

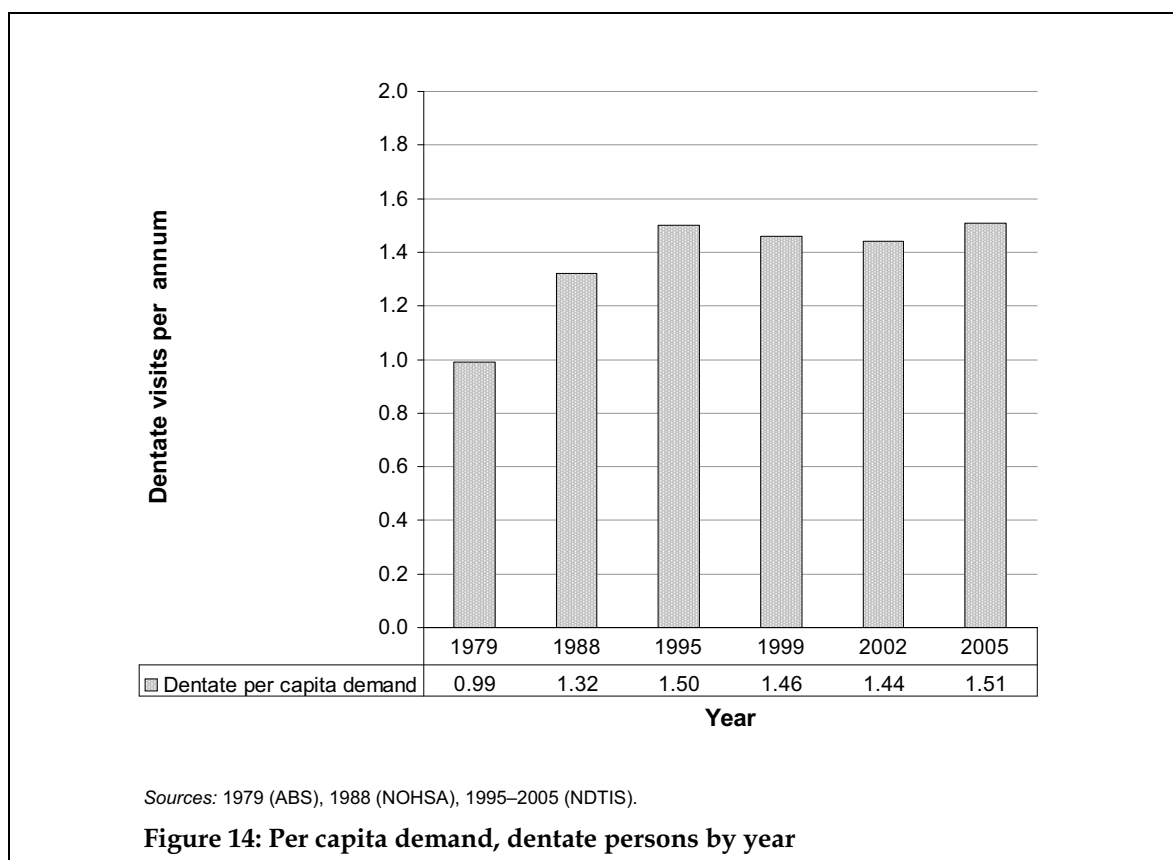
## 4 Demand for dental visits

This section estimates the demand for dental visits in Australia. Previous projections are briefly reviewed and the components that comprise the projection model are examined and refined, followed by revised demand projections for dental visits from 2005 to 2020. For the purposes of this report, the word ‘demand’ is used synonymously with reported use. For an outline of the demand projection model see Section 2.2 and for greater detail on methods and inputs into the demand model see Appendix D.

### 4.1 Demand for dental care

Per capita demand is represented by the average number of dental visits per person per year. It is estimated independently for dentate and edentulous persons as demand among edentulous persons is substantially lower than that for dentate. If PCD were shown for all persons (dentate and edentulous), changes observed over time would be confounded with changes in the rate of edentulism, which has declined dramatically for at least the last three decades (Carter & Stewart 2003).

Total PCD for dentate persons increased substantially between 1979 and 1995, from 0.99 to 1.50 dental visits per year, declined slightly in 1999 and 2002, and increased in 2005 (Figure 14). Demand for dental visits by edentulous persons has also increased over this period, from 0.30 visits per edentulous person in 1979 to 0.67 in 2005; however, growth has not been linear.



The historical growth in demand for dental visits is also evidenced by data from the ABS National Health Survey. The percentage of people reporting that they received a dental consult in the 2 weeks prior to being surveyed has increased. In 1989–90 an estimated 51.6 persons per 1000 population made a dental consultation increasing to 58.8 persons per 1000 population in 2004–05 (ABS 1996, 2006).

Increases in demand for dental visits by dentate persons varied by age group. For the youngest age groups, (aged 5–11 and 12–17 years), PCD increased substantially between 1979 and 1995 and then remained stable. There has been little change in demand since 1979 by younger adults (aged 18–24 and 25–34 years); however, in the 45 years and older age groups, there have continued to be marginal increases in demand (Table 11).

**Table 11: Dentate per capita demand by age group and year, 1979 to 2005**

Year	Age groups (years)									Total
	5–11	12–17	18–24	25–34	35–44	45–54	55–64	65–74	75+	
1979	1.18	1.49	1.15	1.06	0.97	0.82	0.91	0.75	0.69	0.99
1988	1.65	1.90	1.13	1.06	1.23	1.13	1.26	1.26	1.13	1.32
1995	1.85	2.17	1.34	1.11	1.41	1.52	1.54	1.49	1.40	1.50
1999	1.56	2.40	1.09	1.15	1.40	1.47	1.53	1.44	1.35	1.46
2002	1.63	2.14	1.14	1.08	1.33	1.44	1.68	1.39	1.51	1.44
2005	1.64	2.17	1.27	1.14	1.33	1.55	1.71	1.63	1.53	1.51

*Note:* This table presents PCD for dentate persons only. Demand among edentulous persons is substantially lower than that for dentate persons. If PCD were shown for all persons (dentate and edentulous), changes observed would be confounded with changes in the rate of edentulism.

Reasons for the recent plateau in growth in PCD are not fully understood. However, it is unlikely that improvements in oral health are related to this effect as there were substantial gains in oral health status during past decades where strong growth in use was also observed. One potential explanation may be that the capacity to supply visits by the labour force is capping growth in demand, in effect a supply infrastructure ‘bottle neck’. Alternatively, limited growth in demand could be related to accessibility issues, for example affordability and regional misdistribution of service providers.

## **Review of previous demand projections for dental visits, 2000 to 2010**

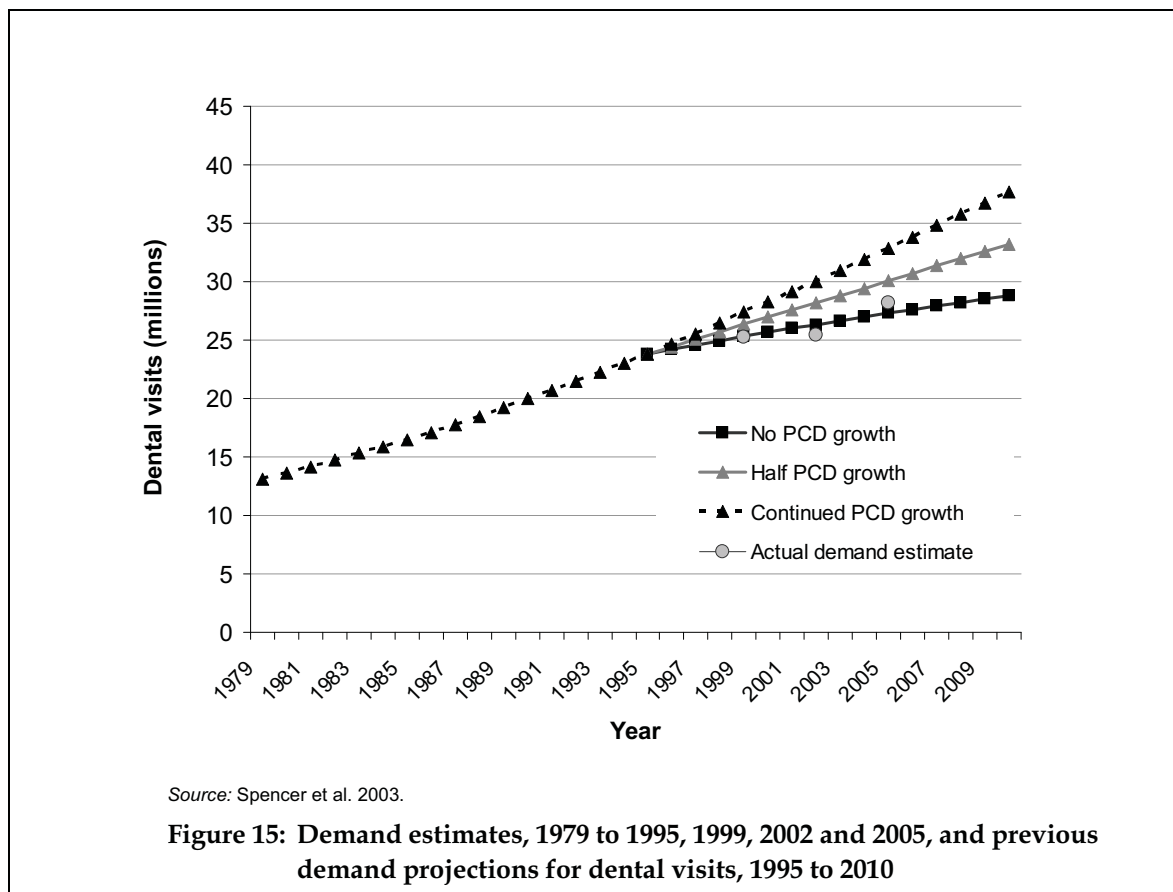
Previously published projections of demand for dental visits (Spencer et al. 2003) were calculated from a 1995 baseline to 2010. Per capita demand at baseline was estimated from 1995 NDTIS data and the projection used ABS population projections series K.

Historical increases in PCD were analysed and three projections of age-specific PCD rates were calculated. These rates were used to produce three projections of demand for dental visits – ‘no PCD growth’, ‘half PCD growth’ and ‘continued PCD growth’.

Under the ‘no PCD growth’ projection, increase in demand was solely due to population increases, demographic change and changes in rates of edentulism. Age-specific PCD rates were held constant; hence, there was an assumption that previously observed growth in PCD rates would not continue. In 1995 there was an estimated 23.8 million dental visits made to dental professionals. The ‘no PCD growth’ projection estimated that demand would increase to 28.8 million visits by 2010, a 21% increase. Under the ‘continued PCD growth’ projection the previously observed increases in demand per capita were assumed to continue at the same rate into the future. This projection

estimated that total demand in 2010 would be 37.7 million, a 32.7% increase. The 'half PCD growth' projection, which assumed that demand would continue to increase at 50% the rate of previously observed growth, estimated that demand would be 33.2 million dental visits by 2010, a 16.9% increase.

Using recent NDTIS data published since the previous projections, the number of dental visits made in 1999, 2002 and 2005 were estimated. The 1999 and 2002 estimates were 24.7 million and 25.5 million visits respectively. These estimates fell slightly below the 'no PCD growth' projection. The estimate for 2005, 28.2 million visits, was slightly above the 'no PCD growth' projection, but well below the 'half PCD growth' projection (Figure 15).

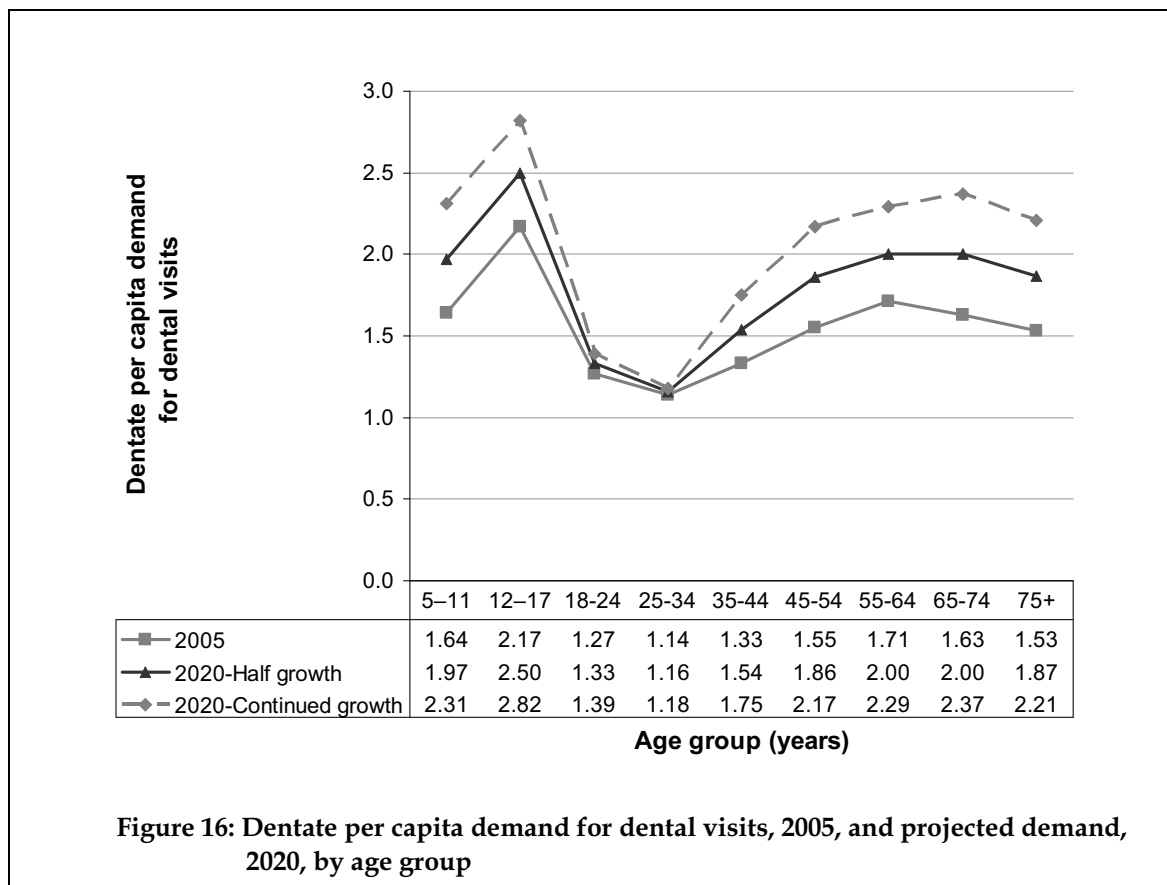


## Revised demand projections, 2005 to 2020

Revised demand projections were calculated from a 2005 baseline to 2020. The revised projections are based on three different projections of growth in PCD. The 'no PCD growth' projection assumes no growth in demand, while the 'continued PCD growth' assumes that the rate of growth observed between 1979 and 1995 will continue from 2005. Similarly the 'half PCD growth' projection assumes that demand will continue at half the rate observed in the same period.

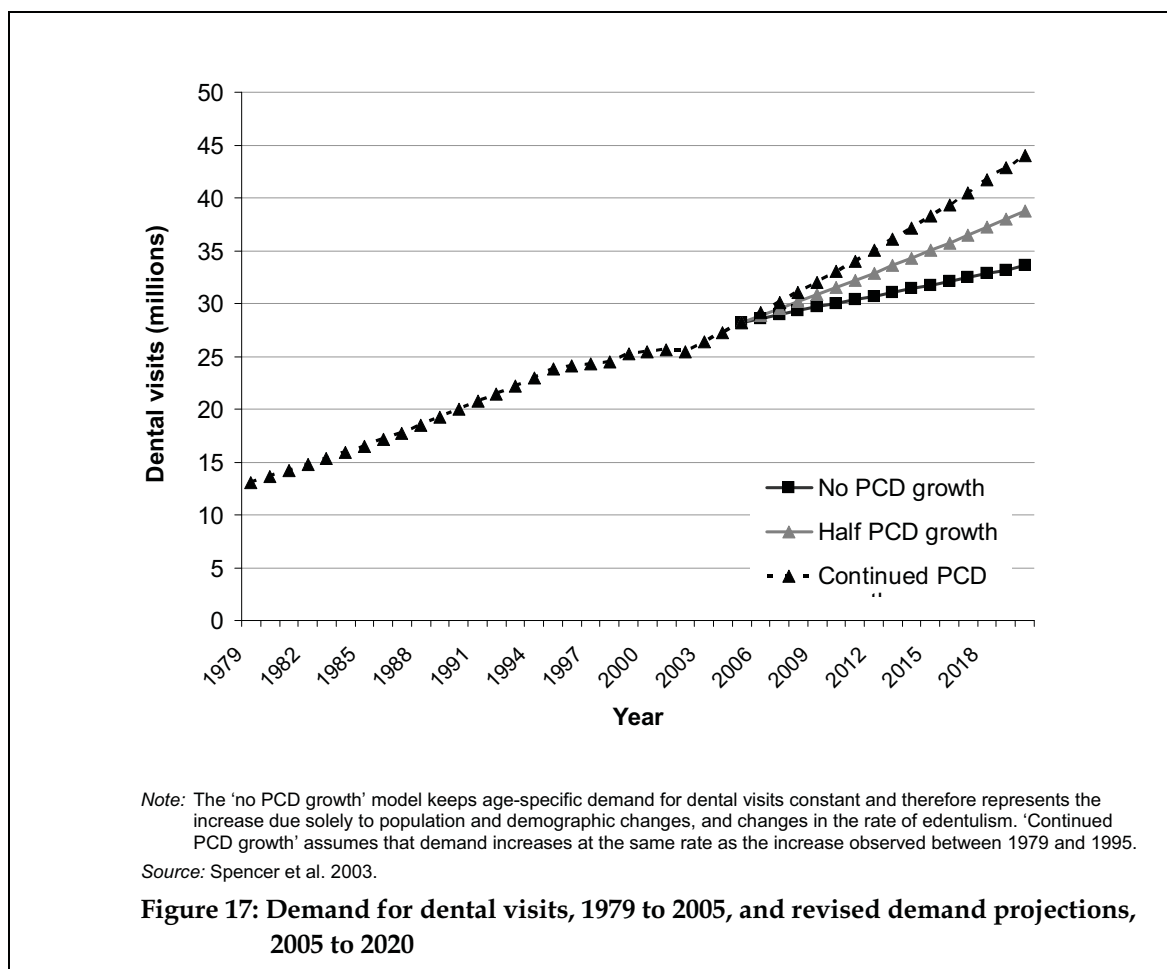
As the projected growth in PCD is based on previously observed growth, the percentage growth varies by dentate status and age group. The projected demand for dentate persons under the 'half PCD growth' and 'continued PCD growth' scenarios is shown in Figure 16. Under the 'continued PCD growth' scenario, the largest increases in dentate demand occur in the two age groups 65–74 years and 75 years and older (both increase by 45% by 2020). In contrast, there is only a 3% increase in demand in the 25–34 years age group by 2020.

For edentulous persons, demand increases from 0.67 to 0.83 visits under the 'half PCD growth' scenario and to 0.96 visits under the 'continued PCD growth' scenario.



There are two key revisions to the demand projection – both effectively result in creating a 'no PCD growth' projection that is approximately 1 million visits greater than the original 'no PCD growth' projection. First, the revised demand model, using an updated projection of rates of edentulism based on more recent data, estimates slightly lower rates of edentulism in 2010 and 2020 than rates applied in the previous demand model. Second, population projections updated to the most current projections available at the time of publication (ABS 2003 population projections series 8) predict approximately 1 million more persons in Australia by 2020 than the population projections applied in the previous model (see Appendix D for full details of demand projection inputs and assumptions).

Under the 'no PCD growth' projection, demand for dental visits is projected to increase from 28.2 million visits in 2005 to 33.6 million in 2020 (an increase of 19%). Under the 'half PCD growth' and 'continued PCD growth' projections, demand in 2020 is projected to be 38.8 million and 44.0 million visits respectively (Figure 17).



The 'no PCD growth' projection keeps age-specific demand for dental visits constant and therefore represents the increase due solely to changes in population, demographic changes and changes in the rate of edentulism. Under the 'no PCD growth' projection population growth is the most substantial driver of increase in demand. Declining edentulism increases demand but to a much lesser extent than population change. Changing the demographic profile or the ageing of the population, due to lower PCD of older Australians, makes a negligible contribution to the projected growth in demand. If all other factors were held constant, but the population continued to age, demand for dental visits would effectively not change (marginal increase of 0.1%) between 2005 and 2020.