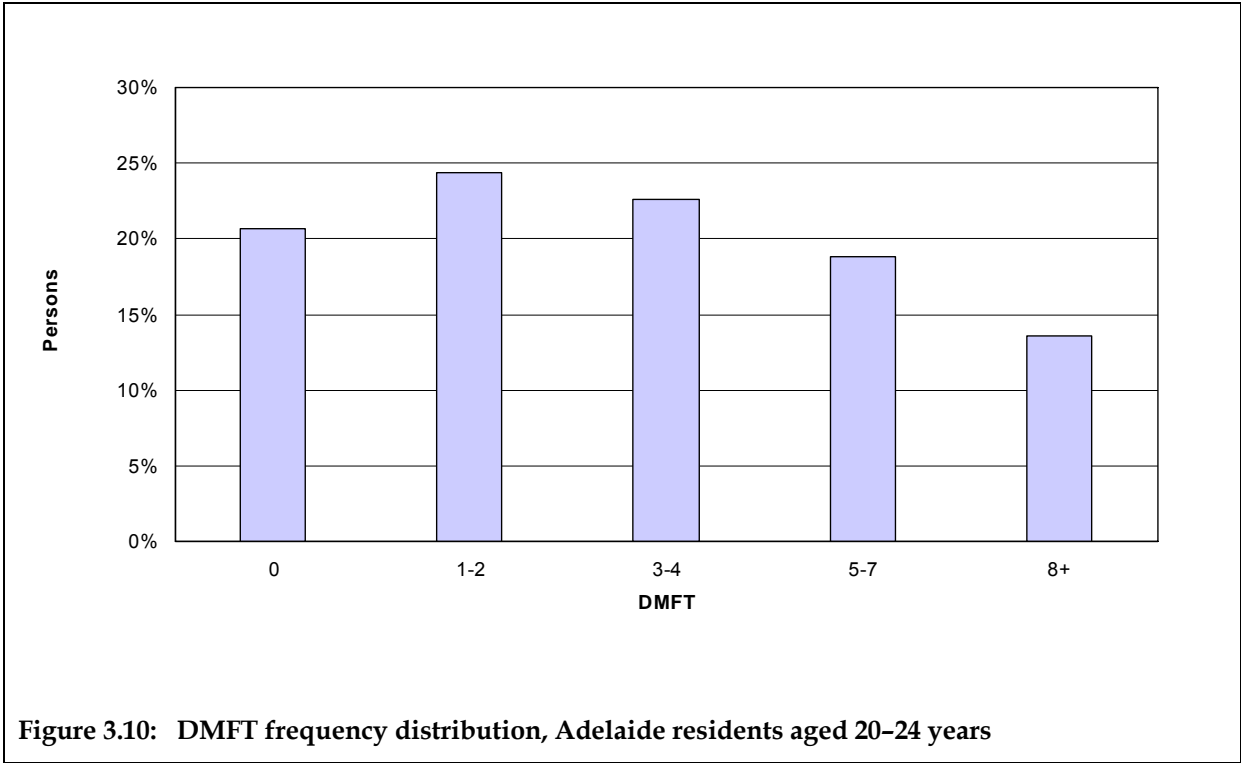
Figure 3.9: Permanent dentition: per cent of children with DMFT > 0 by age for years 1992 to 2002, children attending School Dental Service

Persons with DMFT > 0 (%)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
8-9 years	19.0	15.9	15.0	14.8	14.5	13.7	14.1	15.8	14.6	19.7	22.7
10-11 years	30.4	27.5	26.5	22.4	24.2	22.3	20.0	22.4	17.9	25.1	29.3
12-13 years	47.5	44.7	37.6	35.9	31.5	34.5	32.6	32.3	34.7	36.9	40.1
14-15 years	63.7	54.1	53.7	44.3	45.2	41.6	40.1	45.5	48.9	48.9	52.8

Source: 1992-2002 Child Dental Health Surveys.

- Over the last 5 years the percentage of children with caries experience in their permanent dentition increased in all age groups from 8 to 15 years old. This is in contrast to the decline in the prevalence of caries in permanent teeth during the period 1992 to 1995.
- The percentage of children aged 8-9 years with caries experience in their permanent teeth increased from 14% in 1998 to 23% in 2002. Similarly, the percentage of children aged 14-15 years with caries experience in their permanent teeth increased from 40% in 1998 to 53% in 2002.

Caries experience of young adults aged 20–24 years



DMFT distribution	0	1–2	3–4	5–7	8+	Total
Persons (%)	20.7	24.4	22.6	18.8	13.6	100.0

Source: 1999 Young Adult Survey.

- This chart shows the frequency distribution of DMFT for persons aged 20–24 years.
- Twenty-one per cent of persons aged 20–24 years had no caries experience.
- Nearly one in four persons aged 20–24 years had between 1 and 2 permanent teeth affected by caries, and 23% had between 3 and 4 permanent teeth affected by caries.
- Just under 14% of young adults had 8 or more permanent teeth affected by caries and could be regarded as at high risk of developing further caries.

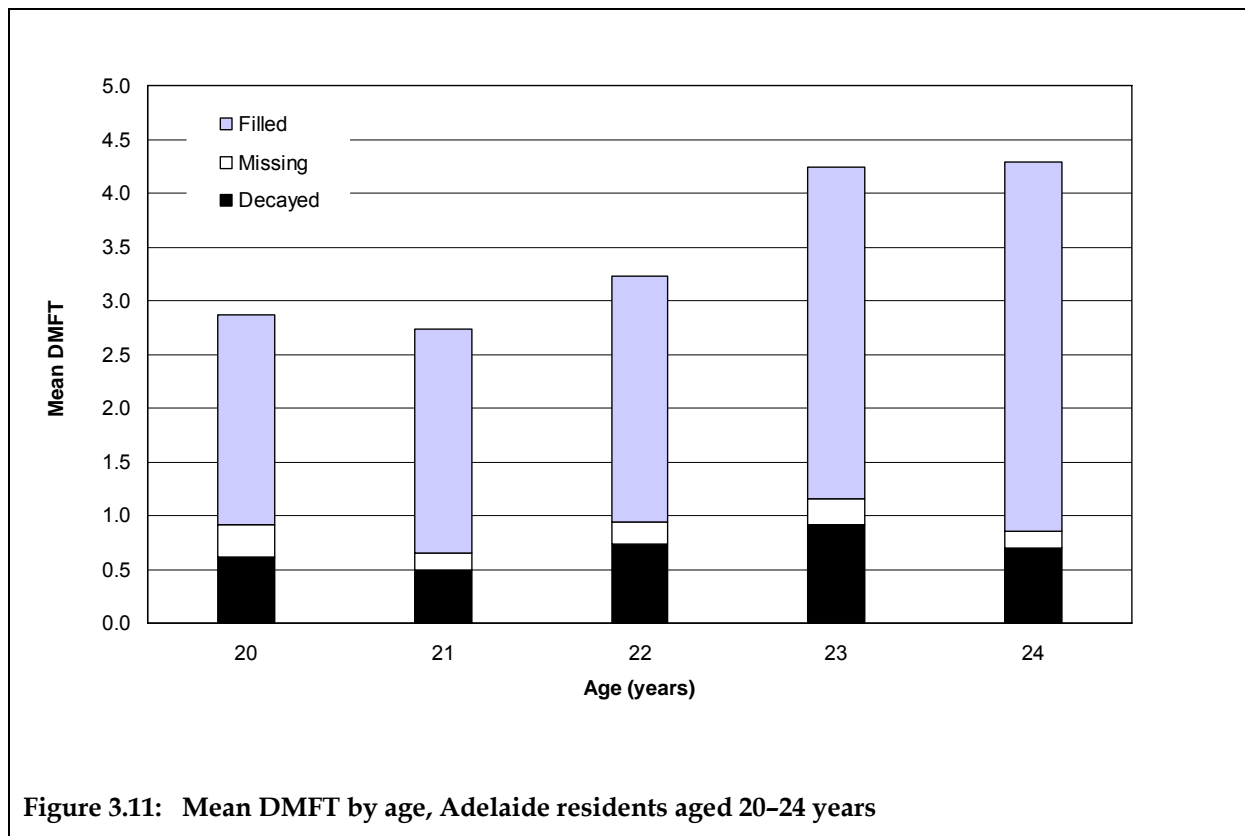


Figure 3.11: Mean DMFT by age, Adelaide residents aged 20-24 years

Mean DMFT	20 yrs	21 yrs	22 yrs	23 yrs	24 yrs	Total
Decayed	0.61	0.50	0.74	0.92	0.70	0.70
Missing	0.30	0.15	0.20	0.24	0.16	0.20
Filled	1.96	2.09	2.29	3.08	3.43	2.78
Total	2.87	2.74	3.24	4.24	4.29	3.68

Source: 1999 Young Adult Survey.

- Mean DMFT of young adults steadily increased across age. (Note that the mean DMFT score for 20-year-olds was based on a smaller sample size than other age groups.)
- On average, young adults aged 20-24 years had 3-4 teeth affected by caries.
- Overall, filled teeth accounted for 76% of total DMFT and untreated decayed teeth accounted for 19% of total caries experience. Teeth missing due to caries only accounted for 5% of total DMFT.

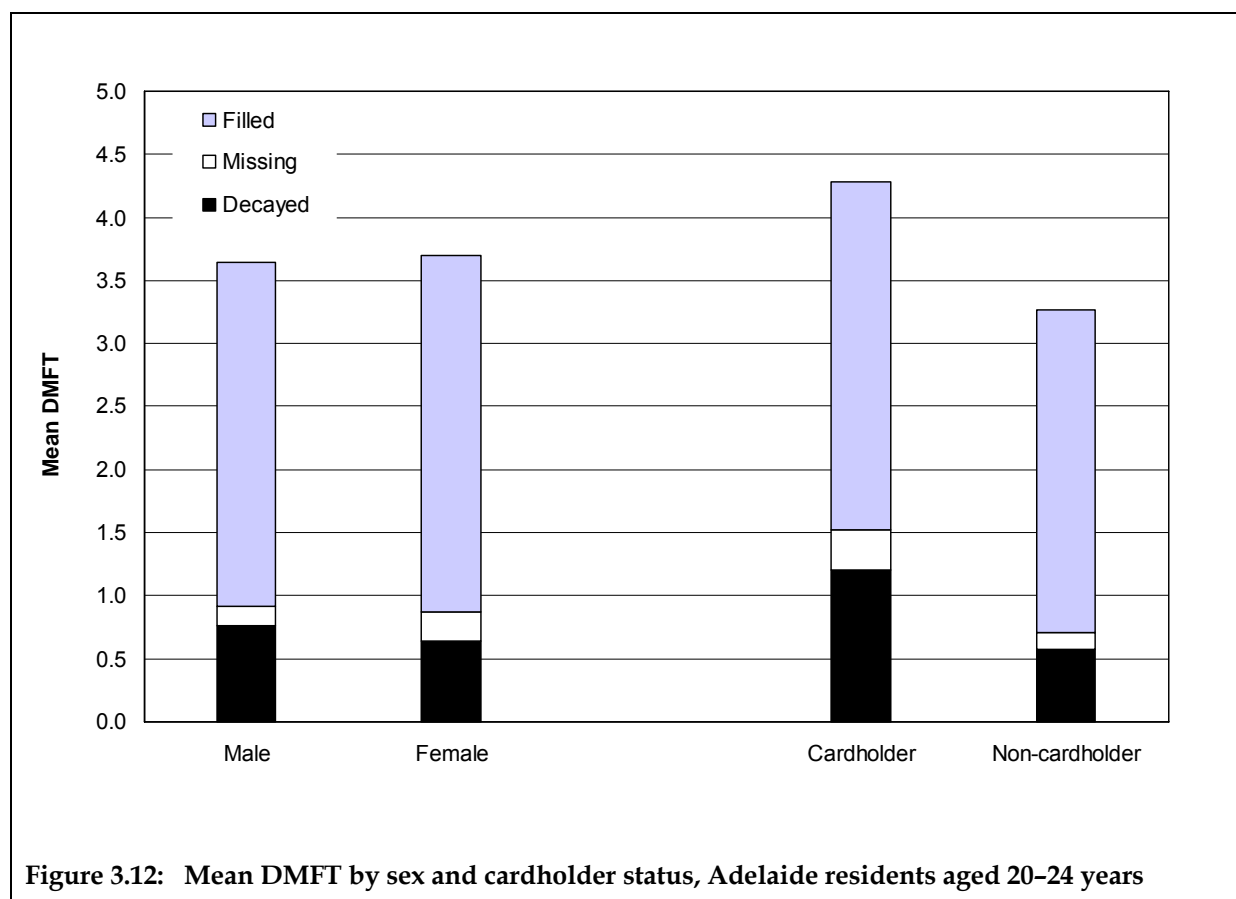
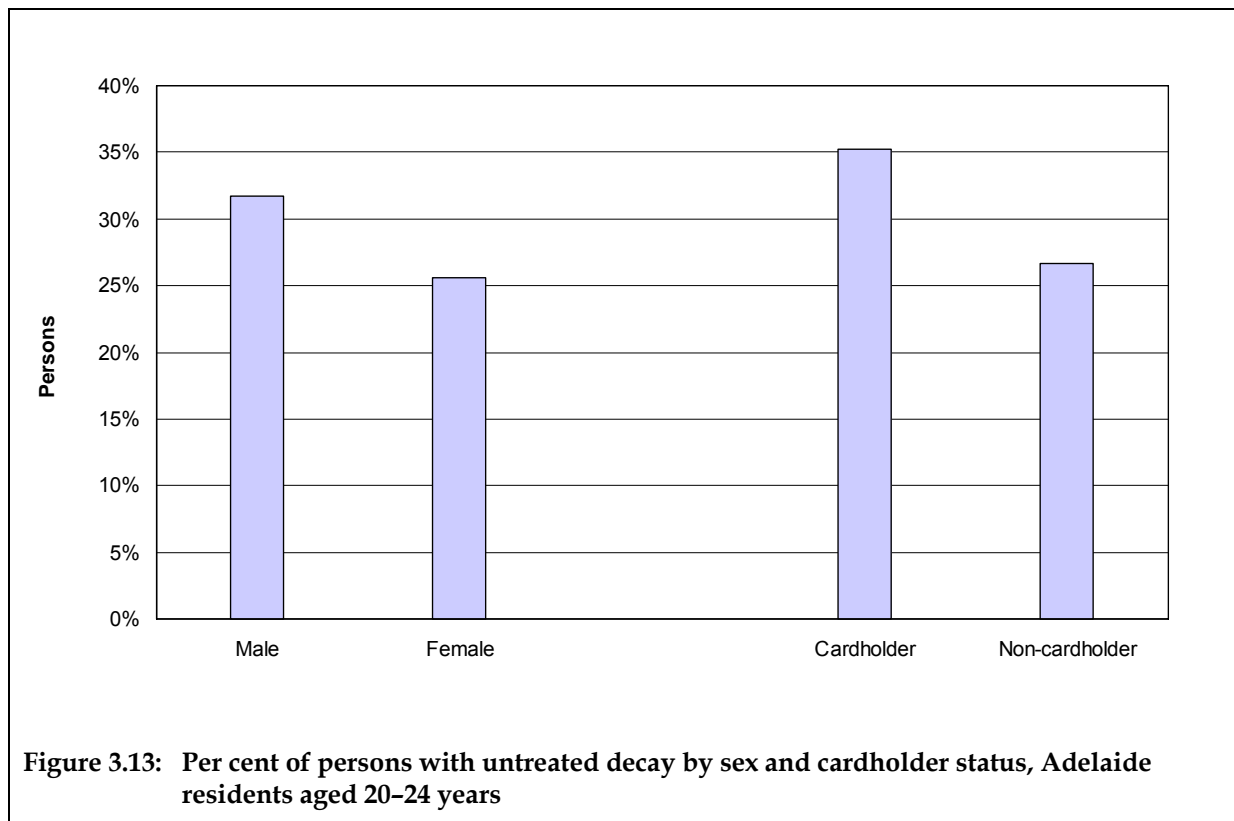


Figure 3.12: Mean DMFT by sex and cardholder status, Adelaide residents aged 20–24 years

Mean DMFT	Sex		Cardholder status		Total
	Male	Female	Cardholder	Non-cardholder	
Decayed	0.76	0.64	1.20	0.57	0.70
Missing	0.16	0.23	0.32	0.14	0.20
Filled	2.72	2.83	2.76	2.56	2.78
Total	3.64	3.70	4.28	3.27	3.68

Source: 1999 Young Adult Survey.

- The mean DMFT score for females aged 20–24 years (3.70) was similar to the corresponding score for males (3.64). Untreated decayed teeth accounted for 21% of the mean DMFT score for males compared with 17% for females.
- Cardholders aged 20–24 years had a higher mean DMFT score (4.28) than non-cardholders (3.27). Untreated decayed teeth accounted for 28% of the mean DMFT score for cardholders compared with 17% for non-cardholders. Cardholders were more likely to have teeth missing due to caries than non-cardholders.

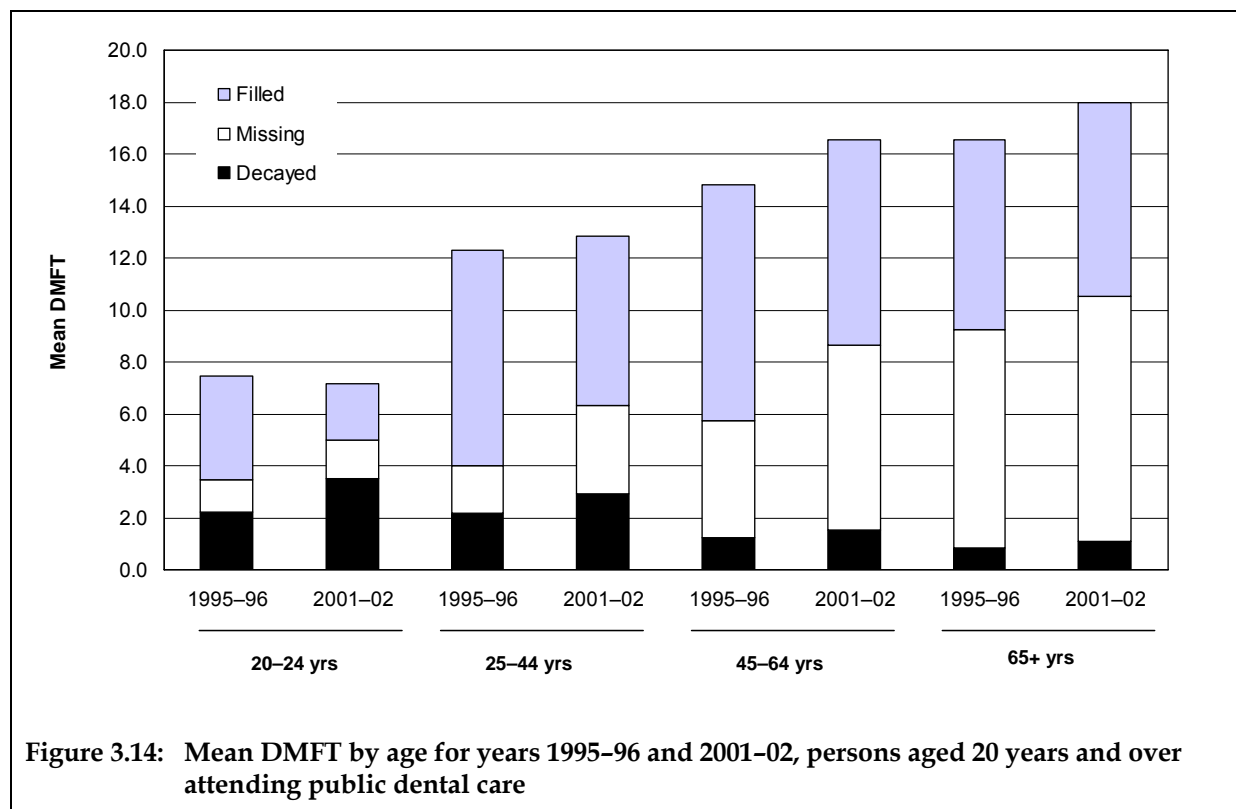


Persons (%)	Sex		Cardholder status		Total
	Male	Female	Cardholder	Non-cardholder	
With untreated decay	31.7	25.6	35.2	26.7	28.6

Source: 1999 Young Adult Survey.

- Twenty-nine per cent of young adults aged 20–24 years had untreated decayed teeth.
- Males had a higher prevalence of untreated decayed teeth (32%) than females (26%).
- Young adult cardholders were more likely to have untreated decayed teeth (35%) than non-cardholders (27%).

Caries experience of adults attending public dental care



	20-24 yrs		25-44 yrs		45-64 yrs		65+ yrs		Total	
Mean DMFT	1995-96	2001-02	1995-96	2001-02	1995-96	2001-02	1995-96	2001-02	1995-96	2001-02
Decayed	2.21	3.49	2.19	2.91	1.22	1.54	0.85	1.08	1.52	1.84
Missing	1.27	1.49	1.79	3.39	4.51	7.09	8.37	9.45	4.43	6.68
Filled	3.97	2.19	8.30	6.55	9.10	7.93	7.33	7.46	8.00	7.16
Total	7.45	7.17	12.29	12.85	14.83	16.57	16.54	18.00	13.95	15.68

Source: Adult Dental Programs Survey.

- Overall, mean DMFT for adults attending public dental care increased from 13.95 in 1995-96 to 15.68 in 2001-02, an increase of 12%. During this period DMFT increased in all age groups except young adults aged 20-24 years.
- This change was mainly due to a significant increase (over 50%) in the average number of teeth missing due to caries, increasing from 4.43 in 1995-96 to 6.68 in 2001-02. Untreated decay also rose during this period, increasing from 1.52 in 1995-96 to 1.84 in 2001-02. Conversely, the average number of filled teeth declined from 8 in 1995-96 to 7.16 in 2001-02.
- The significant increase in the number of teeth missing due to caries occurred in adults aged 25-44 years and 45-64 years.

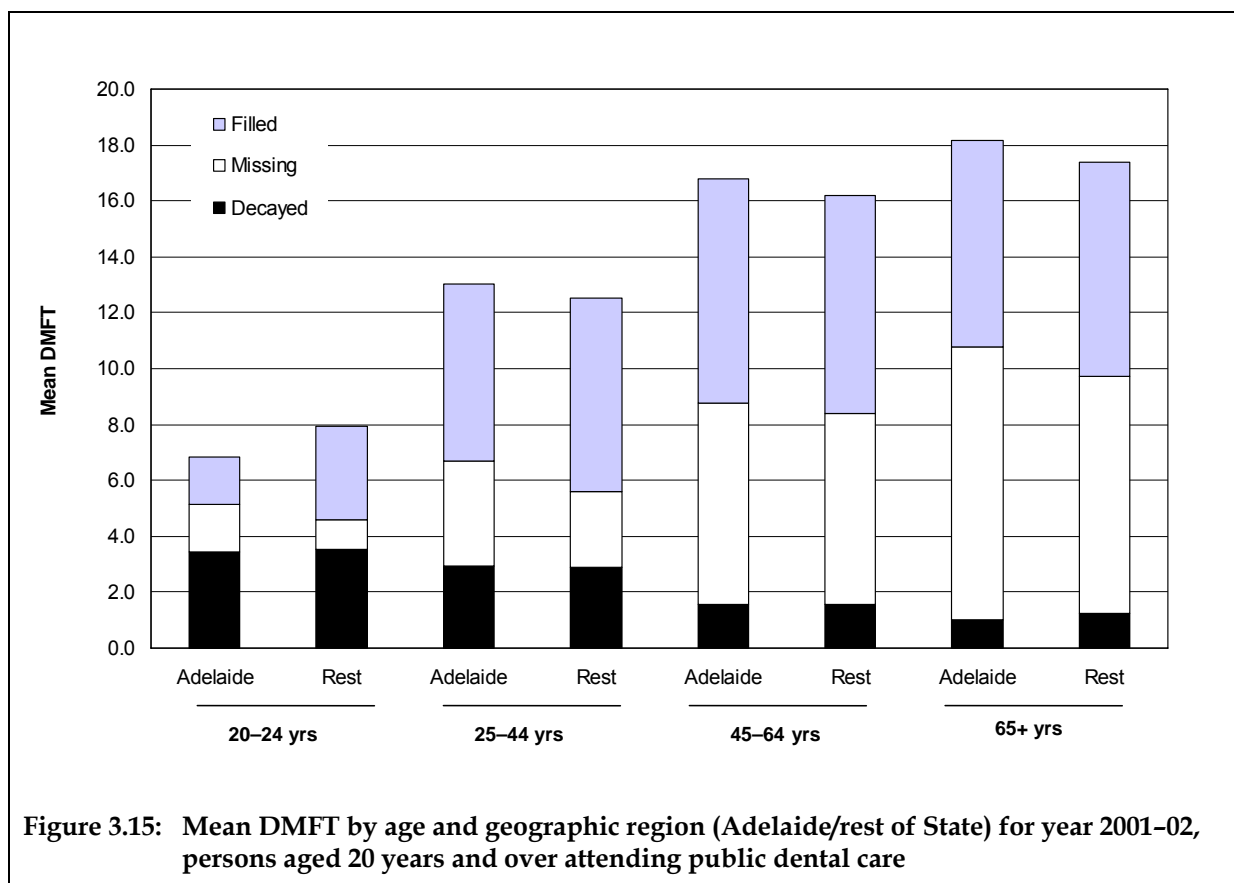
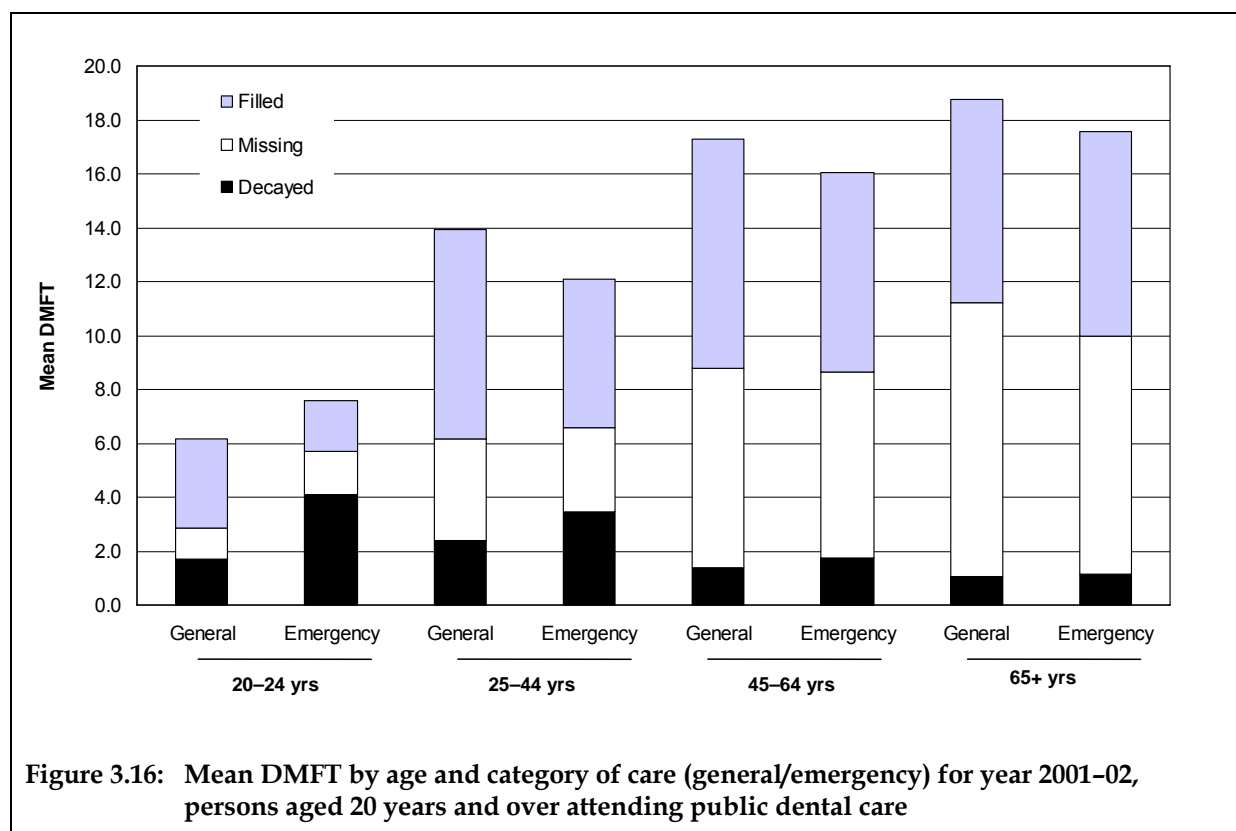


Figure 3.15: Mean DMFT by age and geographic region (Adelaide/rest of State) for year 2001-02, persons aged 20 years and over attending public dental care

Mean DMFT	20-24 yrs		25-44 yrs		45-64 yrs		65+ yrs	
	Adelaide	Rest	Adelaide	Rest	Adelaide	Rest	Adelaide	Rest
Decayed	3.42	3.53	2.92	2.91	1.54	1.56	1.03	1.23
Missing	1.70	1.05	3.78	2.68	7.22	6.82	9.73	8.48
Filled	1.72	3.37	6.33	6.95	8.01	7.79	7.41	7.66
Total	6.84	7.95	13.03	12.54	16.76	16.17	18.18	17.37

Source: Adult Dental Programs Survey.

- Adults living in the Adelaide metropolitan area who attended public dental care had a slightly higher mean DMFT score than their country counterparts in all age groups except 20-24-year-olds.
- Adults living in the city who attended public dental care had more teeth missing due to caries than adults living in the rest of the State. This pattern was consistent across all age groups.



	20-24 yrs		25-44 yrs		45-64 yrs		65+ yrs	
Mean DMFT	General	Emergency	General	Emergency	General	Emergency	General	Emergency
Decayed	1.71	4.08	2.37	3.45	1.38	1.76	1.06	1.15
Missing	1.14	1.60	3.80	3.12	7.39	6.89	10.17	8.85
Filled	3.29	1.90	7.78	5.54	8.51	7.38	7.52	7.57
Total	6.14	7.58	13.95	12.11	17.29	16.03	18.74	17.58

Source: Adult Dental Programs Survey.

- Category of care was classified as 'emergency' if the course of care was initiated for relief of pain; otherwise care was classified as 'general'.
- Young adults aged 20-24 years attending public dental clinics for emergency care had a higher mean DMFT (7.58) than young adults attending for general care (6.14).
- However, in older age groups adults attending public dental clinics for emergency care had a lower mean DMFT score than adults attending for general care.
- Adults attending for emergency care had a higher number of untreated decayed teeth than those attending for general care, particularly in the younger age groups.

Summary

Children

- Pre-school children attending the South Australian School Dental Service had a high level of caries experience. One in four children aged 3 years and one in three children aged 4 years had some caries experience in their deciduous teeth. Children aged 4–5 years had the highest level of untreated decay suggesting that young children may not be receiving timely treatment.
- Caries experience in permanent teeth steadily increased across age. Whilst the proportion of teeth with decay experience remained relatively constant for children aged 8–12 years, as children progressed through their teenage years this proportion steadily increased from 4% to 7.4%. Over 60% of teenagers aged 17 years attending the School Dental Service had some caries experience in their permanent teeth.
- Deciduous and permanent tooth caries experience has been steadily increasing since the late 1990s. This is in contrast to the decline in the level of caries during the period 1993 to 1996. For children aged 6–7 years, the dmft score for deciduous teeth has increased from 1.44 in 1999 to 1.83 in 2002, an increase of 27%. Nearly 50% of children aged 6–7 years who attended the School Dental Service in 2002 had caries experience in their deciduous teeth compared with 36% in 1999.
- Similarly, since 1998 the level of permanent tooth caries experience has increased with the DMFT score almost doubling for children aged 8–9 years from 0.21 in 1998 to 0.41 in 2002. This trend continued for older children with DMFT increasing by 79% for 10–11-year-olds and 58% for 12–15-year-olds during this period.

Young adults aged 20–24 years

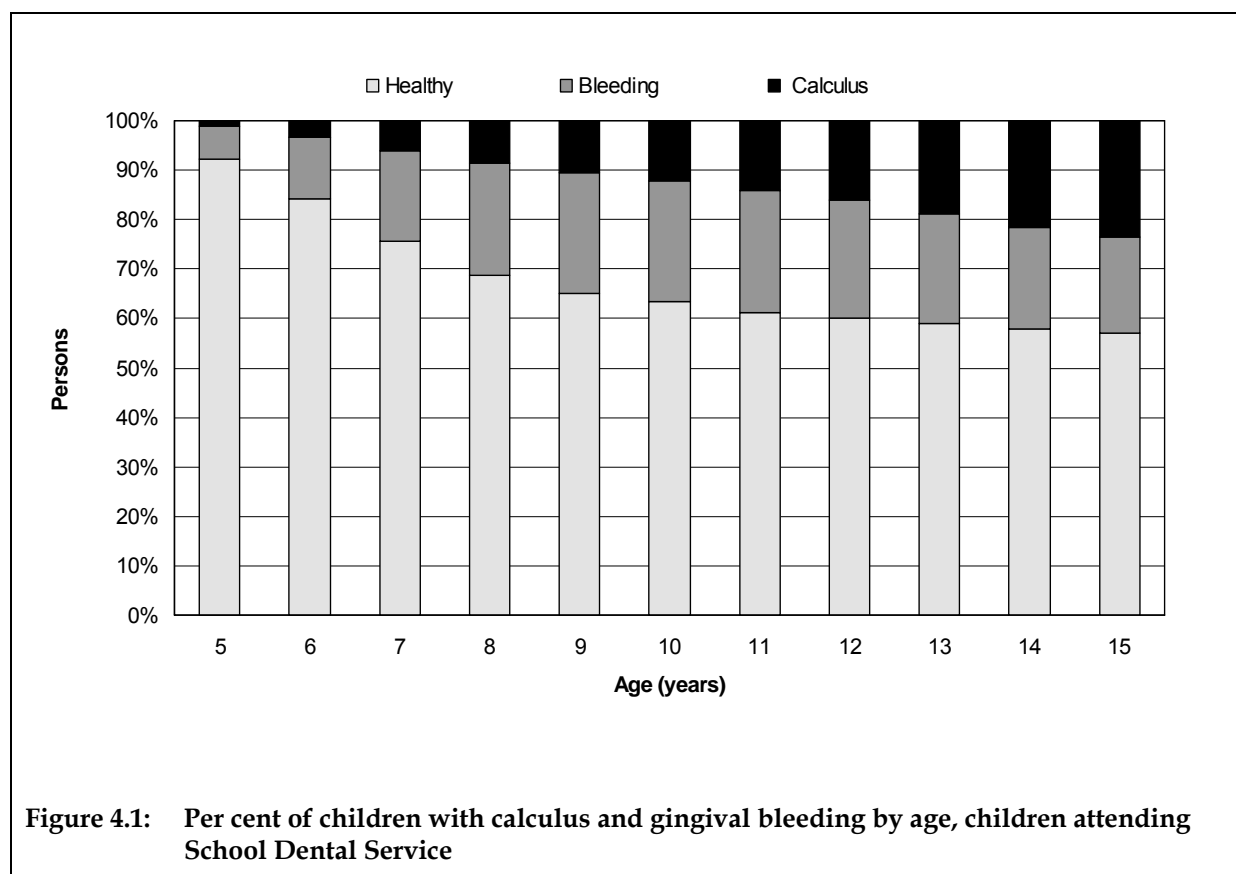
- The oral health of young adults deteriorates significantly after eligibility for the School Dental Service ceases at 18 years of age. Only one in five young adults (20%) were free of decay compared with 39% of 17-year-olds. On average, young adults had 3.68 teeth with decay experience compared with 2.06 for teenagers aged 17 years.
- Nearly 14% of young adults had 8 or more teeth with decay experience and could be regarded as at high risk of developing further caries.
- Untreated dental decay accounted for 19% of total caries experience suggesting that some young adults are not accessing timely care.
- Caries experience in young concession cardholders was significantly worse than non-cardholders. On average, cardholders had 4.3 teeth with decay experience compared with 3.3 for non-cardholders. Cardholders were more likely to have untreated decay than non-cardholders with this accounting for 28% of total decay experience compared with 17% for non-cardholders. Cardholders were twice as likely to have lost teeth due to decay than non-cardholders. The poorer state of oral health for cardholders may be due to long waiting lists in the public dental sector preventing regular, timely care.

Adults attending public dental care

- Since 1996 the oral health of adults attending public dental care has deteriorated with DMFT increasing from 13.95 in 1996 to 15.68 in 2002, an increase of 12%. This change was mainly due to a significant increase (over 50%) in the number of teeth lost due to decay, increasing from 4.43 in 1996 to 6.68 in 2002.
- Caries experience was similar for adults attending public care irrespective of whether they lived in the Adelaide metropolitan area or the rest of the State. Despite this, Adelaide residents were slightly more likely to have teeth missing due to caries than residents living in the rest of the State.
- 'Emergency' patients had less decay experience than 'general care' patients in all age groups except young adults aged 20–24 years. However, the level of untreated decay was higher for 'emergency' patients in all age groups. In particular, 'emergency' patients aged 20–24 years had an average of 4 untreated decayed teeth compared with 1.7 for 'general care' patients.
- Data is not currently available to compare the caries experience of adults attending public dental care with the wider adult population, however, it is possible to make this comparison for young adults aged 20–24 years. Young adults attending public care had almost twice the level of decay experience (7.17) as other young adults (3.68). Untreated decay accounted for almost half the caries experience of young adults attending public care compared with 19% for other young adults.

4 Periodontal disease

Calculus and gingival bleeding in children

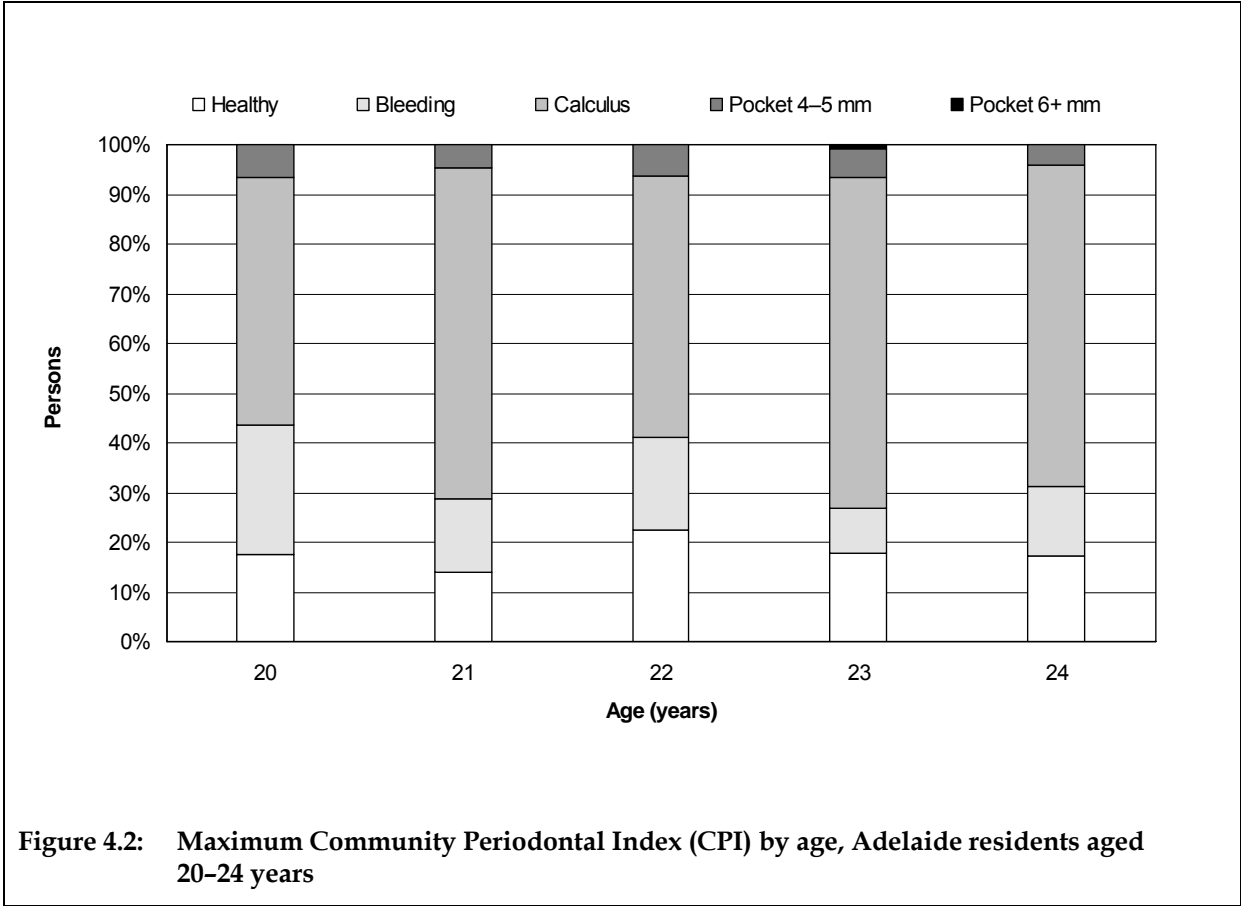


Persons (%)	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs
Healthy	92.3	84.3	75.7	68.7	65.0	63.4	61.3	60.1	59.1	57.9	57.0
Bleeding	6.7	12.5	18.3	22.7	24.6	24.4	24.6	23.8	22.1	20.6	19.5
Calculus	1.0	3.2	6.0	8.6	10.5	12.2	14.1	16.1	18.8	21.5	23.5

Source: 2002 Child Dental Health Survey.

- The percentage of children who have gingival bleeding or calculus present on their teeth increased across age groups.
- By 9 years of age, 25% of children examined by the School Dental Service had gingival bleeding and 11% had calculus present on their teeth.
- By 15 years of age, 24% of children examined by the School Dental Service had calculus present on their teeth.

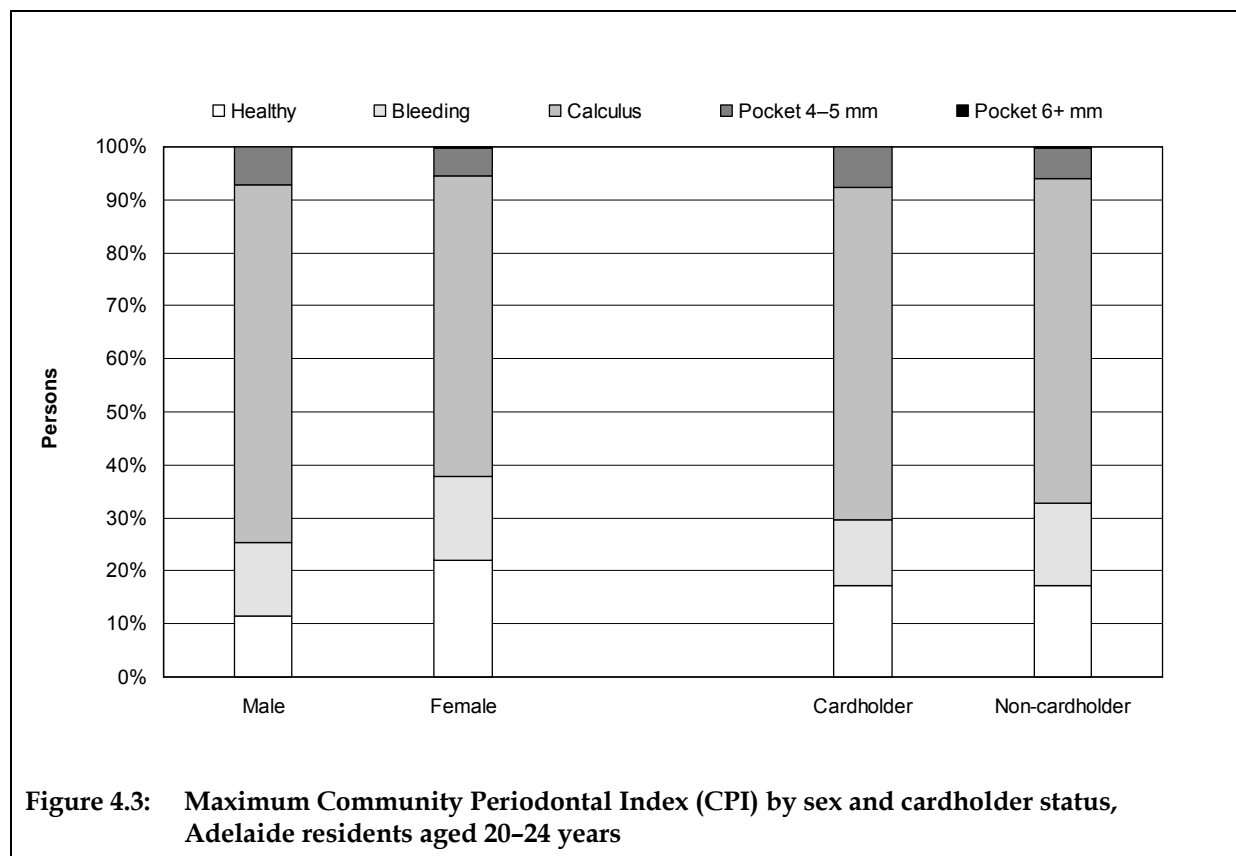
Periodontal disease in young adults aged 20–24 years



Maximum CPI (%)	20 yrs	21 yrs	22 yrs	23 yrs	24 yrs	Total
Healthy	17.4	14.0	22.5	17.9	17.2	17.2
Bleeding	26.1	14.7	18.6	8.9	13.9	14.9
Calculus	50.0	66.7	52.7	66.7	64.8	61.6
Pocket 4–5 mm	6.5	4.7	6.2	5.7	4.1	6.1
Pocket 6+ mm	0.0	0.0	0.0	0.8	0.0	0.2

Source: 1999 Young Adult Survey.

- Only 17% of adults aged 20–24 years living in the Adelaide metropolitan area had healthy periodontal tissues.
- Over 60% of these adults had calculus present on their teeth, 6% had developed moderate pockets of 4–5 mm and 0.2% had developed deep pockets of 6 mm or more.

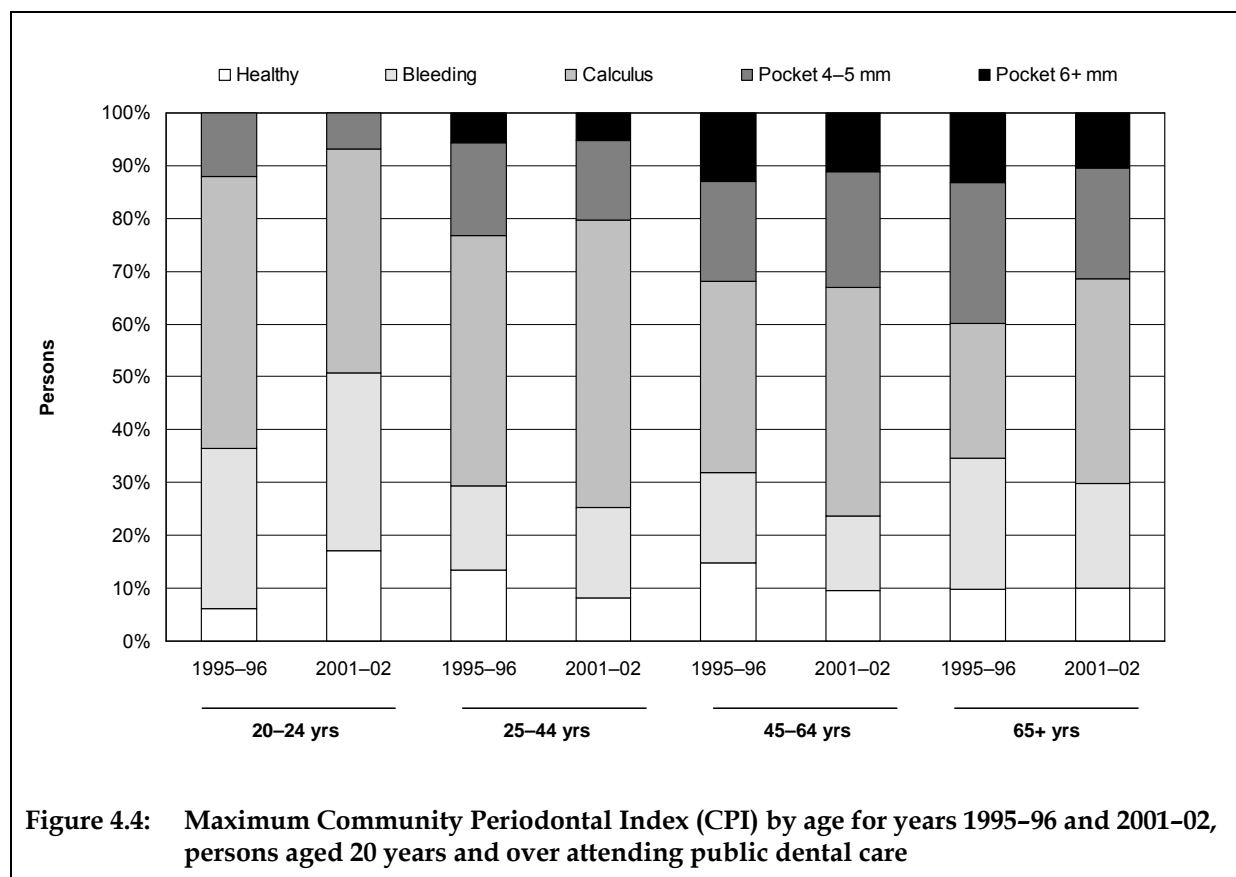


Maximum CPI (%)	Sex		Cardholder status		Total
	Male	Female	Cardholder	Non-cardholder	
Healthy	11.6	21.9	17.2	17.2	17.2
Bleeding	13.7	16.0	12.4	15.6	14.9
Calculus	67.6	56.7	62.8	61.3	61.6
Pocket 4-5 mm	7.2	5.1	7.6	5.6	6.1
Pocket 6+ mm	0.0	0.3	0.0	0.2	0.2

Source: 1999 Young Adult Survey.

- Females (22%) were more likely to have completely healthy gums than males (12%).
- Calculus was more prevalent in males with 68% experiencing this condition compared with 57% of females.
- There was little difference in the level of periodontal disease in cardholders and other young adults although cardholders had a slightly higher prevalence of periodontal pockets (7.6% compared with 5.8%).

Periodontal disease in adults attending public dental care



Max. CPI (%)	20-24 yrs		25-44 yrs		45-64 yrs		65+ yrs		Total	
	1995-96	2001-02	1995-96	2001-02	1995-96	2001-02	1995-96	2001-02	1995-96	2001-02
Healthy	6.1	17.0	13.5	8.1	14.7	9.5	9.8	10.1	12.4	9.6
Bleeding	30.3	33.9	15.9	17.3	17.2	14.2	24.8	19.7	19.6	17.7
Calculus	51.5	42.4	47.3	54.3	36.2	43.4	25.5	38.7	38.3	44.9
Pocket 4-5 mm	12.1	6.8	17.4	15.1	19.0	21.8	26.8	21.0	20.1	19.0
Pocket 6+ mm	0.0	0.0	5.8	5.3	12.9	11.2	13.1	10.5	9.5	8.8

Source: Adult Dental Programs Survey.

- The main changes in the periodontal status of adults attending public dental care during the period 1995-96 to 2001-02 were an overall decrease in the number of patients with healthy periodontal tissues (12% to 10%) and an increase in the percentage of patients with calculus present on their teeth (38% to 45%).
- In 2001-02, 19% of adults attending public dental care had developed moderate periodontal pockets (4-5 mm) and 9% had developed deep pockets (6 mm or more).

Summary

Children

- The percentage of children with healthy gums declined across age. At 5 years of age, over 90% of children attending the School Dental Service had completely healthy gums. However, as children progressed through primary school the percentage rapidly declined. By 9 years of age only 65% of children had completely healthy gums. From 10–15 years of age the decline was more gradual, with 57% of 15-year-olds retaining completely healthy gums.
- The percentage of children with calculus on their teeth steadily increased across age. At 9 years of age, 11% of children examined by the School Dental Service had calculus with this increasing to over 20% for 14–15-year-olds. A further 20% of 14–15-year-olds had gingival bleeding. Whilst most of this disease is of the mildest severity it can progress to more severe gum disease as children move to adulthood.

Young adults aged 20–24 years

- Only 17% of adults aged 20–24 years had completely healthy gums. A significant number of young adults had calculus on their teeth (62%), and 6% had developed periodontal pocketing which if left untreated could eventually lead to tooth loss.
- Young adult females were more likely to have healthy gums (22%) than males (12%). In contrast to the higher prevalence of decay for concession cardholders, the level of periodontal disease in cardholders was similar to that for other young adults.

Adults attending public dental care

- The proportion of adults attending public dental care with completely healthy gums declined from 12% in 1995–96 to 10% in 2001–02. This decline was due to a fall in the percentage of adults aged 25–64 years with healthy gums.
- In 2001–02, 28% of adults attending public care had periodontal pockets. Adults aged 45 years and over were more likely to have developed pockets than younger adults.
- Data is not available to compare the periodontal status of adults attending public dental care with the wider adult population, however, it is possible to make this comparison for young adults aged 20–24 years. In contrast to decay experience, young adults attending public care had a similar level of periodontal disease as other young adults.

5 Tooth retention and loss

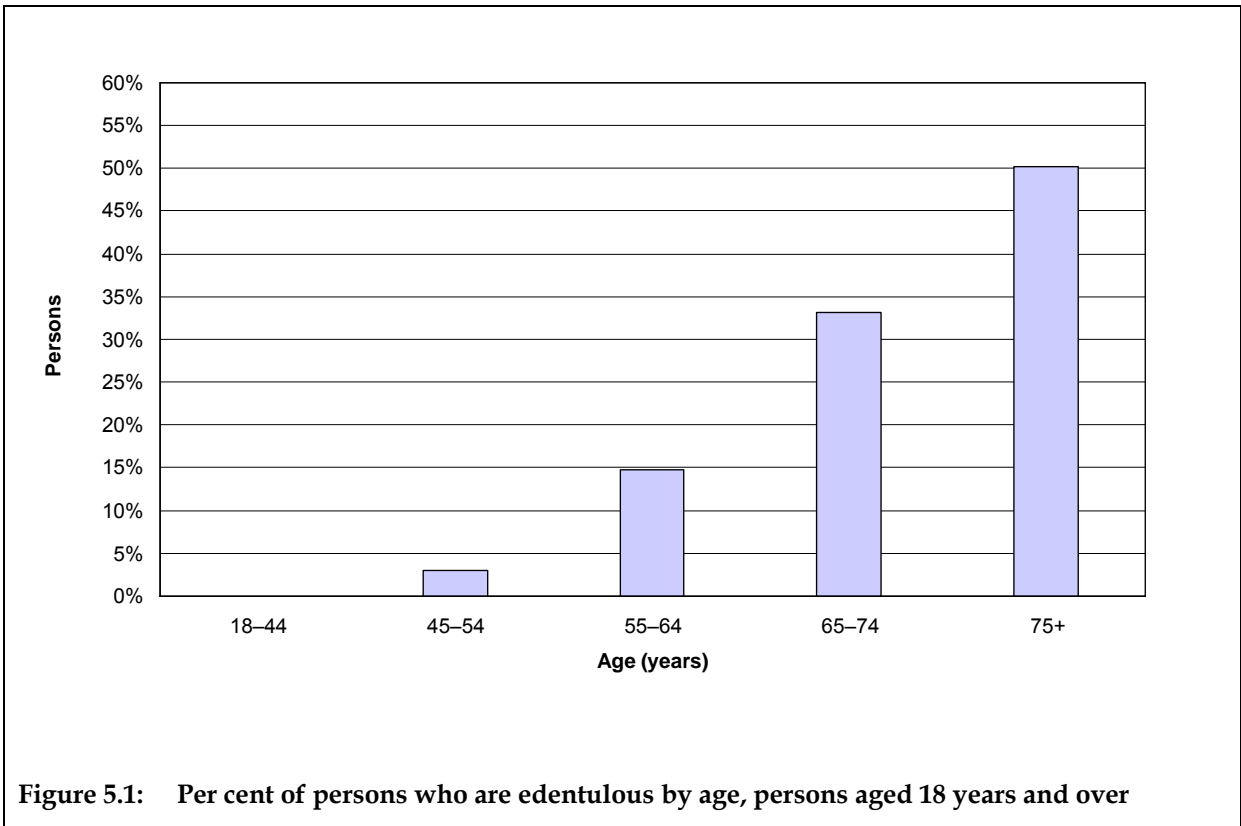


Figure 5.1: Per cent of persons who are edentulous by age, persons aged 18 years and over

Persons (%)	Age					Total
	18-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+ yrs	
Edentulous	0.0	3.0	14.8	33.2	50.2	10.3

Source: 2002 National Dental Telephone Interview Survey.

- Overall, one in ten persons reported they were edentulous.
- Edentulism is strongly associated with age, with 33% of 65-74-year-olds, and 50% of persons aged 75 years and over reporting they were edentulous.
- There were no edentulous adults aged less than 45 years.

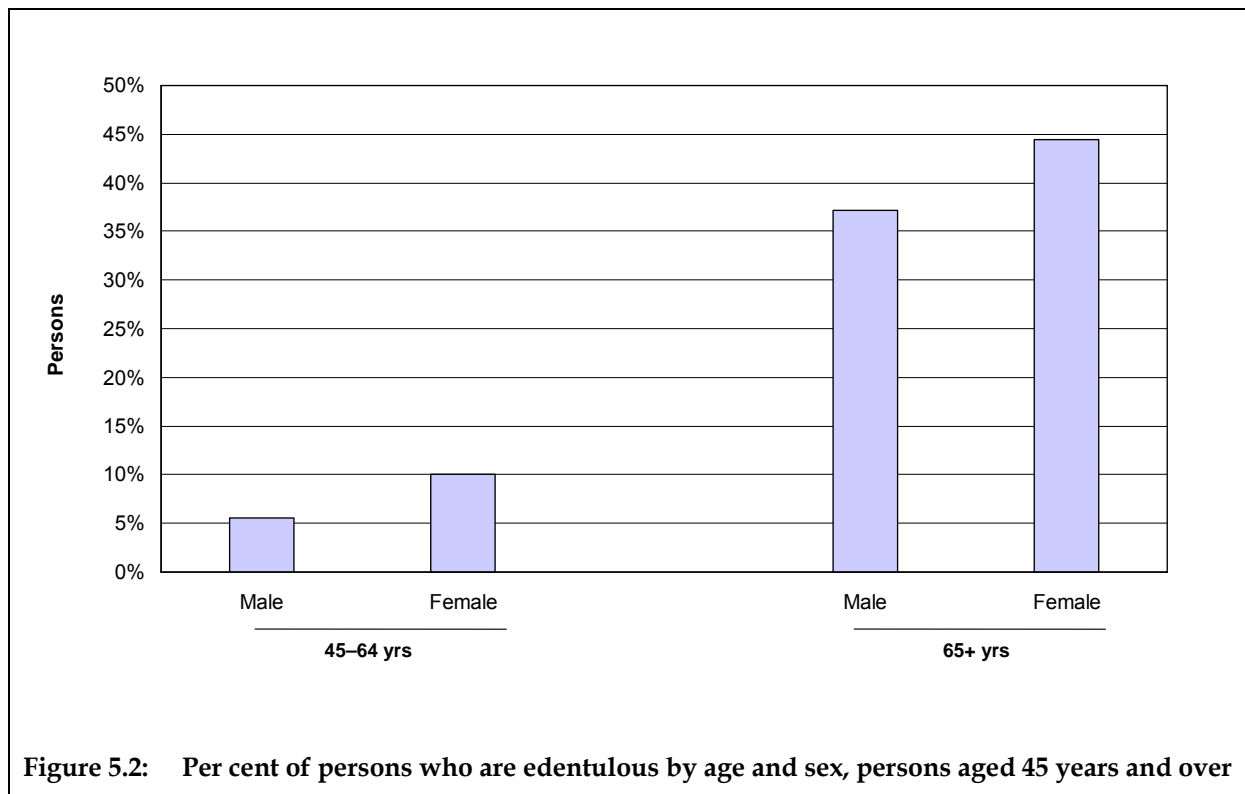


Figure 5.2: Per cent of persons who are edentulous by age and sex, persons aged 45 years and over

Persons (%)	45-64 yrs		65+ yrs	
	Male	Female	Male	Female
Edentulous	5.5	10.1	37.2	44.5

Source: 2002 National Dental Telephone Interview Survey.

- Data has been restricted to persons aged 45 years and over as there are no edentulous persons aged less than 45 years.
- Females aged 45-64 years were almost twice as likely to be edentulous (10%) as males in this age group (5.5%).
- Similarly, females aged 65 years and over were more likely to be edentulous with 45% of females reporting they had lost all their natural teeth compared with 37% of males.

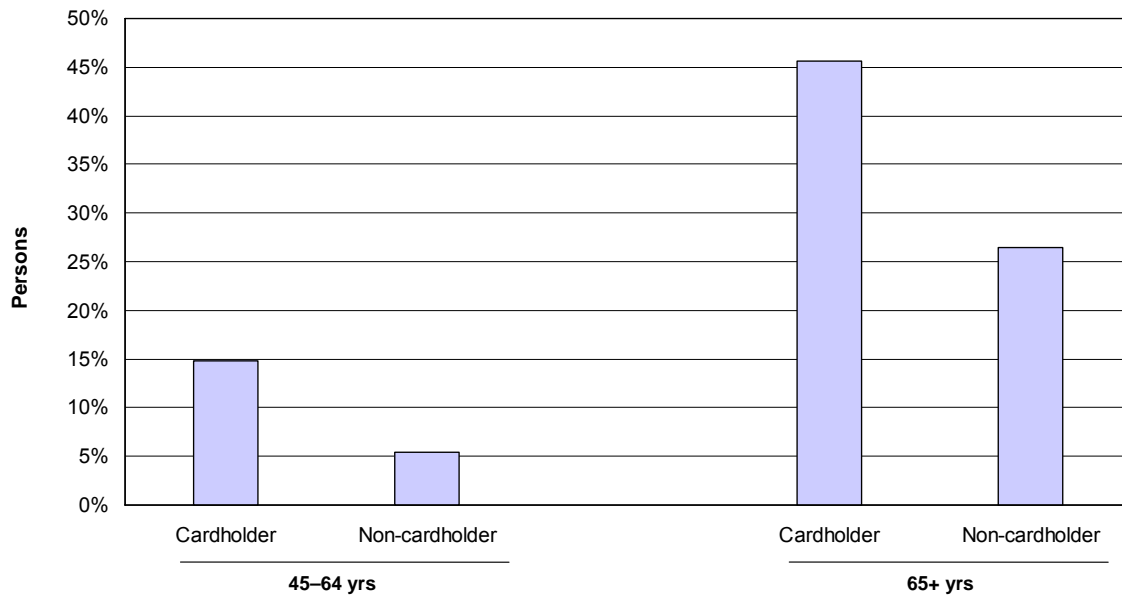
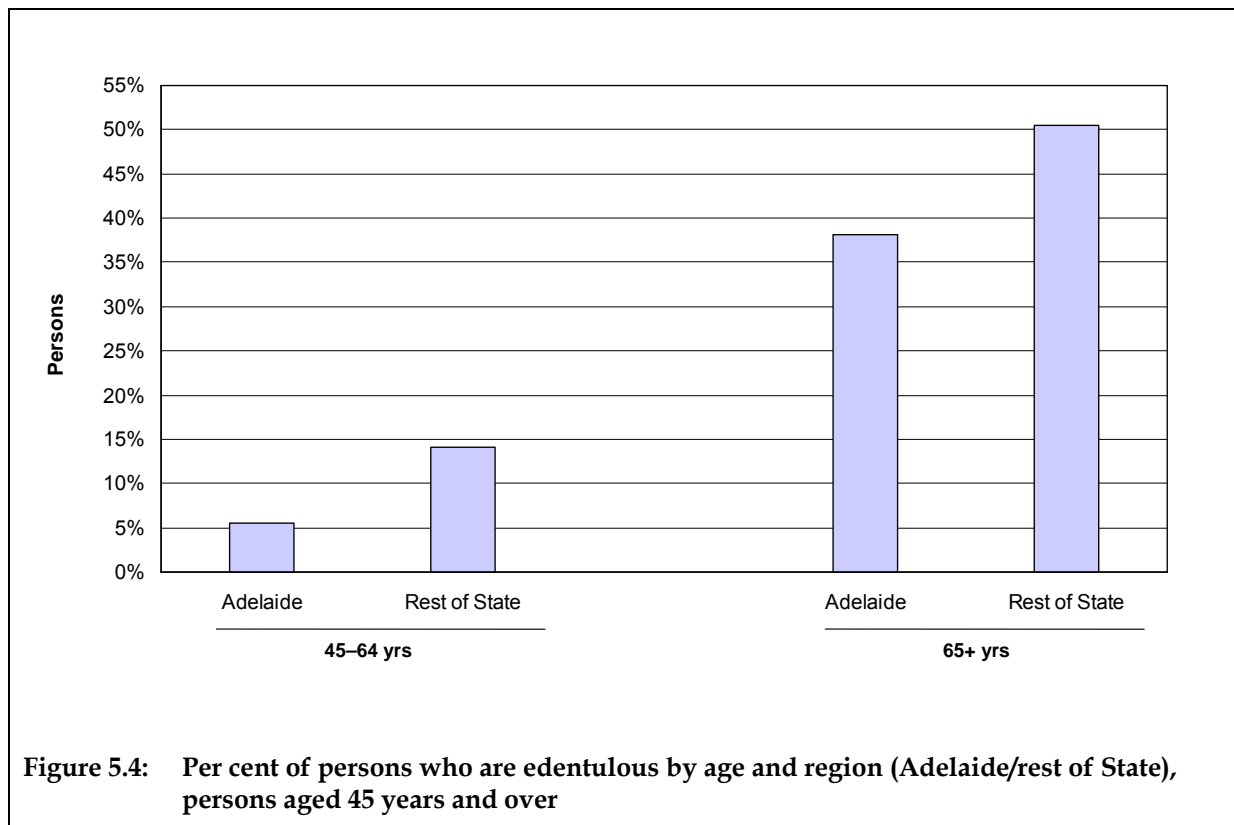


Figure 5.3: Per cent of persons who are edentulous by age and cardholder status, persons aged 45 years and over

Persons (%)	45-64 yrs		65+ yrs	
	Cardholder	Non-cardholder	Cardholder	Non-cardholder
Edentulous	14.8	5.4	45.7	26.5

Source: 2002 National Dental Telephone Interview Survey.

- Cardholders aged 45 years and over were far more likely to report they had lost all their natural teeth than non-cardholders this age.
- Nearly 15% of cardholders aged 45-64 years were edentulous compared with only 5% of non-cardholders.
- Similarly, 46% of cardholders aged 65 years and over were edentulous compared with 27% of non-cardholders.



Persons (%)	45-64 yrs		65+ yrs	
	Adelaide	Rest of State	Adelaide	Rest of State
Edentulous	5.5	14.1	38.1	50.5

Source: 2002 National Dental Telephone Interview Survey.

- Residents living outside the Adelaide metropolitan area were far more likely to be edentulous than residents living in the city.
- Only 5% of Adelaide residents aged 45-64 years were edentulous compared with 14% of residents living in the rest of South Australia.
- For residents aged 65 years and over, one in two residents living outside Adelaide were edentulous compared with 38% of Adelaide residents.



Persons (%)	1979	1987	1994	2002
Edentulous	23.3	16.9	10.6	7.4

Sources: 1987–88 National Oral Health Survey, 1994 and 2002 National Dental Telephone Interview Survey.

- To enable a valid comparison across survey years, data have been age standardised to reflect the 1979 population age distribution using the direct age standardisation method. All adults aged 18 years and over are included in this comparison.
- The prevalence of edentulism has steadily declined from 23% in 1979 to 7% in 2002.

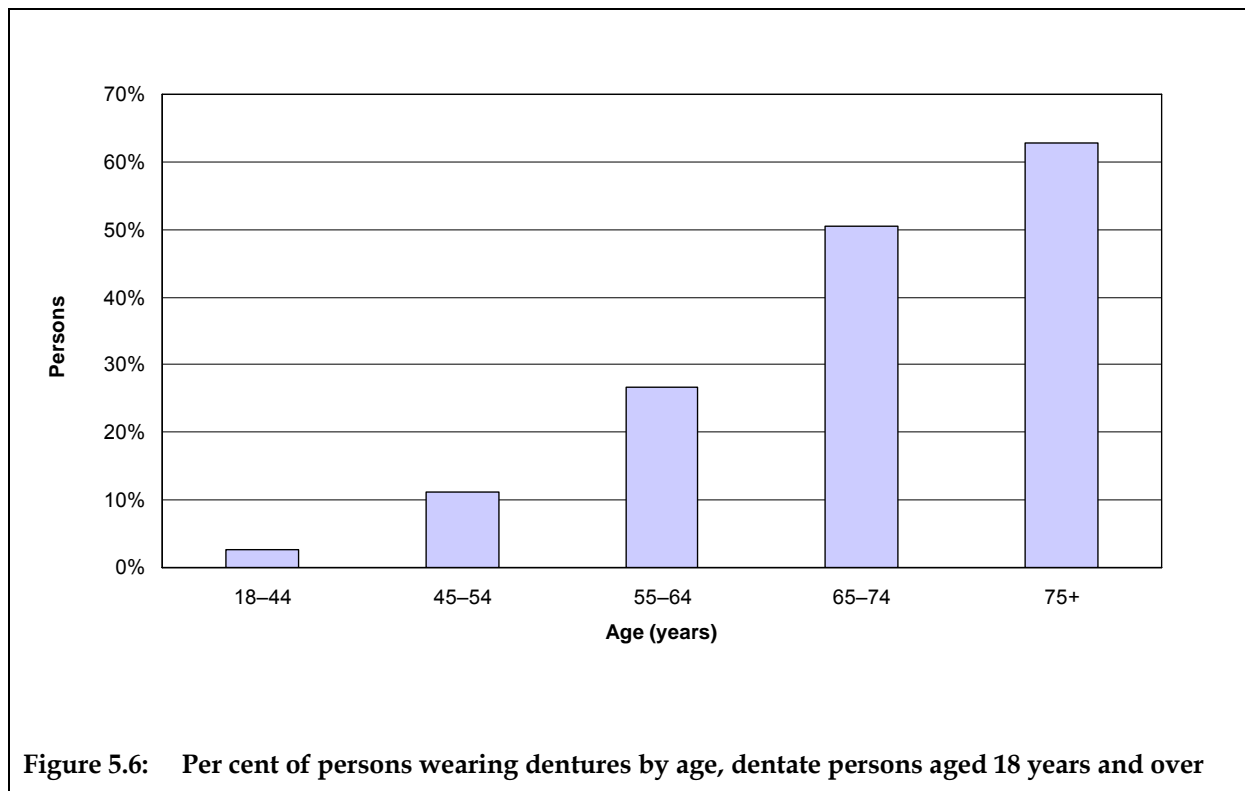


Figure 5.6: Per cent of persons wearing dentures by age, dentate persons aged 18 years and over

Persons (%)	Age					Total
	18-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+ yrs	
Wearing dentures	2.6	11.2	26.7	50.5	63.0	13.9

Source: 2002 National Dental Telephone Interview Survey.

- Denture use was strongly related to age, with 50% of dentate persons aged 65-74 years and 63% of dentate persons aged 75 years and over, reporting wearing a denture.
- Overall, 14% of adults aged 18 years and over wore a denture.

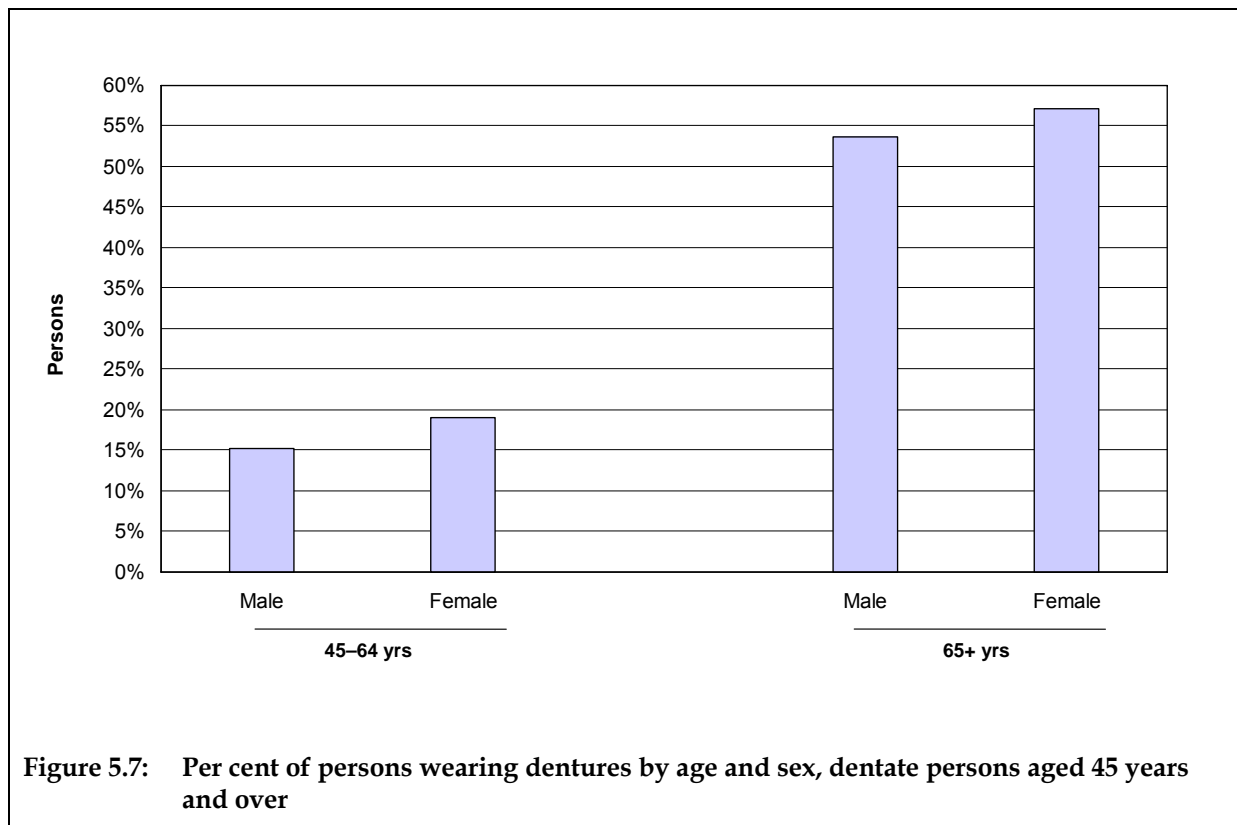


Figure 5.7: Per cent of persons wearing dentures by age and sex, dentate persons aged 45 years and over

Persons (%)	45-64 yrs		65+ yrs	
	Male	Female	Male	Female
Wearing dentures	15.3	19.0	53.7	57.1

Source: 2002 National Dental Telephone Interview Survey.

- Data has been restricted to persons aged 45 years and over due to the small percentage of persons aged less than 45 years wearing a denture.
- Nearly 1 in 5 (19%) dentate females aged 45-64 years wore a denture compared with 15% of dentate males this age (15%).

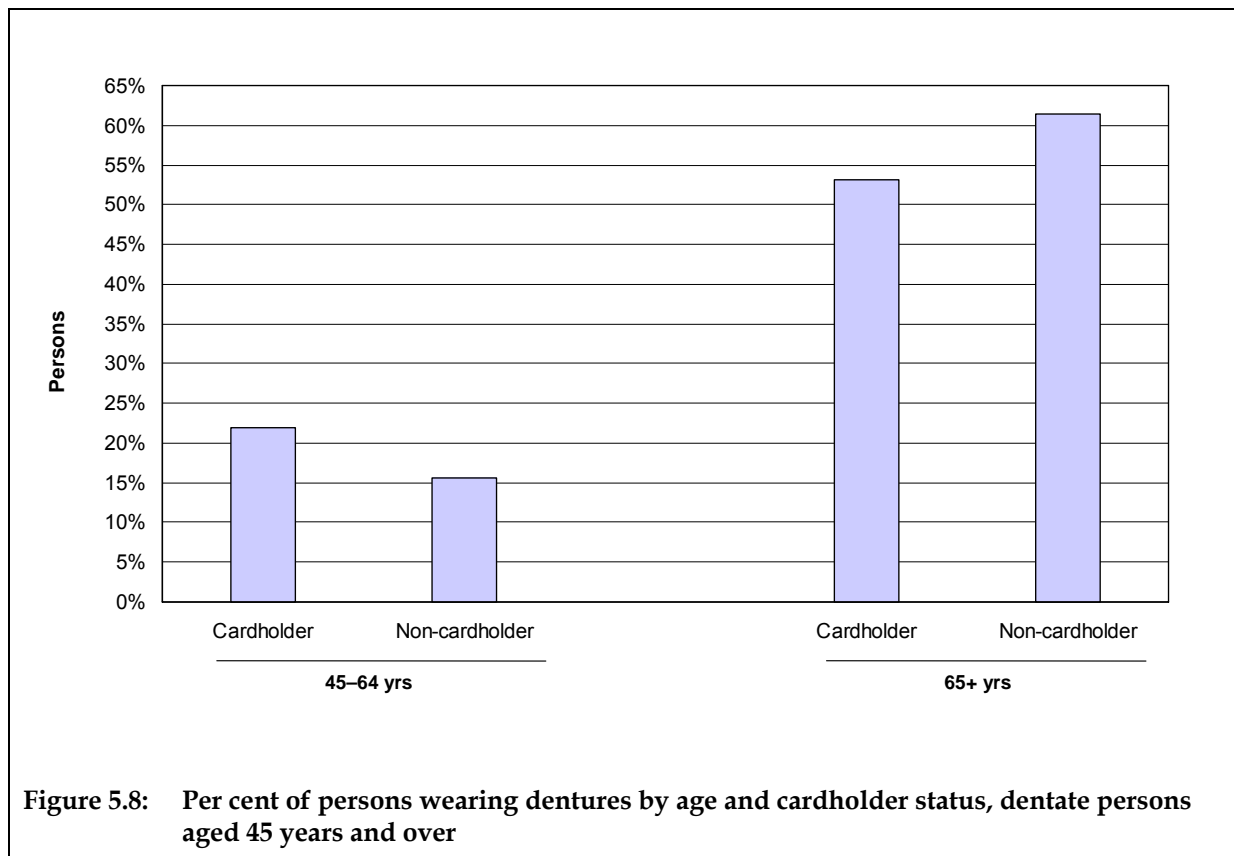


Figure 5.8: Per cent of persons wearing dentures by age and cardholder status, dentate persons aged 45 years and over

Persons (%)	45-64 yrs		65+ yrs	
	Cardholder	Non-cardholder	Cardholder	Non-cardholder
Wearing dentures	21.9	15.6	53.2	61.4

Source: 2002 National Dental Telephone Interview Survey.

- Dentate cardholders aged 45-64 years were more likely to wear dentures (22%) than non-cardholders in this age group (16%).
- However, dentate cardholders aged 65 years and over were less likely to wear dentures (53%) than non-cardholders aged 65 years and over (61%).

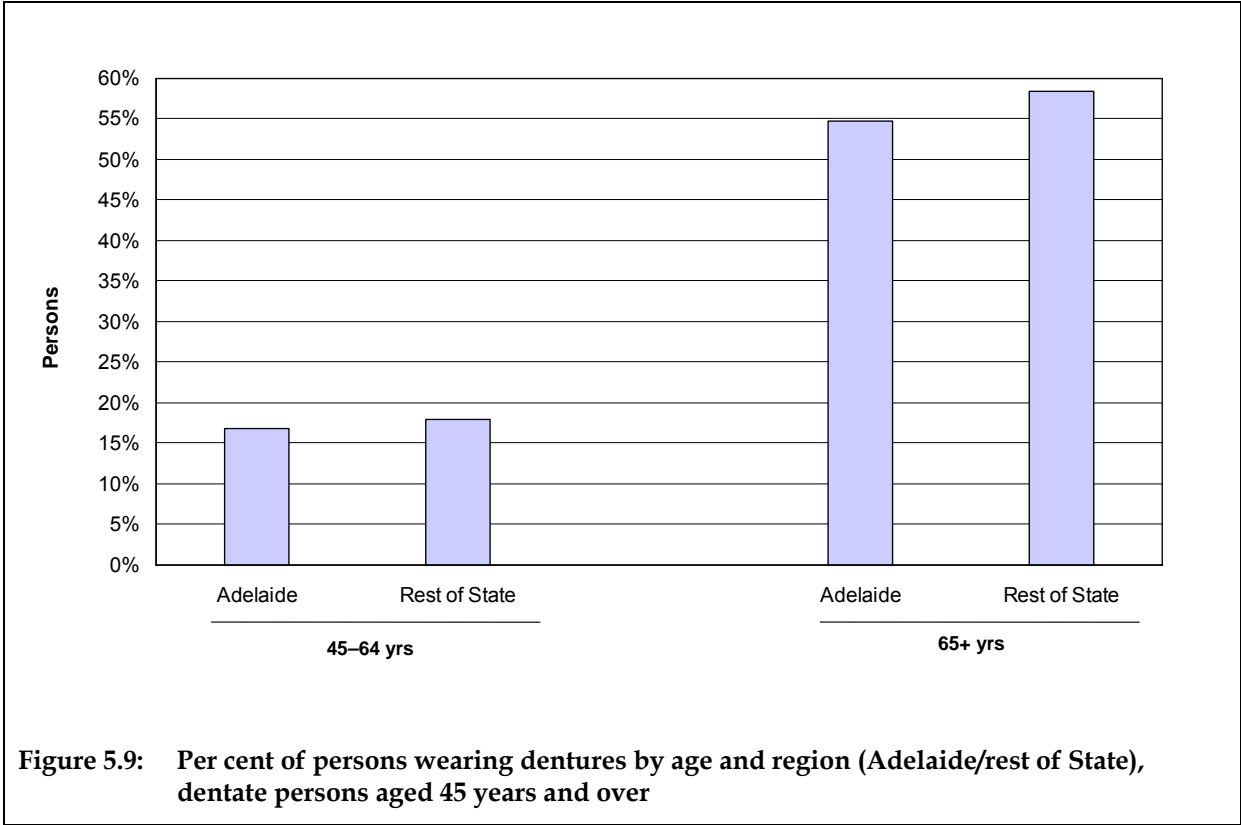
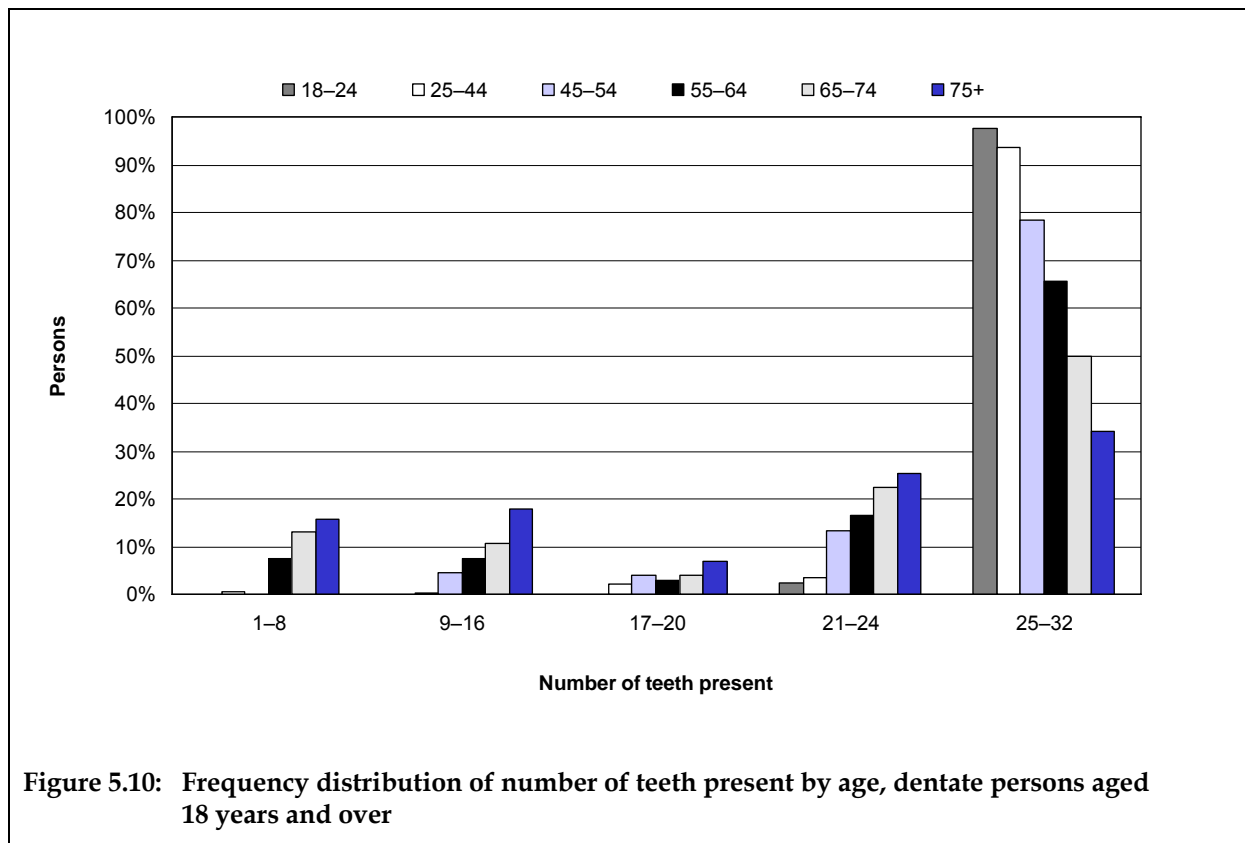


Figure 5.9: Per cent of persons wearing dentures by age and region (Adelaide/rest of State), dentate persons aged 45 years and over

Persons (%)	45-64 yrs		65+ yrs	
	Adelaide	Rest of State	Adelaide	Rest of State
Wearing dentures	16.8	18.0	54.7	58.4

Source: 2002 National Dental Telephone Interview Survey.

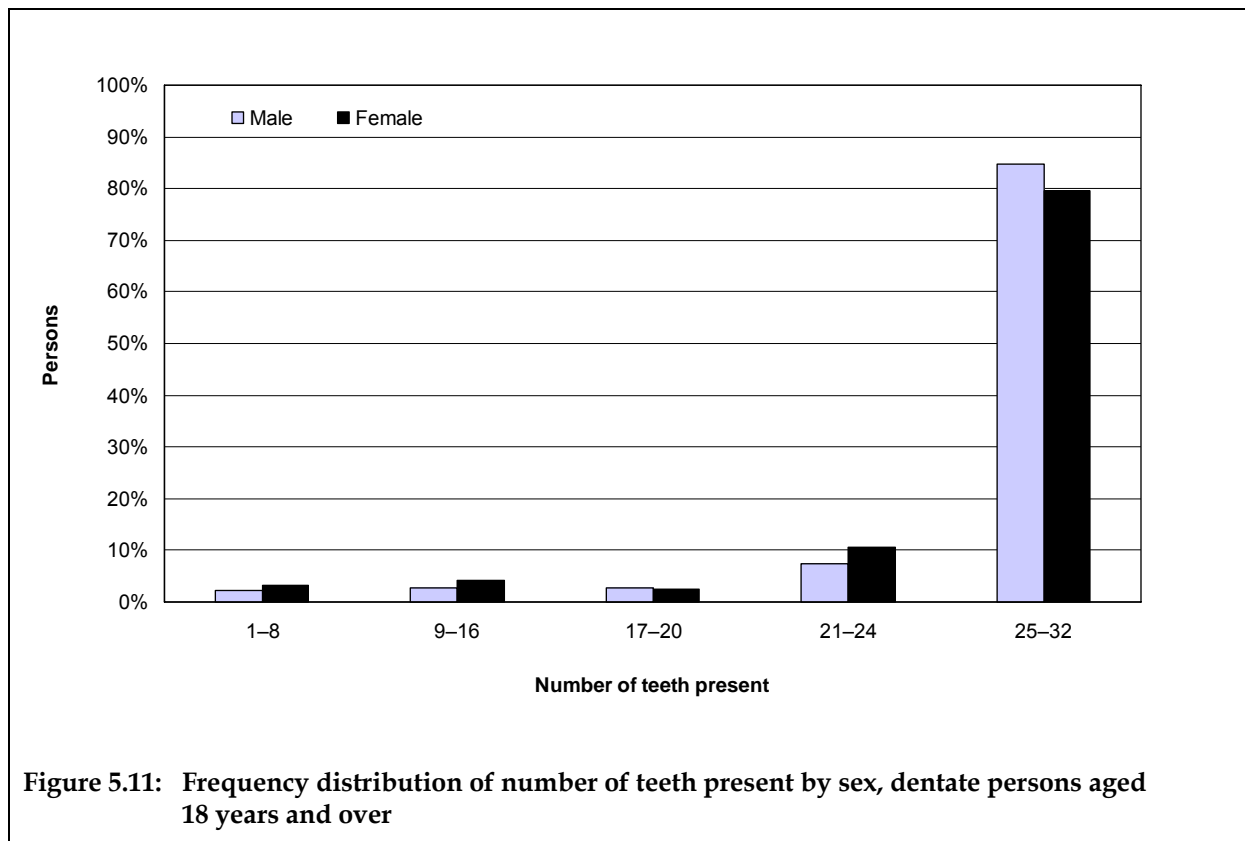
- South Australians aged 45-64 years were just as likely to wear dentures whether they lived in Adelaide or outside the metropolitan area.
- For residents aged 65 years and over, 55% of Adelaide residents reported wearing a denture compared with 58% of residents in the rest of the State.



Persons (%)	Number of teeth present					Total
	1-8	9-16	17-20	21-24	25-32	
18-24 yrs	—	—	—	2.3	97.7	100.0
25-44 yrs	0.5	0.2	2.2	3.4	93.7	100.0
45-54 yrs	—	4.5	3.9	13.4	78.3	100.0
55-64 yrs	7.4	7.5	2.9	16.5	65.6	100.0
65-74 yrs	13.2	10.6	4.0	22.3	49.9	100.0
75+ yrs	15.7	17.8	7.0	25.3	34.1	100.0
Total	2.7	3.4	2.6	9.1	82.1	100.0

Source: 2002 National Dental Telephone Interview Survey.

- Nearly 98% of adults aged 18-24 years, and 94% of adults aged 25-44 years, reported they had 25-32 teeth present.
- As adults aged the proportion with 25 or more teeth remaining dropped significantly. Only 50% of dentate adults aged 65-74 years, and 34% of dentate adults aged 75 years or more, had 25-32 teeth present.
- Over 7% of dentate adults aged 55-64 years, 13% of dentate adults aged 65-74 years, and 16% of dentate adults aged 75 years or more, had 1-8 teeth remaining.



Persons (%)	Number of teeth present					Total
	1-8	9-16	17-20	21-24	25-32	
Male	2.3	2.6	2.8	7.5	84.7	100.0
Female	3.2	4.1	2.5	10.7	79.6	100.0
Total	2.7	3.4	2.6	9.1	82.1	100.0

Source: 2002 National Dental Telephone Interview Survey.

- Dentate males were more likely to report they had 25-32 teeth present (85%) than dentate females (80%) although this is probably due to the older age profile of females.
- Over 7% of females and 5% of males reported they had 16 or fewer teeth remaining.

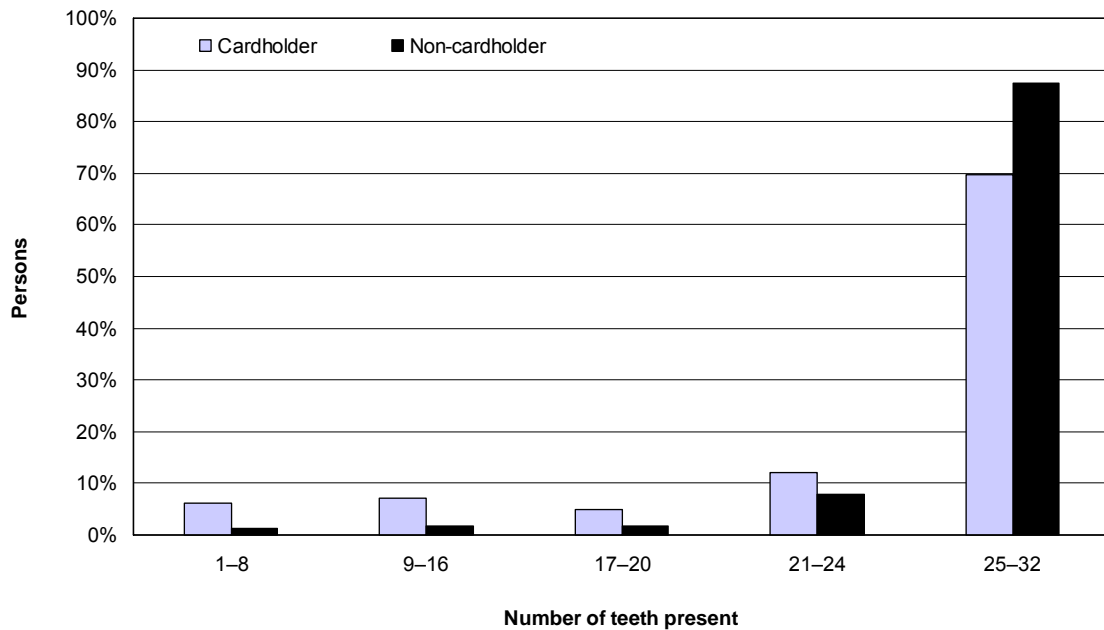


Figure 5.12: Frequency distribution of number of teeth present by cardholder status, dentate persons aged 18 years and over

Persons (%)	Number of teeth present					Total
	1-8	9-16	17-20	21-24	25-32	
Cardholder	6.2	7.1	4.9	12.1	69.7	100.0
Non-cardholder	1.3	1.8	1.7	7.8	87.4	100.0
Total	2.7	3.4	2.6	9.1	82.1	100.0

Source: 2002 National Dental Telephone Interview Survey.

- Dentate cardholders reported fewer teeth present than dentate non-cardholders. Some of this difference can be attributed to the older age profile of cardholders.
- Only 70% of cardholders reported they had 25-32 teeth present compared with 87% of non-cardholders.
- Cardholders were more likely to report they had fewer than 9 teeth remaining (6%) than non-cardholders (1%). Similarly, 7% of cardholders reported they had 9-16 teeth remaining compared with 2% of non-cardholders.

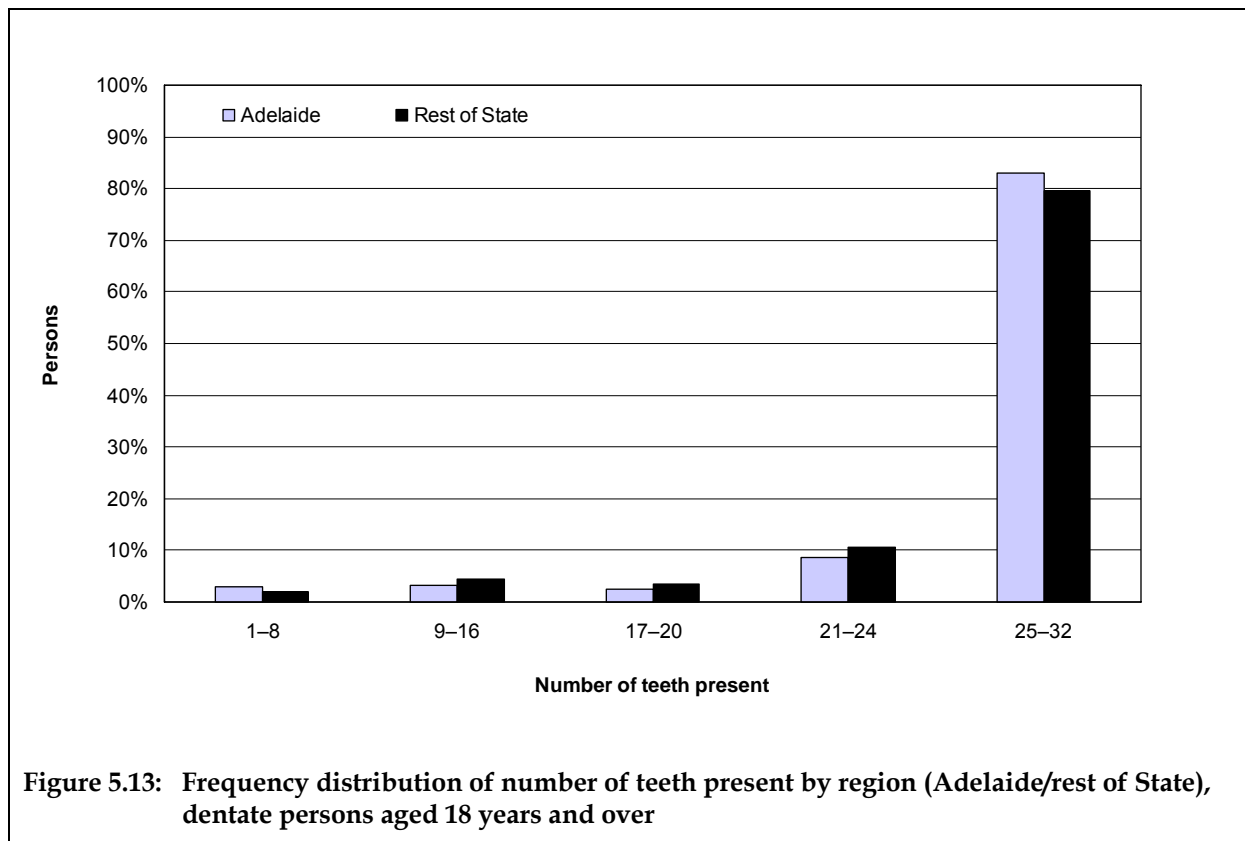


Figure 5.13: Frequency distribution of number of teeth present by region (Adelaide/rest of State), dentate persons aged 18 years and over

Persons (%)	Number of teeth present					Total
	1-8	9-16	17-20	21-24	25-32	
Adelaide	3.0	3.1	2.4	8.6	82.9	100.0
Rest of State	2.0	4.4	3.4	10.7	79.5	100.0
Total	2.7	3.4	2.6	9.1	82.1	100.0

Source: 2002 National Dental Telephone Interview Survey.

- The distribution of number of teeth present was similar for dentate adults irrespective of whether they lived in Adelaide or the non-metropolitan area.
- Eighty-three per cent of Adelaide residents, and 80% of residents living outside Adelaide, reported 25-32 teeth present.
- Three per cent of Adelaide residents reported only 1-8 teeth remaining compared with 2% of residents living outside the metropolitan area.

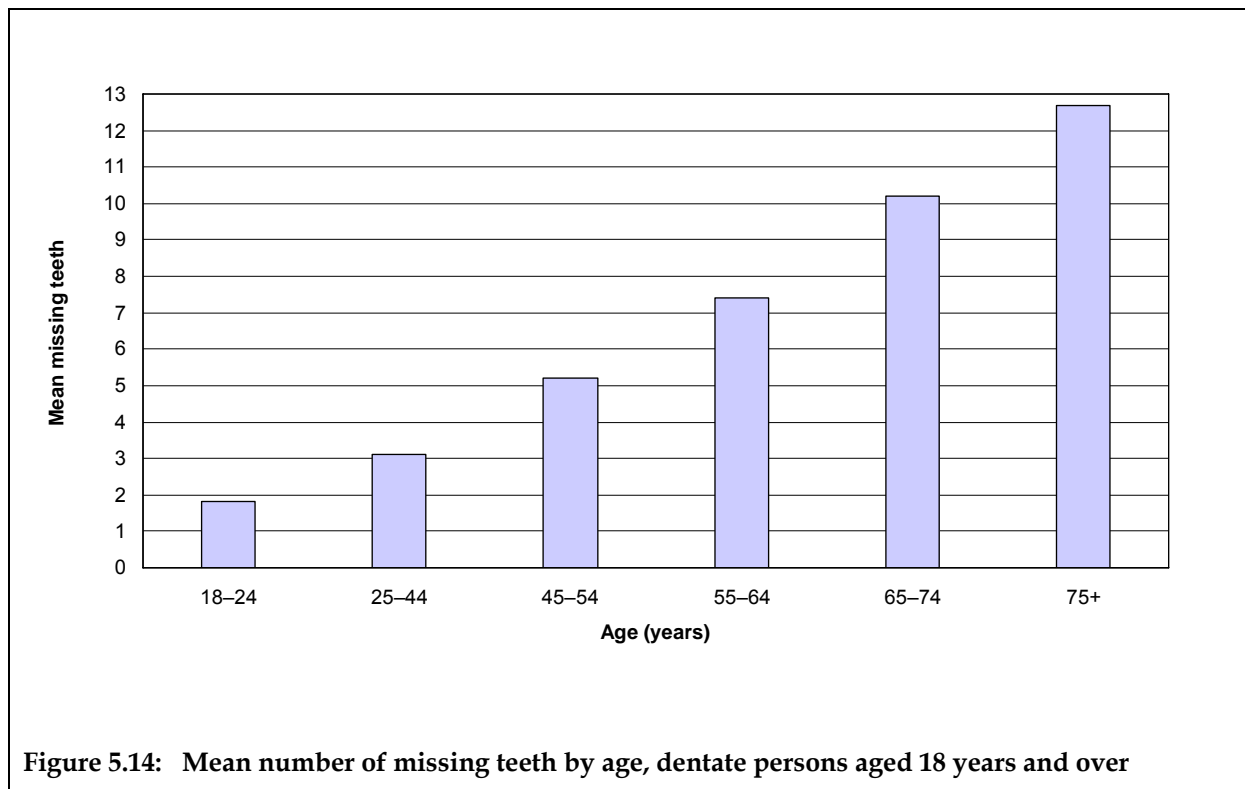


Figure 5.14: Mean number of missing teeth by age, dentate persons aged 18 years and over

	Age (years)						Total
	18-24	25-44	45-54	55-64	65-74	75+ yrs	
Mean number missing teeth	1.8	3.1	5.2	7.4	10.2	12.7	4.8

Source: 2002 National Dental Telephone Interview Survey.

- The number of teeth reported missing is higher than figures presented in Chapter 3 as data presented in this chart refers to all teeth reported missing by survey respondents. Data presented in Chapter 3 is collected via clinical examinations undertaken by dentists and refers to teeth missing due to caries.
- There was a strong relationship between age and number of teeth reported missing. On average, dentate people aged 65 years and over had more than 10 missing teeth.

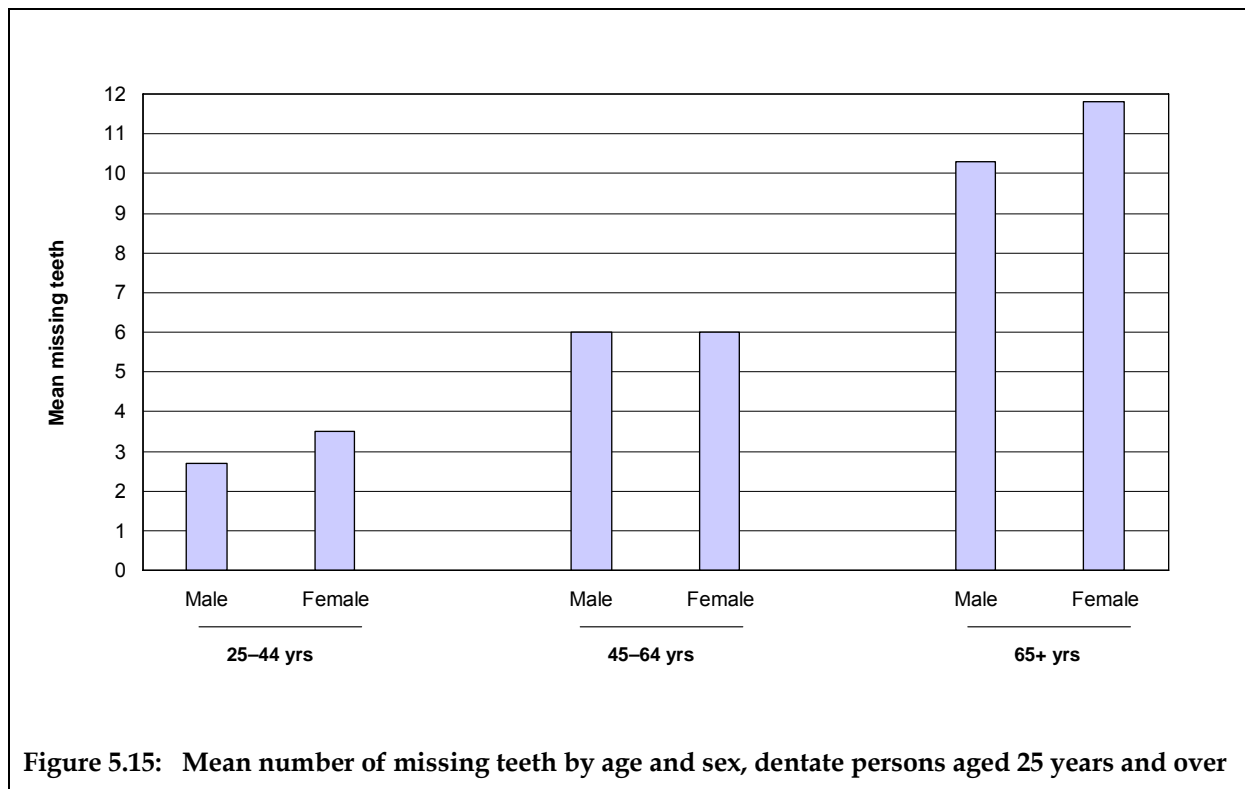


Figure 5.15: Mean number of missing teeth by age and sex, dentate persons aged 25 years and over

Persons (%)	25-44 yrs		45-64 yrs		65+ yrs	
	Male	Female	Male	Female	Male	Female
Mean number missing teeth	2.7	3.5	6.0	6.0	10.3	11.8

Source: 2002 National Dental Telephone Interview Survey.

- There was little difference in the average number of teeth reported missing by dentate males and females.
- The biggest difference occurred in dentate females aged 65 years and over who reported 11.8 teeth missing on average compared with 10.3 for dentate males this age.

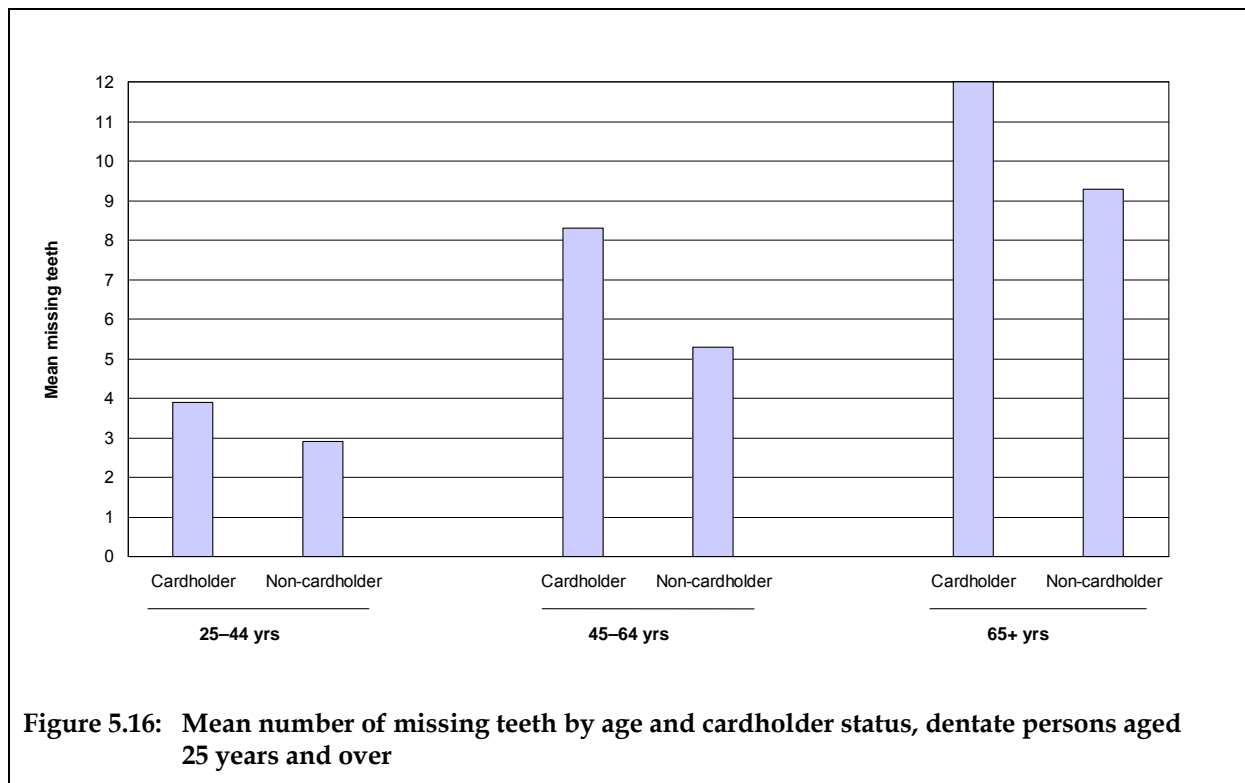


Figure 5.16: Mean number of missing teeth by age and cardholder status, dentate persons aged 25 years and over

Persons (%)	25-44 yrs		45-64 yrs		65+ yrs	
	Cardholder	Non-cardholder	Cardholder	Non-cardholder	Cardholder	Non-cardholder
Mean number missing teeth	3.9	2.9	8.3	5.3	12.0	9.3

Source: 2002 National Dental Telephone Interview Survey.

- Dentate cardholders reported more teeth missing than non-cardholders in all age groups.
- The largest difference occurred in those aged 45-64 years with cardholders reporting an average of 8.3 teeth missing compared with 5.3 for non-cardholders.

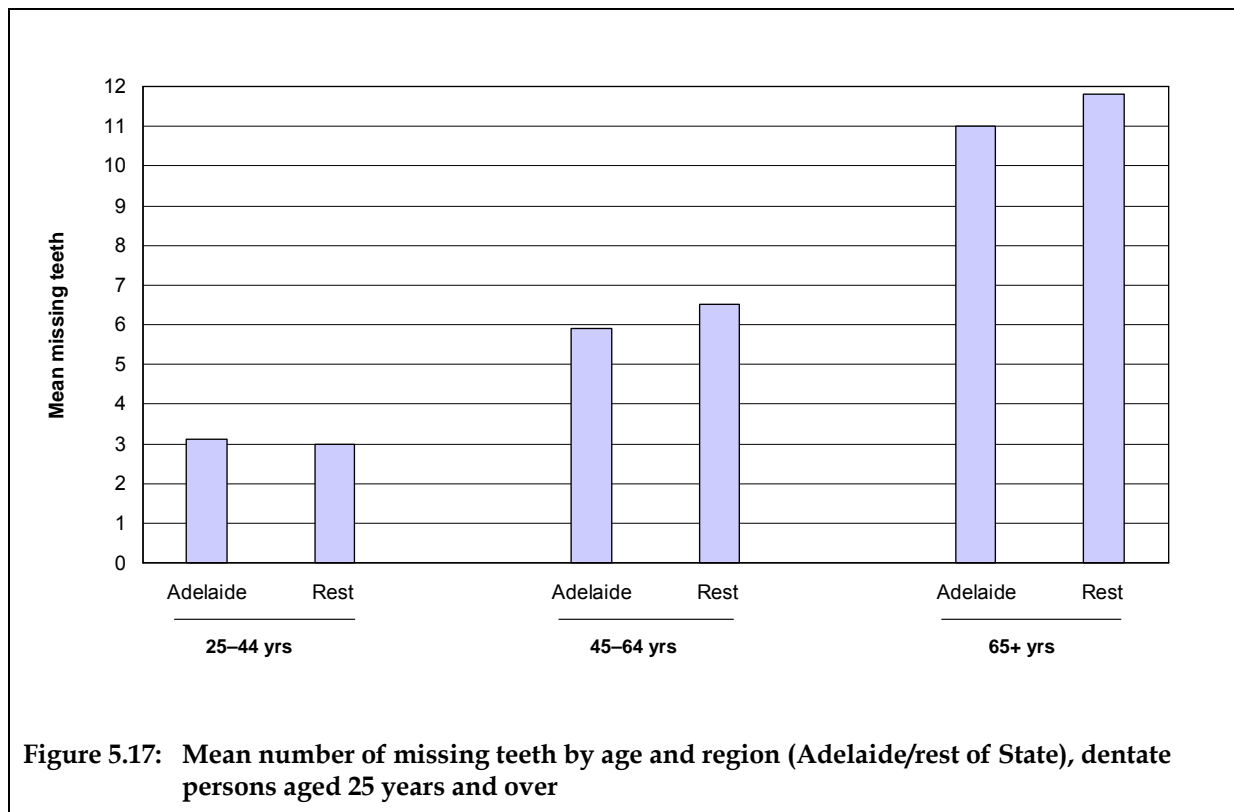


Figure 5.17: Mean number of missing teeth by age and region (Adelaide/rest of State), dentate persons aged 25 years and over

Persons (%)	25-44 yrs		45-64 yrs		65+ yrs	
	Adelaide	Rest of State	Adelaide	Rest of State	Adelaide	Rest of State
Mean number missing teeth	3.1	3.0	5.9	6.5	11.0	11.8

Source: 2002 National Dental Telephone Interview Survey.

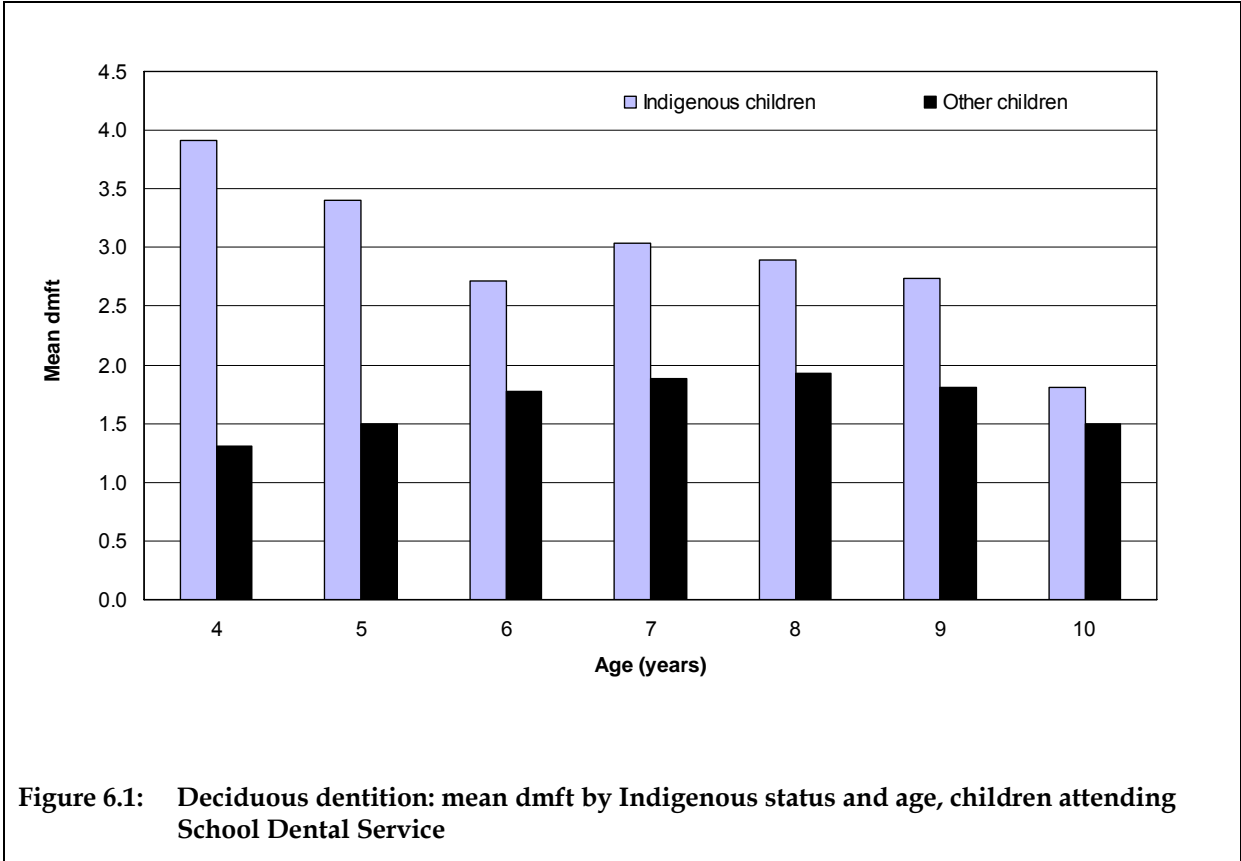
- There was little difference in the number of teeth reported missing by residents living in Adelaide and residents living in the rest of South Australia.
- Residents aged 45 years and over living outside the metropolitan area reported a slightly higher average number of missing teeth than Adelaide residents.

Summary

- Edentulism is strongly related to age with one in three persons aged 65–74 years, and one in two persons aged 75 years and over, reporting they had lost all their natural teeth. There were no edentulous adults aged less than 45 years.
- Concession cardholders were significantly more likely to report they were edentulous than non-cardholders. Nearly 15% of cardholders aged 45–64 years reported they had lost all their natural teeth compared with 5% of non-cardholders. For adults aged 65 years and over, 46% of cardholders reported they were edentulous compared with 27% of non-cardholders.
- Edentulism was higher for residents living outside the Adelaide metropolitan area. Only 6% of Adelaide residents aged 45–64 years reported they had lost all their natural teeth compared with 14% of residents living in the rest of the State. For adults aged 65 years and over, one in two residents living outside the metropolitan area were edentulous compared with 38% of Adelaide residents.
- Although edentulism remains high, particularly for concession cardholders aged 65 years and over, there was a significant decline in the overall rate of edentulism from 23% in 1979 to 7% in 2002.
- Denture use is strongly related to age with 50% of dentate adults aged 65–74 years, and 63% of dentate adults aged 75 years and over, reporting they wore a denture.
- Concession cardholders aged 45–64 years with some natural teeth remaining were more likely to wear a denture (22%) than non-cardholders this age (16%). However, for adults aged 65 years and over, cardholders were less likely to wear a denture (53%) than non-cardholders (61%).
- Tooth loss was strongly related to age. Dentate adults aged 55–64 years reported they had lost between 7 and 8 teeth on average, and adults aged 65 years and over reported more than 10 missing teeth. These figures are higher than those presented in Chapter 3 as they include all teeth reported missing and not just those that are lost through decay.
- Dentate cardholders reported higher levels of tooth loss than non-cardholders. On average, cardholders aged 45–64 years reported 8.3 teeth missing compared with 5.3 for non-cardholders. For adults aged 65 years and over, cardholders reported an average of 12 teeth missing compared with 9.3 for non-cardholders.
- Tooth loss was similar among males and females, and residents living in Adelaide and the rest of the State.

6 Indigenous oral health

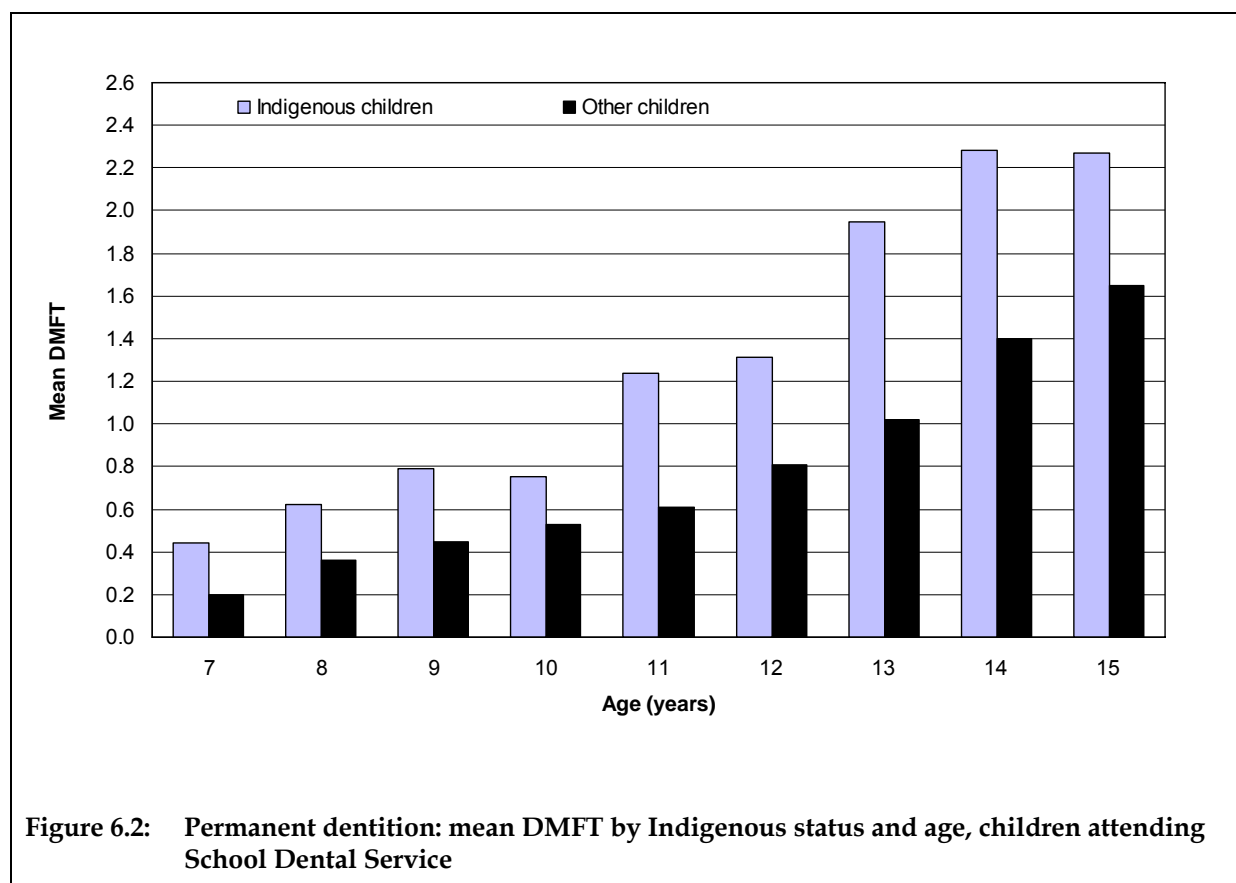
Children



Mean dmft	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs
Indigenous children	3.91	3.40	2.71	3.04	2.89	2.74	1.81
Other children	1.31	1.50	1.77	1.88	1.93	1.81	1.50

Source: 2002 Child Dental Health Survey.

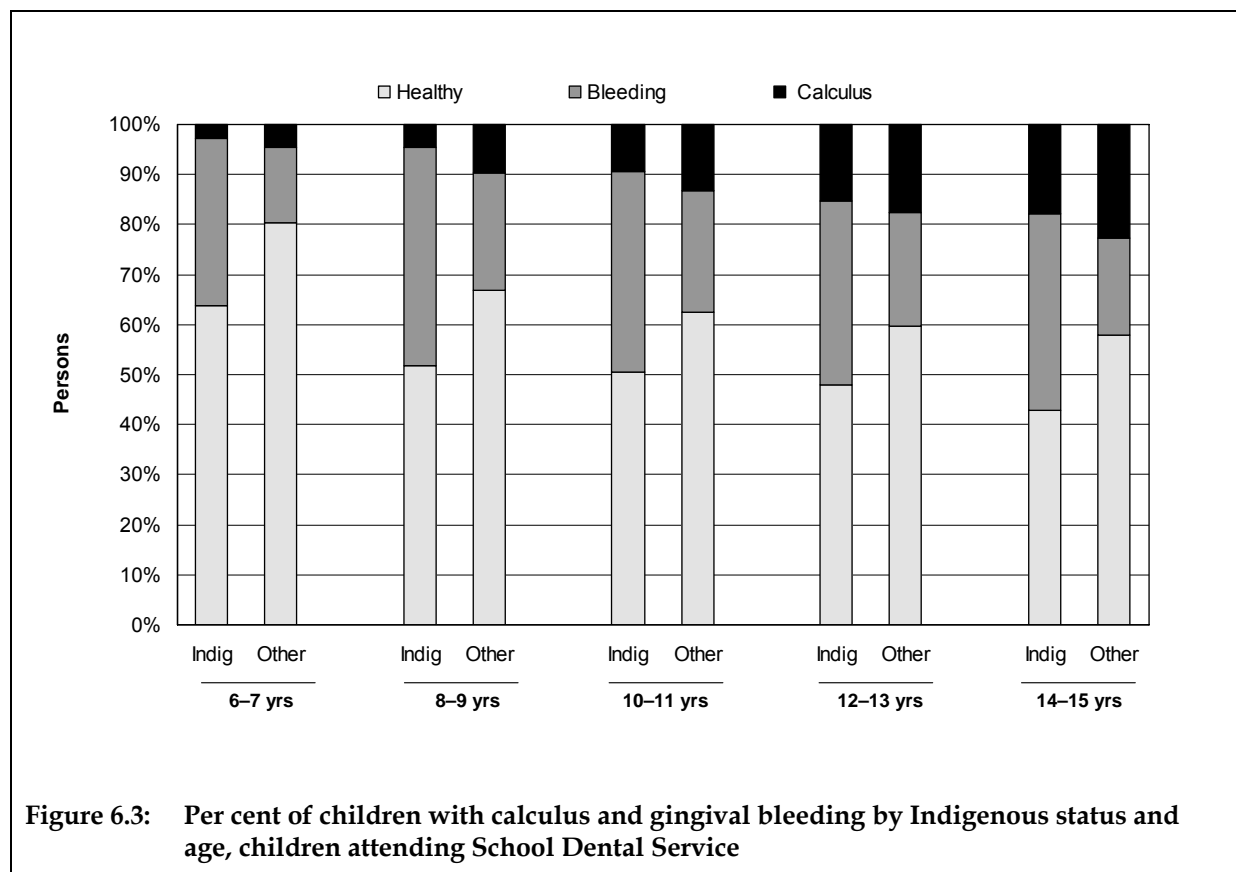
- Decay experience for Indigenous children aged 4-10 was consistently higher than that for other children in the community.
- Indigenous children aged 4-5 years had more than twice the number of teeth affected by caries than other children of that age. This difference is partly due to the School Dental Service targeting pre-school Indigenous children who are in need of treatment.



Mean DMFT	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs
Indigenous children	0.44	0.62	0.79	0.75	1.24	1.31	1.95	2.28	2.27
Other children	0.20	0.36	0.45	0.53	0.61	0.81	1.02	1.40	1.65

Source: 2002 Child Dental Health Survey.

- Mean DMFT for permanent teeth was consistently higher for Indigenous children than for other children across all age groups from 7 to 15 years of age.
- At 7 years of age mean DMFT for Indigenous children was more than double the score for other children.
- By 11 years of age Indigenous children had at least 1 permanent tooth affected by caries, increasing to over 2 permanent teeth by 14 years of age.

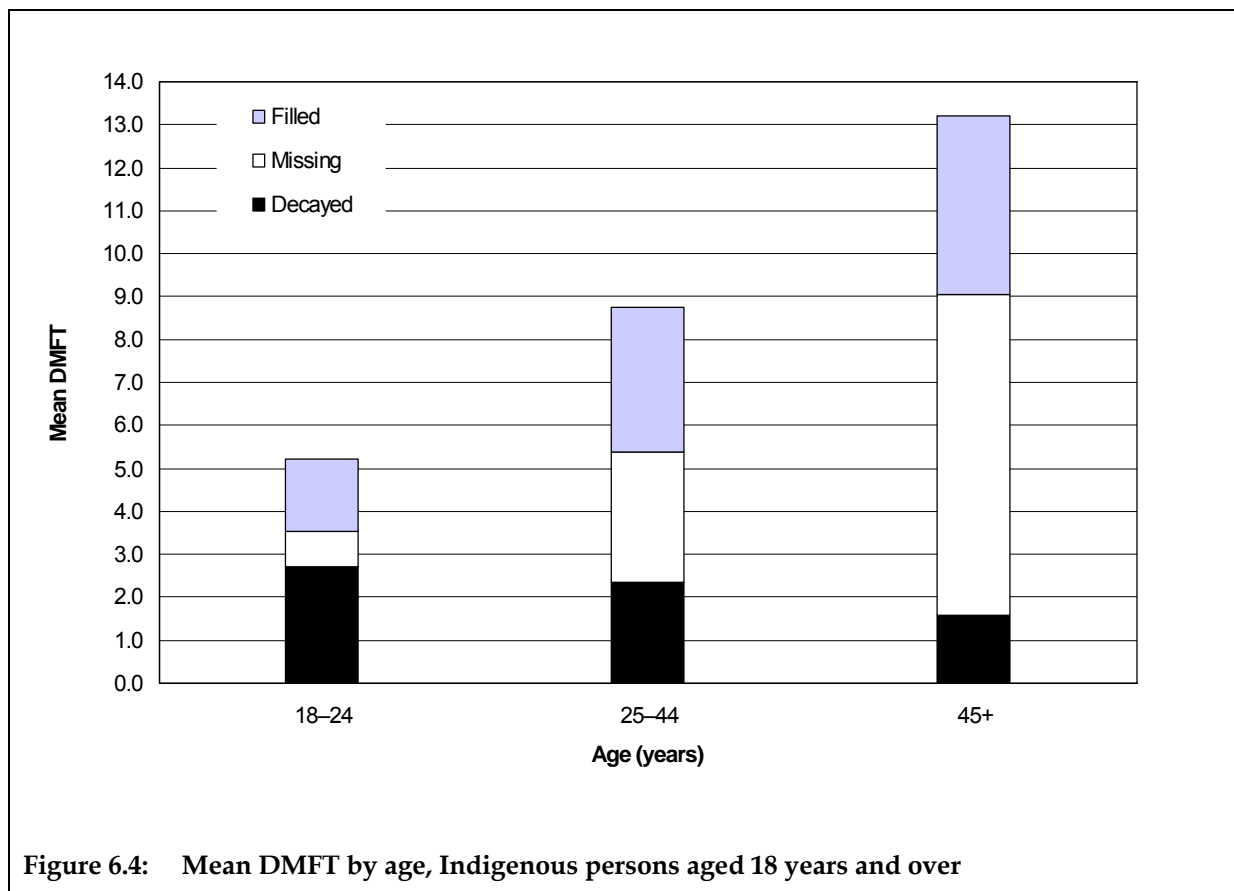


Persons (%)		6-7 yrs	8-9 yrs	10-11 yrs	12-13 yrs	14-15 yrs
Indigenous children	Healthy	63.8	51.9	50.4	47.9	42.8
	Bleeding	33.4	43.5	40.1	36.7	39.4
	Calculus	2.9	4.7	9.5	15.5	17.9
Other children	Healthy	80.3	66.8	62.5	59.7	57.8
	Bleeding	15.0	23.5	24.2	22.6	19.4
	Calculus	4.8	9.8	13.4	17.7	22.8

Source: 2002 Child Dental Health Survey.

- Indigenous children were far more likely to have gingival bleeding than other children. At 6-7 years, 33% of Indigenous children had gingival bleeding compared with 15% of other children.
- However, Indigenous children were less likely to have calculus present on their teeth. At 8-9 years, 5% of Indigenous children had calculus present compared with 10% of other children. By 14-15 years of age, 18% of Indigenous children had calculus compared with 23% of other children.

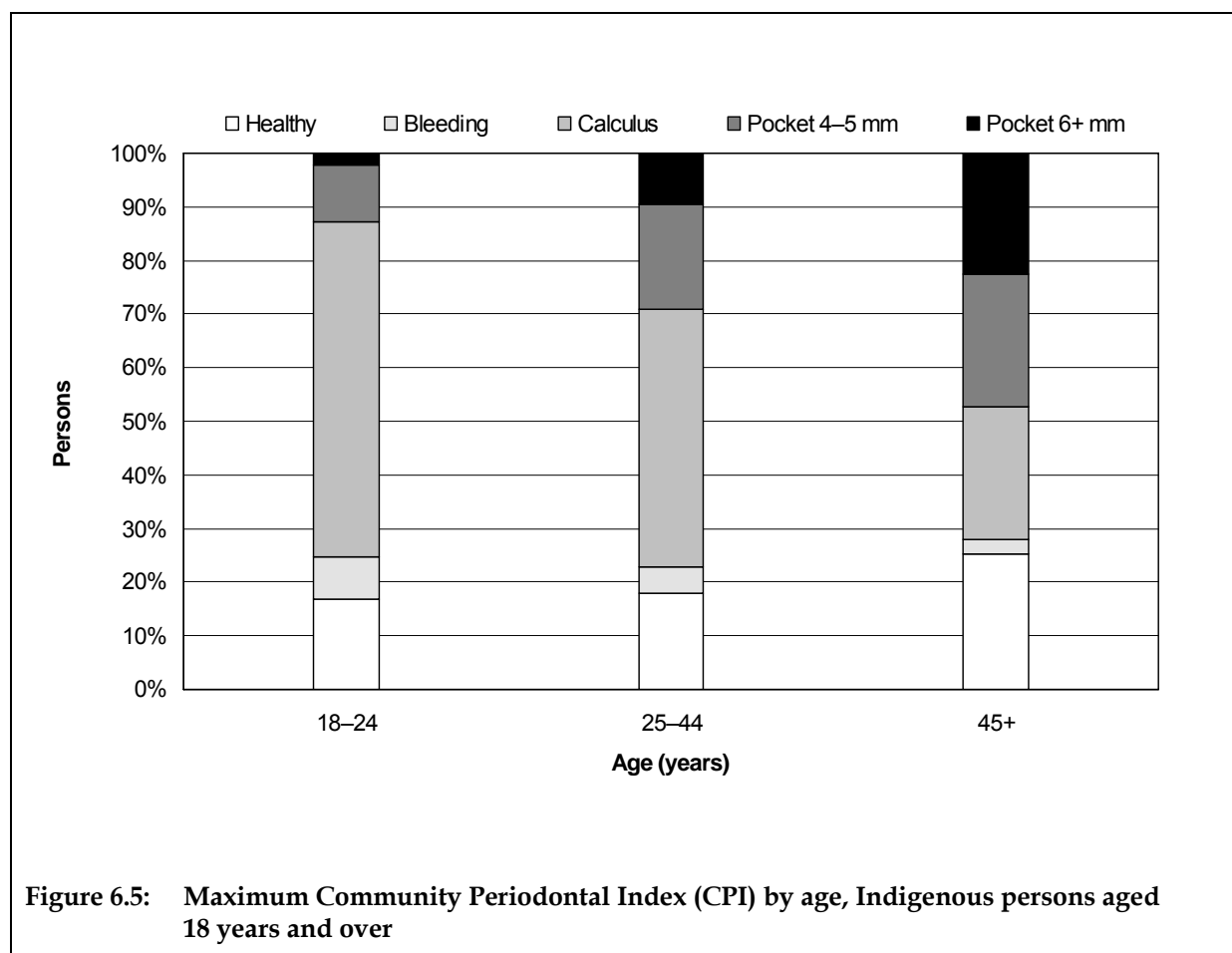
Adults



Mean DMFT	18-24 yrs	25-44 yrs	45+ yrs	Total
Decayed	2.72	2.35	1.59	2.17
Missing	0.80	3.04	7.47	3.93
Filled	1.71	3.35	4.15	3.18
Total	5.23	8.74	13.21	9.28

Source: DSRU Indigenous Data Collection—unpublished.

- Young Indigenous adults had higher levels of untreated decay than older Indigenous adults. Untreated decay accounted for over half of the DMFT score for Indigenous adults aged 18-24 years.
- On average, Indigenous persons aged 45 years and over had 7.5 teeth missing due to caries, and 4.2 teeth filled. Missing teeth accounted for 57% of DMFT for this age group.



Maximum CPI (%)	18-24 yrs	25-44 yrs	45+ yrs	Total
Healthy	16.9	18.0	25.2	21.0
Bleeding	7.7	4.7	2.7	4.5
Calculus	62.7	48.1	24.8	44.0
Pocket 4-5 mm	10.6	19.7	24.8	18.3
Pocket 6+ mm	2.1	9.5	22.5	12.2

Source: DSRU Indigenous Data Collection—unpublished.

- While the percentage of Indigenous adults with healthy gums was higher in the older age groups, the prevalence of more severe periodontal conditions (pockets of 4 mm or more) was significantly higher in older Indigenous adults. Twenty-nine per cent of Indigenous adults aged 25-44 years, and 47% aged 45 years and over, had pockets at least 4 mm deep.
- Calculus was found in approximately 63% of Indigenous adults aged 18-24 years.

Summary

Children

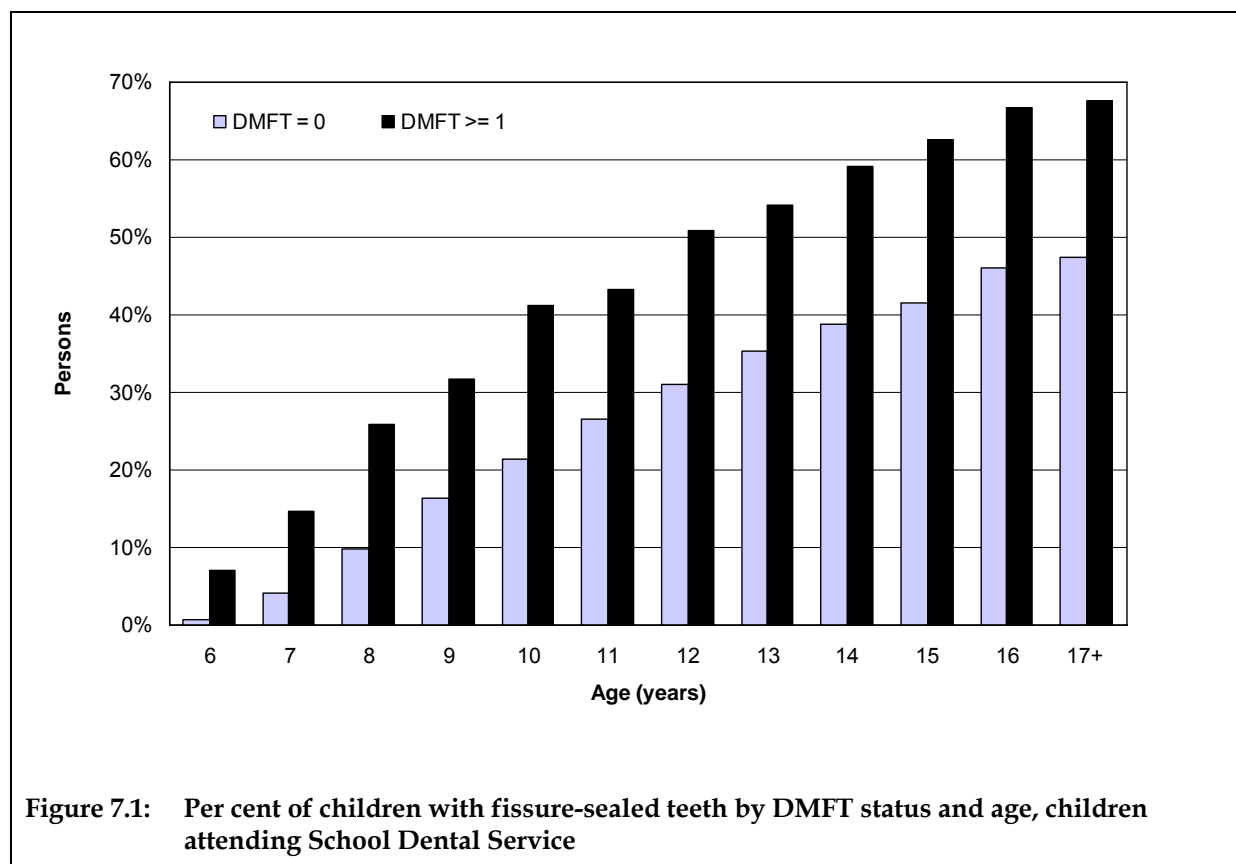
- Decay experience for Indigenous children is higher than that for other children in the community across all ages. At 4–5 years of age, Indigenous children had more than twice the number of deciduous teeth affected by caries than other children. This is partly due to the School Dental Service actively targeting pre-school Indigenous children who are in need of treatment.
- This pattern continued as children developed permanent teeth. At 11 years of age, Indigenous children experienced more than twice as many caries as other children in the community. By 14 years of age Indigenous children had an average of 2.3 teeth affected by caries compared with 1.4 for other children.
- Indigenous children were less likely to have healthy gums than other children in the community. At 6–7 years only 64% of Indigenous children had completely healthy gums compared with 80% of other children. By 14 years of age, only 43% of Indigenous children had healthy gums compared with 58% of other children.
- Indigenous children had a far higher prevalence of gingival bleeding than other children in the community but were less likely to have calculus.

Adults

- Young Indigenous adults had higher levels of untreated decay than older Indigenous adults. Untreated decay accounted for over half the decay experience of Indigenous adults aged 18–24 years compared with only 12% for those aged 45 years and over.
- Indigenous adults aged 45 years and over were far more likely to have teeth missing due to caries than young adults. On average, older Indigenous adults had more than 7 teeth missing due to caries, accounting for 57% of their total decay experience.
- Data is not available to compare the level of caries experience of Indigenous adults with the wider adult community, although it is possible to make these comparisons for young adults aged 20–24 years. Young Indigenous adults had more decay experience than other young adults with an average of 5.2 decayed teeth compared with 3.7 for other young adults. However, young Indigenous adults had less decay experience than young adults attending public care who had an average of 7.2 decayed teeth.
- Older Indigenous adults also had less decay experience than adults attending public dental care. Indigenous adults aged 25–44 years had an average of 8.7 decayed teeth compared with 12.9 for public patients. Similarly, Indigenous adults aged 45 years and over had 13.2 teeth affected by caries compared with 16.6 for public patients aged 45–64 years.
- One in five Indigenous adults had completely healthy gums. The presence of calculus was the most common periodontal condition for Indigenous adults aged less than 45 years. Older Indigenous adults were more likely to have progressed to the more severe forms of periodontal disease with 25% having developed moderate pockets and 23% deep pockets.

- Young Indigenous adults were just as likely to have completely healthy gums as other young adults in the community (17%). However, for those young adults with gum disease, Indigenous adults were twice as likely to have developed periodontal pockets (13%) as other young adults (6%).
- Data is not available to compare the level of periodontal disease of older Indigenous adults with the wider adult community. However, Indigenous adults aged 25 years and over were twice as likely to have completely healthy gums as adults attending public care in this age group.
- Indigenous adults with gum disease were more likely to have progressed to more severe forms of periodontal disease than those attending public care. For Indigenous adults aged 25–44 years, 29% had developed periodontal pockets compared with 20% of adults attending public care. Older Indigenous adults fared worse, with 47% having pockets, compared with 33% of adults aged 45–64 years who attended public care.

7 Preventive interventions



Persons with fissure-sealed teeth (%)	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs	16 yrs	17+ yrs
DMFT = 0	0.7	4.1	9.9	16.3	21.4	26.5	31.0	35.3	38.8	41.5	46.1	47.5
DMFT ≥1	7.0	14.7	25.8	31.7	41.2	43.2	50.8	54.2	59.2	62.6	66.8	67.6

Source: 2002 Child Dental Health Survey.

- Fissure sealants are placed on permanent teeth as a caries preventive service.
- The prevalence of sealants is higher among children with caries experience in their permanent teeth (DMFT ≥1) than children with no caries experience (DMFT = 0). This suggests that sealants are being used preferentially in children with past caries experience.
- At 6 years of age 7% of children with caries experience in their permanent teeth had at least one fissure-sealed tooth compared with less than 1% of children with no caries experience.
- By 12 years of age 51% of children with caries experience in their permanent teeth had at least one fissure-sealed tooth compared with 31% of children with no caries experience.

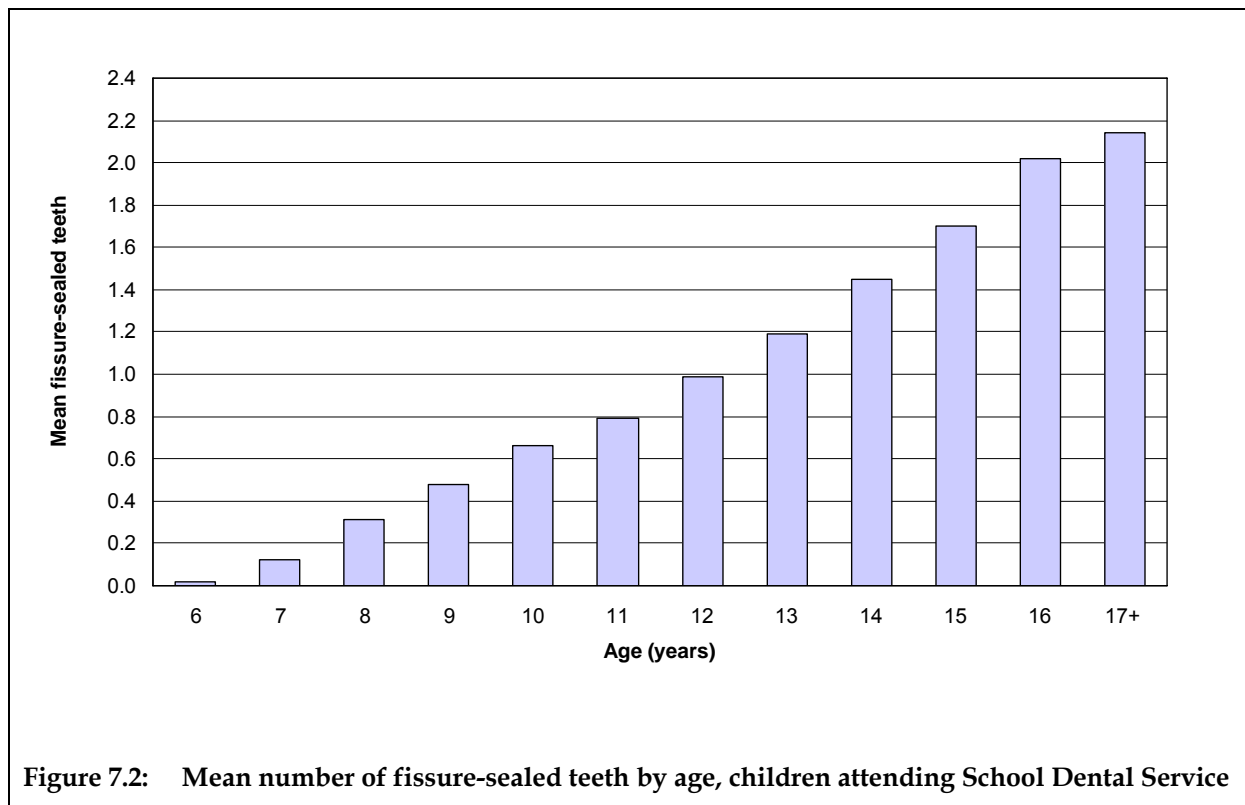


Figure 7.2: Mean number of fissure-sealed teeth by age, children attending School Dental Service

	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs	16 yrs	17+ yrs
Mean sealants	0.02	0.12	0.31	0.48	0.66	0.79	0.99	1.19	1.45	1.70	2.02	2.14

Source: 2002 Child Dental Health Survey.

- The number of fissure sealants present in children attending the School Dental Service steadily increased across age.
- On average, children aged 12 years old had one fissure-sealed tooth and children aged 16 years old had two fissure-sealed teeth.

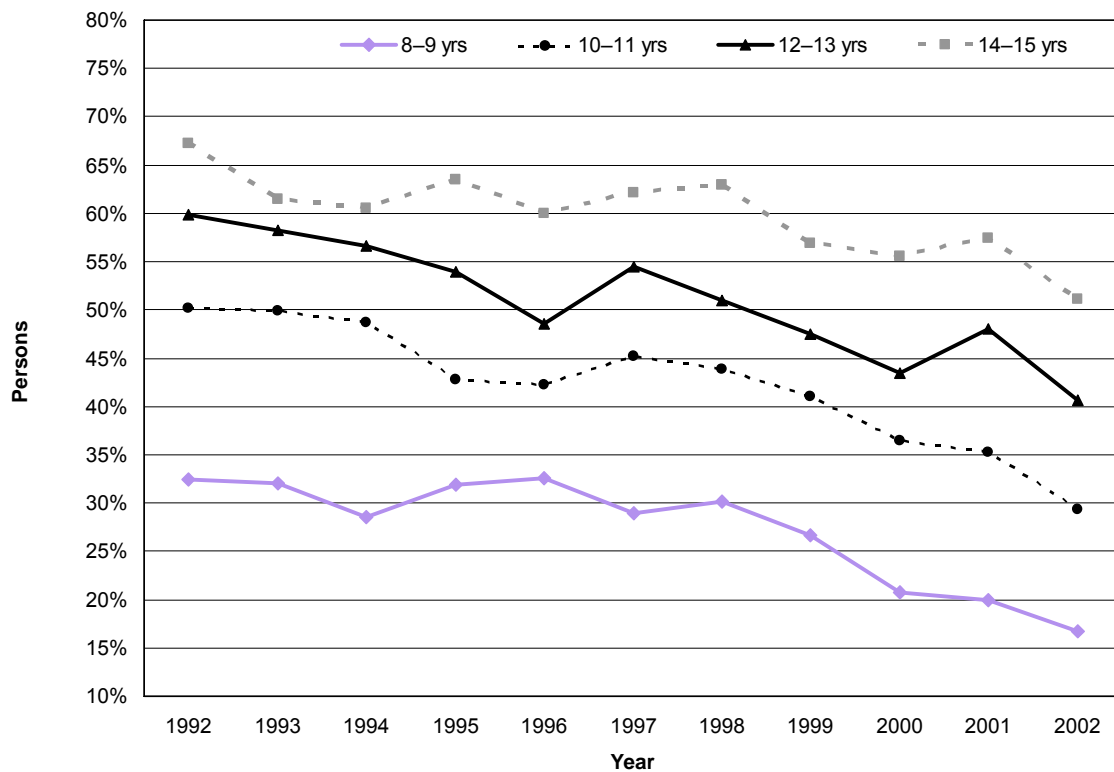


Figure 7.3: Per cent of children with fissure-sealed teeth by age for years 1992 to 2002, children attending School Dental Service

Persons with fissure-sealed teeth (%)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
8-9 yrs	32.5	32.0	28.6	31.9	32.6	28.9	30.1	26.6	20.7	19.9	16.7
10-11 yrs	50.2	49.9	48.7	42.8	42.2	45.2	43.8	41.1	36.5	35.2	29.4
12-13 yrs	59.8	58.2	56.6	53.9	48.6	54.5	51.0	47.5	43.4	48.0	40.7
14-15 yrs	67.2	61.5	60.5	63.5	60.0	62.1	63.0	56.9	55.5	57.4	51.1

Source: Child Dental Health Surveys.

- The number of children attending the School Dental Service with fissure-sealed teeth declined significantly over the last 10 years.
- In particular, for children aged 8-9 years, the proportion with fissure-sealed teeth almost halved during this period.
- Similar declines occurred in older children with the proportion of 10-11-year-old children with fissure sealants declining from 50% in 1992 to 29% in 2002, and the proportion of 12-13-year-old children with fissure sealants declining from 60% to 41% during this period.

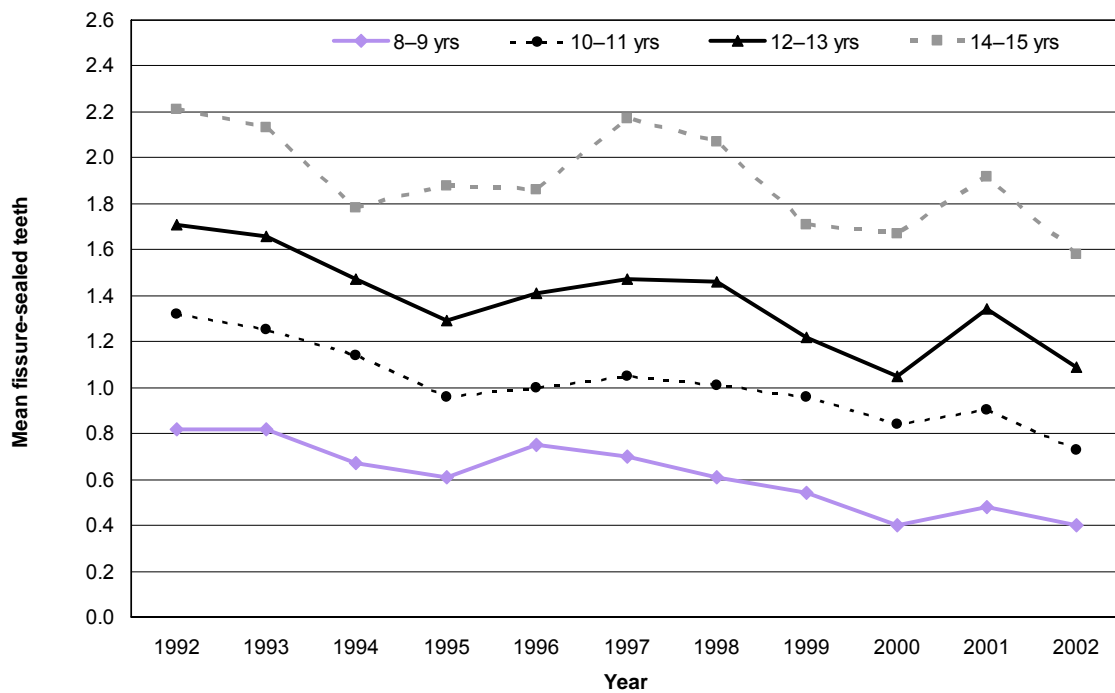


Figure 7.4: Mean number of fissure-sealed teeth by age for years 1992 to 2002, children attending School Dental Service

Mean sealants	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
8-9 yrs	0.82	0.82	0.67	0.61	0.75	0.70	0.61	0.54	0.40	0.48	0.40
10-11 yrs	1.32	1.25	1.14	0.96	1.00	1.05	1.01	0.96	0.84	0.90	0.73
12-13 yrs	1.71	1.66	1.47	1.29	1.41	1.47	1.46	1.22	1.05	1.34	1.09
14-15 yrs	2.21	2.13	1.78	1.88	1.86	2.17	2.07	1.71	1.67	1.92	1.58

Source: Child Dental Health Surveys.

- Over the last 10 years the average number of fissure sealed teeth present in children attending the School Dental Service has declined in all age groups.
- In 1992 the average number of fissure-sealed teeth for children aged 8-9 years was 0.82; this steadily declined to 0.4 by 2002.
- Similarly, the average number of fissure-sealed teeth present in children aged 14-15 years declined from 2.21 in 1992 to 1.58 in 2002.

Summary

- Fissure sealants are being used preferentially in children with previous caries experience. At 6 years of age, 7% of children with decay experience had a fissure sealant compared with less than 1% of children with no decay. By 12 years of age, one in two children with decay experience had fissure-sealed teeth compared with 31% of children with no decay.
- The prevalence of fissure-sealed teeth in children increased across age. On average, children aged 12 years old had 1 fissure sealed tooth, increasing to 2 for children aged 16 years old.
- The application of fissure sealants has declined significantly over the period 1992 to 2002 for children of all ages. This is particularly evident for children aged 8–9 years where the proportion of children with fissure-sealed teeth almost halved from 33% in 1992 to 17% in 2002. For older children, 67% of 14–15-year-olds had fissure-sealed teeth in 1992; this dropped to 51% by 2002.

8 Use of dental services

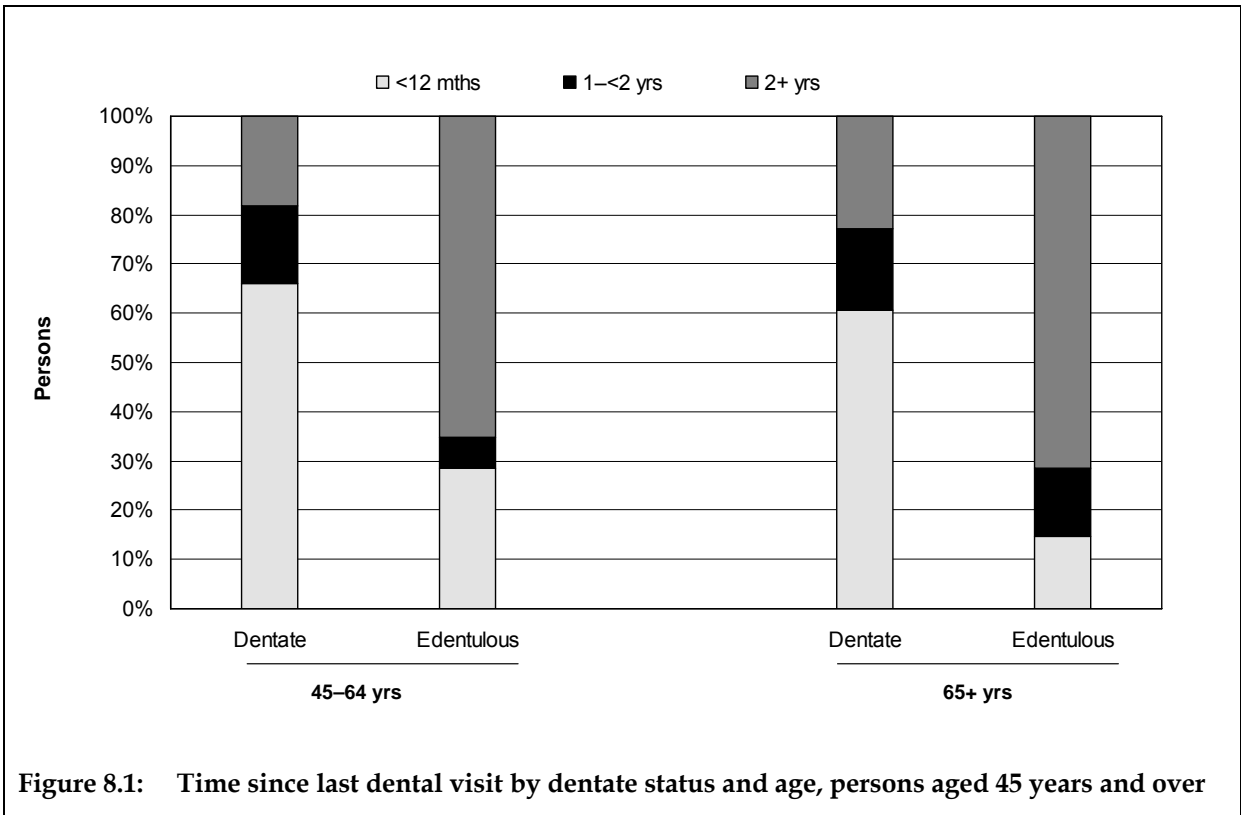


Figure 8.1: Time since last dental visit by dentate status and age, persons aged 45 years and over

Time since last dental visit (%)	45-64 yrs		65+ yrs	
	Dentate	Edentulous	Dentate	Edentulous
<12 months	65.9	28.4	60.7	14.8
1-2 years	15.8	6.4	16.5	13.8
2+ years	18.3	65.2	22.8	71.4
Total	100.0	100.0	100.0	100.0

Source: 2002 National Dental Telephone Interview Survey.

- Data are restricted to adults aged 45 years and over as there are no edentulous adults aged under 45 years. Dentate adults were far more likely to have visited a dentist in the last 12 months than edentulous adults.
- Two-thirds (66%) of dentate adults aged 45-64 years visited a dentist in the last 12 months compared with 28% of edentulous adults. The majority of edentulous adults aged 45-64 years had not visited a dentist for 2 or more years (65%).
- Similarly, dentate adults aged 65 years and over were far more likely to have visited a dentist in the last 12 months (61%) than edentulous adults this age (15%). Over 70% of edentulous adults had not visited a dentist for 2 or more years.

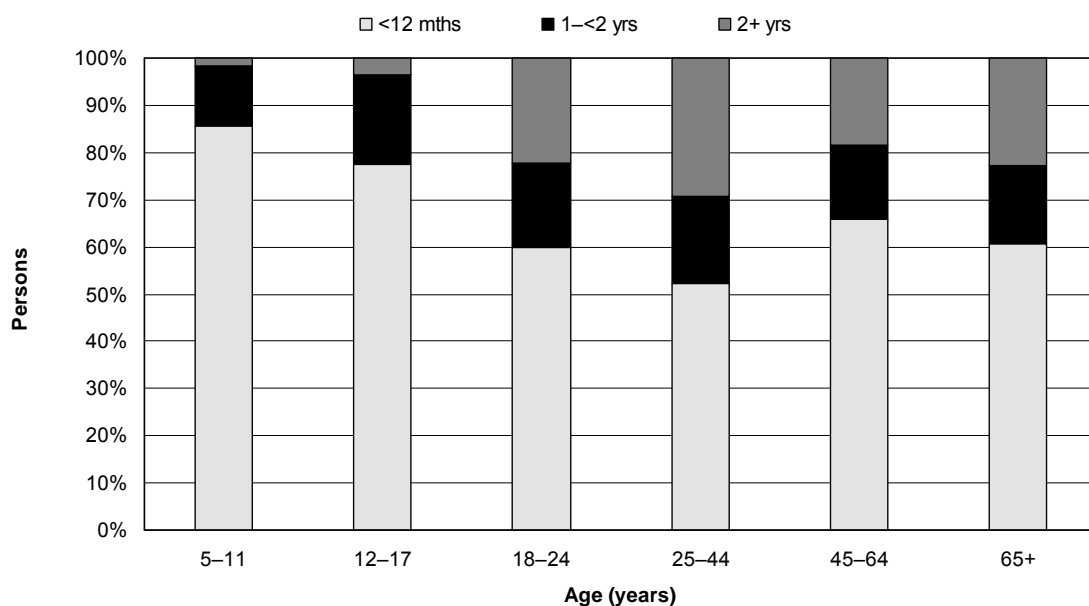


Figure 8.2: Time since last dental visit by age, dentate persons aged 5 years and over

Time since last dental visit (%)	5-11 yrs	12-17 yrs	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs
<12 months	85.7	77.4	59.9	52.2	65.9	60.7
1-2 years	12.8	19.2	18.0	18.6	15.8	16.5
2+ years	1.6	3.4	22.1	29.2	18.3	22.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: 2002 National Dental Telephone Interview Survey.

- Children aged 5-11 years were more likely to have made a dental visit in the last 12 months (86%) than any other age group.
- Adults aged 25-44 years were the least likely to have made a dental visit in the last 12 months (52%) and most likely to have not visited in the last 2 years (29%).
- Twenty-three per cent of dentate persons aged 65 years and over had not visited a dentist in the last 2 years.

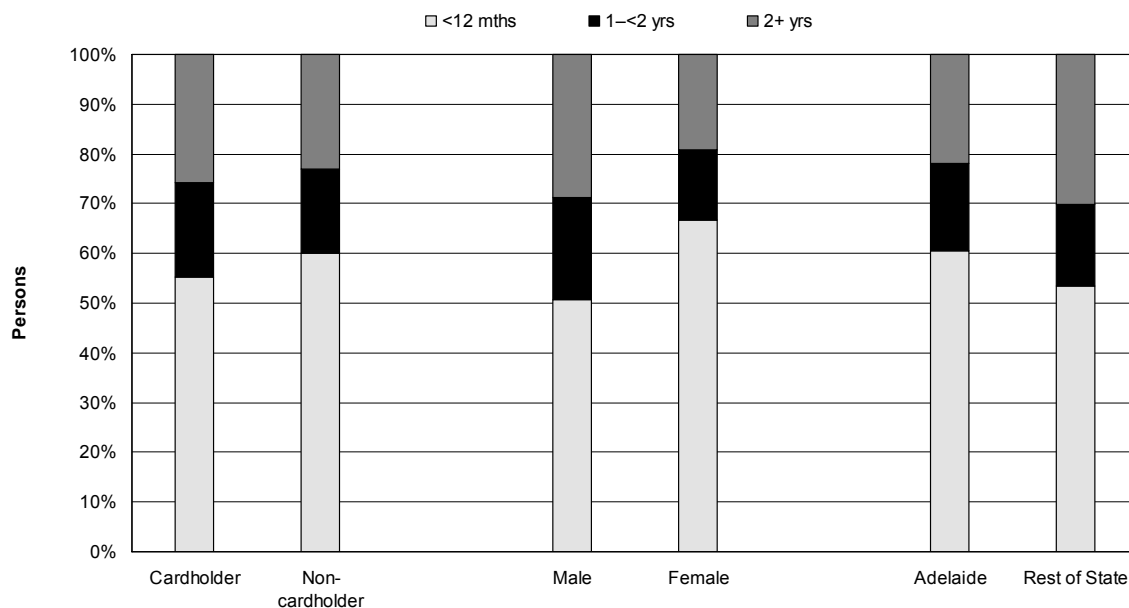


Figure 8.3: Time since last dental visit by cardholder status, sex and region, dentate persons aged 18 years and over

Time since last dental visit (%)	Cardholder status		Sex		Region		Total
	Cardholder	Non-cardholder	Male	Female	Adelaide	Rest of State	
<12 months	55.3	60.1	50.6	66.7	60.4	53.4	58.7
1-<2 years	18.8	16.8	20.5	14.2	17.7	16.4	17.4
2+ years	25.9	23.1	28.8	19.1	21.9	30.2	24.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 2002 National Dental Telephone Interview Survey.

- Adult cardholders were slightly less likely to have recently visited a dentist, with 55% visiting in the last 12 months compared with 60% of non-cardholders. Twenty-six per cent of adult cardholders had not made a dental visit in the last 2 years compared with 23% of non-cardholders.
- Females aged 18 years and over were far more likely to have made a dental visit in the last 12 months (67%) than males (51%). Twenty-nine per cent of adult males had not visited a dentist in the last 2 years compared with 19% of females.
- Six in ten (60%) Adelaide residents visited the dentist in the last 12 months compared with 53% of residents living outside the metropolitan area. Three in ten (30%) residents living in the non-metropolitan area had not visited a dentist in the last 2 years.

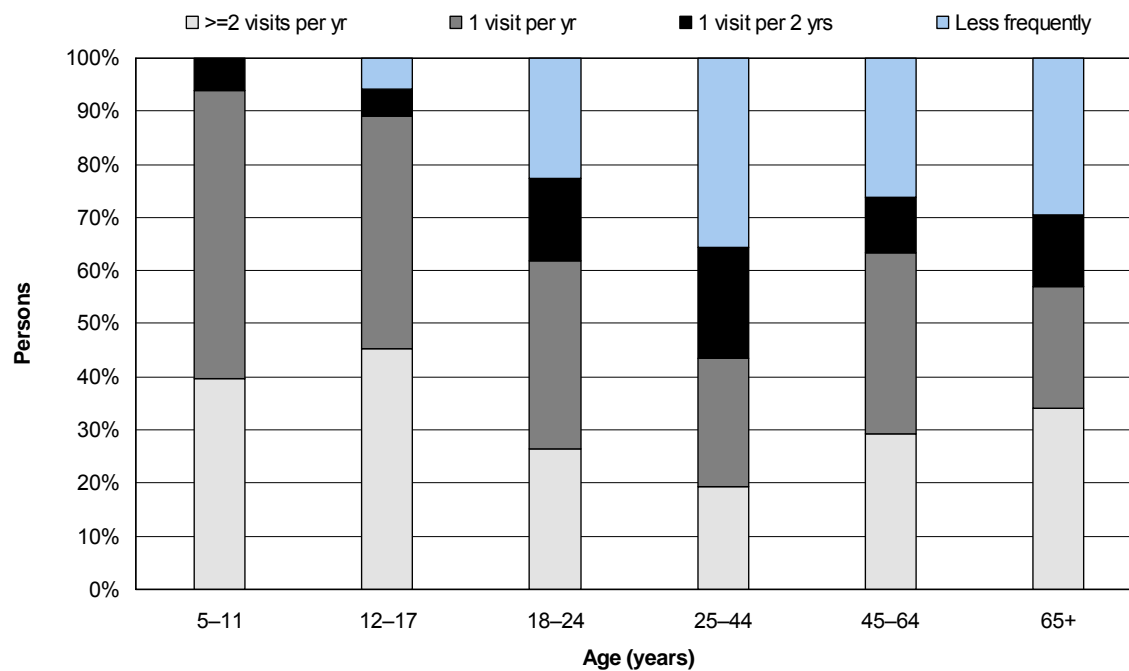


Figure 8.4: Usual frequency of dental visits by age, dentate persons aged 5 years and over

Usual frequency of dental visits (%)	5-11 yrs	12-17 yrs	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs
≥2 visits per year	39.8	45.3	26.4	19.4	29.2	34.2
1 visit per year	54.0	43.6	35.5	24.1	34.1	22.8
1 visit per 2 years	6.2	5.2	15.6	21.0	10.6	13.6
Less frequently	0.0	5.8	22.6	35.5	26.1	29.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: 2002 National Dental Telephone Interview Survey.

- Forty per cent of children aged 5-11 years, and 45% of children aged 12-17 years, usually visit the dentist at least twice a year, as reported by their parents.
- Adults aged 25-44 years reported the least frequent dental visiting patterns, with 21% usually visiting once every 2 years and 36% visiting less frequently.
- Thirty per cent of dentate persons aged 65 years or more reported they usually visited less often than once every 2 years.

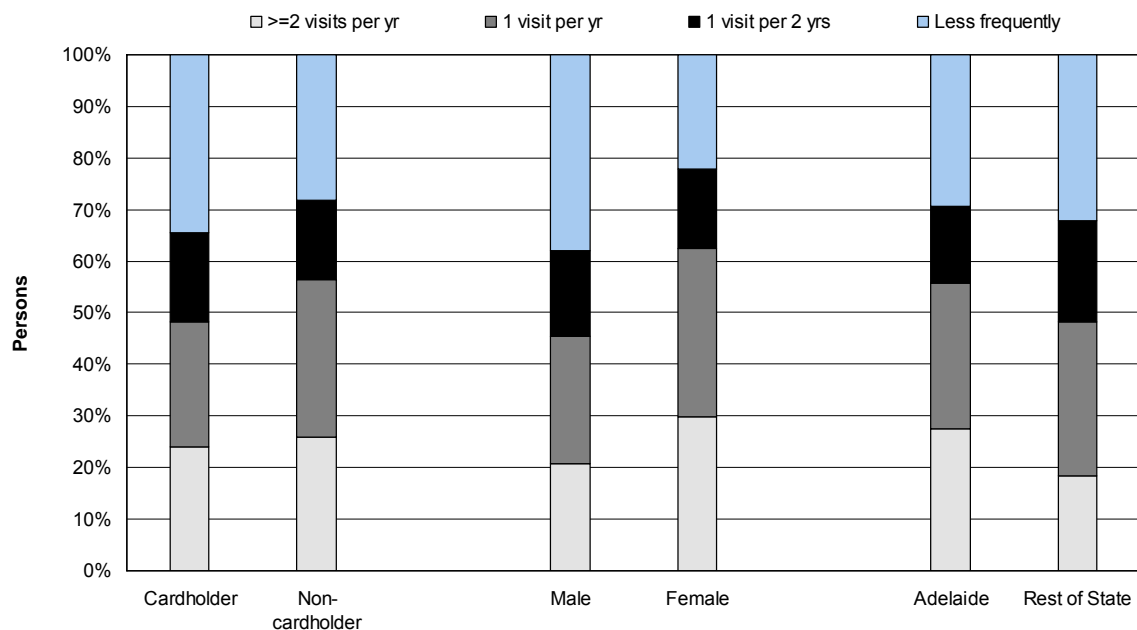
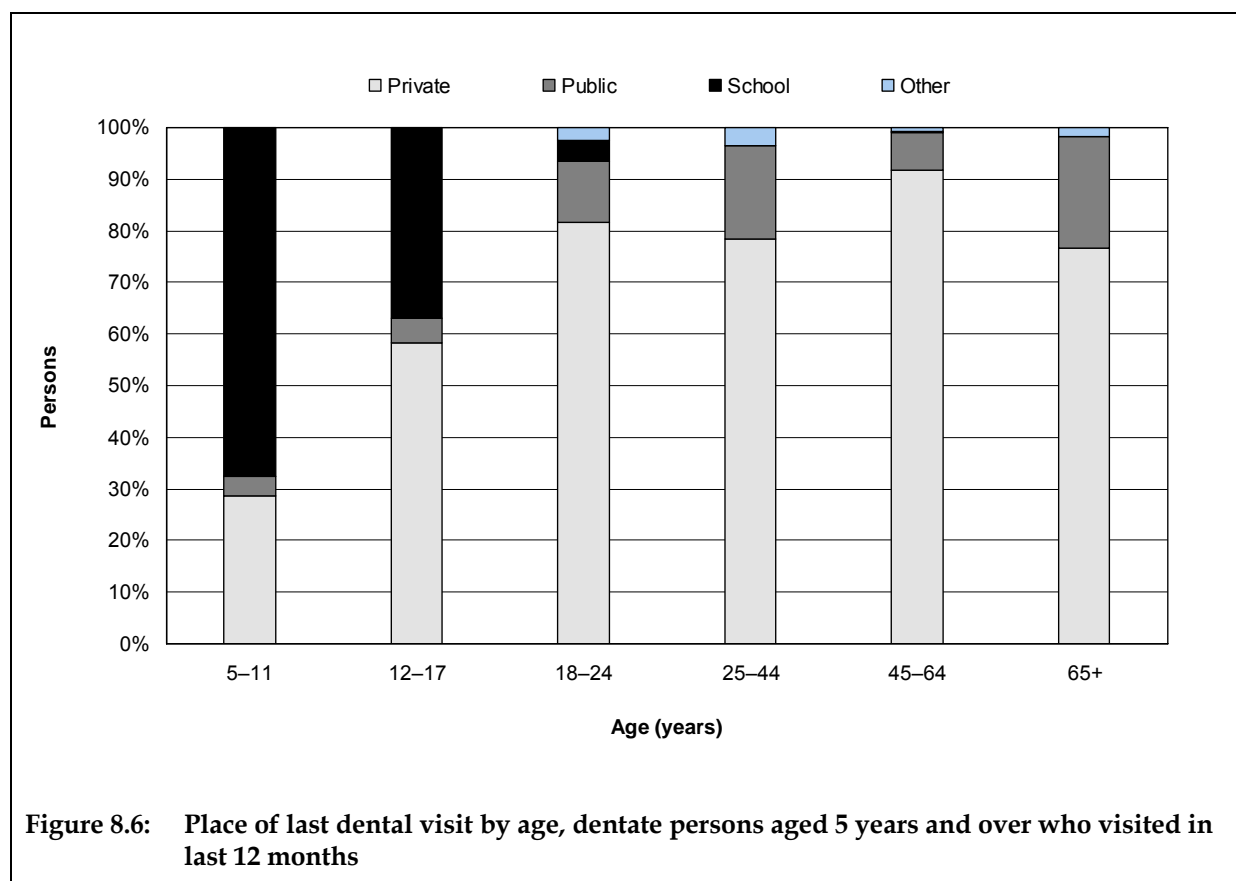


Figure 8.5: Usual frequency of dental visits by cardholder status, sex and region, dentate persons aged 18 years and over

Usual freq. of dental visits (%)	Cardholder status		Sex		Region		Total
	Cardholder	Non-cardholder	Male	Female	Adelaide	Rest of State	
≥2 visits per year	24.0	25.8	20.7	29.8	27.5	18.5	25.3
1 visit per year	24.2	30.5	24.7	32.6	28.3	29.7	28.7
1 visit per 2 years	17.4	15.4	16.6	15.4	14.8	19.7	16.0
Less frequently	34.4	28.2	38.0	22.2	29.4	32.1	30.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 2002 National Dental Telephone Interview Survey.

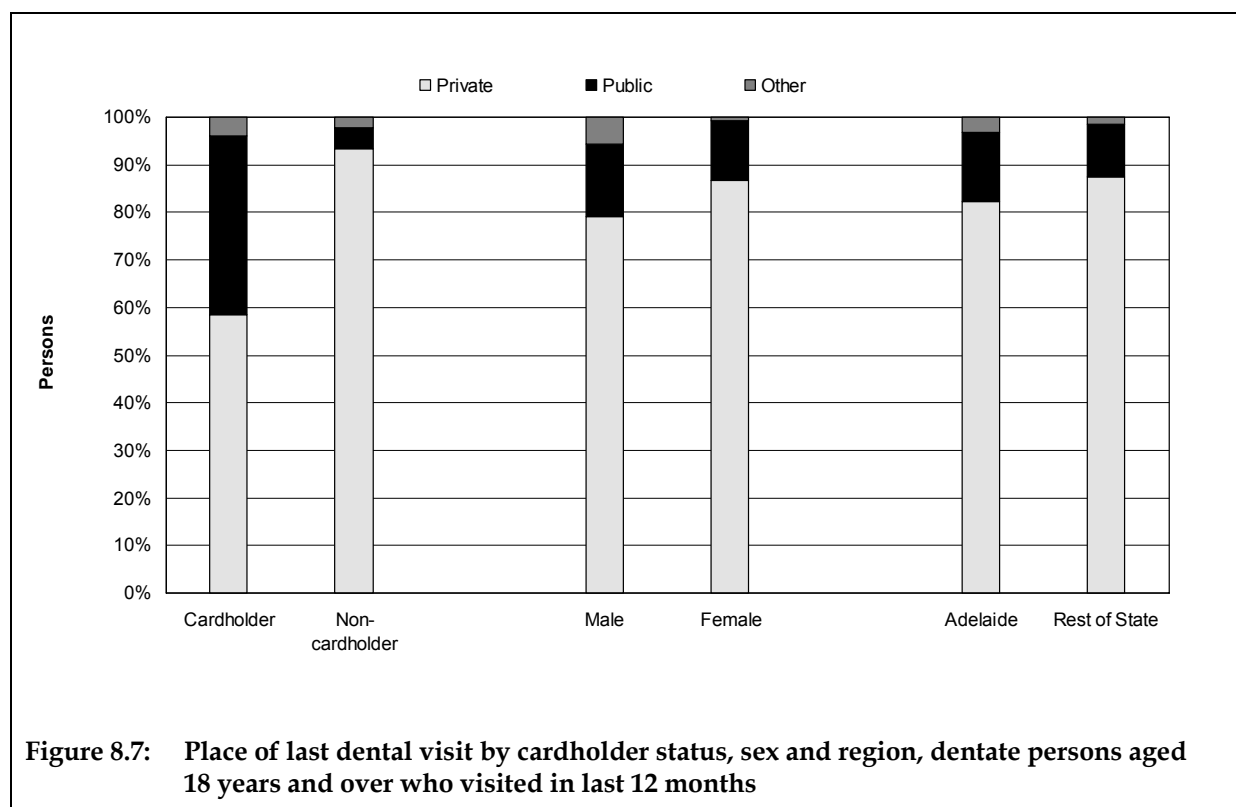
- Adult cardholders were less likely to regularly visit a dentist than non-cardholders, with 34% reporting they visited less often than once every 2 years compared with 28% for non-cardholders.
- Sixty-two per cent of females aged 18 years and over usually visited the dentist at least once a year compared with 45% of males. Males were far more likely to report they visited less often than once every 2 years (38%) than females (22%).
- Adelaide residents visited the dentist more frequently with 56% visiting at least once a year compared with 48% of residents living outside the metropolitan area.



Place of last dental visit (%)	5-11 yrs	12-17 yrs	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs
Private	28.7	58.3	81.7	78.5	91.8	76.7
Public	3.8	4.8	11.9	17.9	7.2	21.6
School	67.5	36.9	3.9	0.0	0.3	0.0
Other	0.0	0.0	2.6	3.6	0.7	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: 2002 National Dental Telephone Interview Survey.

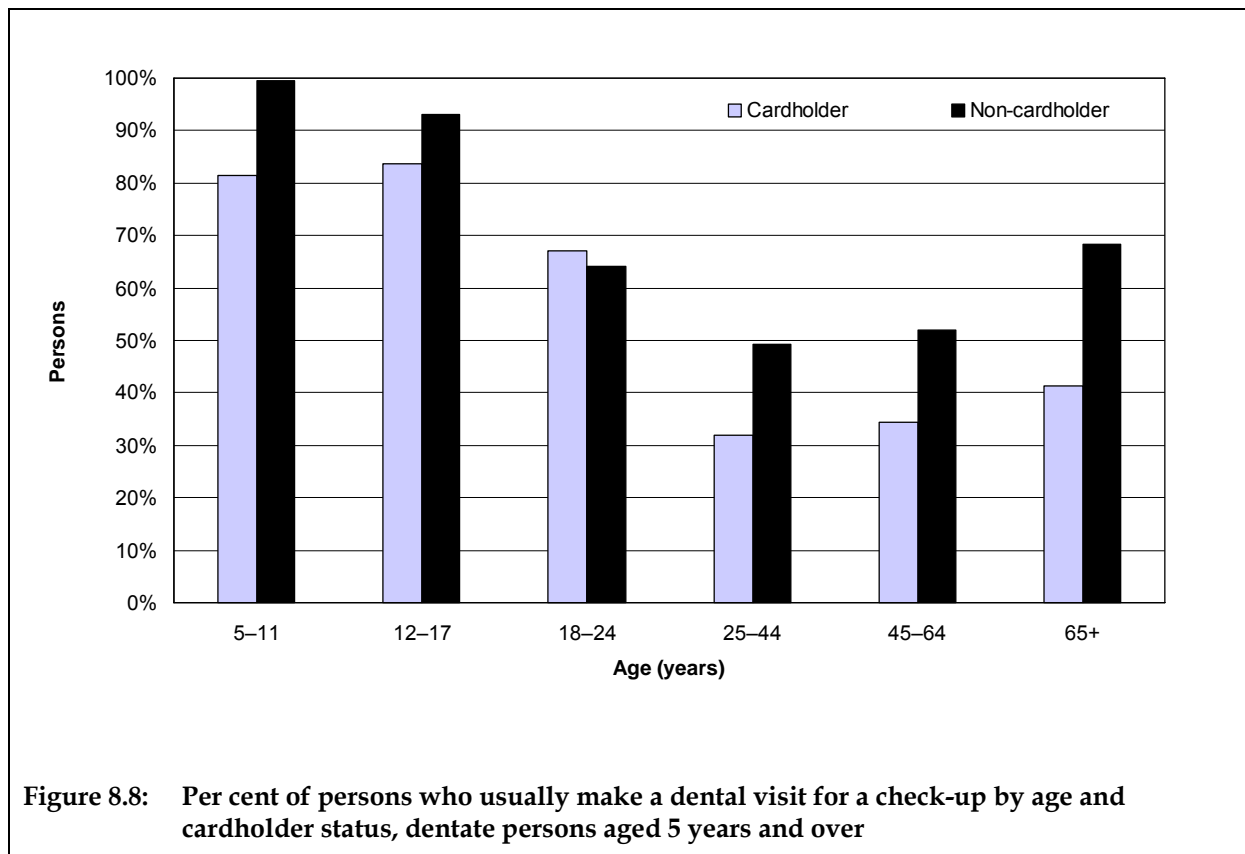
- Over two-thirds of children aged 5-11 years who visited a dentist in the last 12 months attended the School Dental Service.
- Children aged 12-17 years who visited a dentist in the last 12 months were more likely to have visited a private clinic (58%) than the School Dental Service (37%).
- Seventy-seven per cent of dentate persons aged 65 years and over who had visited a dentist in the last 12 months reported they attended a private dental clinic and 22% reported they attended a public clinic.



Place of last dental visit (%)	Cardholder status		Sex		Region		Total
	Cardholder	Non-cardholder	Male	Female	Adelaide	Rest of State	
Private	58.4	93.4	79.2	86.8	82.4	87.5	83.5
Public	37.6	4.3	15.2	12.5	14.5	11.0	13.7
Other	4.0	2.3	5.6	0.7	3.2	1.5	2.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 2002 National Dental Telephone Interview Survey.

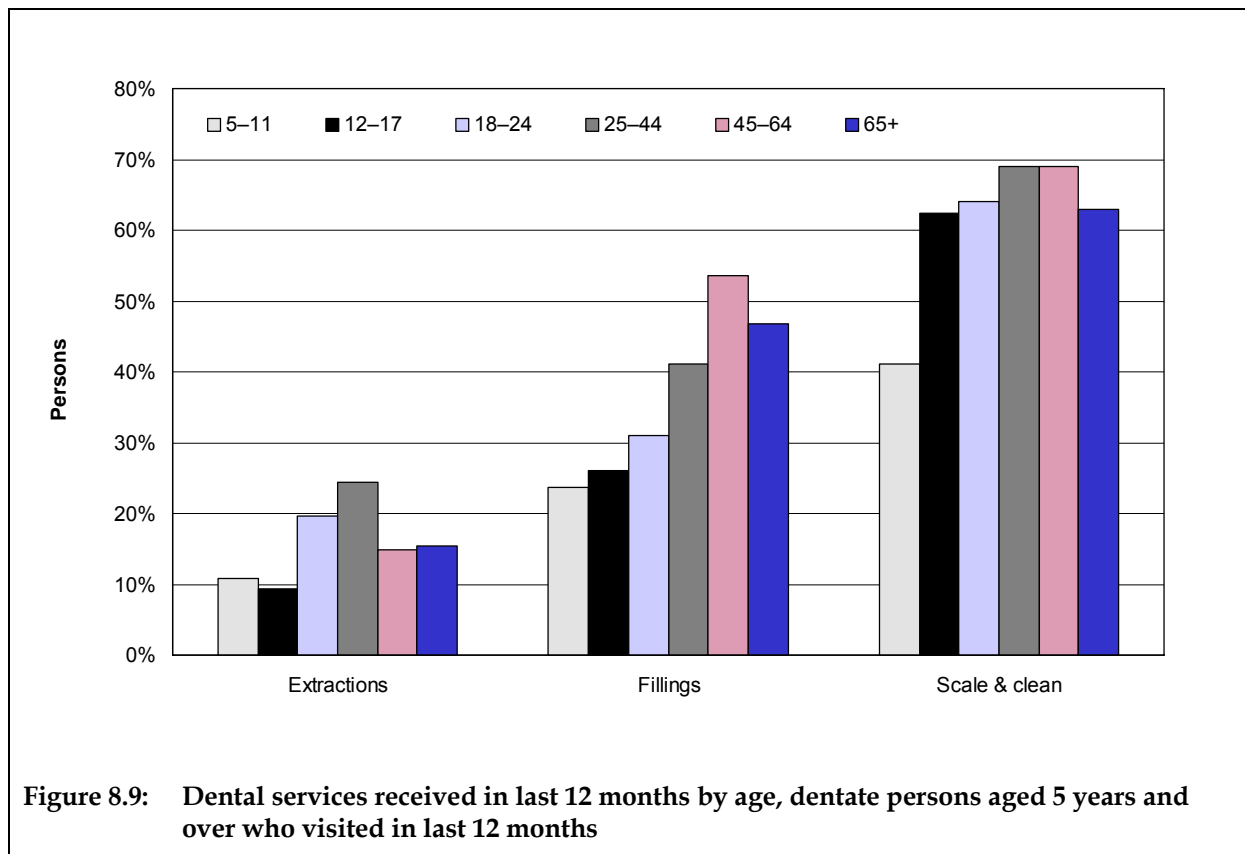
- Eighty-four per cent of dentate adults who visited a dentist in the last 12 months attended a private clinic and 14% attended a public clinic.
- Despite cardholders having access to publicly funded dental care, 58% of adult dentate cardholders who visited a dentist in the last 12 months attended a private clinic.
- Dentate females aged 18 years and over were more likely to have attended a private clinic at their last visit (87%) than males (79%).
- Residents living outside the Adelaide metropolitan area were more likely to have visited a private clinic (88%) than Adelaide residents (82%).



Usual reason for dental visit was for a check-up (%)	5-11 yrs	12-17 yrs	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs	Total
Cardholder	81.5	83.7	67.0	31.9	34.5	41.4	47.1
Non-cardholder	99.5	93.1	64.0	49.3	52.0	68.3	62.2
Total	93.4	91.2	64.7	45.1	47.8	48.9	57.5

Source: 2002 National Dental Telephone Interview Survey.

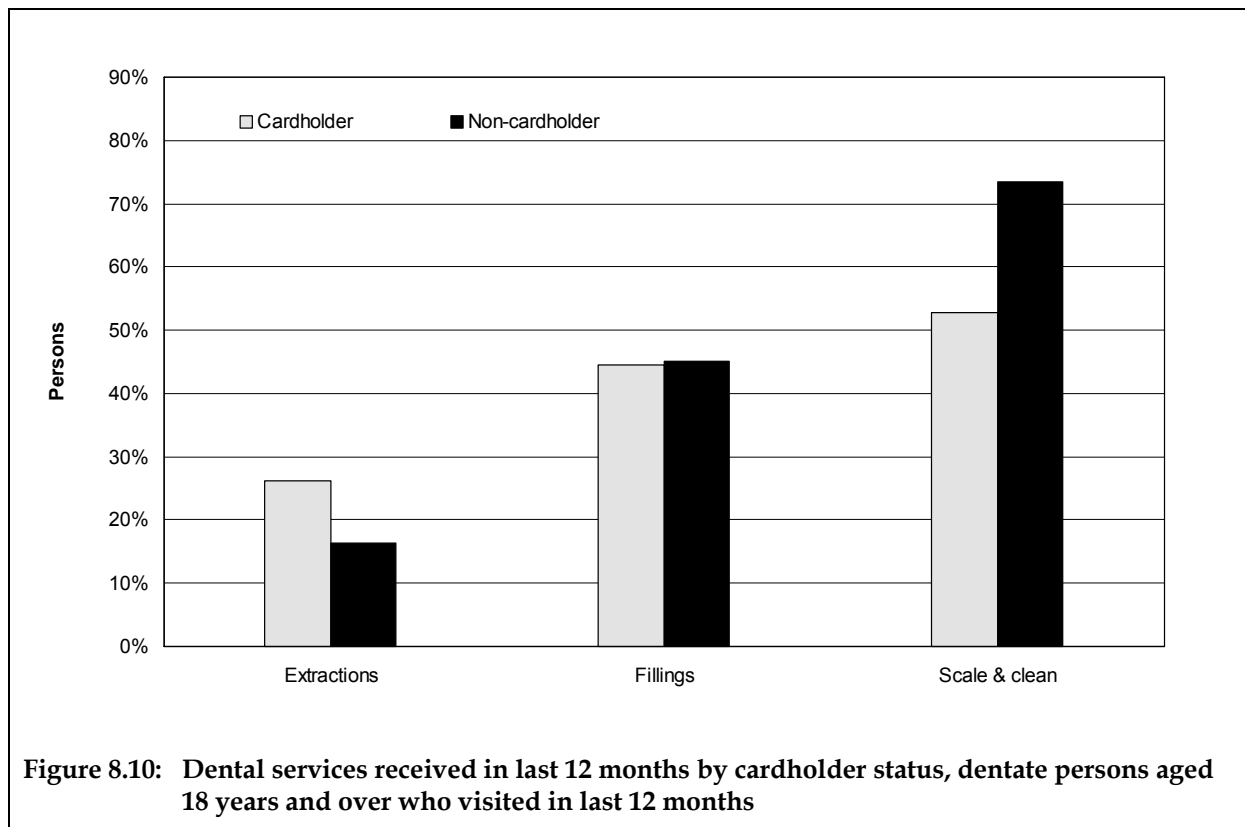
- A person's reason for seeking dental care influences the type of care they are likely to receive, and the level of untreated problems they may have at any time. Individuals who visit a dental professional for the purpose of a dental check-up are most likely to benefit from early detection and treatment, and to receive preventive care. Conversely, those who only seek care when they are experiencing a dental problem may receive less complete treatment, and may be less likely to receive preventive services.
- Ninety-three per cent of children aged 5-11 years, and 91% of children aged 12-17 years, reported they usually visit a dentist for the purpose of a check-up. However, only 45% of dentate persons aged 25-44 years reported they usually visit for a check-up rather than a problem.
- In all age groups, except 18-24-year-olds, non-cardholders were more likely to usually visit the dentist for a check-up than cardholders. Overall, 62% of non-cardholders usually visit for the purpose of a check-up compared with 47% of cardholders.



Persons (%)	Dental services received		
	Extractions	Fillings	Scale and clean
5-11 yrs	10.9	23.6	41.1
12-17 yrs	9.3	26.1	62.3
18-24 yrs	19.7	31.1	64.1
25-44 yrs	24.4	41.1	69.0
45-64 yrs	14.9	53.5	68.9
65 + yrs	15.5	46.7	63.0
Total	16.8	39.8	63.3

Source: 2002 National Dental Telephone Interview Survey.

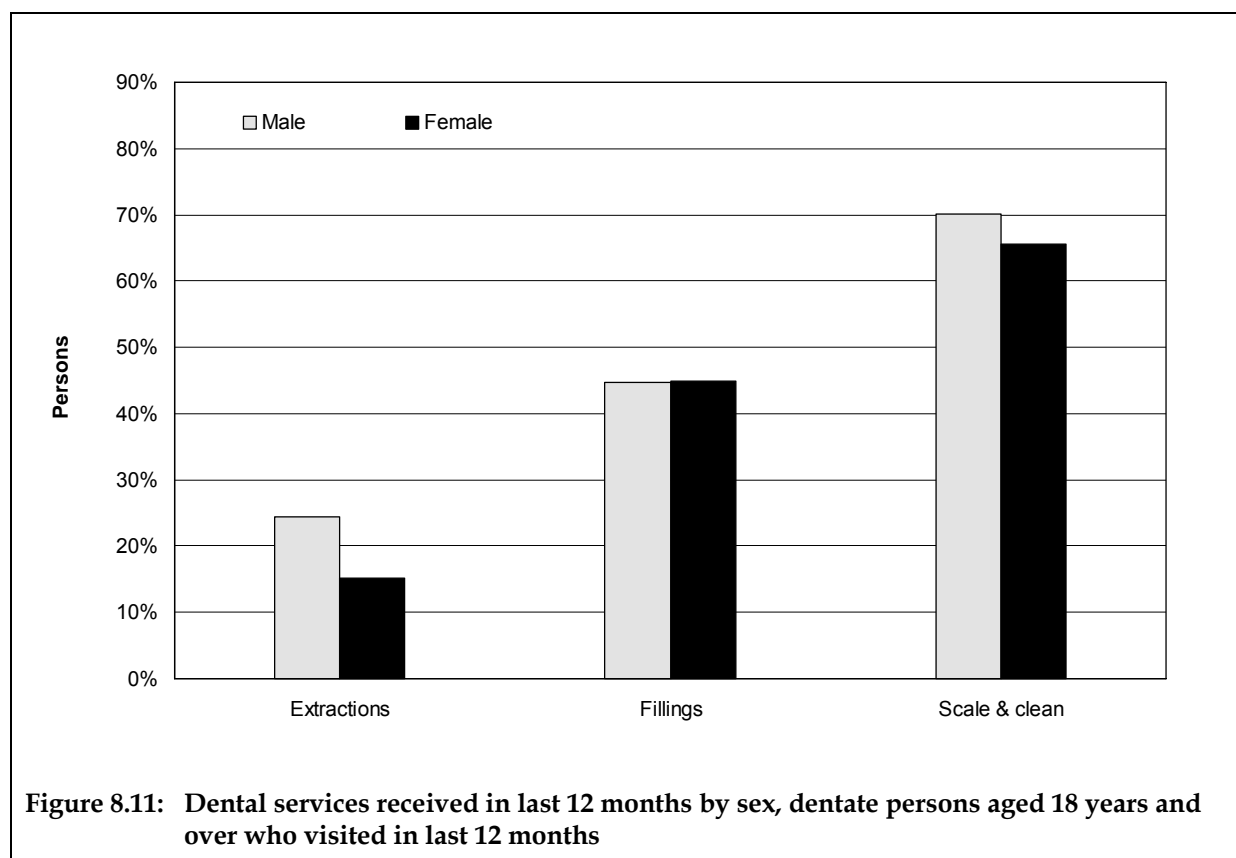
- Persons aged 18-44 years were more likely to have had teeth extracted in the last 12 months than other age groups, with 20% of 18-24-year-olds and 24% of 25-44-year-olds receiving extractions.
- A scale and clean was the most common treatment provided, with over 60% of persons aged 12 years and over receiving this treatment in the last 12 months.
- Persons aged 45-64 years were more likely to have received a filling in the last 12 months than other age groups with over 50% reporting this. Children aged 5 to 17 years were the least likely to have received a filling in the last 12 months.



Persons (%)	Dental services received		
	Extractions	Fillings	Scale & clean
Cardholder	26.2	44.5	52.7
Non-cardholder	16.4	45.1	73.4
Total	19.2	44.9	67.5

Source: 2002 National Dental Telephone Interview Survey.

- Twenty-six per cent of adult cardholders had a tooth extracted in the last 12 months compared with 16% of non-cardholders.
- Conversely, adult cardholders were less likely to have received a scale and clean (53%) than non-cardholders (73%).
- Cardholders and non-cardholders were just as likely to have received a filling in the last 12 months.



Persons (%)	Dental services received		
	Extractions	Fillings	Scale and clean
Male	24.5	44.8	70.2
Female	15.2	45.0	65.5
Total	19.2	44.9	67.5

Source: 2002 National Dental Telephone Interview Survey.

- Nearly one in four adult males (25%) received an extraction in the last 12 months compared with 15% of adult females.
- There was no difference in the percentage of males and females receiving fillings in the last 12 months (45%).
- Males were slightly more likely to have received a scale and clean in the last 12 months (70%) than females (66%).

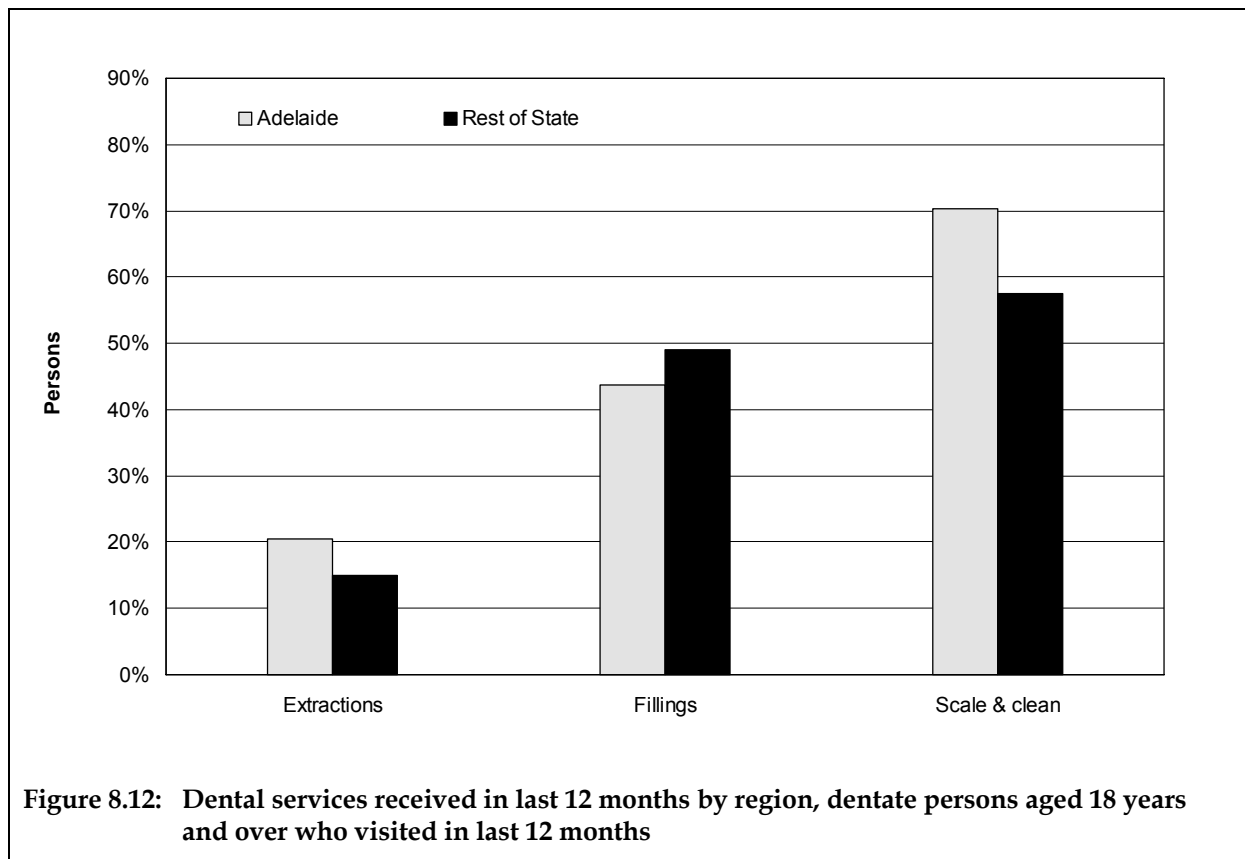
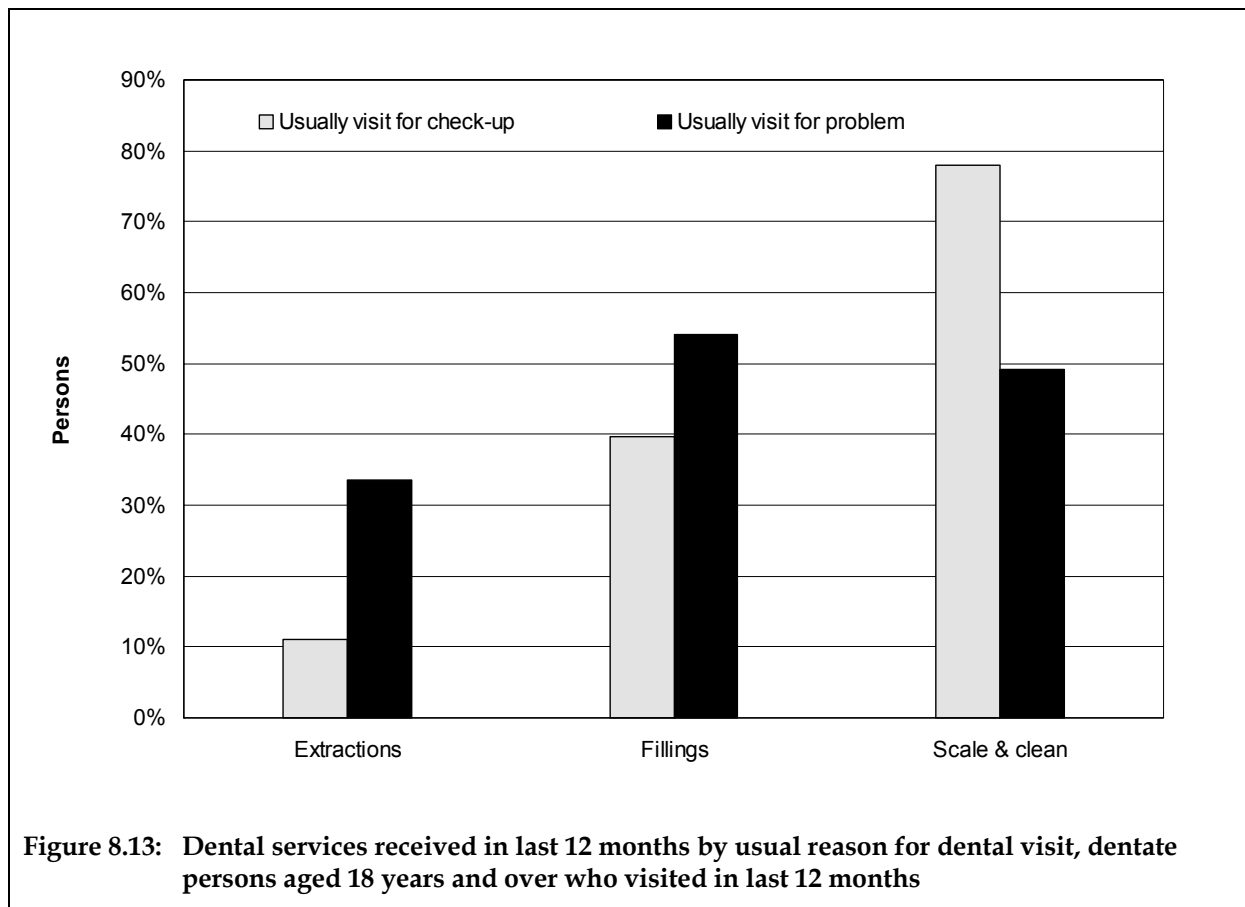


Figure 8.12: Dental services received in last 12 months by region, dentate persons aged 18 years and over who visited in last 12 months

Persons (%)	Dental services received		
	Extractions	Fillings	Scale and clean
Adelaide	20.4	43.7	70.4
Rest of State	15.0	49.0	57.6
Total	19.2	44.9	67.5

Source: 2002 National Dental Telephone Interview Survey.

- Adults living in the Adelaide metropolitan area who had visited a dentist in the last 12 months were more likely to have had a tooth extracted (20%) than adults living in the rest of South Australia (15%).
- Conversely, 49% of residents living outside the metropolitan area had received a filling in the last 12 months, higher than the proportion of Adelaide residents (44%).
- Adelaide metropolitan residents were much more likely to have received a scale and clean in the last 12 months (70%) than residents living in the rest of South Australia (58%).



Persons (%)	Dental services received		
	Extractions	Fillings	Scale and clean
Usually visit for check-up	11.0	39.6	78.0
Usually visit for problem	33.6	54.1	49.2
Total	19.2	44.9	67.5

Source: 2002 National Dental Telephone Interview Survey.

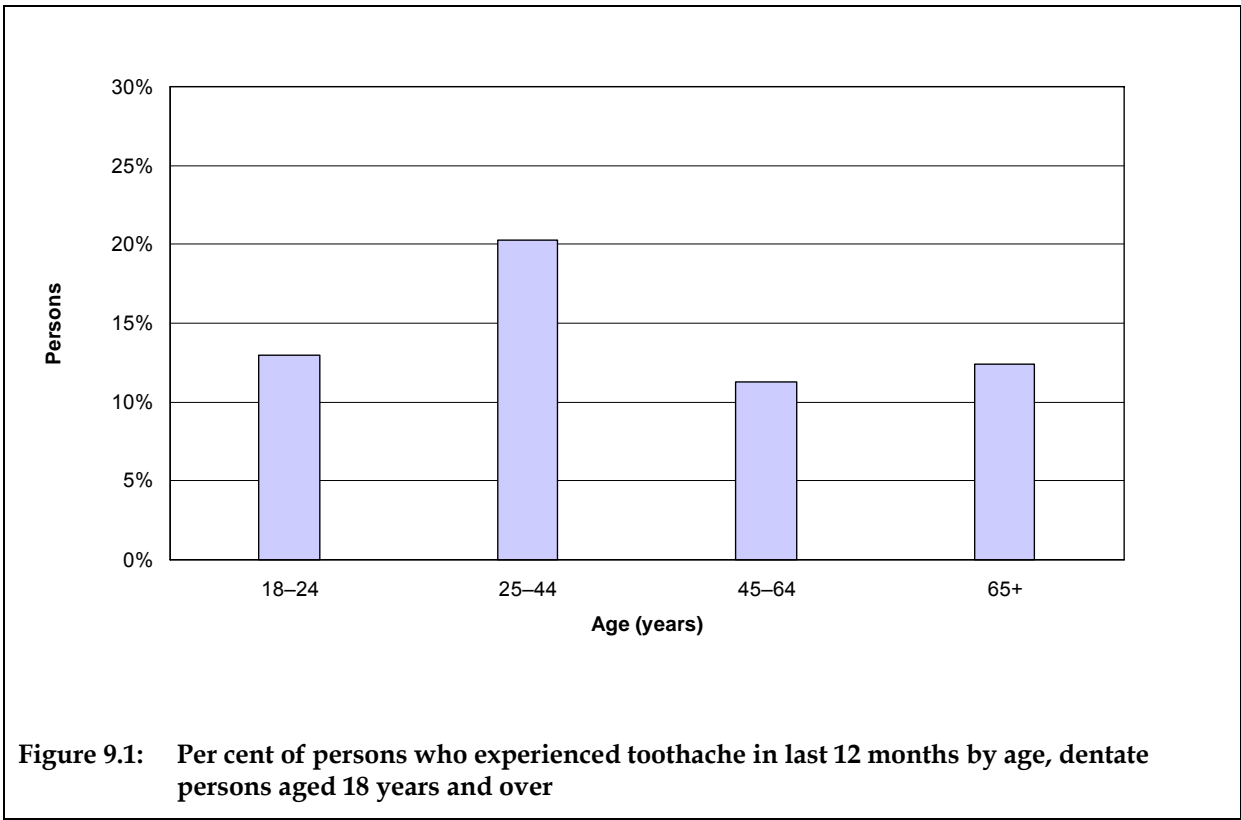
- Dentate adults who usually visit the dentist for a problem were far more likely to have received an extraction in the last 12 months (34%) than adults who usually visit for a check-up (11%).
- Similarly, adults who usually visit for a problem were more likely to have received a filling in the last 12 months (54%) than adults usually visiting for a check-up (40%).
- Adults usually visiting for a problem were less likely to have received a scale and clean (49%) than those who usually visit for a check-up (78%).

Summary

- Adults with some natural teeth were far more likely to visit the dentist regularly than edentulous adults. Two-thirds of dentate adults aged 45–64 years visited a dentist within the last 12 months compared with only 28% of edentulous adults. Older edentulous adults were even less likely to have made a recent visit with over 70% reporting they had not visited a dentist in the last 2 years.
- The majority of children aged 5–11 years had made a recent dental visit with 86% visiting in the last 12 months and 98% visiting within the last 2 years. Of those children who made a dental visit in the last 12 months, 68% visited the School Dental Service and 29% visited a private clinic. Although coverage of primary school children by the School Dental Service is approximately 87% not all children can be seen within a 12-month period.
- Over 77% of children aged 12–17 years visited the dentist in the last 12 months and 97% had visited within the last 2 years. Of those children who visited in the last 12 months, 58% visited a private clinic and 37% visited the School Dental Service. The high use of the private sector in secondary school years reflects the decline in School Dental Service participation, which became more evident when co-payments were introduced for secondary school-age children who did not have concession cards.
- Adults aged 25–44 years, cardholders, males and residents living outside the metropolitan area were less likely to have made a recent dental visit.
- The majority of dentate adults who made a dental visit in the last 12 months visited a private clinic (84%). Despite concession cardholders being eligible for publicly funded care, 58% visited a private clinic. This may, in part, be due to the long waiting lists associated with public care.
- Over 90% of children usually visited the dentist for a check-up rather than a problem. However, this drops significantly for adults, with only 45% of adults aged 25–44 years, and 48% of adults aged 45 years and over, reporting they usually visit for a check-up. Non-cardholders were more likely to usually visit for a check-up (62%) than cardholders (47%).
- Approximately 10% of children and 19% of adults had a tooth extracted in the last 12 months. Adults aged 25–44 years were the most likely age group to have had an extraction (24%). Adult cardholders were 1.6 times more likely to have had a tooth extracted (26%) than non-cardholders (16%). Males were also more likely to have received an extraction (25%) than females (15%).
- Approximately 1 in 4 children, and 45% of adults, had a filling in the last 12 months. Adults aged 45–64 years were the most likely age group to have had a filling during this period (54%). Concession cardholders were just as likely as non-cardholders to have had a filling.
- Two in three adults had their teeth cleaned in the last 12 months. Non-cardholders were more likely to have had their teeth cleaned (73%) than cardholders (53%). Similarly, residents living in Adelaide were more likely to have had their teeth cleaned (70%) than residents living in the rest of the State (58%).

- Adults who usually visited the dentist for a problem were three times more likely to have had a tooth extracted in the last 12 months (34%) than adults who usually visit for a check-up (11%). Similarly, adults usually visiting for a problem were more likely to have received a filling (54%) than those usually visiting for a check-up (40%). People visiting for a check-up were far more likely to have had their teeth cleaned in the last 12 months (78% compared with 49%).

9 Social impact of oral health



Persons (%)	18-24 yrs	25-44 yrs	45-64 yrs	65 + yrs	Total
Experienced toothache	13.0	20.3	11.3	12.4	15.4

Source: 2002 National Dental Telephone Interview Survey.

- The percentage of persons experiencing toothache refers to persons reporting they experienced a toothache either 'very often', 'often' or 'sometimes' during the last 12 months.
- Adults aged 25-44 years were more likely to have experienced toothache during the last 12 months (20%) than other adults.
- Overall, 15% of adults had experienced toothache in the last 12 months.

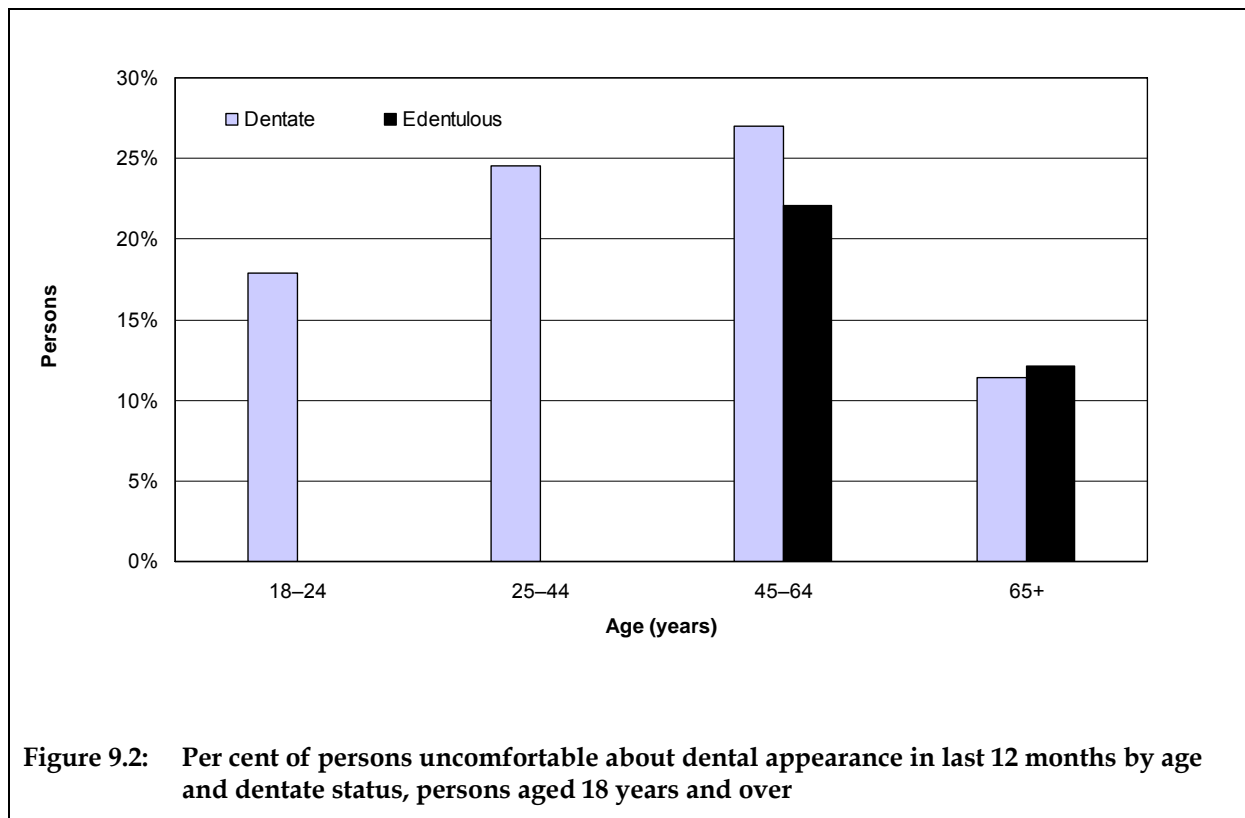


Figure 9.2: Per cent of persons uncomfortable about dental appearance in last 12 months by age and dentate status, persons aged 18 years and over

Uncomfortable about dental appearance (%)	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs	Total
Dentate	17.9	24.5	27.0	11.4	23.0
Edentulous	—	—	22.1	12.1	14.7

Source: 2002 National Dental Telephone Interview Survey.

- The percentage of persons uncomfortable about the appearance of their teeth, mouth or dentures refers to persons reporting they were uncomfortable either 'very often', 'often' or 'sometimes' during the last 12 months.
- Dentate adults were more likely to be uncomfortable about their dental appearance (23%) than edentulous adults (15%).
- Persons aged 45-64 years were the most likely age group to report being uncomfortable about their dental appearance.

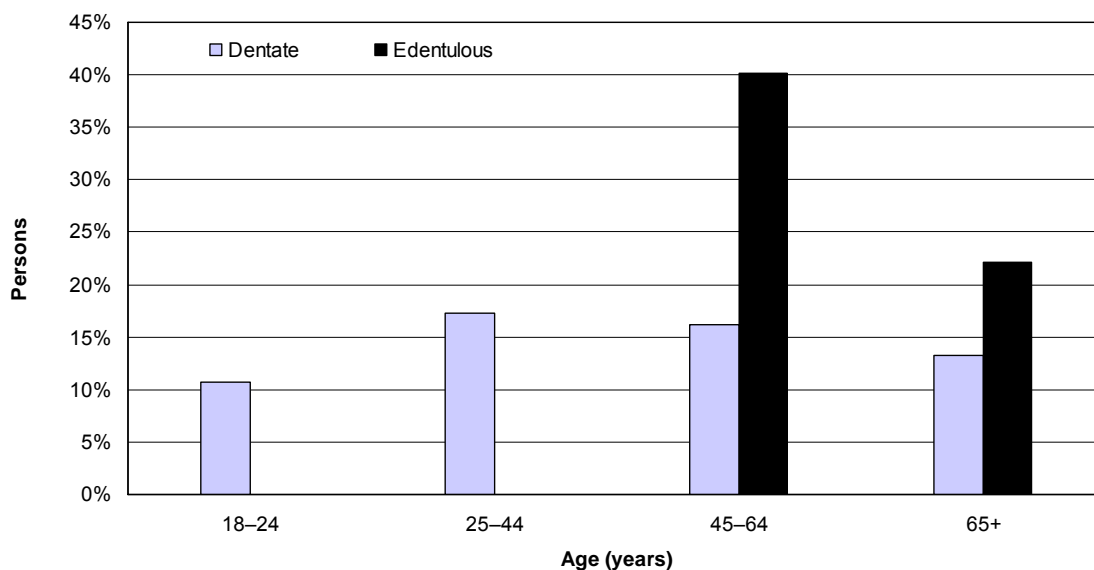


Figure 9.3: Per cent of persons who avoided certain foods in last 12 months by age and dentate status, persons aged 18 years and over

Avoided certain foods (%)	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs	Total
Dentate	10.7	17.3	16.2	13.3	15.6
Edentulous	—	—	40.1	22.1	26.4

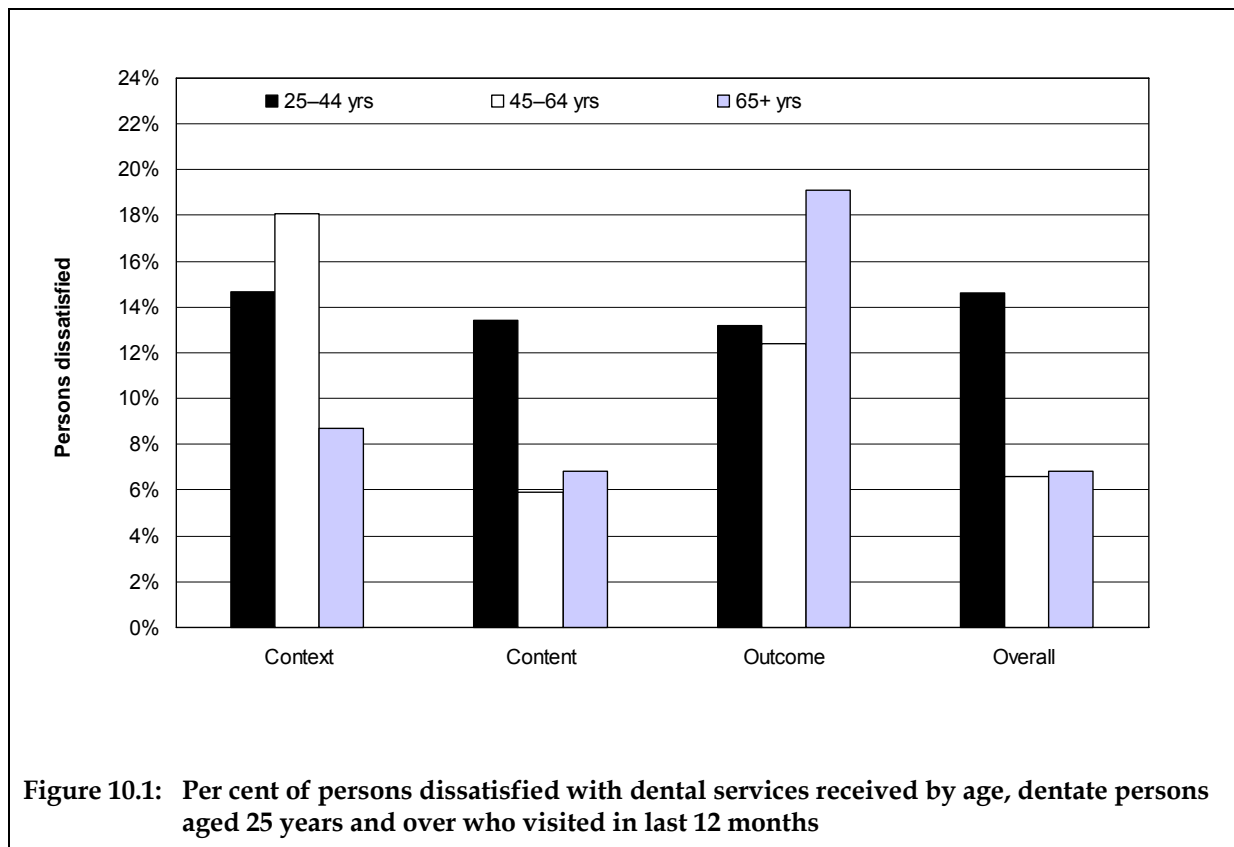
Source: 2002 National Dental Telephone Interview Survey

- The percentage of persons who avoided certain foods refers to persons reporting they avoided certain foods either 'very often', 'often' or 'sometimes' during the last 12 months.
- Edentulous adults were more likely to report they had avoided certain foods in the last 12 months (26%) than dentate adults (16%).
- Forty per cent of edentulous adults aged 45-64 years reported they had avoided certain foods in the last 12 months compared with 16% of dentate adults this age.
- Young dentate adults were the least likely to report they had avoided certain foods in the last 12 months (11%).

Summary

- Overall, 15% of adults in the community experienced toothache in the last 12 months. Adults aged 25–44 years were the most likely age group to have experienced toothache (20%) during this period.
- Adults with some natural teeth were more likely to report they had felt uncomfortable about their dental appearance during the last 12 months (23%) than edentulous adults (15%). Adults aged 45–64 years were most likely to report being uncomfortable about their dental appearance.
- Edentulous adults were more likely to report they had avoided certain foods in the last 12 months (26%) than adults with some natural teeth (16%). In particular, 40% of edentulous persons aged 45–64 years reported avoiding certain foods during this period.

10 Satisfaction with dental services received



Persons dissatisfied (%)	Context	Content	Outcome	Overall
25-44 yrs	14.7	13.4	13.2	14.6
45-64 yrs	18.1	5.9	12.4	6.6
65+ yrs	8.7	6.8	19.1	6.8

Notes

Context = appointment time, waiting time, dentist and clinic issues, etc. (total of 8 items).

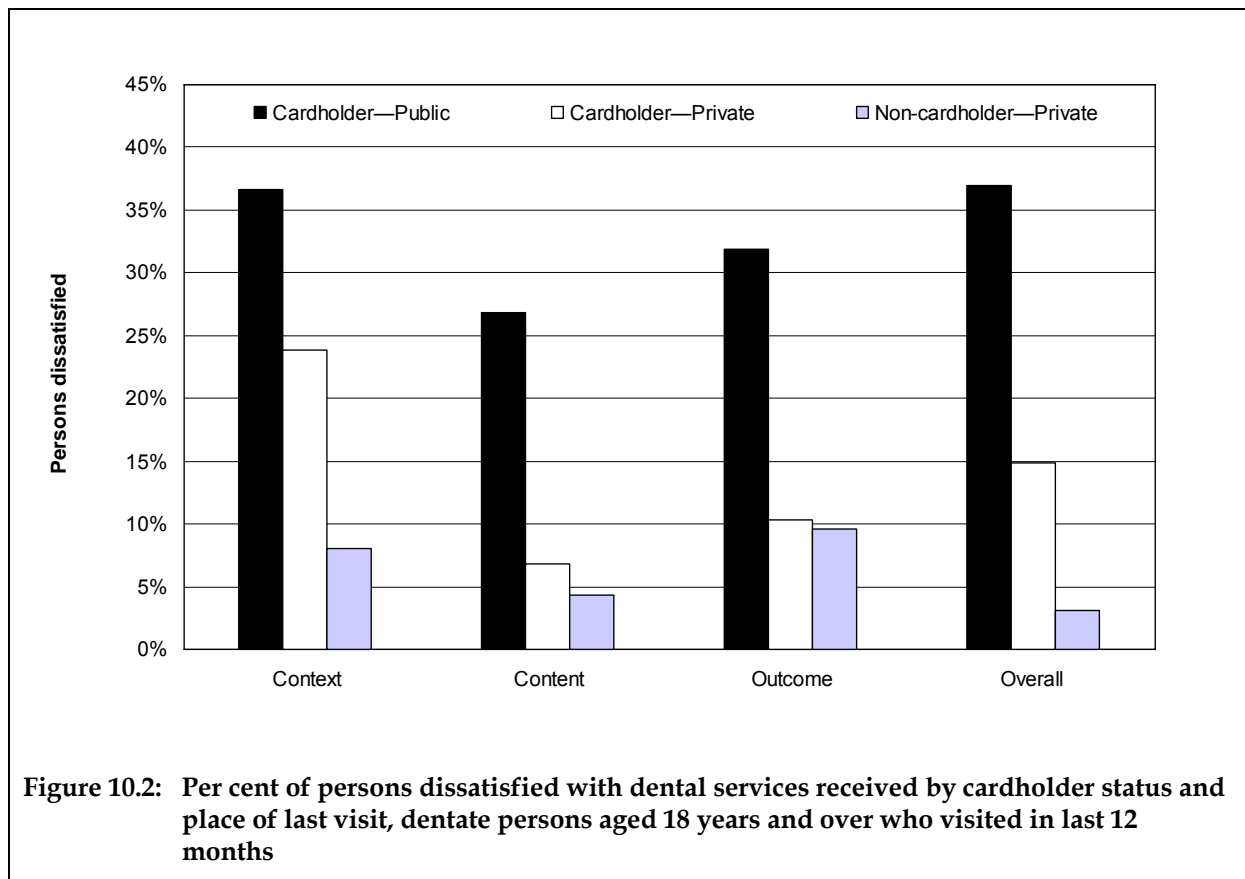
Content = explanation of treatment options, services provided, communication, etc. (total of 7 items).

Outcome = service results, improvement in oral health, etc. (total of 6 items).

Overall rating = 24 items relating to overall dental experience.

Source: 2002 Dental Satisfaction Survey.

- The scale used to score each item was 1 = strongly dissatisfied, 2 = dissatisfied, 3 = neither dissatisfied nor satisfied, 4 = satisfied, 5 = strongly satisfied. Data presented for the context, content and outcome scales reflect the percentage of persons who were dissatisfied (reported either 1 or 2) with 2 or more items included in this scale. Data presented for the overall rating reflects the percentage of persons who were dissatisfied with 5 or more items included in this scale. Data for persons aged 18–24 years have been excluded due to small sample size.
- Nearly 15% of persons aged 25–44 years who visited the dentist in the last 12 months reported they were dissatisfied with their dental experience. Only 7% of people aged 45 years and over reported dissatisfaction.
- Persons aged 45–64 years were most concerned about the context of the dental visit with 18% reporting dissatisfaction. Adults aged 65 years and over were more likely to be concerned about the outcome of dental care received with 19% reporting dissatisfaction.



Persons dissatisfied (%)	Context	Content	Outcome	Overall
Cardholder public	36.6	26.8	31.9	37.0
Cardholder private	23.8	6.8	10.3	14.9
Non-cardholder private	8.0	4.3	9.6	3.1

Source: 2002 Dental Satisfaction Survey.

- Users of public clinics (cardholders) reported the highest level of dissatisfaction in all scales. Overall, 37% of cardholders treated at public clinics in the last 12 months reported dissatisfaction with their dental experience, 37% reported dissatisfaction with the context of their dental visit (appointment time, waiting time, dentist and clinic issues) and 32% were dissatisfied with the outcome of dental care received.
- Cardholders treated at private clinics reported higher dissatisfaction levels than non-cardholders. Nearly 15% of cardholders who attended a private clinic reported dissatisfaction with dental care received compared with only 3% of non-cardholders. Note: cardholders using private clinics include people that elected to attend a private clinic even though they were eligible for publicly funded care, and a small proportion of people who attended a private clinic but were partially or totally subsidised by the Government.

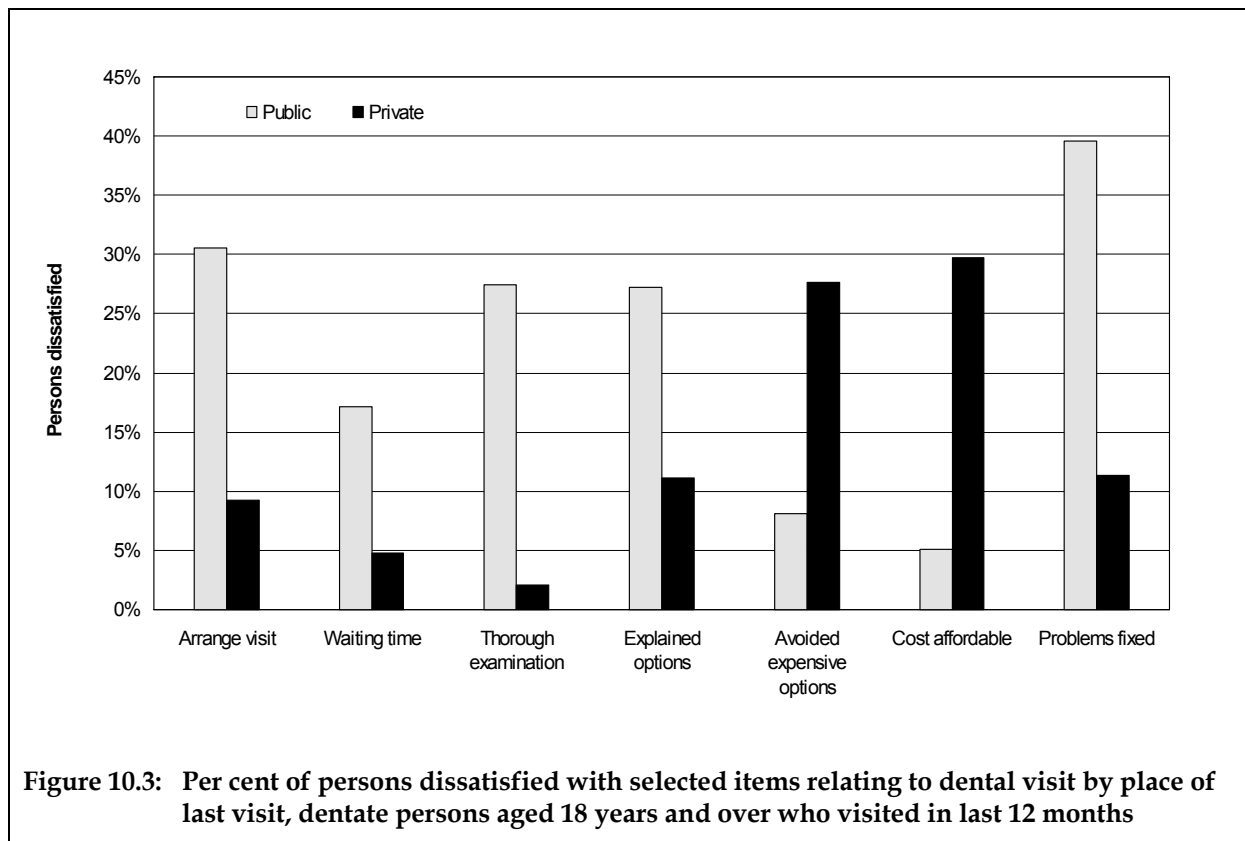


Figure 10.3: Per cent of persons dissatisfied with selected items relating to dental visit by place of last visit, dentate persons aged 18 years and over who visited in last 12 months

Dissatisfied with selected items (%)	Public clinic	Private clinic
Arranging suitable time for dental visit	30.6	9.3
Waiting time at clinic	17.1	4.8
Thorough examination performed	27.4	2.1
Dental treatment options explained	27.2	11.1
Dental professional avoided expensive treatment options	8.1	27.6
Cost affordable	5.1	29.7
Dental problems fixed	39.6	11.3

Source: 2002 Dental Satisfaction Survey.

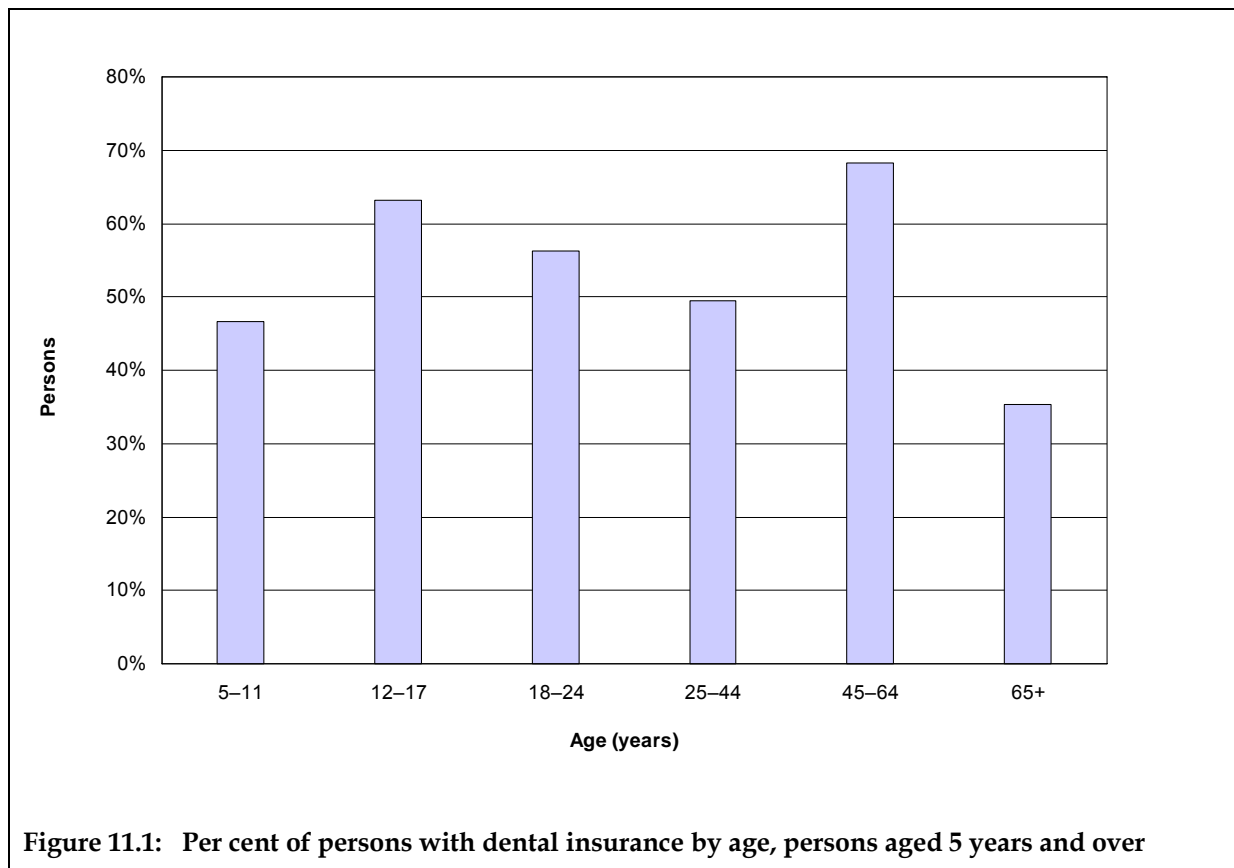
- Nearly 40% of patients treated at public clinics reported that dental problems still remained after the visit. Other areas of dissatisfaction for public patients included problems with arranging a suitable time for a dental visit (31% dissatisfied), dissatisfaction with thoroughness of the examination (27%) and dissatisfaction with explanation of treatment options (27%).
- Patients treated at private clinics were most dissatisfied with the cost of dental care. Three in ten private patients reported the dental care they received was not affordable and 28% reported that the dental professional had not avoided expensive treatment options.

Summary

- The majority of adults who had visited a dentist in the last 12 months were satisfied with the dental care they received. However, adults aged 25–44 years were most likely to be dissatisfied with 15% reporting dissatisfaction with dental care received compared with only 7% of older adults. In rating dental care, respondents were asked about a range of issues including appointment and waiting time, dentist and clinic used, whether explanations of treatment options were provided, and outcome of care received. The cost of dental care was not included in this evaluation.
- Concession cardholders treated at public clinics reported the highest level of dissatisfaction with the dental care they received (37%). Whilst cardholders treated at private clinics reported lower dissatisfaction levels (15%) than those treated in the public sector, only 3% of non-cardholders attending private clinics reported dissatisfaction with dental care received.
- Major areas of dissatisfaction for patients attending public clinics were problems remaining untreated after dental visit(s) (40%), problems with arranging a suitable time for dental visits (31%), dissatisfaction with the thoroughness of the examination and explanation of possible treatment options (27%).
- Adults treated at private clinics were most dissatisfied with the cost of dental care (30%) and 28% felt the dentist had not avoided expensive treatment options.

11 Cost of dental care

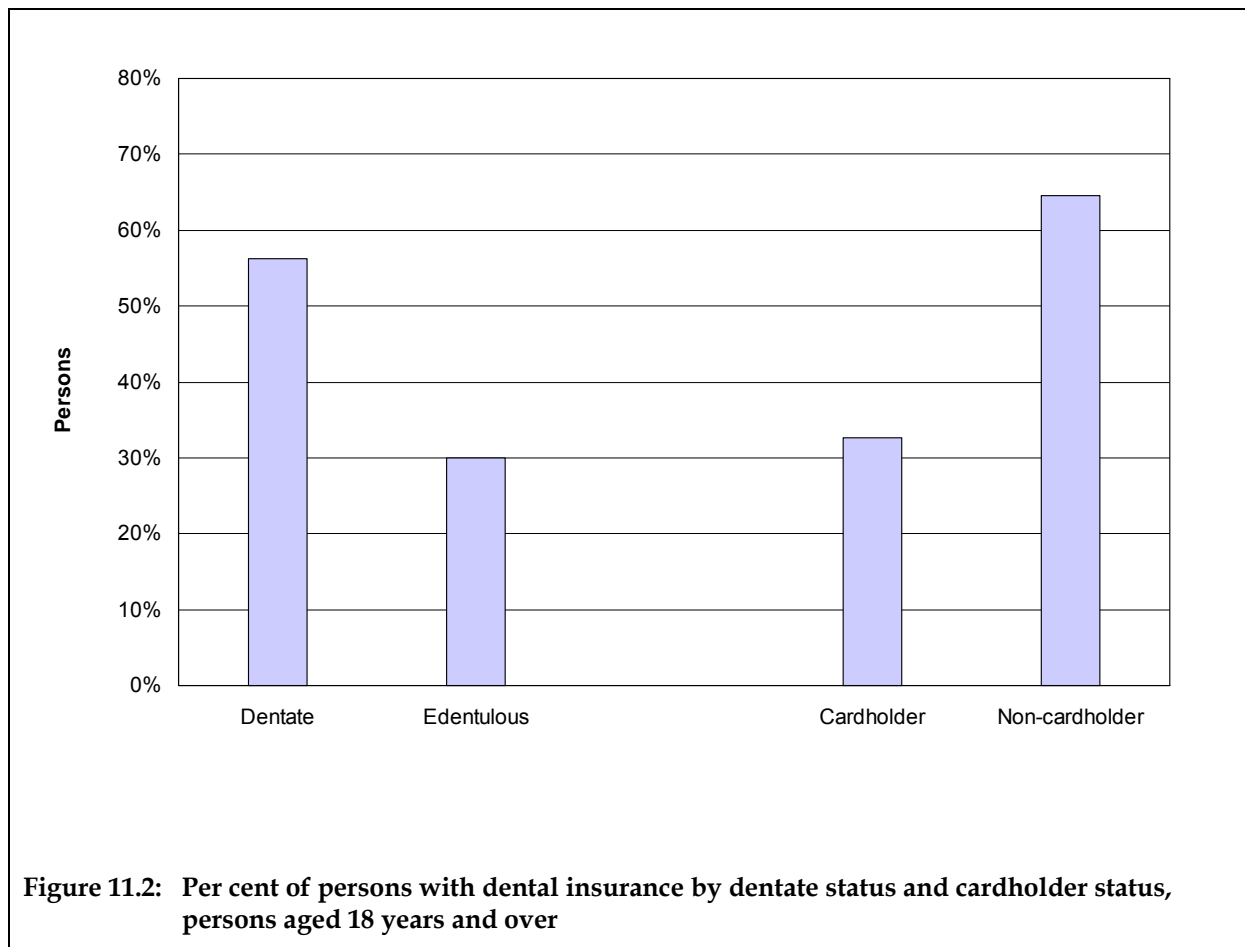
Dental insurance



Persons (%)	5-11 yrs	12-17 yrs	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs	Total
With dental insurance	46.7	63.2	56.2	49.5	68.2	35.4	53.7

Source: 2002 National Dental Telephone Interview Survey.

- Dental insurance coverage was highest among adults aged 45-64 years (68%) followed by children aged 12-17 years (63%).
- Adults in the oldest age group (65 years and over) were the least likely to have dental insurance (35%).
- Fifty-four per cent of South Australians aged 5 years and over reported they have dental insurance compared with a national average of 45%.



Persons (%)	Dentate status		Cardholder status		Total
	Dentate	Edentulous	Cardholder	Non-cardholder	
With dental insurance	56.2	30.0	32.6	64.5	53.4

Source: 2002 National Dental Telephone Interview Survey.

- Overall, 53% of persons aged 18 years and over had dental insurance.
- Dental insurance coverage was much higher among dentate adults (56%) than edentulous adults (30%).
- Non-cardholders were almost twice as likely to have dental insurance (65%) than cardholders (33%).

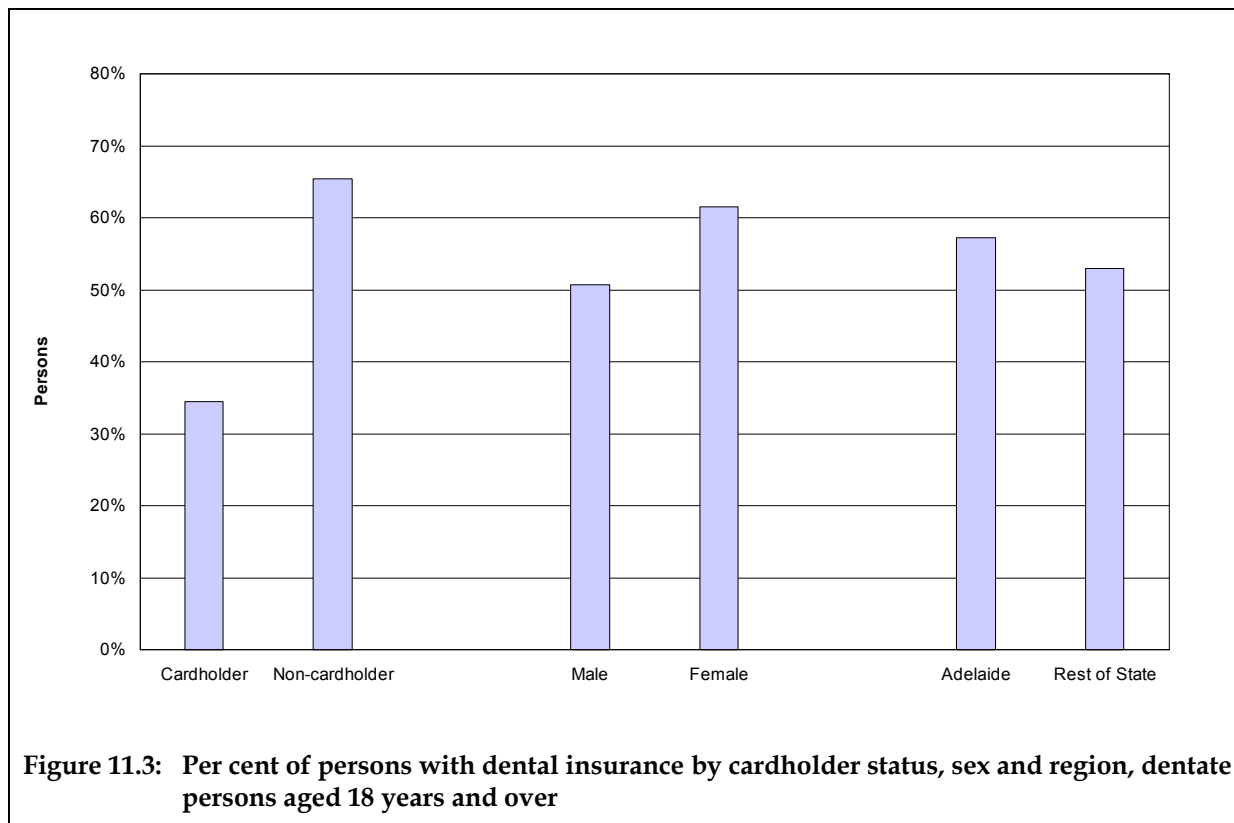


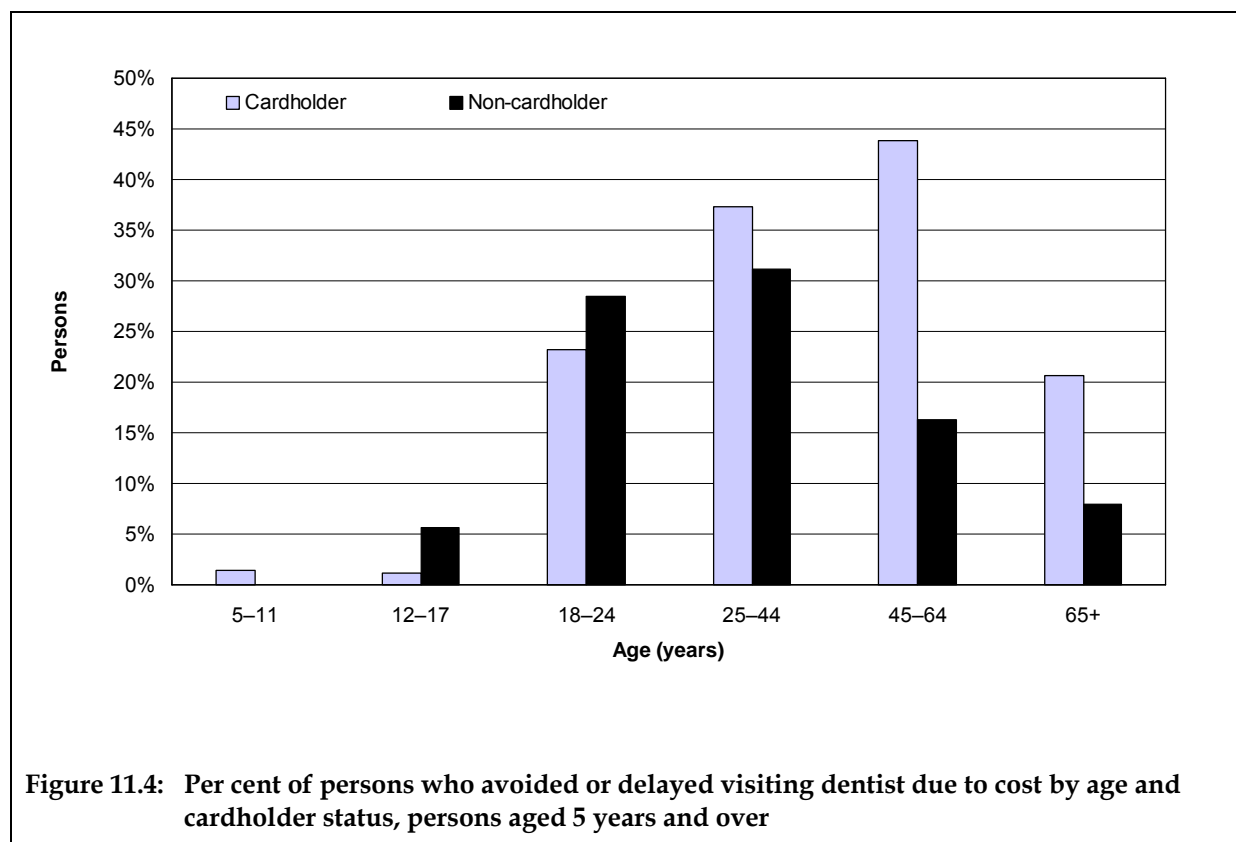
Figure 11.3: Per cent of persons with dental insurance by cardholder status, sex and region, dentate persons aged 18 years and over

Persons (%)	Cardholder status		Sex		Region		Total
	Cardholder	Non-cardholder	Male	Female	Adelaide	Rest of State	
With dental insurance	34.5	65.4	50.7	61.5	57.2	53.0	56.2

Source: 2002 National Dental Telephone Interview Survey.

- Thirty-five per cent of dentate cardholders reported they had dental insurance even though they were eligible for publicly funded dental care. The majority of these cardholders (89%) attended a private clinic when they visited the dentist in the last 12 months.
- Dentate females were more likely to have dental insurance (62%) than dentate males (51%).
- Dental insurance coverage was higher among dentate adults living in Adelaide (57%) than adults living in the rest of the State (53%).

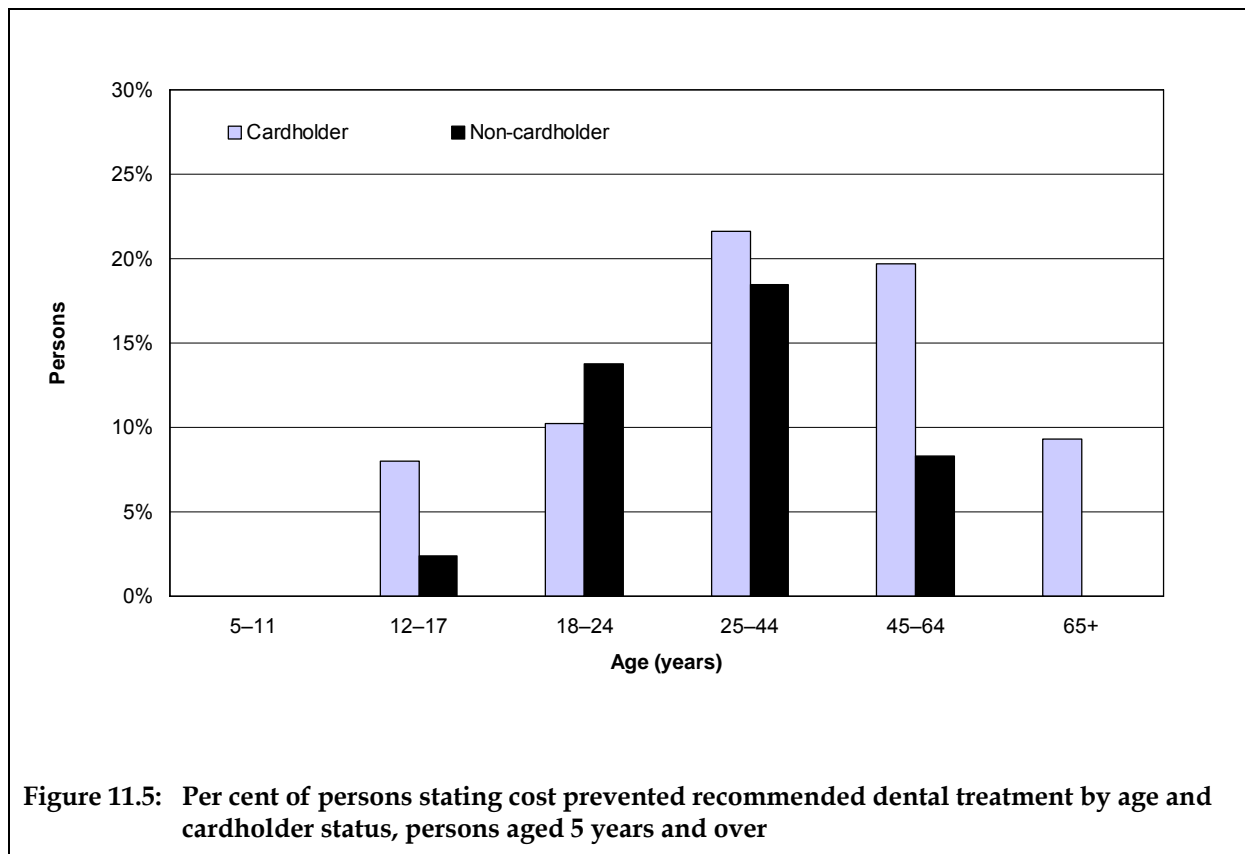
Cost barriers to accessing dental care



Avoided or delayed visiting due to cost (%)	5-11 yrs	12-17 yrs	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs	Total
Cardholder	1.4	1.1	23.2	37.3	43.8	20.6	26.1
Non-cardholder	0.0	5.7	28.5	31.2	16.3	7.9	19.6
Total	0.5	4.7	27.3	32.7	23.4	17.7	21.8

Source: 2002 National Dental Telephone Interview Survey.

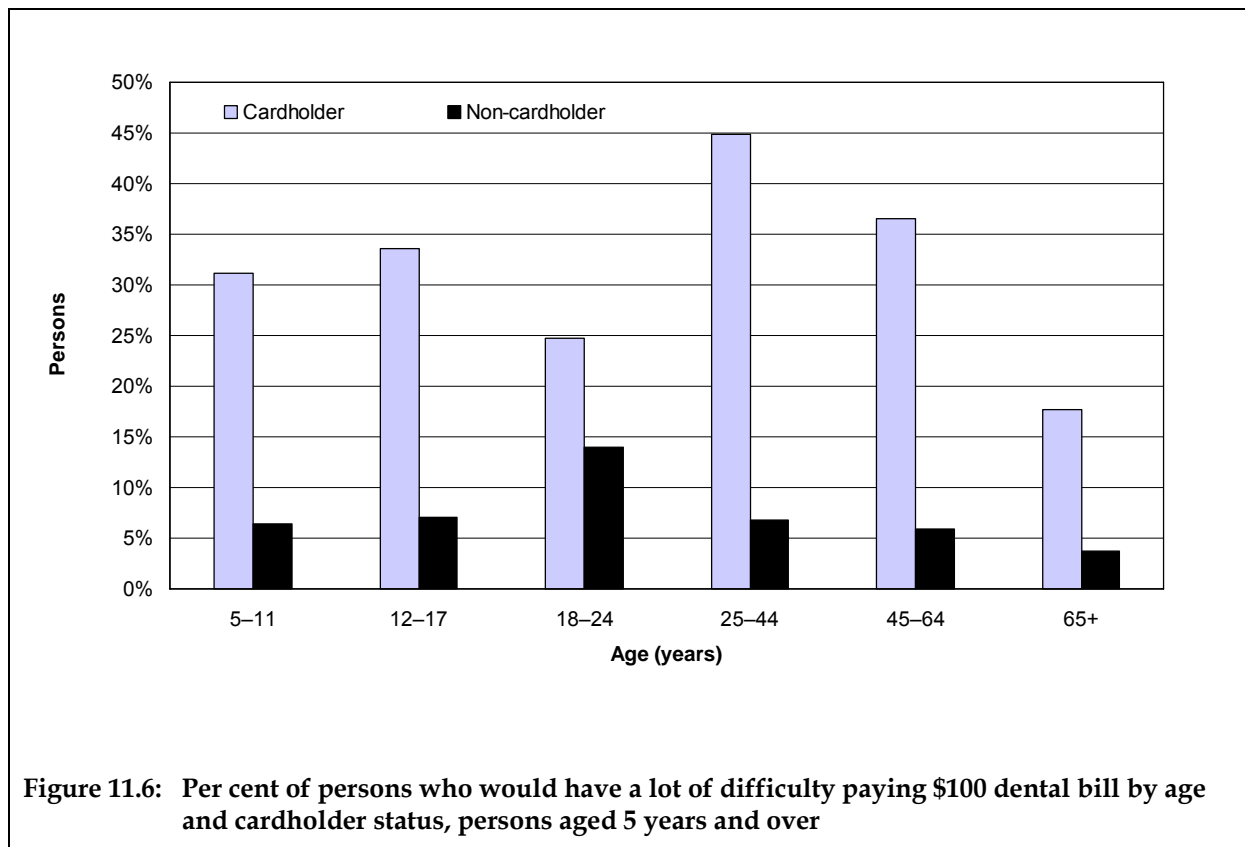
- Overall, cardholders were more likely to have avoided or delayed visiting a dentist due to cost (26%) than non-cardholders (20%).
- Cardholders aged 45 years and over were far more likely to report they had avoided or delayed visiting a dentist due to cost than non-cardholders in this age group.
- However, among children aged 12-17 years and young adults aged 18-24 years, cardholders were less likely to report they had avoided or delayed visiting the dentist due to cost than non-cardholders.
- Over 30% of adults aged 25-44 years reported they had avoided or delayed visiting a dentist due to cost irrespective of whether they were cardholders or not.



Cost prevented recommended treatment (%)	5-11 yrs	12-17 yrs	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs	Total
Cardholder	0.0	8.0	10.2	21.6	19.7	9.3	13.1
Non-cardholder	0.0	2.4	13.8	18.5	8.3	0.0	10.6
Total	0.0	3.5	13.0	19.2	11.3	7.1	11.6

Source: 2002 National Dental Telephone Interview Survey.

- Overall, 13% of cardholders reported that cost prevented recommended dental treatment compared with 11% of non-cardholders.
- Adult cardholders aged 45 years and over were far more likely to report that cost had prevented recommended dental treatment than non-cardholders in this age group.
- There were no children aged 5-11 years prevented from receiving recommended dental treatment due to cost. However, 8% of cardholders aged 12-17 years reported cost prevented them receiving recommended treatment.

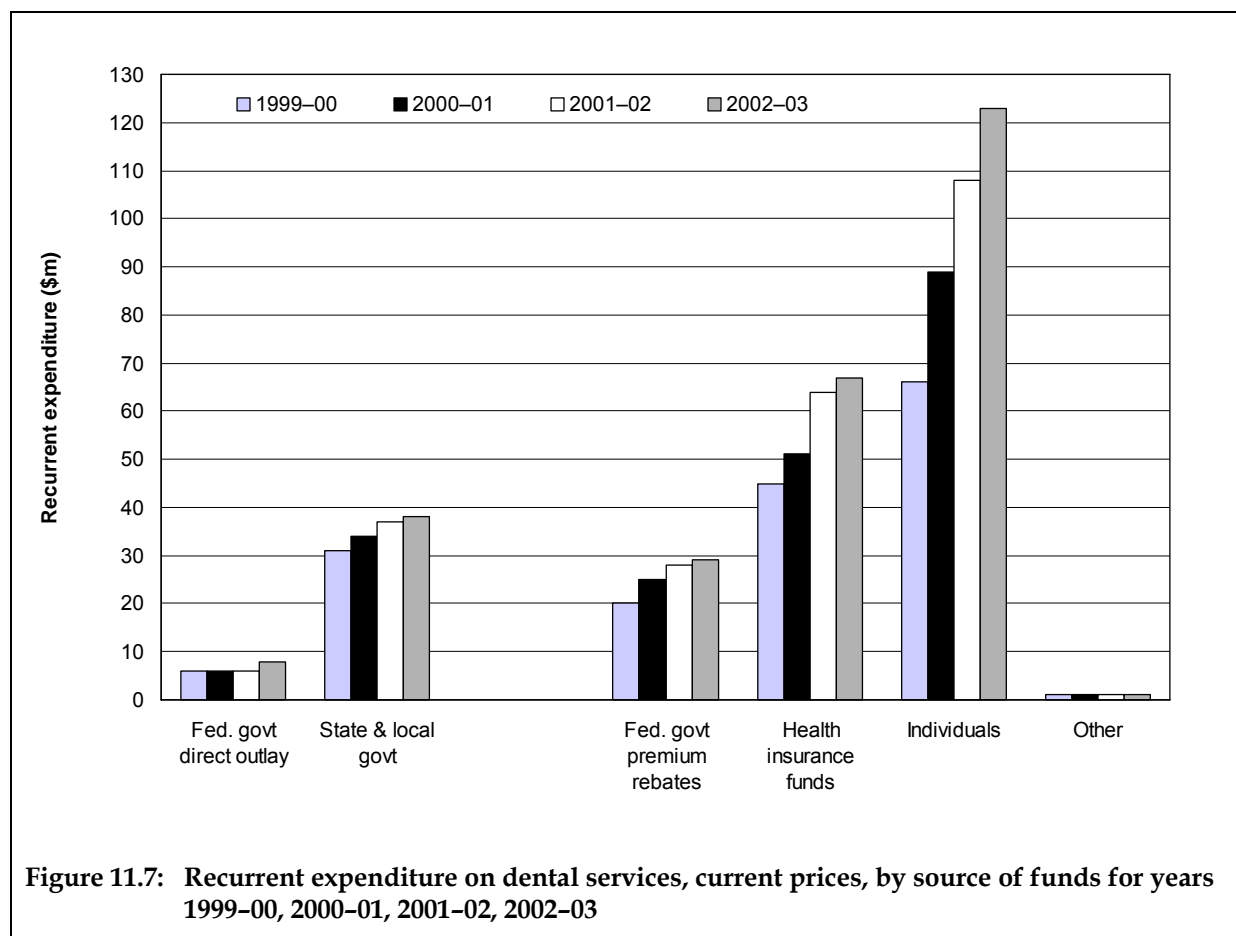


A lot of difficulty paying \$100 dental bill (%)	5-11 yrs	12-17 yrs	18-24 yrs	25-44 yrs	45-64 yrs	65+ yrs	Total
Cardholder	31.1	33.6	24.7	44.9	36.5	17.7	30.2
Non-cardholder	6.4	7.0	14.0	6.8	5.9	3.7	7.2
Total	14.9	12.0	16.5	16.2	13.8	14.5	14.9

Source: 2002 National Dental Telephone Interview Survey.

- Thirty per cent of cardholders reported they would have a lot of difficulty paying a \$100 dental bill compared with only 7% of non-cardholders. This was consistent across all age groups.
- Cardholders aged 25-44 years most frequently reported they would have a lot of difficulty paying a \$100 dental bill (45%).
- Among non-cardholders, young adults aged 18-24 years were most likely to report a lot of difficulty paying a \$100 dental bill (14%).

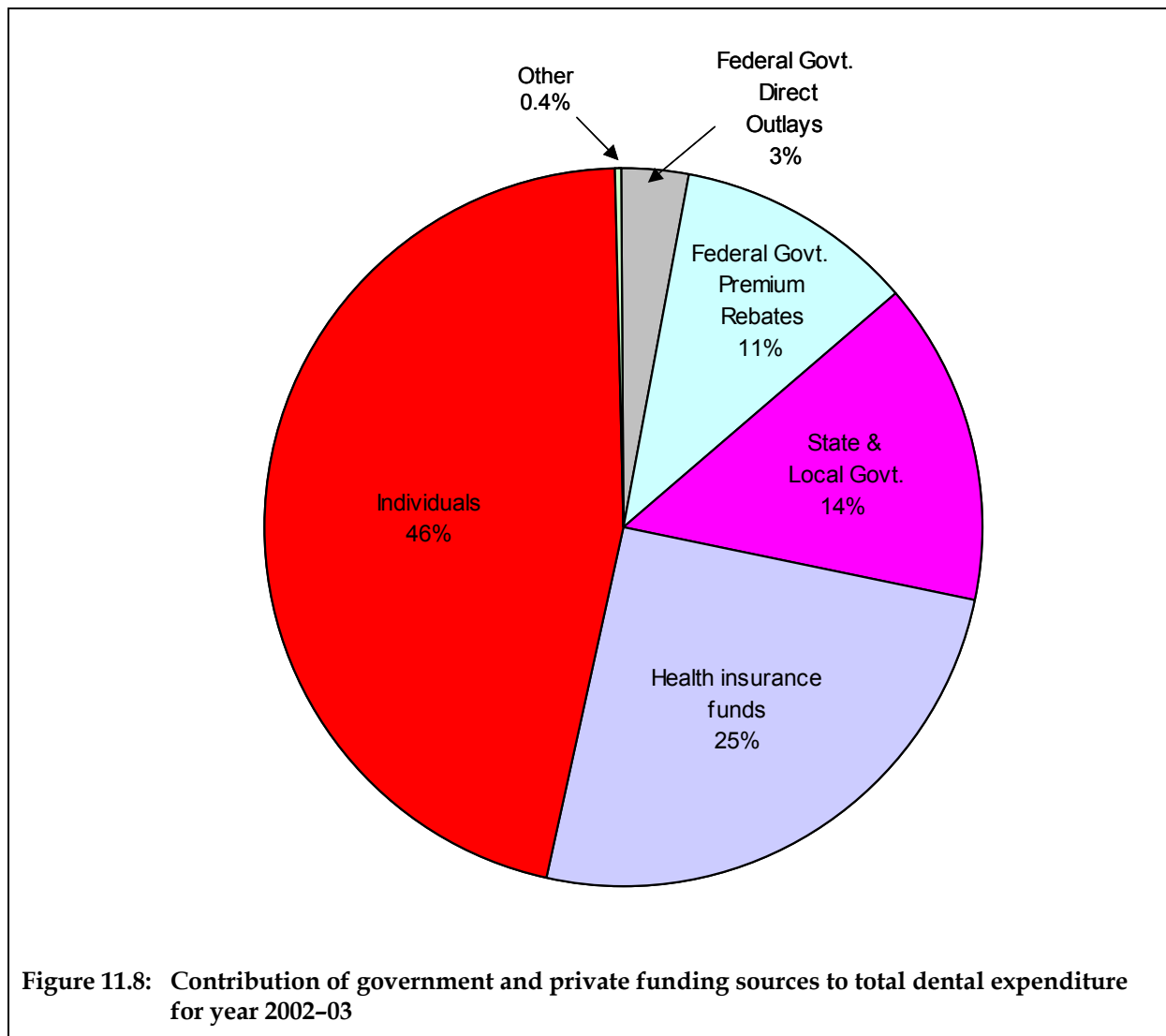
Expenditure on dental services



Expenditure (\$ million)	Federal govt direct outlays	State and local government	Federal govt premium rebates	Health insurance funds	Individuals	Other	Total
1999-00	6	31	20	45	66	1	169
2000-01	6	34	25	51	89	1	206
2001-02	6	37	28	64	108	1	244
2002-03	8	38	29	67	123	1	266

Source: AIHW Health Expenditure Database—AIHW.

- Expenditure on dental services in South Australia has increased from \$169m in 1999-00 to \$266m in 2002-03. (Note: expenditure is based on current prices. Estimates for 2002-03 are preliminary.)
- Out-of-pocket expenditure by individuals accounted for 39% of total expenditure in 1999-00 increasing to 46% in 2002-03.
- It should be noted that federal government premium rebates refers to the 30% rebate provided to residents with private health insurance.



Contribution to dental expenditure (%)	Source of funds						Total
	Federal govt direct outlays	Federal govt premium rebates	State and local govt	Health insurance funds	Individuals	Other	
2002-03	3.0	10.9	14.3	25.2	46.2	0.4	100

Source: AIHW Health Expenditure Database—AIHW.

- The major sources of funds for recurrent expenditure on dental services in 2002-03 were out-of-pocket expenditure by individuals (46%) and health insurance funds (25%).

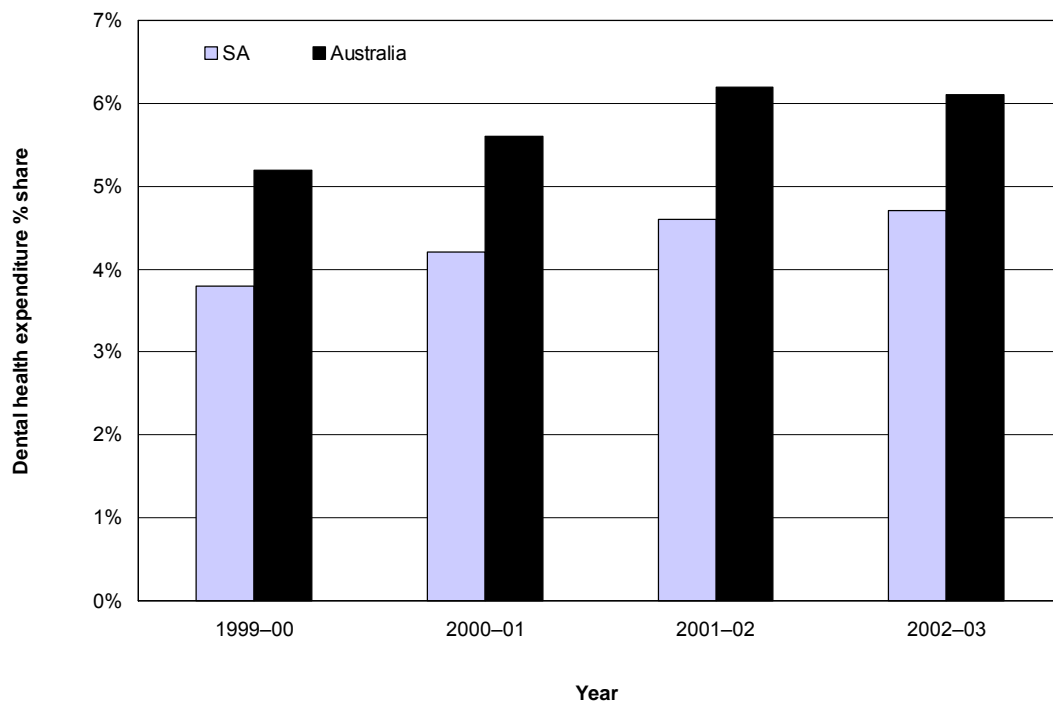


Figure 11.9: Expenditure on dental health as a percentage of total recurrent health expenditure for years 1999-00, 2000-01, 2001-02, 2002-03

	1999-00	2000-01	2001-02	2002-03
South Australia				
Dental health expenditure (\$m)	169	206	244	266
Total health expenditure (\$m)	4,420	4,896	5,253	5,674
% of health expenditure	3.8	4.2	4.6	4.7
Australia				
% of health expenditure	5.2	5.6	6.2	6.1

Source: AIHW Health Expenditure Database—AIHW.

- Expenditure on dental services accounted for 4.7% of total recurrent health expenditure for South Australia in 2002-03 compared with 3.8% in 1999-00.
- During the period 1999-00 to 2002-03, dental services share of total health expenditure was lower for South Australia than the national average.
- In 2002-03, expenditure on dental services in South Australia accounted for 4.7% of total recurrent health expenditure compared with 6.1% across Australia.

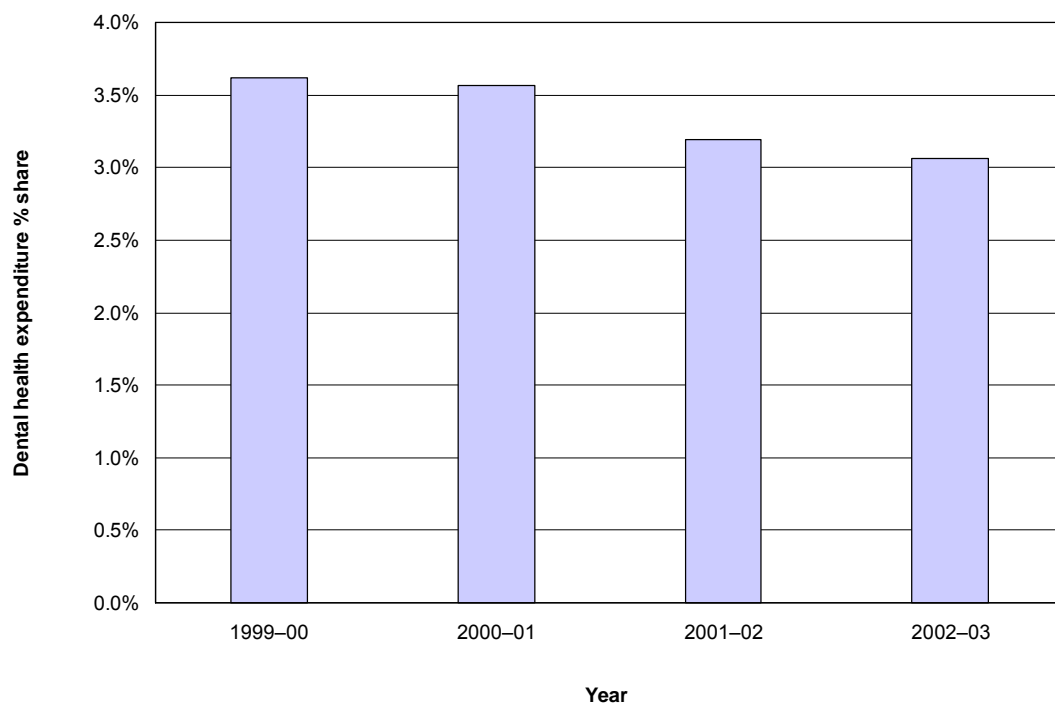


Figure 11.10: State and local government expenditure on dental health as a percentage of total recurrent health expenditure for years 1999-00, 2000-01, 2001-02, 2002-03

State & local govt expenditure	1999-00	2000-01	2001-02	2002-03
Dental health expenditure (\$m)	31	34	37	38
Total health expenditure (\$m)	856	952	1,161	1,242
% of health expenditure	3.62	3.57	3.19	3.06

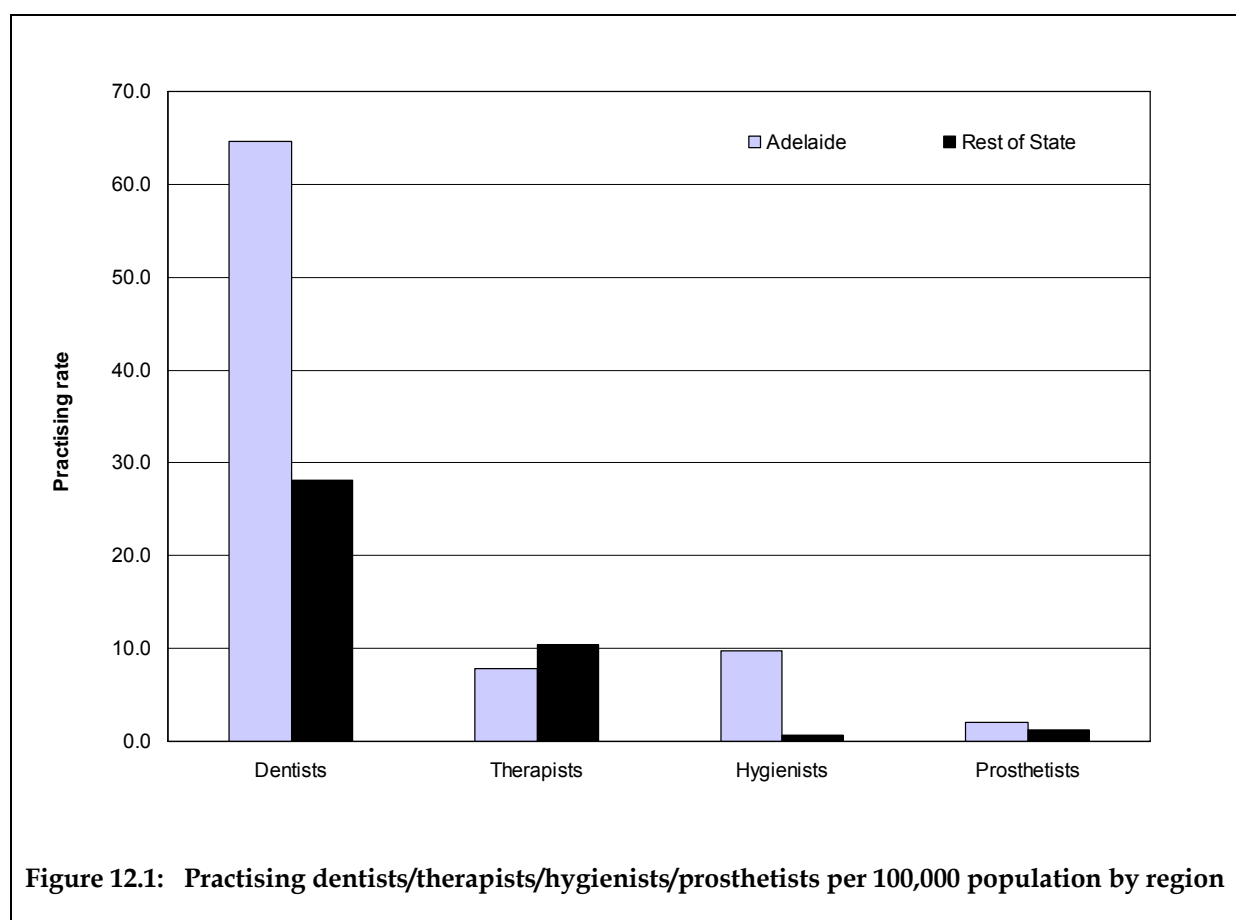
Source: AIHW Health Expenditure Database—AIHW.

- Dental health expenditure by State and local government increased from \$31m in 1999-00 to \$38m in 2002-03 (2002-03 estimates are preliminary).
- Dental services share of total State and local government health expenditure declined from 3.62% in 1999-00 to 3.06% in 2002-03.

Summary

- Fifty-four per cent of South Australians reported they had dental insurance compared with a national average of 45%.
- Dental insurance coverage was highest among adults aged 45–64 years (68%) and children aged 12–17 years (63%). Adults aged 65 years and over were least likely to have dental insurance (35%).
- Dental insurance coverage was much higher among dentate adults (56%) than adults with no natural teeth (30%). Non-cardholders were almost twice as likely to have dental insurance (65%) as cardholders (33%).
- Cardholders were more likely to report they had delayed or avoided visiting a dentist due to cost (26%) than non-cardholders (20%). The biggest impact occurred for cardholders aged 45–64 years with 44% reporting they had delayed or avoided making a dental visit. Among non-cardholders, those aged 25–44 years were most likely to report they had delayed or avoided visiting a dentist (31%).
- Adults aged 25–44 years were the most likely age group to report that cost had prevented recommended dental treatment. There were no children aged 5–11 years prevented from receiving recommended dental treatment, however 8% of cardholders aged 12–17 years reported that cost had prevented recommended treatment.
- Cardholders were far more likely to report they would have difficulty paying a \$100 dental bill (30%) than non-cardholders (7%). Cardholders aged 25–44 years most frequently reported they would have a lot of difficulty paying a \$100 dental bill (45%).
- Total expenditure on dental services increased from \$169m in 1999–00 to \$266m in 2002–03. The major source of this expenditure was out-of-pocket expenditure by South Australians accounting for 39% of total expenditure in 1999–00 and increasing to 46% in 2002–03.
- Dental services share of total recurrent health expenditure increased from 3.8% in 1999–00 to 4.7% in 2002–03. This is lower than the national average of 6.1%.
- Dental services share of total State and local government health expenditure declined from 3.62% in 1999–00 to 3.06% in 2002–03.

12 Dental labour force



Number practising per 100,000 population	Dentists	Therapists	Hygienists	Prosthetists
Adelaide	64.6	7.8	9.7	2.0
Rest of State	28.1	10.4	0.7	1.3
South Australia (SA)	54.8	8.5	7.3	1.8
Number practising in SA	821	128	109	27

Source: 2000 Dental Labour Force Survey.

- In 2000 there were 821 dentists, 128 therapists, 109 hygienists and 27 prosthetists practising in South Australia. Note: number practising includes full-time and part-time staff.
- The practising rate of dentists in the Adelaide metropolitan area (64.6 per 100,000 population) was far higher than the rest of South Australia (28.1 per 100,000 population).
- Hygienists were more likely to work in the metropolitan area, with a practising rate of 9.7 per 100,000 compared with 0.7 for the rest of South Australia.
- Overall, South Australia has more practising dentists on a per capita basis than the national average (54.8 per 100,000 compared with 46.9 per 100,000).

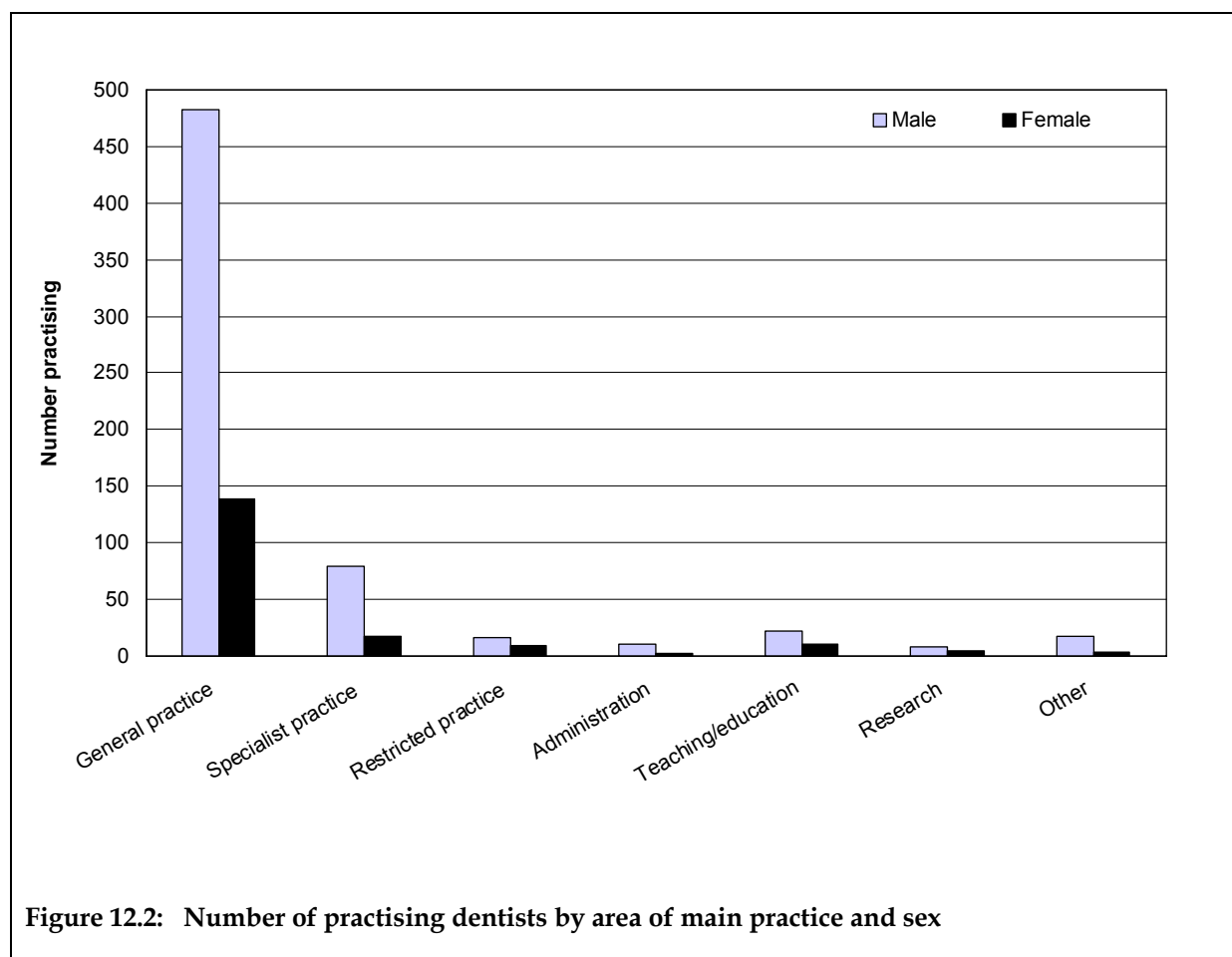
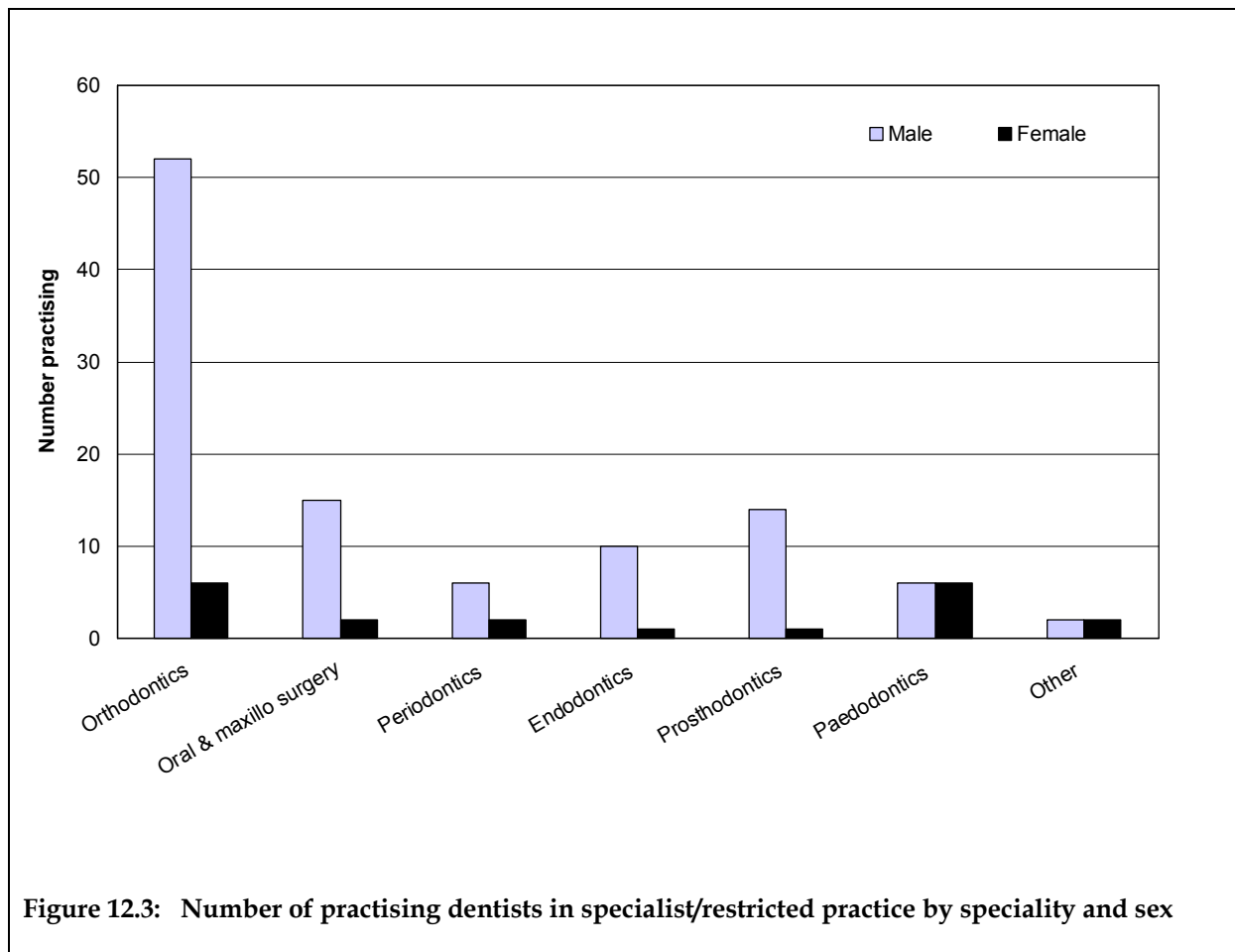


Figure 12.2: Number of practising dentists by area of main practice and sex

Number practising	General practice	Specialist practice	Restricted practice	Admin.	Teaching/education	Research	Other	Total
Male	482	79	16	11	22	8	17	635
Female	139	17	9	2	10	5	4	186
Total	621	96	25	13	32	13	21	821

Source: 2000 Dental Labour Force Survey.

- Number practising includes full-time and part-time staff.
- Seventy-five per cent (621) of practising dentists were general practitioners, 15% (121) worked in specialist or restricted practice, and 10% (79) were employed in non-clinical roles such as administrators, educators and researchers.
- Males accounted for 77% of dental practitioners. Of the 96 dentists employed in a specialist practice, 82% were male.



Number practising	Oral and maxillofacial surgery							Total
	Orthodontics	Periodontics	Endodontics	Prosthodontics	Paedodontics	Other		
Male	52	6	10	14	6	2	105	
Female	6	2	1	1	6	2	20	
Total	58	8	11	15	12	4	125	

Source: 2000 Dental Labour Force Survey.

- Number practising includes full-time and part-time staff.
- Totals vary from the number of specialist/restricted practice practitioners cited in Figure 12.2 due to data being sourced from different questions.
- Of the 125 dentists practising in specialty areas, nearly half were practising in orthodontics (46%). The next most common speciality areas were oral and maxillofacial surgery (14%) and prosthodontics (12%).
- The most predominant specialty area for males was orthodontics (50%) while for females it was evenly spread between orthodontics (30%) and paedodontics (30%).

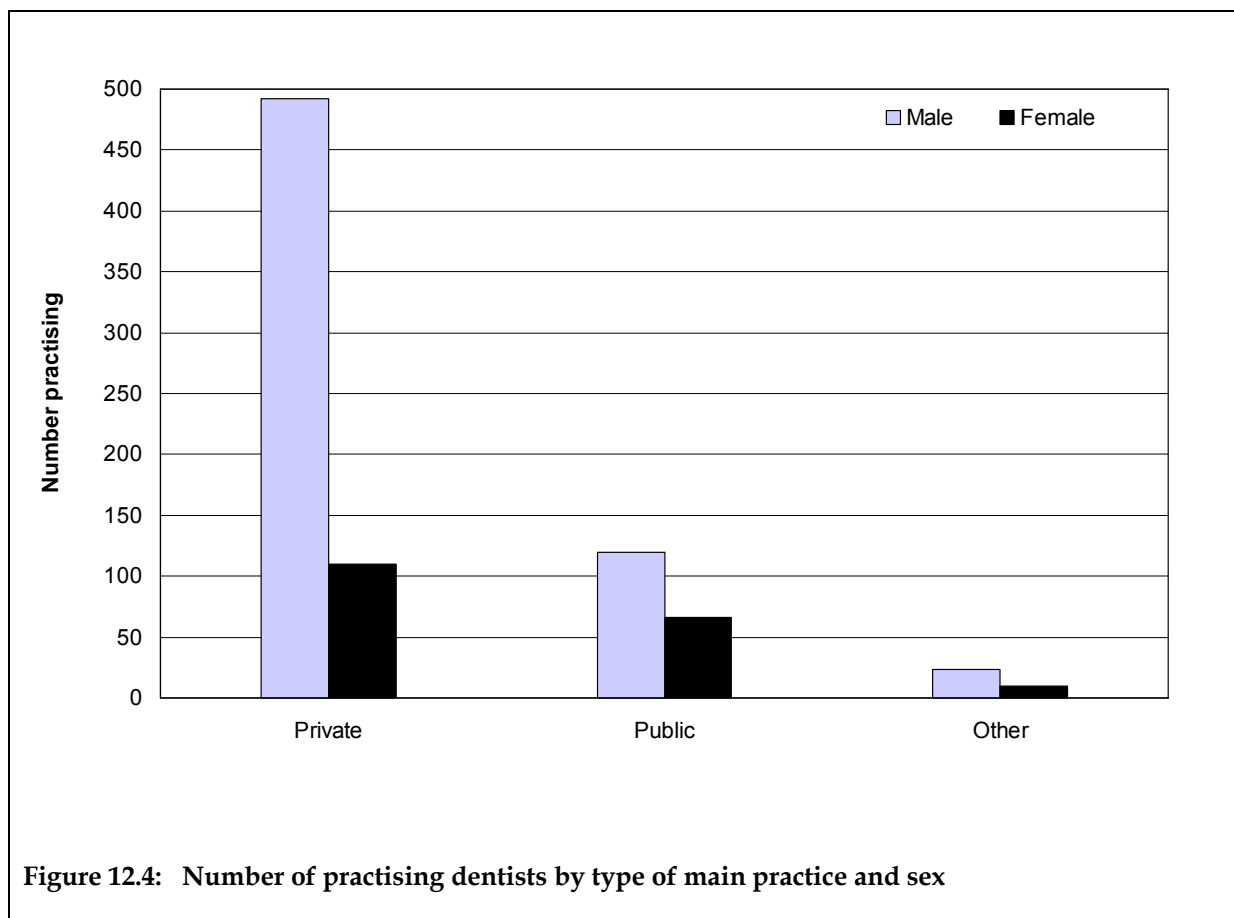


Figure 12.4: Number of practising dentists by type of main practice and sex

Number practising	Private	Public	Other	Total
Male	492	120	23	635
Female	110	66	10	186
Total	602	186	33	821

Source: 2000 Dental Labour Force Survey.

- Number practising includes full-time and part-time staff.
- Of the 821 dentists practising, 73% were employed in private practice and 23% were employed in public practice.
- Thirty-five per cent of female dentists were employed in public practice compared with 19% of males.

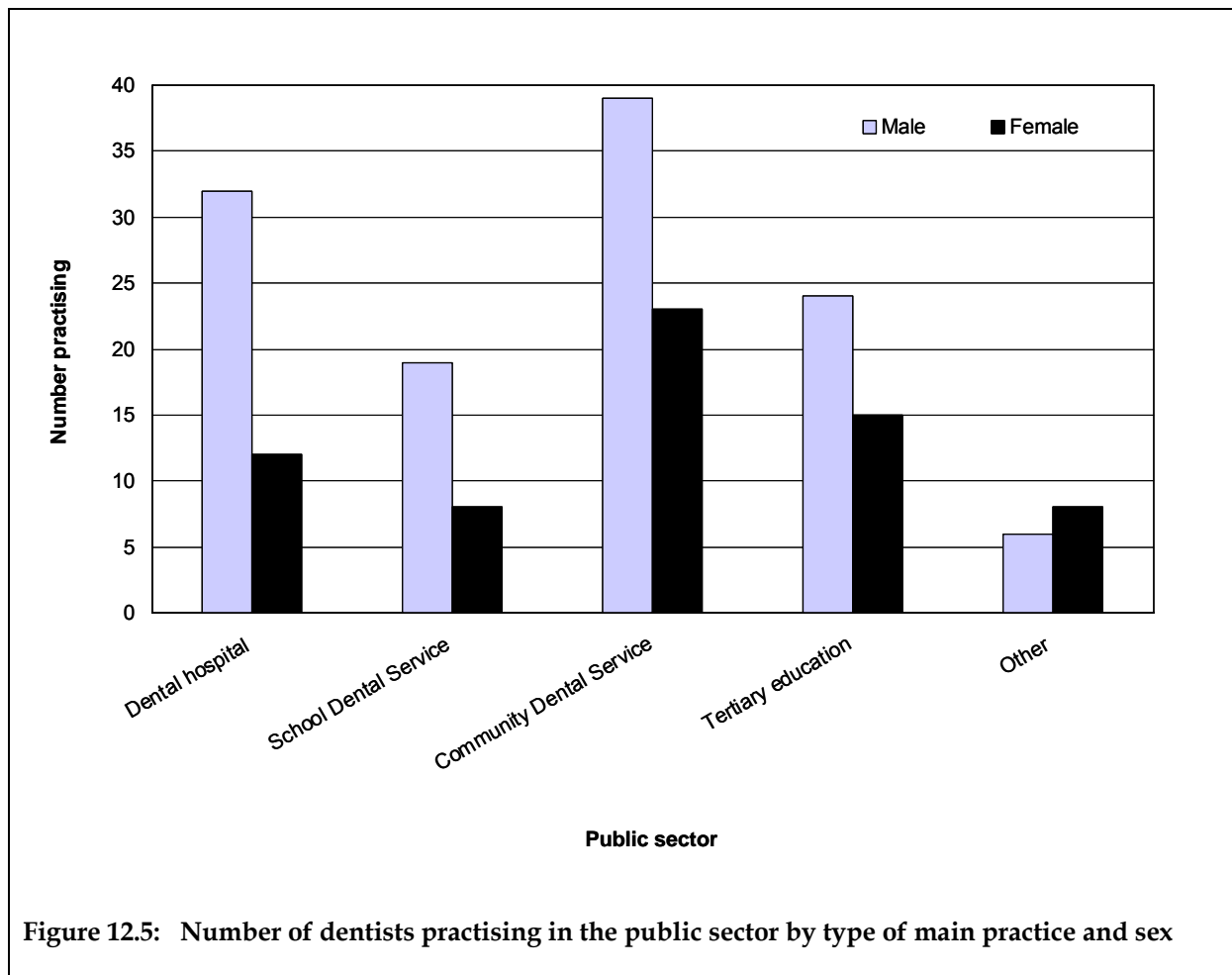


Figure 12.5: Number of dentists practising in the public sector by type of main practice and sex

Number practising	Dental hospital	School Dental Service	Community Dental Service	Tertiary education	Other	Total
Male	32	19	39	24	6	120
Female	12	8	23	15	8	66
Total	44	27	62	39	14	186

Source: 2000 Dental Labour Force Survey.

- Number practising includes full-time and part-time staff.
- The most common place of employment for dentists employed in public practice was the Community Dental Service (33%), followed by dental hospitals (24%) and tertiary education institutions (21%).
- Nearly 15% of dentists employed in public practice worked in the School Dental Service.
- Males' predominant place of employment was the Community Dental Service (33%) and dental hospitals (27%). Females' predominant place of employment was also the Community Dental Service (35%) followed by tertiary education institutions (23%).

Summary

- In the year 2000, there were 1,085 practising oral health providers in South Australia comprising 821 dentists (76%), 128 therapists (12%), 109 hygienists (10%) and 27 prosthetists (2%).
- South Australia had more practising dentists on a per capita basis than the national average (54.8 per 100,000 compared with 46.9 per 100,000). Dentists were more likely to work in the Adelaide metropolitan area with 64.6 practising per 100,000 persons compared with 28.1 in the rest of South Australia.
- The majority of dentists were general practitioners (75%). A further 15% were employed in a specialist/restricted practice with the remaining 10% employed in non-clinical roles such as administrators, educators and researchers.
- Males accounted for 77% of practising dentists and 79% of dentists employed in a specialist/restricted practice. The most common speciality area for males was orthodontics (50%). Females were equally likely to specialise in orthodontics (30%) or paedodontics (30%).
- Over 70% of dentists were employed in the private sector and 23% practiced in the public sector. Females were more likely to be employed in the public sector with 35% practising at public clinics compared with 19% of males.
- Of the dentists practising in the public sector, 33% worked for the Community Dental Service, 24% were employed at dental hospitals, 21% at tertiary institutions and 15% worked in the School Dental Service.
- The practising rate of dental therapists was higher outside the metropolitan area (10.4 per 100,000) than Adelaide (7.8 per 100,000). Overall the South Australian rate of 8.5 per 100,000 was only slightly higher than the national average of 7.8 per 100,000.
- South Australia has more practising hygienists on a per capita basis than the national average (7.3 per 100,000 compared with 2.3 per 100,000). The majority of hygienists worked in the metropolitan area with a practising rate of 9.7 per 100,000 compared with 0.7 per 100,000 for the rest of South Australia.

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Glossary

Calculus	A calcified deposit that forms on the teeth above or below the gum line
Cardholder	A person who has a Pensioner Concession Card or a Health Care Card and hence is entitled to publicly funded dental care
Caries	Bacterial disease that causes the demineralisation and decay of teeth and can involve inflammation of the central dental pulp
Cavitated decay	Decay of the teeth caused by caries and progressing to cavities in the enamel or cementum and the dentine
Community Periodontal Index (CPI)	An index used to indicate periodontal status; the maximum CPI score for a patient is recorded. The index has five categories increasing in order of severity: 0 = healthy 1 = bleeding observed 2 = calculus present 3 = pockets of 4–5 mm 4 = pockets of 6 mm or more
Deciduous dentition	Primary (baby) teeth
Dentate	Having at least one natural tooth
Dentist	Provides a range of preventive, diagnostic and restorative dental services
Dental hygienist	Educates the community in the principles of preventive dentistry and motivates individuals to take responsibility for their own oral health; performs a restricted range of clinical services and works under the direction of a dentist, who is responsible for patient diagnosis and prescribes the treatment to be carried out by the hygienist
Dental prosthetist	Responsible for construction and fitting of dentures and sporting mouthguards; maintains, repairs and relines dentures either by direct consultation with a patient or by referral from a dentist
Dental therapist	Undertakes promotion of oral health and dental health education; performs a restricted range of clinical services predominantly on school age children
dmft	Decayed, missing or filled teeth for deciduous dentition
DMFT	Decayed, missing or filled teeth for permanent dentition
Edentulism/Edentulous	Having no natural teeth
Endodontics	The study, treatment and prevention of diseases of the pulp of teeth – a major part of treatment is root canal treatment

Fissure sealant	A special varnish that seals pits and fissures in teeth to prevent cavities from developing
Gingivitis	Inflammation of the gums
Malocclusion	Imperfect alignment of teeth
Maxillofacial	Relating to the jaw and middle third of the face
Orthodontics	The branch of dentistry that is concerned with the growth and development of the face and jaws and the treatment of irregularities of the teeth
Paedodontics	The branch of dentistry that is concerned with the provision of dental treatment to children
Periodontics	The branch of dentistry that is concerned with the tissues that support and attach the teeth and the treatment and prevention of periodontal diseases
Periodontitis	Inflammation of the gums and deeper tissues in the tooth socket
Permanent dentition	Adult teeth
Prosthodontics	The branch of dentistry that is concerned with the provision of dentures, bridges and implant-retained prostheses

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