

**T**his report provides information on oral health and use of dental services in population groups described as 'deprived' and 'privileged'. Gains made in the post-fluoride era have not been shared equally across sociodemographic groups. Both edentulism (complete tooth loss) in the elderly and oral disease among children are concentrated among disadvantaged groups. Differences in the use of dental services among disadvantaged groups such as government concession card holders, migrant populations, and indigenous Australians have been documented, however, little is known about the extremes of advantage and disadvantage. Problem-oriented dental visiting patterns and higher rates of tooth loss indicate that some Australians may be disadvantaged in terms of access to dental care.

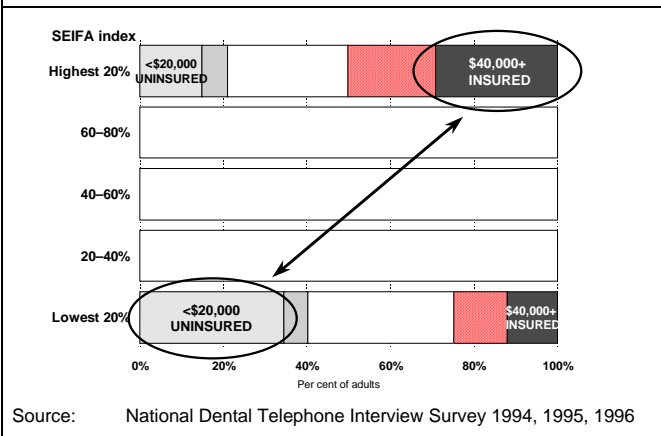
## Data collection

This report uses population level data collected in a series of National Dental Telephone Interview Surveys, conducted in 1994, 1995 and 1996. Interviews were carried out with adults selected in a stratified random sample from all States and Territories in each year. The data were weighted to represent the Australian population.

Information was collected from 17,691 persons aged 18 years and over (response rate = 71.5%), and included questions on use of dental services, self-reported oral health and dental visiting characteristics. First, participants were initially classified by locations based on the ABS Socio-Economic Index For Areas (SEIFA) Index of Relative Socio-Economic Disadvantage. This index reflects the socio-economic well-being of an area rather than that of individuals. Participants from the highest and lowest SEIFA (SES) quintiles were selected. Second, those selected participants with an annual household income above \$40,000 or below \$20,000 were identified.

Third, participants with dental insurance were selected among those with high SEIFA (SES) and high income, while participants without dental insurance were selected among those with low SEIFA (SES) and low income (Figure 1).

**Figure 1: 'Deprived' and 'privileged' based on SEIFA quintile, income and dental insurance, 1994 to 1996**

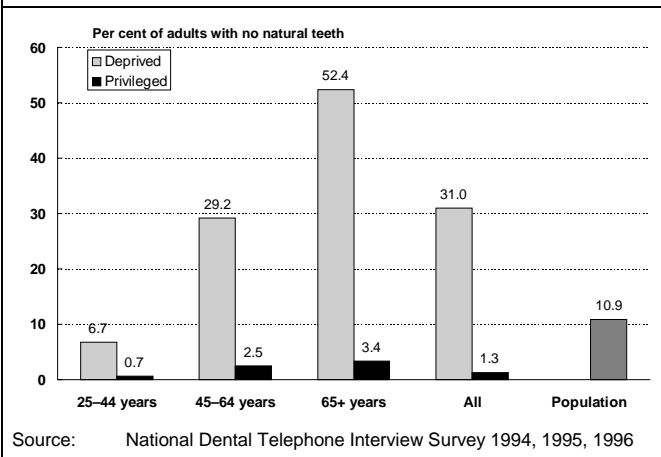


Uninsured individuals living in the most disadvantaged areas (SEIFA index less than 950) whose household income was below \$20,000 were described as 'deprived'. The 'privileged' were individuals that had income greater than \$40,000; dental insurance; and residential postcode in an affluent area (SEIFA index greater than 1050).

## Dentate status

Tooth loss and the wearing of dentures reflect the cumulative effects of past disease and treatment received.

**Figure 2: Complete tooth loss (%) among adults aged 18+ years, 1994 to 1996**



Complete tooth loss increased markedly across age groups among disadvantaged sections of the population (Figure 2). Less than 4% of 'privileged' adults in any age group had lost all their natural teeth, however, among the 'deprived', complete tooth loss was reported by nearly 7% of those aged between 25 and 44 years. This increased to almost 30% of the adults in the 45-64 age group and more than half of those aged 65+ years.

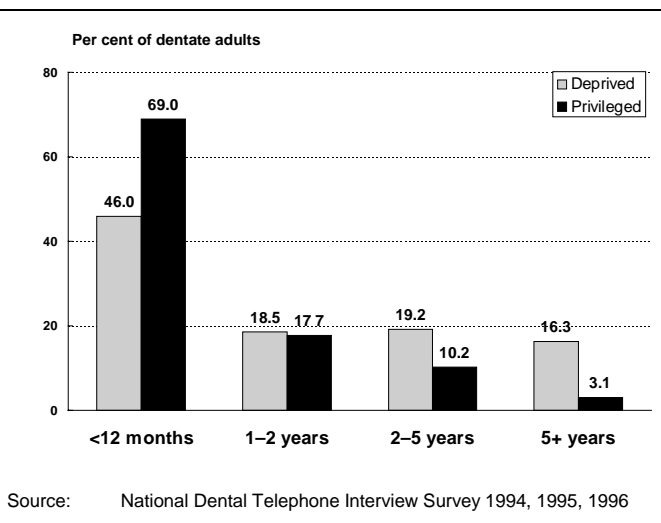
The overall percentage of 'deprived' persons with complete tooth loss was extremely high compared to the 'privileged' group, 31.0% compared to 1.3%. The population figure, 10.9% (included for comparative purposes), shows that the 'deprived' group experienced almost three times the national rate of complete tooth loss for adults aged 18+ years.

One of the possible explanations for the variations in tooth loss between the 'deprived' and the 'privileged' may be a difference in historical treatment patterns.

### Access to dental services

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

**Figure 3: Time since last dental visit, 1994 to 1996**

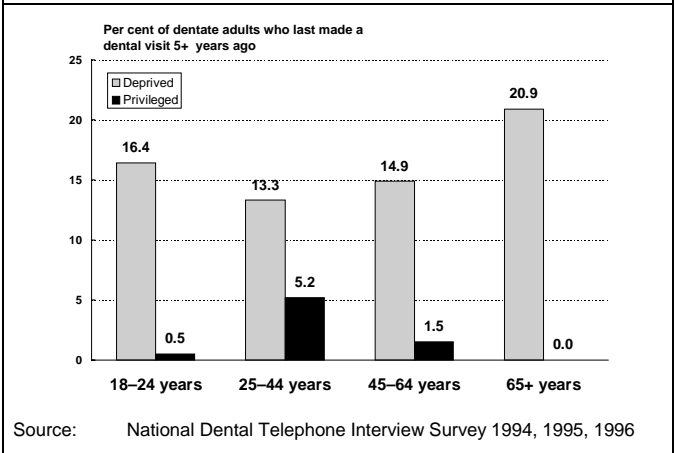


There were clear differences between the dentate adults from the 'deprived' and 'privileged' groups in the time since their last dental visit (Figure 3). Less than half of the participants from 'deprived' households had visited in the previous year, compared to almost 70% of the 'privileged'. A greater percentage of the 'deprived' had not visited for two or more years, with a five-fold difference between the two groups (16.3% compared to 3.1%) when the time elapsed was five or more years.

Those who had not made a dental visit for five or more years were further investigated to determine the distribution by age group (Figure 4). Despite the

documented greater needs of disadvantaged groups, over 20% of those among the 'deprived' aged 65+ years had not had dental care for five or more years. It can be seen that the differences between the 'privileged' and the 'deprived' were most pronounced among the older age groups, the majority of whom had government concession cards and were eligible for public-funded dental care.

**Figure 4: Five or more years since last dental visit by age group, 1994 to 1996**

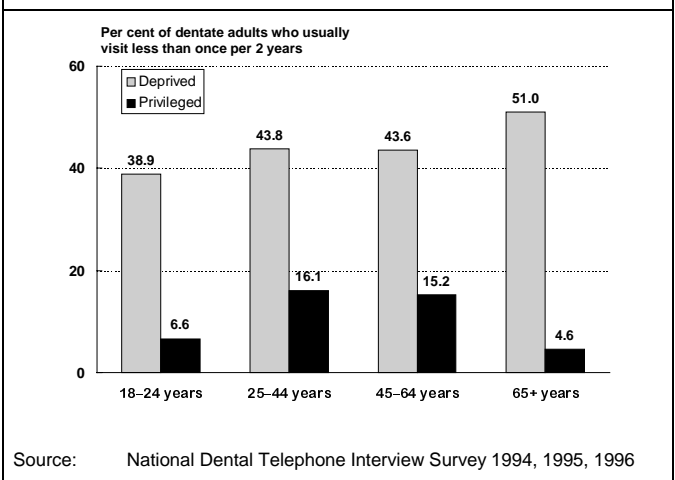


### Usual frequency of dental visits

The usual frequency of dental visits indicates whether an individual is a regular user of dental services. Irregular attendance (visiting a dental professional less than once in two years) may reflect barriers to access to care.

Figure 5 presents the percentage of dentate persons in each age group who usually make infrequent dental visits. Between 38.9% and 51.0% of 'deprived' persons reported that the usual period between their dental visits was 2 or more years, with the tendency toward irregular visits lowest among the 18-24 years age group, and highest among those aged 65+ years.

**Figure 5: Usually visit less than once in two years, 1994 to 1996**



Among 'privileged' groups, infrequent use of services peaked at 16.1% among the group aged 25–44 years, compared to 43.8% of the 'deprived' group.

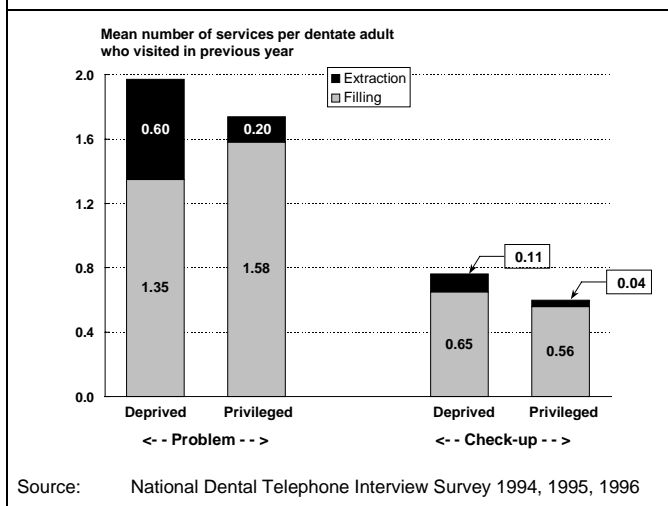
## Service mix by reason for dental visit

Problem-oriented visiting behaviour may lead to more advanced disease and less favourable treatment, e.g. extraction, indicating the failure of all previous preventive and restorative treatment. Longer periods between dental visits reported by the 'deprived', particularly among those who usually visit for a problem, were likely to result in more invasive procedures when dental care was sought. Treatment received may reflect differences in unmet needs as well as affordability.

Figure 6 presents the mean number of extraction and filling services per person received by the 'privileged' and 'deprived' who visited for a problem or a check-up in the previous 12 months. Those who last visited for a problem received a higher number of services than those whose last visit was for a check-up.

The 'deprived' had three times as many teeth extracted, 0.60 cf. 0.20 per person, and fewer fillings than the 'privileged' who visited for a problem. Those visiting for a check-up experienced low levels of fillings and extractions, although the 'deprived' were more likely to have a tooth extracted. There were large differences between the two groups, indicating that the treatment likely to be received was influenced by socioeconomic factors as well as reason for visit.

**Figure 6: Mean number of extractions and fillings by reason for last visit, 1994 to 1996**



## Other characteristics of 'deprived' and 'privileged'

Some dental visiting characteristics, perceived need, financial constraints, social impact and treatment outcomes among 'deprived' and 'privileged' adults are presented in Table 1.

**Table 1: Other characteristics of dentate 'deprived' and 'privileged' (%), 1994 to 1996**

	Deprived	Privileged	Population
<b>Perceived need for visit †</b>	%	%	%
No visit needed	46.6	46.9	48.7
Need check-up only	22.1	34.7	28.1
Need treatment	30.6	18.4	22.8
<b>Usual visit – problem †</b>	69.7	33.6	49.8
<b>Location of last visit †</b>			
Card public	24.1	* 0.2	5.7
Card private	41.5	* 2.2	14.3
Non-card private	34.5	97.6	80.0
<b>Avoided visit due to cost †</b>	36.7	14.0	27.7
<b>Difficulty with \$100 bill †</b>	36.9	3.6	14.2
<b>Toothache in last year</b>	14.5	11.8	12.1
<b>Extraction in last year †</b>	26.9	7.5	13.7

† Sig. p < 0.001 Chi-square

\* estimate has a relative standard error greater than 25%

Source: National Dental Telephone Interview Survey 1994, 1995, 1996

## Perceived need for a dental visit

A similar percentage of 'deprived' and 'privileged' participants reported that they did not need a dental visit at the time of their interview. However, among those who perceived the need for a visit, 30.6% of the 'deprived' group reported that they needed dental treatment, while 34.7% of the 'privileged' group reported that they needed a check-up only.

## Usual reason for dental visit

The reason for seeking dental care influences the treatment likely to be received. Check-up visits are more likely to result in timely treatment or preventive care, while visiting for a problem may reflect an inability to access dental services.

Dentate participants were asked whether they usually make a visit for a check-up or a dental problem. Twice the proportion of the 'deprived' group (69.7%) reported that they usually visit for a problem than the 'privileged' group (33.6%).

## Place of last visit

The majority of the 'privileged' group reported that their most recent dental visit was to a private practice at their own expense. Although 24.1% of the 'deprived' participants made their last visit at a public dental clinic, a further 41.5% were eligible for public care, but last made a visit at a private practice.

## Affordability

All respondents were asked whether they had avoided or delayed making a dental visit due to the cost, and how much difficulty they would have in paying a \$100 dental bill. Over a third of the 'deprived' group reported that they had avoided a

dental visit in the previous 12 months, compared to 14.0% of the 'privileged' group.

There was a ten-fold difference between the two groups in their reported ability to pay a \$100 dental bill. Very few of the 'privileged' (3.6%) reported difficulty while among the 'deprived' (36.9%) reported that they would have a lot of difficulty paying a \$100 dental bill.

### Toothache

Experience of toothache often or very often in the previous 12 months was reported by 14.5% of the 'deprived' participants compared with 11.8% of the 'privileged'.

### Extraction

'Deprived' participants who made a dental visit within the previous 12 months were more than three times as likely to have received an extraction than the 'privileged', 26.9% compared to 7.5%.

## The oral health divide

Large differences in patterns of tooth loss and dental visiting were identified between the groups designated as 'privileged' and 'deprived'. Individuals with an income of \$40,000+ and dental insurance may be regarded as 'comfortable' rather than wealthy, and do not enjoy special advantages or privileges when accessing dental care.

However, their use of services varied markedly from the low income group selected to include the most severely disadvantaged individuals, the 'deprived'.

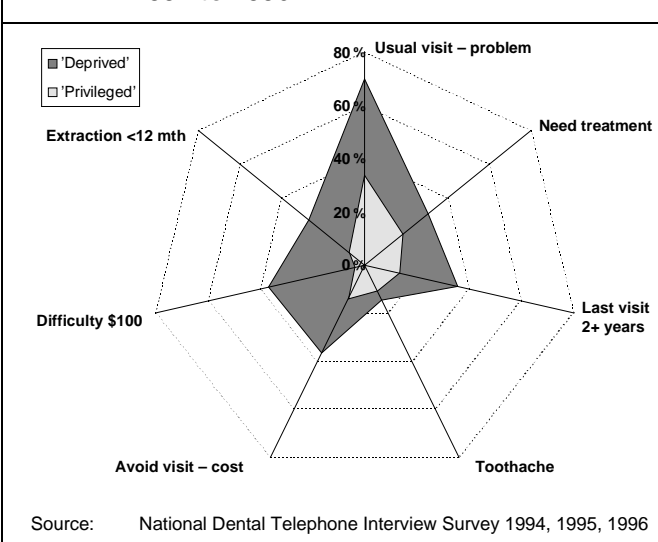
The radar chart (Figure 7) shows the extent of the 'Oral Health Divide'. The light area in the centre indicates the extent of 'at risk' behaviour and outcome variables among the 'privileged', while the dark surrounding area depicts the comparative level of disadvantage among the 'deprived'.

Efforts should be made to narrow the 'Oral Health Divide' by improving the access to dental services and the oral health of 'deprived' individuals. If equality in provision of dental care and health promotion is to be achieved, measures must be taken to reach 'deprived' sections of the population.

As the 'deprived' were defined by geographical area (SEIFA index) and by two personal characteristics, income and dental insurance, the distribution of communities containing 'deprived' populations could be mapped in order to facilitate strategies to close the gap.

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**Figure 7: The oral health divide, 1994 to 1996**



## Summary

A large gap exists between the 'deprived' and the 'privileged' in Australia in oral health and the use of dental services.

Uninsured low-income residents of low socioeconomic areas reported less favourable patterns of tooth loss and dental visiting compared to the 'privileged', including:

- higher rates of complete tooth loss;
- problem-oriented dental visiting;
- higher rates of extractions and lower rates of fillings;
- longer periods since the last visit;
- avoiding or delaying care due to cost; and
- more self-reported treatment needs.

## Acknowledgements

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*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.*

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