National Dental Expenditure Flat Since 2008, Began to Slow in 2002

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Key Messages

- Adjusting for inflation and population growth, national dental expenditure has been flat since 2008 after decades of steady growth. It has not rebounded since the end of the Great Recession.
- Dental spending began to slow in the early 2000s, well before the onset of the Great Recession.
- While overall health spending also began to slow in the early 2000s, the slowdown in the dental sector was much more pronounced.

Introduction

Dentistry is at a crossroads. Declining dental care utilization among adults\(^1,2,3\), the rapid growth in large group practice and alternative care delivery models\(^4\), increased financial barriers to care among adults\(^5,6\), and improvements in oral health status for most segments of the population\(^7\) are just a few of the factors bringing significant change to the profession.

At the same time, the U.S. health care delivery system is on the verge of unprecedented reform, aimed at reducing costs and improving quality through better coordination of care delivery and significant change in how health care services are paid for.

In this research brief, we analyze national dental expenditure patterns from 1990 to 2011, the most recent year for which data are available. We also discuss the policy implications of our findings and further research.
Data & Methods

We analyzed national health expenditure data from the Center for Medicare and Medicaid Services. We focused on the period 1990 to 2011, the most recent year for which data are available (data for 2011 were released January 7, 2013). We analyzed national dental expenditure in nominal dollars, inflation adjusted dollars, and per capita inflation adjusted dollars. We adjusted for inflation using the gross domestic product implicit price deflator, available from the Bureau of Economic Analysis. We also replicated our analysis adjusting for inflation using the all-item consumer price index and the dental consumer price index and the pattern over time is very similar. As a result, we do not present these latter results. We adjusted for population growth using population data from the U.S. Census Bureau. We analyzed the breakdown of dental expenditure by source of financing and compared this to total health expenditure.

Results

Figure 1 summarizes national dental expenditure from 1990 to 2011 in nominal and inflation-adjusted dollars and can be interpreted as a measure of total resources in the dental care system, or a measure of the size of the dental economy. In 2011, national dental expenditure was $108 billion. This was up slightly from $107 billion in 2010 (in inflation-adjusted 2011 dollars). In 2011, dental expenditure accounted for 4.0% of overall national health expenditure, down from a peak of 4.5% of national health expenditure in 2000 (within our period of study) but roughly the same level as in recent years.

Figure 2 summarizes inflation-adjusted national dental expenditure per capita. This can be thought of as the average amount a person in the United States spends on dental care. It is a measure that takes account of both inflation and population growth and, as a result, is an extremely important policy measure. It is clear that since 2008 inflation-adjusted dental expenditure per capita has been flat. Although these data cover only two full years of the period since the Great Recession, they suggest very strongly that the dental economy is not rebounding. It is also clear from figure 2 that the growth rate of per capita dental expenditure changed significantly in the early 2000s. There are clearly three periods of growth in the dental economy: 1990-2002, 2002-08, and 2008-11.

Figure 3 summarizes the growth rate of national dental expenditure compared to overall health expenditure in the United States. Between 1990 and 2002, inflation-adjusted per capita dental expenditure was growing at 3.9% per year, slightly faster than overall health expenditure. For the 2002-08 period, however, the dental expenditure growth rate declined dramatically to 1.8% per year, well below the growth rate for overall health expenditure. Since 2008, inflation-adjusted dental expenditure per capita has declined – albeit at a very slow rate of 0.3% per year – while overall health expenditure has continued to grow, but at lower than historical rates.

Figure 4 summarizes the breakdown of dental expenditure and overall health expenditure by source of financing from 1990 to 2011. A key trend since 2000 is an increase in the share of dental expenditure financed by public sources (from 4% in 2000 to 8% in 2011) and a decrease in out-of-pocket spending. This same shift away from out-of-pocket financing toward public financing also occurred for overall health spending, although it started prior to the 2000s. Dental expenditure remains overwhelmingly financed by private dental insurance and out-of-pocket spending, a very different mix than for overall health expenditure.
Figure 1: National Dental Expenditure ($ millions)

Source: Centers for Medicare and Medicaid Services; U.S. Bureau of Economic Analysis. Note: National dental expenditure adjusted for inflation using the GDP implicit price deflator.

Figure 2: National Dental Expenditure per Capita (in constant 2011 dollars)

Source: Centers for Medicare and Medicaid Services; U.S. Bureau of Economic Analysis; U.S. Census Bureau. Note: Expenditure adjusted for inflation using the GDP implicit price deflator.
**Figure 3:** Average Annual Growth Rate of Overall Health and Dental Expenditure

Sources: Centers for Medicare and Medicaid Services; U.S. Bureau of Economic Analysis; U.S. Census Bureau. Notes: Rate calculated as average annual compound growth rate.

**Figure 4:** Distribution of Overall Health and Dental Expenditure by Source of Financing

Source: Centers for Medicare and Medicaid Services.
Discussion

Taken together, our results suggest very strongly that the dental economy is in a major transition. Dental spending has not rebounded since the end of the Great Recession and has been stagnant, on a per capita basis, since 2008. More importantly, in our view, our analysis shows convincingly that the dental economy began to slow well before the onset of the recent economic downturn. While overall health spending also began to slow in the early 2000s⁸, the slowdown in dentistry is far more pronounced. Recent analysis shows that average dentist earnings have been declining since the mid-2000s⁹, and have not recovered since the end of the economic crisis. Combined with our findings in this research brief, this further indicates that something happened in the early 2000s to shift the trajectory of dental spending.

Many factors could account for a decline in the growth rate of dental spending, and they fall into two broad categories – changes in quantity (i.e. utilization of dental care) or price (i.e. dental fees). The available evidence certainly suggests that a decline in dental care utilization is one important factor that explains the pattern of national dental expenditure. Recent studies have shown that a decline in utilization of dental care was a significant contributor to the decline in dentist earnings that began in the mid-2000s⁹,¹⁰. A more detailed analysis shows that the decline in dental care utilization is driven entirely by trends among the adult population; the 2000s actually saw remarkable gains in the percent of children in the United States who see a dentist¹. Among adults, financial barriers to care are growing, particularly among poor adults⁵. The divergent path of dental utilization between adults and children is likely to have led to a shift in the aggregate mix of procedures. If fewer adults and more children are going to the dentist and children, on average, consume less (or less costly) care than adults, then this would act to drive down dental spending, all things equal.

Among children, utilization of dental care during the past decade increased fastest for low-income children¹,¹⁰. Together with our finding of a shift in dental financing away from out-of-pocket payments toward Medicaid and other public programs – where dental fees are considerably lower¹¹ – this trend is likely to have led to a decline in average dental fee levels. The expected reduction in fee levels resulting from this shift in the dental financing mix – as well as fee reductions among many private insurers in recent years¹² – could be one important factor explaining the slowing in 2002 and the flattening since 2008 of national dental expenditure. A comprehensive analysis of dental fees over the past decade, to our knowledge, is not available and, at this point, this remains a plausible but untested hypothesis and warrants further research.

Evidence indicates that for most segments of the population, oral health is improving⁷. This could be contributing to a shift in procedure mix away from (more costly) restorative procedures toward (less costly) preventive and diagnostic procedures. This has been documented in some states¹³ but a comprehensive analysis at the national level has not been carried out, to our knowledge. This too remains an important avenue for future research.

Clearly, a significant shift is occurring in dental spending. This shift began in the early 2000s, well before the recent economic downturn. As dentistry finds itself at a crossroads, it will be important to monitor spending trends closely in the coming years to determine if spending continues to stagnate, starts declining, or begins to recover.
References


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