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AIHW Dental Statistics and Research Unit  
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# Oral health of adult public dental patients



THE UNIVERSITY OF ADELAIDE AUSTRALIA



**T**his report provides information on the oral health of adult public dental patients and compares their oral health status with estimates for the Australian population from the National Survey of Adult Oral Health, 2004–06.

Findings are presented on the percentage of persons with less than 21 teeth, prevalence of tooth decay and fillings, and gum disease by the age of patient and for emergency and general courses of care.

## Summary

- Overall, a higher percentage of public patients had an inadequate dentition compared to the Australian population. This pattern was observed in all age groups of public dental patients attending for general care and for emergency patients aged 35 years or more.
- A higher percentage of adult public dental patients had one or more decayed teeth compared to the Australian population in all age groups. This pattern was observed regardless of the type of public course of care (i.e. for both emergency and general care patients).
- While the percentage of adult public dental patients with one or more filled teeth tended to be lower in comparison to the Australian population, this pattern was only significant among public dental patients attending for emergency care in the 35–54 and 55–74 years age groups.
- The prevalence of 4+ mm pockets was higher for general care patients 35–54 years of age, and for emergency care and general care patients in the 55–74 years age group, compared to the Australian population.

## Data collection

Findings presented in this publication are based on data collected on the oral health of patients attending for public dental care, and comparisons are made from a random sample of persons from the Australian population. See the back of the report for further details on methods and response.

Findings on oral health status are presented on dentate (i.e. have some natural teeth) adults aged 15 years or more.

## Public dental patients

Public dental patients were classified as ‘emergency’ if the course of care was initiated for relief of pain; otherwise, they were classified as ‘general’ courses of care. Data on public dental patients were available from a total of 1,444 emergency courses of care and from 6,623 general courses of care, as shown in Table 1.

**Table 1: Response by type of course and care and age of public dental patient**

	Type of course of care	
	Emergency	General
<b>Age group of patient (years)</b>		
15–34	329	596
35–54	404	1,872
55–74	486	2,868
75+	225	1,287
<b>All</b>	<b>1,444</b>	<b>6,623</b>

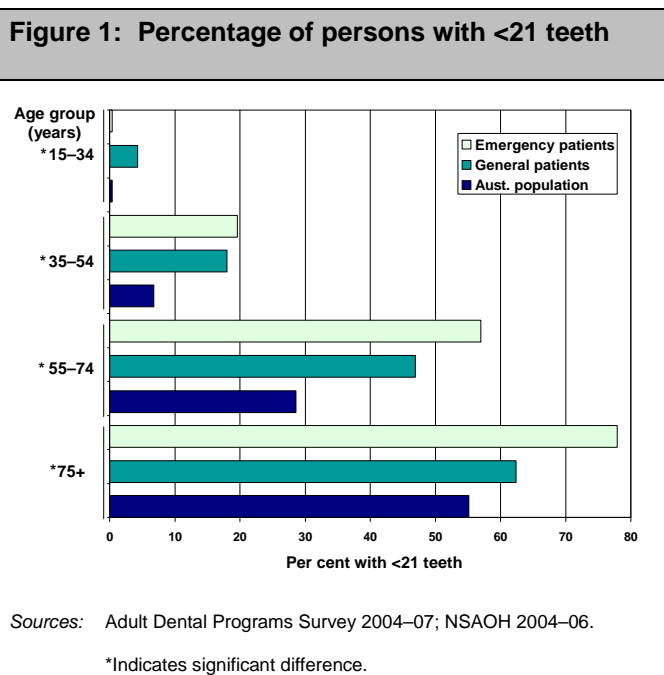
The age distribution of public dental patients differed by type of course of care. While the highest percentage of public dental patients were observed in the 55–74 years age group for both emergency (33.7%) and general courses of care (43.3%), the age distribution for emergency care comprised a higher percentage of public dental patients in the 15–34 years age group (22.8%) compared to general care (9.0%).

## Inadequate dentition

While the loss of all teeth is a fundamental indicator of dental impairment, having less than 21 teeth has been used as an indicator of an inadequate dentition among those with some or all of their own natural teeth. The percentage of persons with less than 21 teeth is presented in Figure 1.

The percentage of persons with less than 21 teeth increased across successively older age groups for both emergency and general care public patients, and for the Australian population.

With the exception of the youngest age group, there was a tendency for a higher percentage of emergency care patients to have less than 21 teeth compared to general care patients, but this was only marked in the 55–74 and 75+ years age groups.



In general, a higher percentage of public dental patients tended to have less than 21 teeth compared to the Australian population. This pattern was observed consistently across all age groups for general care patients, and in all age groups 35–54 years and older for emergency care patients.

## Dental decay

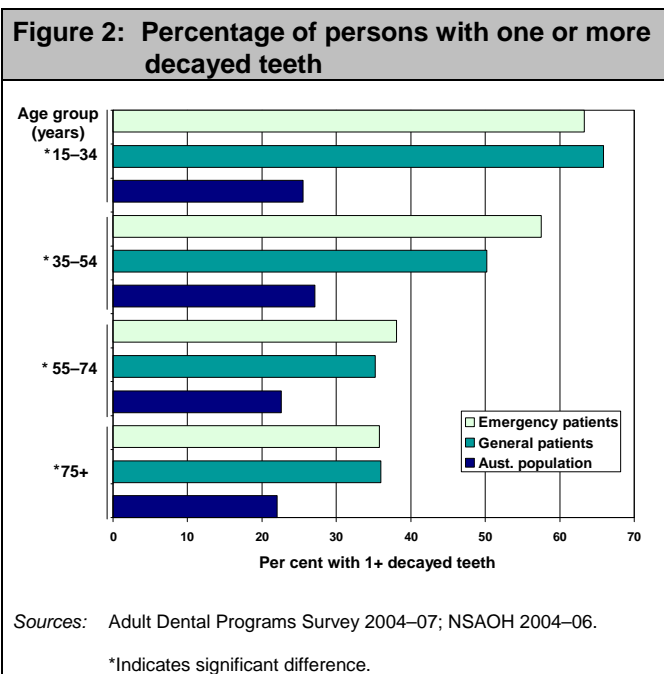
The dental decay process involves acid produced by bacteria dissolving the hard mineral structure of the tooth, and can result in a cavity in the crown of the tooth. The prevalence of dental

decay is presented as the percentage of persons with one or more decayed teeth (Figure 2).

The percentage of persons with one or more decayed teeth tended to peak in younger adult age groups for public dental patients attending for emergency or general care, and for the Australian population.

There was little difference in the percentage of public patients with decayed teeth by type of public course of care except for a higher percentage of emergency patients with decayed teeth in the 35–54 years age group.

A higher percentage of adult public dental patients had one or more decayed teeth compared to the Australian population in all age groups regardless of the type of public course of care.



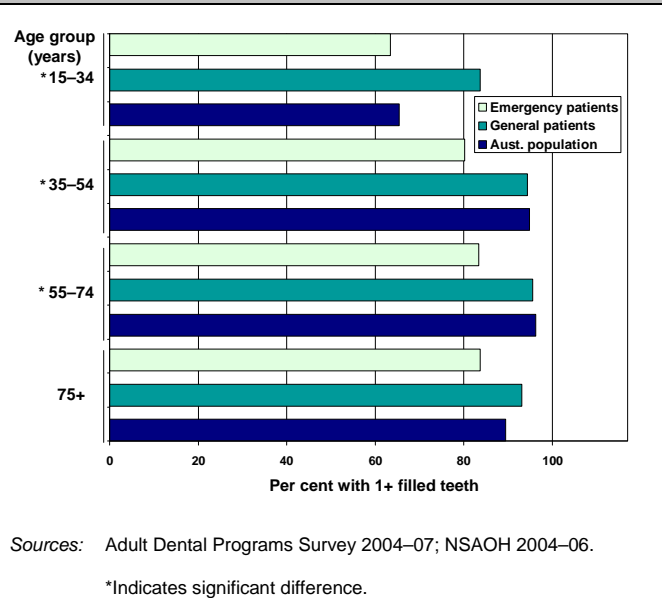
## Restored teeth

Fillings provided to restore decayed teeth are a measure of dental decay experience and an indicator of access to dental services and treatment patterns. The percentage of persons with one or more filled teeth is presented in Figure 3.

While the percentage of persons with filled teeth tended to be lower in the youngest adult age group, this variation was not pronounced. However, there was a consistent difference by type of course of care, with a higher percentage of general care patients with one or more fillings compared to public patients attending for emergency care.

The percentage of public dental patients with filled teeth tended to be lower than the Australian population, but this pattern was only significant among public patients attending for emergency care in the 35–54 and 55–74 years age groups.

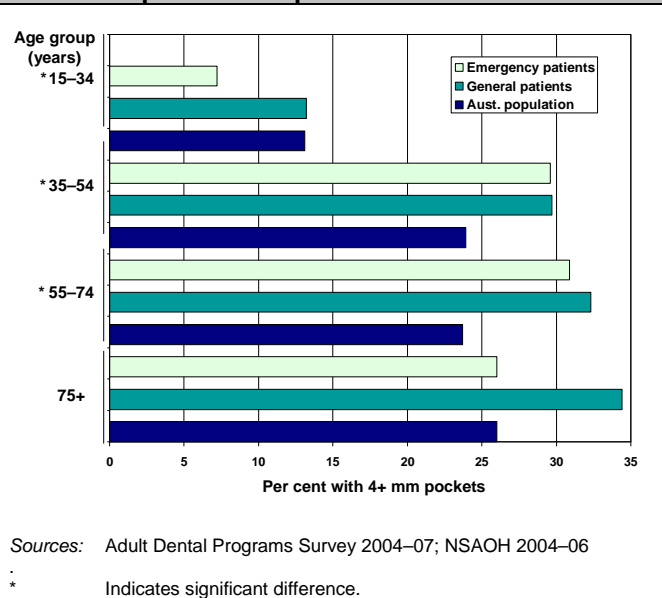
**Figure 3: Percentage of persons with one or more filled teeth**



## Gum disease

Periodontal or gum disease can be measured by the prevalence of deep periodontal pockets defined as pockets 4 mm or more in depth. The depth of the periodontal pocket, measured in millimetres using a periodontal probe, is an indication of the severity of the destructive process of the tooth-supporting periodontal tissues. The percentage of persons with pockets of 4 mm or more is presented in Figure 4.

**Figure 4: Percentage of persons with 4+ mm periodontal pockets**



In general, the prevalence of periodontal pockets of 4 mm or more was lower in the youngest age group compared to older age groups.

There was little variation in the percentage of persons with periodontal pockets of 4 mm or more by type of public course of care except for a lower prevalence observed among emergency compared to general care patients in the youngest age group.

The prevalence of periodontal pockets of 4 mm or more was higher for general care patients 35–54 years of age, and for emergency care and general care patients in the 55–74 years age group, compared to the Australian population.

## Discussion

Data were presented on public dental patients and comparisons made with the Australian population. However, some of the variation in findings may be attributable to differences in the geographic scope of the two studies, with data from public dental patients coming from two Australian states while the population data were drawn from all Australian states and territories. Further analysis showed that the main findings were similar when using the population data restricted to the same two states from which the patient data was drawn.

In addition, interpretation of comparisons between public dental patients and the Australian population needs to consider that one data source was a patient-based survey and the other a population-based survey. Data on adult public dental patients were drawn from a patient-based survey and hence comprised persons who had made recent dental visits, while the population data included persons who had made recent dental visits as well persons who had not made recent dental visits.

## Conclusions

Public dental patients had a higher prevalence of an inadequate dentition, presence of decayed teeth and periodontal pockets compared to the Australian population.

These findings suggest that this low-income group suffers from a disadvantage in oral health status related to their lower socioeconomic status and barriers to accessing dental services.

## Data collection methods and response

### Public dental patients

The Adult Dental Programs Survey (ADPS) is a study of patients attending for public dental care. Data were collected from a random sample of adult patients at the beginning of a course of public dental care. The examining dentist recorded oral health status using standard criteria in the form of written guidelines.

Data were available from 1,255 courses of care in Western Australia from 2004–07 (where data were collected using optical mark read scan forms from patients who were sampled on the basis of day of birth) and from 7,364 courses of care in South Australia from 2007 (where a computer management information system was used to collect data).

Data were weighted using the state-specific estimated number of persons aged 15 years or more to adjust the estimates to be representative of the number of adults in each participating state. Analysis was stratified by type of course of care to control for possible under-enumeration of emergency courses of care.

### Australian population

The 2004–06 National Survey of Adult Oral Health (NSAOH) involved a three-stage, stratified clustered sampling design to select a sample of Australians aged 15+ years from households with listed telephone numbers in an electronic white pages database. From this sampling frame 15 strata were selected, with population proportional to size selection. The strata comprised metropolitan and non-metropolitan areas of seven states/territories and the single stratum of the Australian Capital Territory. Postcode comprised the primary sampling unit, with household being the secondary sampling unit. The sample was approached to participate in a computer-assisted telephone interview (CATI) followed by an oral epidemiological examination and a mailed questionnaire.

In the NSAOH a total of n=14,123 adults responded to the CATI (49% response rate) and n=5,505 were examined (44% of interviewed people who were invited to the examination). Accuracy of survey examiners was assessed by comparison with the survey's principal examiner.

Data were weighted by state/territory, metropolitan/non-metropolitan location, age and sex. To account for design effects associated with the complex sample design, data were analysed using survey procedures that adjusted for strata and primary sampling units.

## References

Slade GD, Spencer AJ & Roberts-Thomson KF 2007. *Australia's dental generations: The National Survey of Adult Oral Health 2004–06*. Cat. no. DEN 165. Canberra: Australian Institute of Health and Welfare (Dental Statistics and Research Series No. 34).

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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, located in the Australian Research Centre for Population Oral Health (ARCPOH), 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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