

This report provides information on aspects of oral health and use of dental services among Australians. Differences by age groups, card-holder status and location of the last dental visit are presented. Comparisons between the National Dental Telephone Interview Survey 1999 and combined data from the 1994, 1995 and 1996 Surveys have been presented. These comparisons highlight variation in self-reported oral health and access to dental care and changes over the late 1990s.

Data collection

This report uses population level data collected in the National Dental Telephone Interview Survey conducted in 1999, and compares results with data collected in a series of National Dental Telephone Interview Surveys conducted in 1994, 1995 and 1996.

Public-funded dental care includes care provided at public clinics as well as some care provided to eligible card-holders at private dental practices during the Commonwealth Dental Health Program 1994–96.

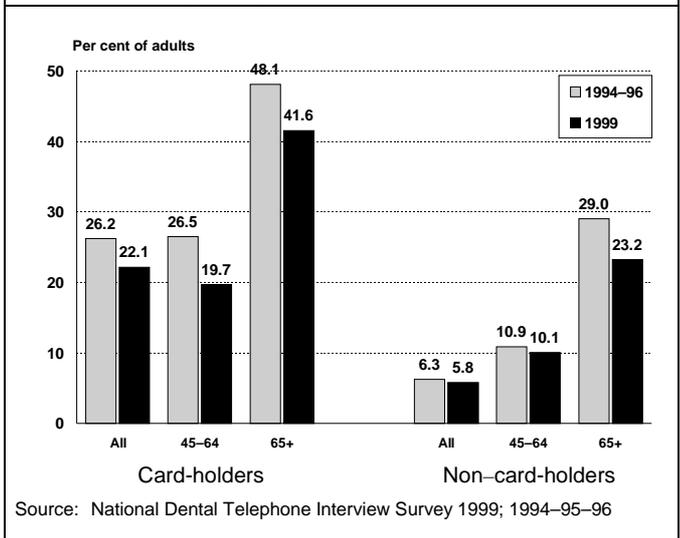
Dentate status

Tooth loss and the wearing of dentures reflect the cumulative effects of past oral disease and dental treatment practices. Variations in tooth loss between government concession card-holders and non-card-holders across age groups may indicate different historical treatment patterns.

Complete tooth loss was greater among older age groups. Less than 2% of adults aged below 45 years had lost all their natural teeth, however, this increased to 11.9% of the 45–64 years age group, and 33.4% of those aged 65+ years. Comparisons with the 1994–96 data for these age groups (14.2% of those aged 45–64 years and 40.3% of those aged 65+ years) revealed that the percentage of edentulous adults (no remaining natural teeth) had declined since the earlier surveys. The population edentulism rate declined from 10.9% to 9.7% (not shown).

Card-holders had a higher rate of complete tooth loss than non-card-holders (Figure 1). Edentulism declined between the two data collection periods, particularly among card-holders, dropping among those aged 65+ years from 48.1% in 1994–96 to 41.6% in 1999. The overall percentage of adult card-holders with no remaining natural teeth declined

Figure 1: Complete tooth loss among adults aged 18+ years, 1999 and 1994 to 1996

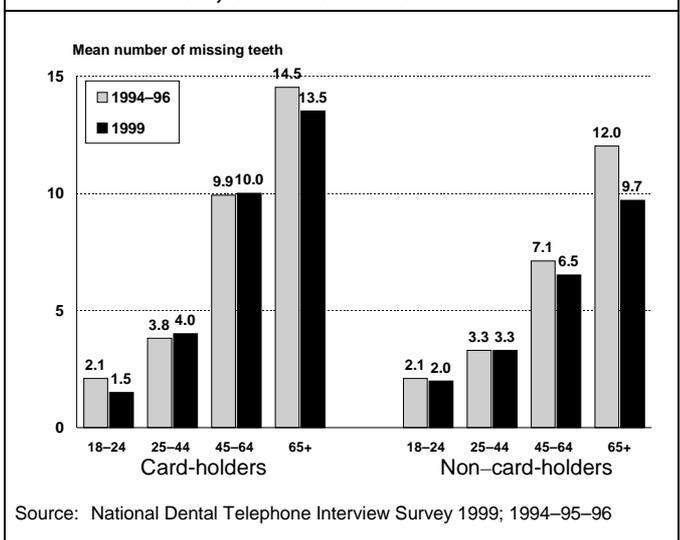


from 26.2% in 1994–96 to 22.1% in 1999, with corresponding percentages for non-card-holders of 6.3% to 5.8%.

Missing teeth and denture use

The relationship between age and the mean number of missing teeth among dentate adults (those with some natural teeth) is shown in Figure 2. The effect of past treatment in the form of extractions was most pronounced among adults aged 65 years and over, who had an average of 11.6 teeth missing, compared to an average of 1.9 missing teeth among the 18–24 year-olds (not shown).

Figure 2: Missing teeth by age group – dentate adults, 1999 and 1994 to 1996



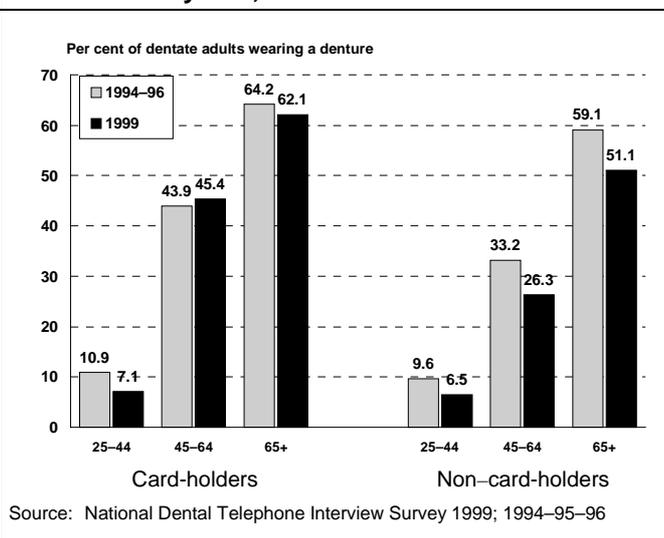
Card-holders had a greater number of missing teeth than non-card-holders in all age groups 25 years and above. By the age of 45+ years, card-holders had 3-4 more teeth missing than non-card-holders.

Comparison of the 1999 survey results with the 1994-96 data showed that the mean number of missing teeth had declined among non-card-holders aged 45 years and over, while among card-holders and younger age groups the number of missing teeth was similar.

Denture use

Figure 3 presents the use of full or partial dentures among card-holders and non-card-holders who still have some of their own natural teeth. Denture use was strongly related to age, with almost 30% of 45-64 year-olds and over 55% of those aged 65+ years reporting wearing a denture.

Figure 3: Denture use among adults aged 25+ years, 1999 and 1994 to 1996



Card-holders in most age groups reported a higher level of denture use than non-card-holders. This difference is consistent with the number of missing teeth reported by card-holders.

The number of missing teeth reported among non-card-holders since the 1994-96 surveys was reflected in a reduction during the same period in the percentage of non-card-holders using full or partial dentures. However, denture use remained at comparable rates among card-holders, approximately 45% among 45-64 year-olds and over 62% of the 65+ age group.

Access to dental services

The time since last dental visit indicates the level of contact with dental services.

In the period 1994-96, 56.2% of all dentate adults reported that they had made a dental visit in the

previous year, while in 1999, 56.3% of all dentate adults reported that they had visited (Table 1).

Table 1: Time since last dental visit – dentate adults, 1999 and 1994 to 1996

	< 1 year	1-<2 years	2-<5 years	5+ years
1994 to 1996				
18-24 years	53.5	18.2	17.6	10.4
25-44 years	53.3	20.3	15.8	10.2
45-64 years	60.8	17.3	12.1	9.5
65+ years	61.5	14.9	12.0	11.4
Card-holders	53.1	18.5	15.0	13.0
Non-card-holders	56.9	18.6	14.7	9.5
Total	56.2	18.6	14.7	10.2
1999				
18-24 years	51.6	25.6	14.5	8.3
25-44 years	53.4	19.5	15.5	11.6
45-64 years	62.0	17.4	12.3	8.4
65+ years	59.5	18.3	11.7	10.5
Card-holders	50.1	21.3	15.9	12.7
Non-card-holders	57.9	19.2	13.5	9.4
Total	56.3	19.7	14.0	10.0

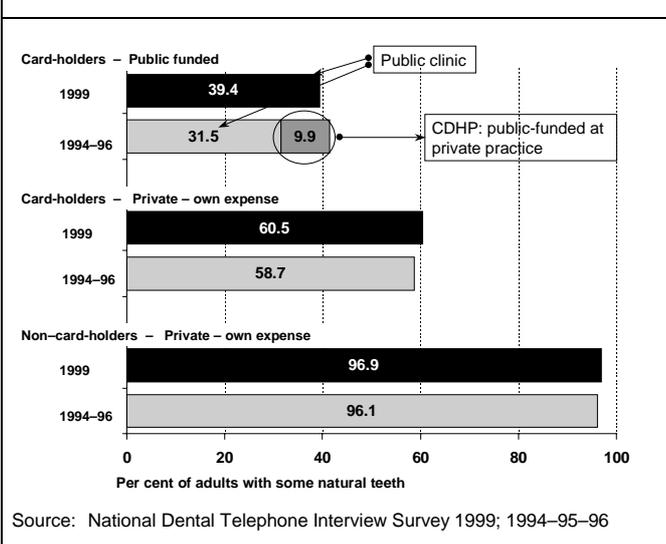
Source: National Dental Telephone Interview Survey 1999; 1994-95-96

Fewer card-holders (50.1%) had made a recent dental visit than non-card-holders (57.9%).

There was no significant variation across time in visiting patterns. In the period since the 1994-96 surveys, the percentage of card-holders visiting in the previous 12 months had declined slightly from 53.1% to 50.1%, while the percentage who had visited one to less than two years ago had increased from 18.5% to 21.3%. There were no differences in the groups whose last visit was two to five years and 5+ years ago.

Site of dental visit in last 12 months

Figure 4: Site of last dental visit in previous year – dentate adults, 1999 and 1994 to 1996



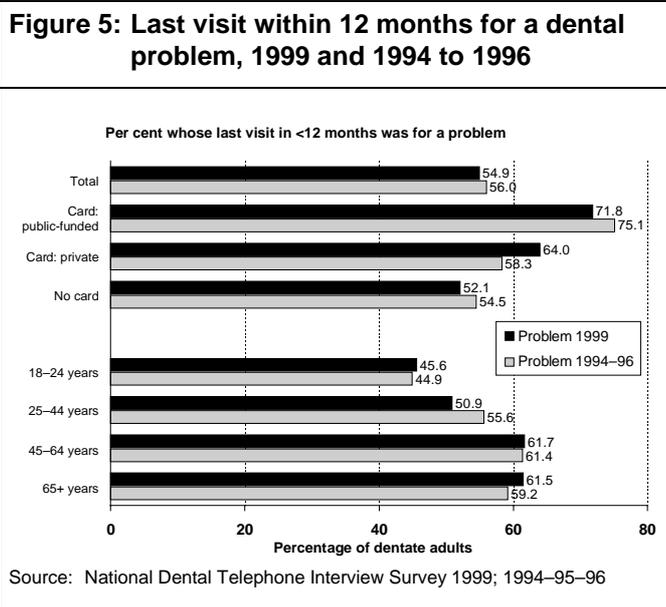
In 1999, among those card-holders who made a dental visit in the previous 12 months, a higher percentage reported that their last visit was made at a public clinic, 39.4% compared to 31.5% in 1994–96 (Figure 4).

During 1994–96 some card-holders (9.9%) had public-funded dental care at private practices under the Commonwealth Dental Health Program (CDHP), giving a total of 41.4% of card-holders whose last visit in the previous 12 months was public-funded, compared to 39.4% in 1999. The percentage of card-holders making their last dental visit in the last 12 months at a private practice at their own expense increased marginally from 58.7% to 60.5%. The distribution of visit location remained the same among non-card-holders, with over 96% at a private practice.

Reason for last dental visit

The reason for seeking dental care influences the treatment likely to be received, with check-up visits more likely to result in timely treatment or preventive care. Visiting for a problem may reflect an inability to access dental services because of a lack of availability and affordability, which may lead to more advanced problems and less favourable treatment, e.g. extraction.

Adults who had made a dental visit in the previous year were asked whether their last visit had been for a dental problem.



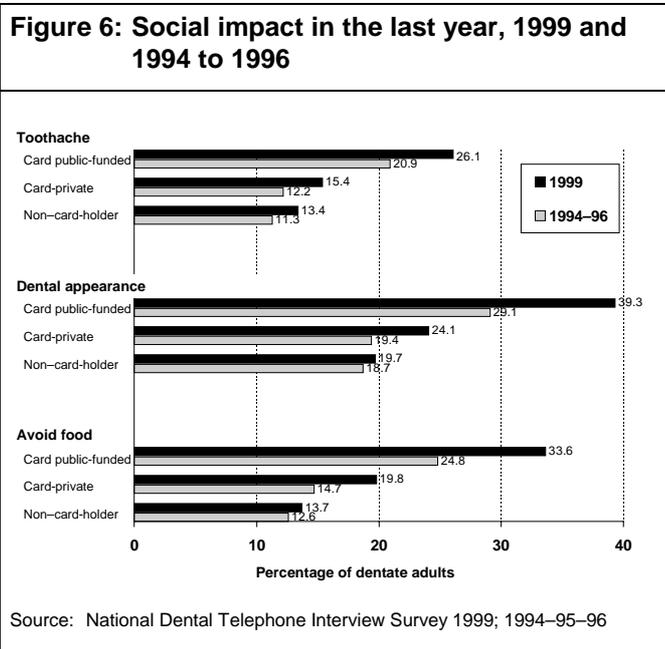
Problem-oriented dental visits were more prevalent among card-holders and older age groups. Among adults who visited in the last 12 months, 71.8% of card-holders who received public-funded care had made their last visit for a problem compared to 52.1% of non-card-holders (Figure 5). Of those card-holders who made a dental visit at a private practice in the last year, the percentage who last visited for a problem increased from 58.3% to 64.0% in the period since 1994–96, while problem visiting among public-funded card holders and non-card-holders showed a slight decline.

Across age groups, a decline in visiting for a problem was observable among the 25–44 year-olds. The lowest percentage of problem visiting was reported among 18–24 year-olds (approximately 45%) while around 61% of those aged over 45 years reported that their last visit was for a problem.

Social impact and economic factors

A range of social impact and economic factors were investigated to determine the extent of inequality between groups. Participants were asked about their experience of toothache, the frequency of feeling uncomfortable with their dental appearance, and avoiding some foods.

Figure 6 presents the percentage of card-holders and non-card-holders who reported these three conditions 'very often', 'often' and 'sometimes' in the previous year.



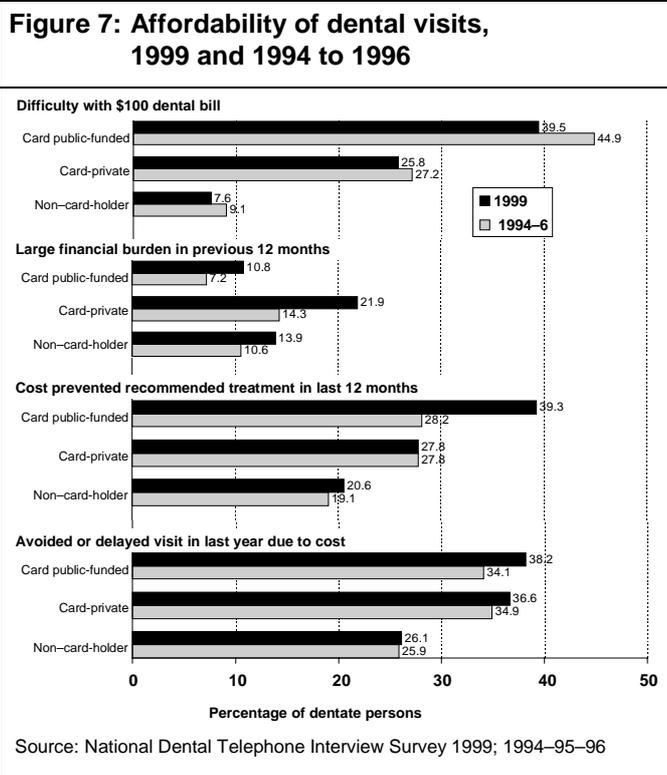
Card-holders whose last visit was public-funded reported a higher level of all three measures of social impact than non-card-holders and card-holders who last visited a private practice at their own expense. Comparisons over time showed that toothache experience in all groups increased, particularly among card-holder groups. The percentage of recipients of public-funded care reporting toothache increased from 20.9% to 26.1%, and among card-holders whose last visit was private increased from 12.2% to 15.4%.

High levels of feeling uncomfortable with dental appearance occurred among card-holders, almost 40% of card-public and almost 25% of card-private, compared with just under 20% of non-card-holders. Between 1994–96 and 1999, the frequency of reporting this problem increased from 29.1% to 39.3% among public-funded card-holders and from 19.4% to 24.1% among card-holders who last visited a private practice. The percentage among non-card-holders remained stable.

One-third of card-holders whose last visit was public-funded and 20% of those who last visited a private practice reported avoiding some foods 'very often', 'often' and 'sometimes' compared to just under 14% of non-card-holders. Comparisons over time revealed a marginal increase among non-card-holders and a large increase among card-holders, with the avoidance of some foods increasing from 24.8% to 33.6% among card public-funded and from 14.7% to 19.8% among card-private.

Affordability and hardship

All respondents were asked a range of questions on the affordability and financial burden of dental care in the previous 12 months. Figure 7 presents the percentage of respondents who reported that they would have great difficulty with a \$100 dental bill, that dental visits had caused a large financial burden, that the cost had prevented treatment or that they had avoided or delayed making a dental visit because of the cost.



Card-holders who last received public-funded care were almost five times more likely than non-card-holders to report that they would have a lot of difficulty in paying a \$100 dental bill. Almost 40% of card-public, just over 25% of card-private and less than 8% of non-card-holders reported difficulty with \$100. The percentage reporting difficulty decreased in all groups since 1994-96, which may reflect inflation and the increased income in 1999. Among card-public the decline was from 44.9% in 1994-96 to 39.5% in 1999.

The percentage of both card-holders and non-card-holders reporting that their dental visit(s) in the last year had been a large financial burden had increased,

with the greatest impact among card-holders who visited a private practice (an increase from 14.3% in 1994-96 to 21.9% in 1999, compared to the rise from 10.6% to 13.9% among non-card-holders). The gap between card-holders and non-card-holders appears to be widening as greater numbers of card-holders experience financial hardship in purchasing private dental care.

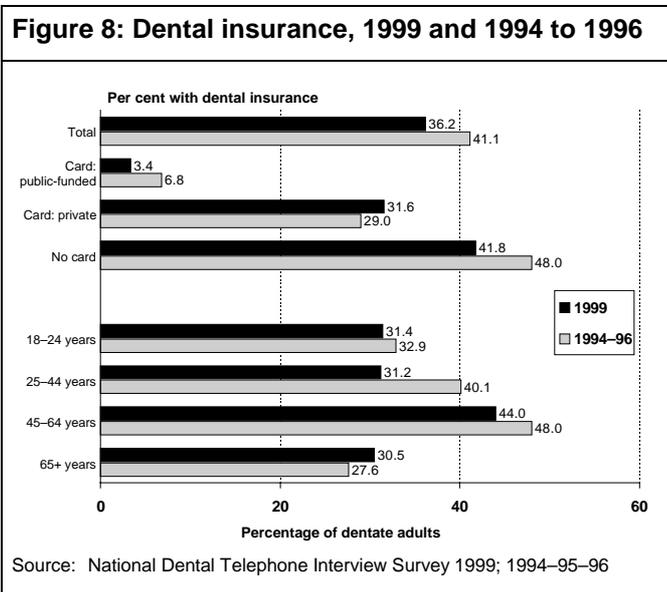
Almost 40% of card-holders (public-funded), over a quarter of card-private and one in five non-card-holders reported that the cost had prevented them from having recommended or wanted dental treatment in the previous 12 months. Comparisons over time revealed that the percentage of card-private and non-card-holders had remained almost unchanged, but that among card-holders whose last visit was public-funded, cost preventing them having dental treatment had increased from 28.2% to 39.3%.

Over a third of card-holders reported that they had avoided or delayed making a dental visit because of the cost in the previous 12 months compared to just over a quarter of non-card-holders. Comparisons over time revealed an increase from 34.1% to 38.2% among public-funded card-holders, with little change among the other groups.

Dental insurance

Dental insurance was higher among non-card-holders (41.8%) than among card-holders who last visited a private practice (31.6%). Card-holders who last made a public-funded dental visit had a very low level of insurance (3.4% in 1999). The highest dental insurance coverage was among the 45-64 years age group (44.0%), while around 31% of all other age groups had dental insurance.

There was a noticeable decline in insurance among non-card-holders since 1994-96. Lower levels of insurance were evident in most age groups, particularly the 25-44 years group, dropping from 40.1% to 31.2%.

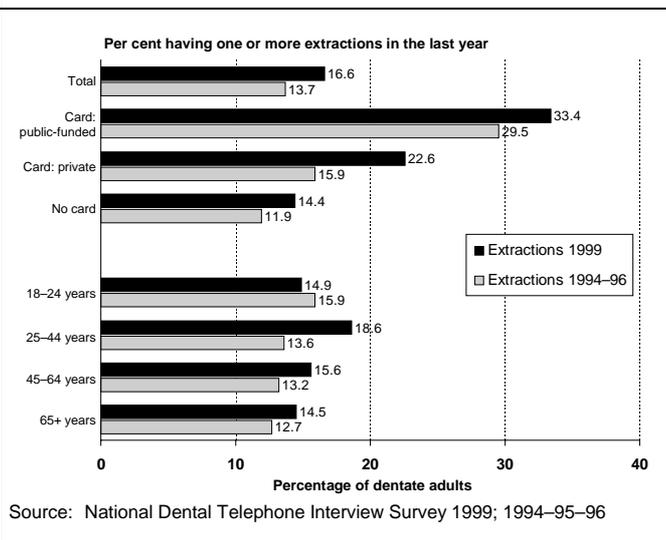


Services received – extractions

Respondents who had made a dental visit in the previous 12 months were asked what treatment they had received. The loss of a tooth indicates the failure of all previous preventive and restorative treatment, and shows a progression of individuals toward complete tooth loss.

Figure 9 presents the percentage of dentate adults who received an extraction(s) at a visit in the previous 12 months. Across age groups the highest extraction rate was reported by the 25–44 year olds, 18.6%, while approximately 15% of all other groups had one or more teeth extracted. The extraction rate among card-holders was far higher than that of non-card-holders. Over a third of card-holders who last received public care and almost 23% of card-holders who visited a private practice reported having teeth extracted, compared to 14.4% of non-card-holders.

Figure 9: Extractions in the last year, 1999 and 1994 to 1996



Comparisons over time revealed an increase in the percentage reporting tooth extraction in all age groups apart from the 18–24 year olds. The overall increase was from 13.7% in 1994–96 to 16.6% in 1999. The increase was most pronounced among card-holders who visited a private dentist (from 15.9% to 22.6%). Card-holders who received public-funded dental care in the previous year reported 29.5% in 1994–96 and 33.4% in 1999.

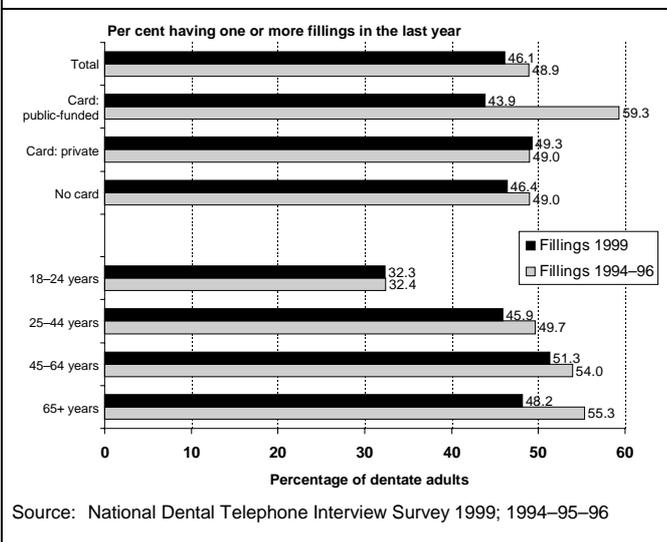
Services received – fillings

Just over 46% of dentate adults received one or more fillings in the previous year, a slight reduction since the 1994–96 surveys (Figure 10).

The decline occurred in all groups aged 25+ years. The most pronounced differences were observable among the 65+ years age group and card-holders who last received public-funded dental care, where there was a

sharp drop from 59.3% to 43.9% receiving a filling(s). As there was an increase in extractions during this period, it seems unlikely that the reduction in fillings reflects a decrease in disease experience. Extraction may have been chosen as an alternative to more costly options to restore teeth.

Figure 10: Fillings in the last year, 1999 and 1994 to 1996



Fillings and extractions per person

Table 2 presents the mean number of fillings and extractions per dentate adult who made a visit in the previous 12 months.

Table 2: Fillings and extractions per person in the last year – 1999 and 1994 to 1996

	Fillings		Extractions	
	1994–96	1999	1994–96	1999
Card-public	1.27	0.86	0.57	0.62
Card-private	0.93	0.91	0.26	0.57
Non-card-holders	0.98	0.89	0.20	0.25
Total	0.97	0.88	0.24	0.31

Source: National Dental Telephone Interview Survey 1999; 1994–95–96

In 1999, the mean number of fillings received in the previous year was 0.88 per dentate adult, a reduction from the mean of 0.97 at the time of the 1994–96 surveys. Card-holders who last received public-funded dental care showed the most pronounced difference, a sharp drop from 1.27 to 0.86 per person.

Card-holders received more than twice as many extractions per person as non-card-holders, with the highest rate being 0.62 teeth per person among card-holders who received public-funded dental care in the previous year.

Comparisons over time revealed an increase in extraction rate from 0.24 to 0.31 overall. The difference was most obvious among card-holders who visited a private practice (an increase from 0.26 to 0.57) more than doubling the previous rate of tooth extraction in this group.

National Dental Telephone Interview Surveys were conducted in 1994, 1995, 1996 and 1999. In each of the four surveys, interviews were carried out with adults selected from a stratified random sample of all States and Territories. Proxy interviews were conducted on the behalf of some non-English-speaking persons.

Information was collected from persons aged 18 years and over (6,589 adults in 1999, response rate 56.6%; and 17,691 adults in combined surveys from 1994, 1995, 1996, response rate 71.5%), and included questions on self-reported oral health and dental visiting characteristics.

Data were weighted to ensure that the samples accurately represent the age and sex distribution of the Australian population at the time of each survey.

Summary

The 1999 survey data were compared with the combined data from the 1994, 1995 and 1996 surveys. Comparisons over time showed that since 1994-96:

- the percentage of adults visiting in the previous 12 months remained constant;
- little change had occurred in problem-oriented dental visiting patterns;
- economic factors investigated revealed that financial hardship in purchasing dental care increased;
- social impact measures including experience of toothache, discomfort with dental appearance, and avoidance of some foods increased, particularly among card-holders;
- among card-holders the percentage receiving extractions increased (card-holders public-funded from 29.5% to 33.4%; card-holders private from 15.9% to 22.6%) and the mean number of teeth extracted per person rose (from 0.57 to 0.62 card-public; 0.26 to 0.57 card-private); and
- among card-holders fillings decreased (from 1.27 to 0.86 per person card-public; 0.93 to 0.91 card-private).

Less than 40% of eligible card-holders received their last dental care at a public clinic, while the remaining 60% sought care at a private practice at their own expense. A lower percentage of card-holders than non-card-holders accessed dental care in a 12 month period. Furthermore, the overall proportion of card-holders who made a dental visit changed little since the 1994-96 surveys, from 53.1% to 50.1%.

AIHW Catalogue No. DEN 73
ISSN 1323-8744

Improvements

- reduction in edentulism;
- slight reduction in mean number of missing teeth among non-card-holders;
- reduction in denture use among non-card-holders; and
- slight reduction in percentage reporting that they would have great difficulty paying a \$100 dental bill, possibly an effect of increasing income.

Deteriorations

- more extractions in the previous 12 months, particularly among card-holders who last visited a private practice;
- more experience of toothache, particularly among card-holders;
- higher levels of feeling discomfort with dental appearance among card-holders;
- avoidance of some foods increased among card-holders;
- increase in the percentage reporting a large financial burden caused by a dental visit(s) in the last year, particularly among card-private;
- cost prevented recommended or wanted dental treatment in previous year increased from 28.2% to 39.3% among card-holders whose last visit was public-funded; and
- lower levels of dental insurance, particularly among 25-44 year-olds and non-card-holders.

Detailed companion statistical tables are available for the National Dental Telephone Interview Survey (NDTIS) 1999 and comparisons with NDTIS 1994-96 at the web site listed below.

Acknowledgements

This research was supported by the Population Health Division of the Commonwealth Department of Health and Aged Care.

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

Published by:

AIHW Dental Statistics and
Research Unit
Adelaide University
SOUTH AUSTRALIA 5005

Email: aihw.dsr@adelaide.edu.au
Phone: 61 8/(08) 8303 4051
Fax: 61 8/(08) 8303 4858
www.adelaide.edu.au/socprev-dent/dsr