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Trends in productivity of dentists in Australia

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This report provides information on trends in the productivity of dentists in Australia. Data are presented on time devoted to work and the number of patient visits that were supplied by dentists in private general practice between 1983–84 and 2003–04.

Data collection

Findings presented in this publication are based on data collected for the Longitudinal Study of Dentists' Practice Activity. This study has collected data from a random sample of dentists from the dental registers of each state and territory in Australia at 5-year intervals between 1983–84 and 2003–04. A supplementary sample has been added at each wave of the study drawn at random from among those dentists who were newly registered since the previous wave of the study was conducted.

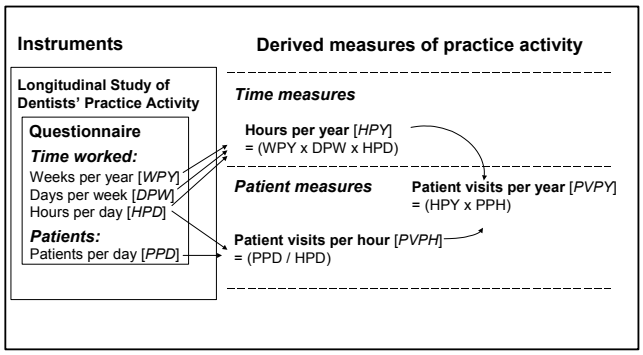
The findings presented are based on data that have been weighted using the age and sex distribution of dentists in Australia to produce representative estimates of the population of dentists, and are restricted to dentists in private general practice.

See the back of this report for details on response and unweighted age distribution by sex of dentist and time of study.

Practice activity measures

The collection and derivation of the practice activity measures are presented in Figure 1. Estimates of time and patient measures were collected directly through a self-completed questionnaire mailed to a random sample of dentists. These estimates were used to calculate the number of hours per year worked, and the number of patient visits supplied per hour and per year.

Figure 1: Collection and derivation of practice activity measures

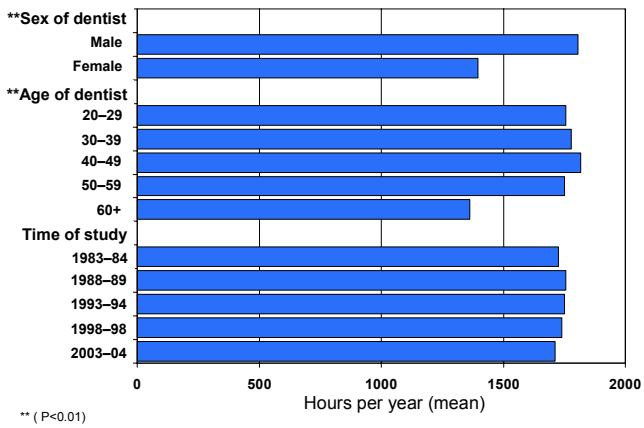


Source: Longitudinal Study of Dentists' Practice Activity.

Hours per year worked

The number of hours per year devoted to work by age and sex of dentist and time of study is shown in Figure 2.

Figure 2: Hours per year worked by age and sex of dentist and time of study



Source: Longitudinal Study of Dentists' Practice Activity.

Sex of dentist

Male dentists worked more hours per year compared to female dentists.

Age of dentist

The mean number of hours per year devoted to work increased across older age groups of dentists, peaking among 40–49-year-olds before declining among those aged 60 years or more.

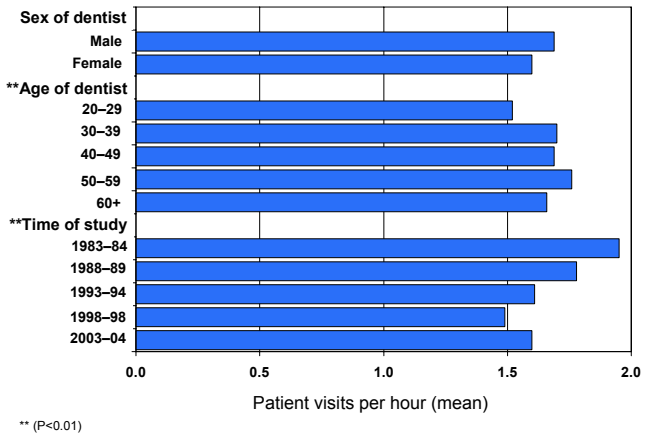
Time of study

There were only slight variations in the mean number of hours per year by time of study, with stable levels of time devoted to work observed across the study period.

Patient visits per hour

The mean number of patient visits supplied per hour worked by age and sex of dentist and time of study is shown in Figure 3.

Figure 3: Patient visits supplied per hour worked by age and sex of dentist



Source: Longitudinal Study of Dentists' Practice Activity.

Sex of dentist

While male dentists supplied a slightly higher mean number of patient visits per hour worked compared with female dentists, the difference was small and not statistically significant.

Age of dentist

Significant variation in the mean number of patient visits supplied per hour worked was observed by age of dentist. The number of patient visits per hour increased across successively older age groups of dentists, plateaued among 30–39- and 40–49-year-olds, then peaked among 50–59-year-olds, before declining among those dentists aged 60 years or more.

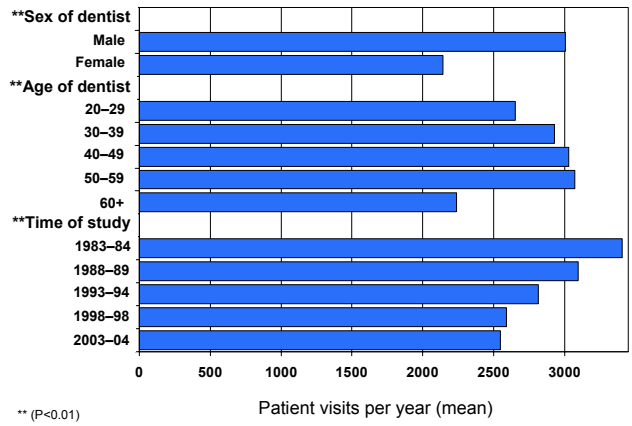
Time of study

Statistically significant variation in the mean number of patient visits supplied per hour was observed by time of study. While the overall trend was towards a decrease in the number of patient visits supplied per hour over the study period, this was not observed consistently for each time of study, with a slight increase observed between 1998–99 and 2003–04.

Patient visits per year

The mean number of patient visits supplied per year by age and sex of dentist and time of study is shown in Figure 4.

Figure 4: Patient visits supplied per year by age and sex of dentist



Source: Longitudinal Study of Dentists' Practice Activity.

Sex of dentist

Male dentists supplied a significantly higher mean number of patient visits per year compared to female dentists.

Age of dentist

Statistically significant differences in the mean number of patient visits supplied per year were observed by age of dentist. The mean number of patient visits supplied per year increased across successively older age groups of dentists to peak among 50–59-year-olds, before declining among those dentists aged 60 years or more.

Time of study

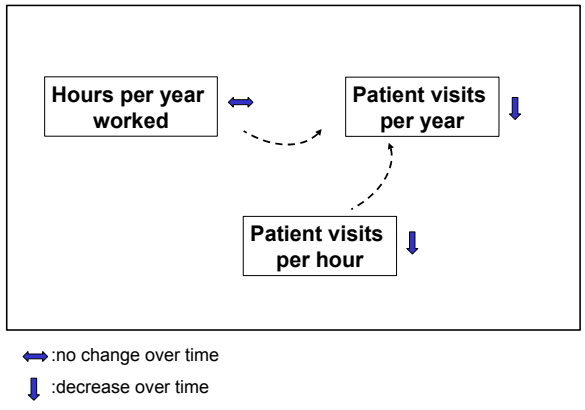
The mean number of patient visits supplied per year exhibited statistically significant variation by time of study. There was a consistent trend towards lower mean numbers of patient visits per year at each time of study. However, the decrease

observed between 1998–99 and 2003–04 was small in size.

Overview of time and visit trends

An overview of the observed trends in time and patient visit measures is provided in Figure 5.

Figure 5: Overview of time and visit trends



Source: Longitudinal Study of Dentists' Practice Activity.

While the amount of time devoted to work did not change over the period of the study, the number of patient visits supplied per hour decreased. This decrease in patient visits supplied per hour resulted in a decrease in the mean number of patient visits supplied per year.

Appointment times

The observed decline in the number of visits supplied is consistent with trends reported elsewhere towards an increase in the length of dental appointments. Historical records indicate that the average length of dental appointments changed little over the period 1960–61 to 1974–75. However, there has been an increase since then that was quite marked across the period 1977–78 to 1982–83 (Barnard 1977; Spencer & Lewis 1986) and continued to increase through to 2001 (Barnard & White 2003).

Increases in dental appointment times could reflect the impact of infection control procedures, and is consistent with previous reports of increases in the number of dental services being provided per visit (Brennan & Spencer 2002).

Oral health trends

Increases in the number of services provided per visit has been linked to trends in oral health and population demographics. Oral health trends have shown consistent decreases in tooth loss among the Australian population (Sanders et al. 2004), increasing the pool of teeth potentially at risk of oral disease.

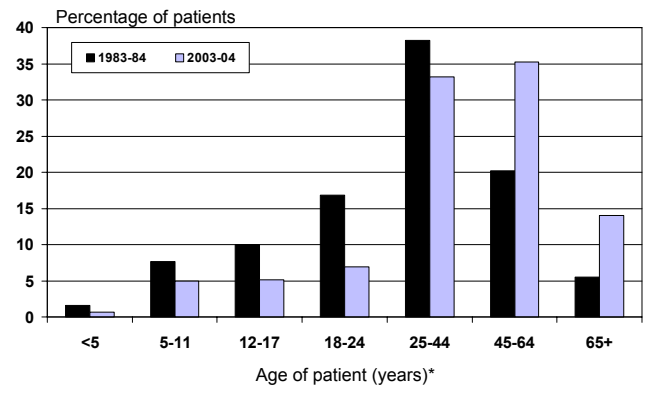
Demographic trends

At the same time the demographic trends point to increased proportions of older adults in the population. The reduction in tooth loss coupled with the demographic trends suggest a shift in dental practice towards treating adults who are increasingly retaining teeth into older age, often with complex treatment needs required to maintain these teeth and avoid tooth loss.

Patient age trends

The distribution of patient age groups by time of study for the first and most recent times of the study is presented in Figure 6.

Figure 6: Patient age trends



*(P<0.05)

Source: Longitudinal Study of Dentists' Practice Activity.

In 1983–84 the age distribution was dominated by patients aged 25–44 years. However, by 2003–04 the age distribution of patients had changed considerably. Even though 25–44-year-olds still comprised a large percentage of patients, there had been a shift away from children and young adults towards middle-aged and older adults, with large increases in the percentages of patients aged 45–64 and 65 years or more.

Response

The number of dentists sampled and the response across the five waves of the study are presented in Table 1. At each time the response was in excess of 70%.

Table 1: Response by time of study

Time of study	Sampled	Responded	% response
1983–84	1,033	730	73.4
1988–89	1,166	855	75.5
1993–94	1,212	817	73.9
1998–99	1,416	943	71.2
2003–04	1,567	962	76.0

The age distribution by sex of dentist at each wave of the study is presented in Table 2.

Table 2: Age of dentist by sex and time of study

	Male	Female
1983–84		
20–29	14.1	36.6
30–39	31.9	35.5
40–49	22.6	15.5
50–59	21.8	8.5
60+	9.7	4.2
1988–89		
20–29	12.7	38.5
30–39	35.1	38.5
40–49	25.4	10.9
50–59	13.4	9.0
60+	13.4	3.2
1993–94		
20–29	13.4	27.9
30–39	31.0	44.2
40–49	28.4	19.5
50–59	14.6	5.8
60+	12.6	2.6
1998–99		
20–29	10.7	28.5
30–39	26.1	39.9
40–49	31.0	25.0
50–59	21.5	20.0
60+	10.7	0.4
2003–04		
20–29	10.0	21.1
30–39	22.0	31.6
40–49	35.7	34.1
50–59	22.7	11.9
60+	9.6	1.4

Initially, the highest percentages of male dentists were in the 30–39 and 40–49 years age groups, and the highest percentages of female dentists were in the 20–29 and 30–39 years age groups. However, the percentages of both male and female dentists in the 20–29 years age group have decreased across the study period.

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Summary

- The number of hours per year devoted to work was stable over the study period.
- There was a decline in the number of patient visits supplied per hour.
- The observed decline in the number of patient visits supplied per hour over the study period resulted in a decline in the number of patient visits supplied per year.

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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 (ARCPOH), Dental School, 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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