

## PUBLISHED VERSION

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### Age and the cost of dental care

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# Age and the costs of dental care

The costs of dental care can vary throughout the lifespan because of differences in patient factors, visiting patterns and service provision associated with age. This report provides information on patterns of service use and cost of dental care across groups in the Australian population aged 18 years and older in the period 2004–06.

## Summary

- The cost of dental care in Australia in 2005 varied across age groups, with costs increasing with age but then declining in the oldest age group. This pattern was the result of the interaction between cost per visit and number of visits per year in each age group.
- Age, dentate status and number of remaining teeth in the dentate population all appear to contribute to frequency of visiting and services received at a visit.
- Edentulism increases, and tooth numbers decline, by age. However, the number of teeth is not associated with the number of visits in the older age groups, and there are no clear differences in visiting patterns between age groups for people with a given number of teeth.
- There were no differences in the number of services received at a visit by each age group and only the number of prosthodontic services increased with age.
- Both mean cost per dental visit and mean annual cost of dental care initially increase with age, peaking in the 65–74 years age group, then decrease in the 75+ years age group.

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### Data collection

Data presented in this publication were sourced from the National Dental Telephone Interview Survey (NDTIS) undertaken during 2004–06 and the Longitudinal Study of Dentists' Practice Activity (LSDPA) conducted during 2003–04.

#### NDTIS

A total sample of 14,123 persons aged 15 years and older participated in NDTIS 2004–06. Sample sizes varied between states and territories according to the estimated resident population differences, with the largest sample from New South Wales (3,621 persons) and the smallest from the Australian Capital Territory (984 persons).

NDTIS data were weighted to represent the age and sex distribution of the Australian population at the time of the survey. NDTIS data were used to estimate dentate status and number of remaining teeth, and visiting patterns, by age.

While the Indigenous status of the client was collected during the survey, the quality of these data was not sufficient to enable their analysis and reporting in a way which would contribute to our understanding of the dental health of Indigenous Australians.

#### LSDPA

LSDPA is a survey of a representative sample of Australian dentists that report on services provided in private dental practice. LSDPA data were used to estimate the mean services and cost of services for each visit reported in NDTIS. A total of 962 dentists responded to the 2003–04 survey.

All data is presented in six age groups: 18–34 years, 35–44 years, 45–54 years, 55–64 years, 65–74 years and 75+ years.

### Cost of dental care

The cost of dental care is equal to the number of services received multiplied by the price of those services.

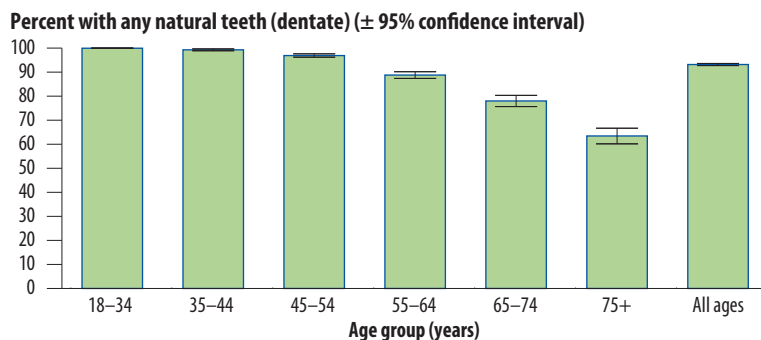
The cost of each service was estimated using the average fee for each service for the year 2005, identified by its Australian Dental Association Item number code. Where an average fee was not available, one was estimated by an experienced dentist.

## Patient factors

Age-related patient factors, such as dentate status (whether a person has any natural teeth) and number of teeth in the dentate population may affect both the probability of making a dental visit and what number and kind of services are received.

### Dentate status

Dentate status rates have increased in recent times, while edentulism (having no teeth) is now concentrated in the older age groups, as shown in Figure 1. The majority of persons in each age group are dentate. In the youngest age group, all individuals were dentate; however, the percentage in each age group that is dentate begins to decrease from the age group 45–54 and is lowest in the age group 75 years and older, at 63%.

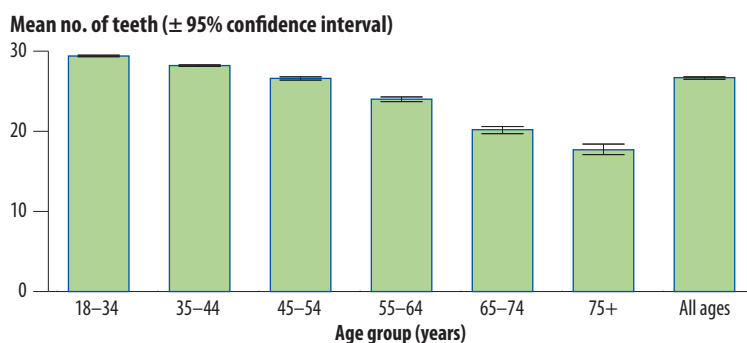


Source: National Dental Telephone Interview Survey 2004–06

**Figure 1: Dentate status by age**

### Number of remaining teeth in dentate people

The number of teeth remaining in the mouths of dentate people may be an important factor in people's demand for dental care, as more teeth in the mouth equates to more teeth at risk of dental disease and a greater need for services. Within the population of Australians who are dentate, there is a wide variation in the number of remaining teeth (Figure 2). The mean number of teeth in the group aged 18–34 years is 29.4 declining to 17.7 in the group aged 75 years and older.



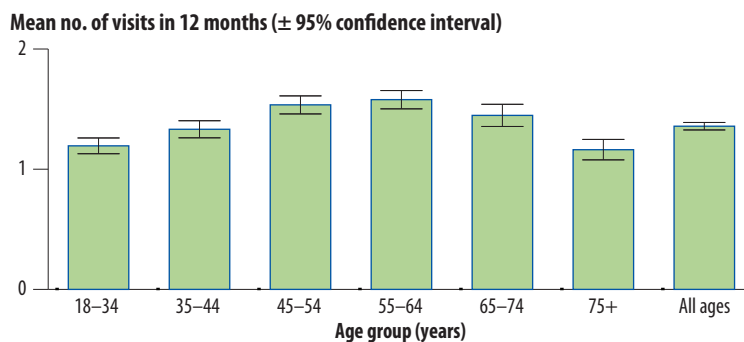
Source: National Dental Telephone Interview Survey 2004–06

**Figure 2: Number of remaining teeth by age**

## Visiting patterns

### Number of dental visits by age

There are small differences in the mean number of visits made in a year by people (both dentate and edentulous) in each age group (Figure 3). The distribution of mean number of visits is an inverted U-shape, with those in both the oldest and youngest age groups making fewer visits than those in the middle age groups.

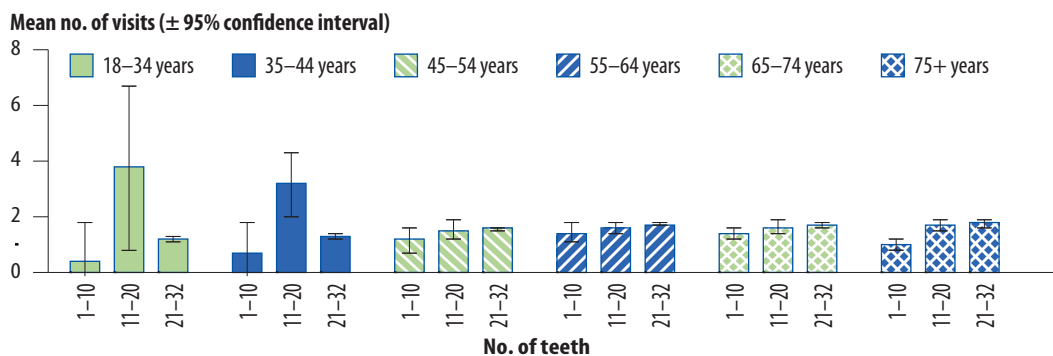


Source: National Dental Telephone Interview Survey 2004-06

Figure 3: Number of visits by age

### Number of dental visits by age and number of teeth

Figure 4 shows the number of visits per year broken down by both age and number of teeth. This figure indicates that while there was a trend to more visits on average with more teeth in the four older age groups, there are no consistent, statistically significant differences in number of visits by number of teeth within age groups.

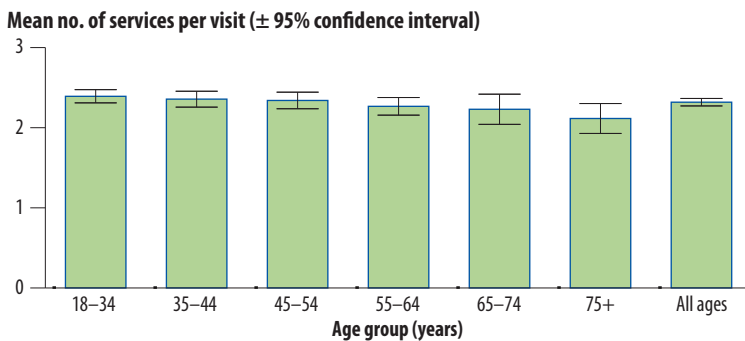


Source: National Dental Telephone Interview Survey 2004-06

Figure 4: Number of visits by number of teeth and age Services received

## Number of services received

For dentate people, age and number of remaining teeth may affect the overall number of services received at a dental visit. Data from the LSDPA indicate that, while there was a trend to fewer services with increased age, the differences were small and not statistically significant (Figure 5).



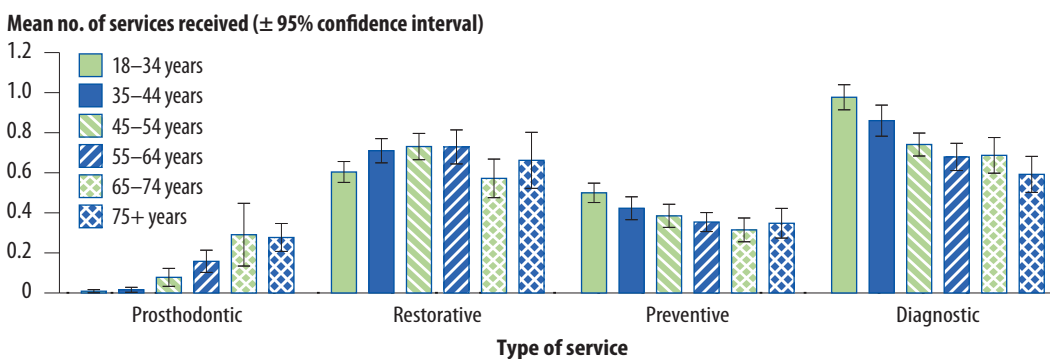
Source: Longitudinal Study of Dentists' Practice Activity 2003-04

**Figure 5: Mean total number of services received by age**

## Number of each type of service received

Figure 6 shows the mean number of diagnostic, preventive, restorative and prosthodontic services received in each age group. The mean numbers of services received were highest for the diagnostic, restorative and preventive categories. In other service types (i.e. periodontic, oral surgery, endodontic, crown and bridge, orthodontic and general/miscellaneous) there was either no clear age-related pattern of services received or a very small number of services received across all age groups, and are therefore not included in Figure 6.

For diagnostic and preventive services, the mean number of services decreased as age increased but the differences were not statistically significant. The largest decrease over the lifespan was for diagnostic services. Only prosthodontic services increased with age.



Source: Longitudinal Study of Dentists' Practice Activity 2003-04

**Figure 6: Mean number of selected services received by age**

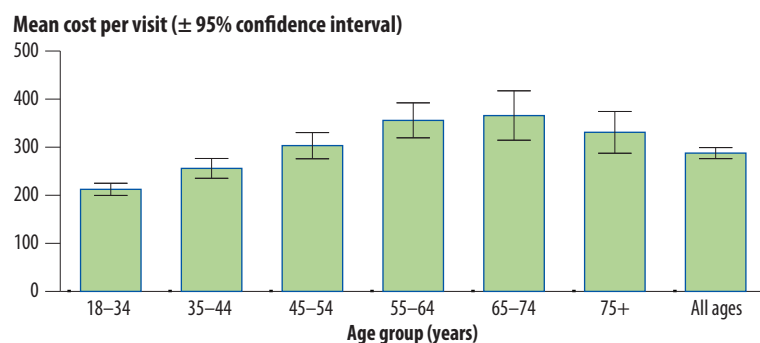
## Cost per dental visit

The mean cost per dental visit is the average cost of dental care at a single visit for all people in an age group who made a visit. It is calculated by multiplying the mean number of each service received by its average fee.

The mean number of services has been adjusted so that a service that requires more than one visit (e.g. denture services) is only costed once, not once for every visit required to provide the service.

The total amounts for each service are then added together for each age group. The mean cost per dental visit is influenced by the age-related factors of edentulism and number of teeth.

The mean cost of dental care per visit for each age group is shown in Figure 7.



Source: Derived from Longitudinal Study of Dentists' Practice Activity 2003-04

**Figure 7: Mean cost per dental visit**

The mean cost per visit ranged from \$212 in the youngest age group (18-34 years) to \$366 in the 65-74 years age group. While there was a steady increase in expenditure across age groups up to the 65-74 years age group, mean cost per dental visit declined to \$331 in the oldest age group (75+ years).

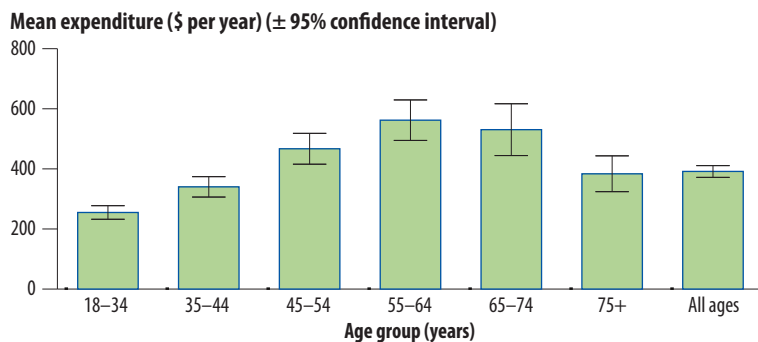
## Mean annual expenditure on dental care

The mean annual expenditure on dental care is equal to the mean cost of dental care per visit multiplied by the mean number of visits per year.

The mean annual expenditure on dental care for each age group is shown in Figure 8.

Mean annual expenditure on dental care increased steadily from \$255 in the 18–34 years age group to \$562 in the 65–74 years age group. However, it then decreased to \$384 in the 75+ years age group.

The sharp reduction between the 65–74 years and 75 years and over age groups is the result of both fewer visits per year by people in this older age group and lower costs of care at each visit.



Source: Derived from National Dental Telephone Interview Survey 2004–06, Longitudinal Study of Dentists' Practice Activity 2003–04

**Figure 8: Mean annual expenditure on dental care by age group**



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The AIHW Dental Statistics and Research Unit (DSRU) is a collaborating unit of the Australian Institute of Health and Welfare, established in 1988 at The University of Adelaide and located in the Australian Research Centre for Population Oral Health (ARCPH), School of Dentistry, The University of Adelaide. DSRU aims to improve the oral health of Australians through the collection, analysis and reporting of information on oral health and access to dental care, the practice of dentistry and the dental labour force in Australia.

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