

## Research Brief

# The Per-Patient Cost of Dental Care, 2013: A Look Under the Hood

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### Key Messages

- Average annual per-patient dental expenditures in the U.S. were \$685 in 2013.
- Average expenditures for patients in the 90th percentile were \$1,624. Expenditures at this level and above could represent a financial burden to dental patients.
- Contributing to this burden are out-of-pocket expenditures which, as a percentage of the total expenditure, are higher for dental services compared to other sectors of the health care system.
- Patients with high dental expenditures represent a relatively small percentage of the U.S. population, and the services they receive are not usually required annually.

### Introduction

Recent studies have shown that cost is the most significant barrier to receiving dental services.<sup>1,2</sup> Studies have also reported that cost barriers to dental care are considerably higher than for other types of health care services.<sup>3</sup> According to a recent study of non-elderly adults with health insurance, dental care ranked number one among health care services that people are skimping on because of cost.<sup>4</sup>

This may seem surprising considering that in 2013, dental expenditures accounted for 4.5 percent of total health care spending, down from 8.5 percent in 1960.<sup>5</sup> According to another study, average per-patient dental expenditures were \$666 in 2011, an amount that would not appear to qualify as a “budget buster” for most dental patients.<sup>6</sup>

In this brief, we focus on the cost of dental care measured in terms of annual per-patient dental expenditures. We look at expenditures for services provided by general practice (GP) dentists and dental specialists. We also consider dental expenditures in the context of other health care services, including the percentage of expenditures paid for out of pocket.

## Results

According to the Medical Expenditure Panel Survey (MEPS), average annual dental expenditures among those with a visit were \$685 in 2013 (Figure 1). Among those with a visit to a GP dentist, average expenditures were \$514. Among those with a visit to a dental specialist, average dental expenditures were \$1,755. As an example of dental services provided by specialists, average dental expenditures for services provided by orthodontists were \$1,440.

Table 1 shows the percentile distribution for annual dental expenditures (i.e., all dentists) in 2013. The lowest 10th percentile of dental patients reported expenditures of \$74 or less, while those in the 90th percentile reported expenditures of \$1,624. Patients at the 50th percentile, or median, reported expenditures of \$254. Note that the mean (\$685) is much higher than the median (\$254) because the distribution of dental expenditures is positively skewed. Patients falling into the 90th percentile and above represented 13.4 million persons, or 4.2 percent of the U.S. population, in 2013.

Table 2 shows total health care spending in 2013, broken down by type of service. As shown in Figure 2, mean dental spending per person with an expense was \$707.<sup>7</sup> However, as shown in Figure 3, the percentage out of pocket was highest for dental (45.1 percent). The percentage out of pocket was lowest for hospital inpatients (3.2 percent), but due to very high per-patient expenditures (\$16,943), the amount out of pocket was \$544 (Figure 4). Finally, it is worth noting that the percentage of the population reporting an expense for hospital inpatient services (7.3 percent) was much lower than the percentage with an expense for dental services (41.2 percent). See Figure 5.

## Discussion

We found that average per-patient dental costs were \$685 in 2013 and median (i.e., 50th percentile) expenditures were \$254. Expenditures for patients in the 90th percentile were \$1,624. Patients in the 90th percentile and above represented 13.4 million persons, or 4.2 percent of the U.S. population, in 2013.

Relatively high dental expenditures, like those in the 90th percentile or above, are likely to represent services provided by dental specialists or high cost restorative procedures performed by GP dentists (e.g., crowns, implants). Expenditures of this amount could represent a financial burden even for those with private dental insurance, and those without coverage are required to pay the entire cost out of pocket. On the other hand, high cost dental procedures are not usually required annually. For example, most orthodontic treatments can be completed in 18 to 24 months without need for subsequent comprehensive treatment.

Contributing to this financial burden are higher out-of-pocket expenditures as a percentage of total expenditures for dental care compared to other health care services. This is due, in part, to the relatively high percentage of the U.S. population with no dental benefits. For example, in employer-based insurance, a smaller share of workers have access to dental coverage through work than have access to health coverage through work; 45 percent of workers in private industry were offered dental benefits in 2012 compared with 70 percent who were offered health benefits.<sup>8</sup> Also, those with private dental insurance are subject to annual caps and copayments.<sup>9</sup> Dental benefits are typically capped at \$1,000 or \$1,500 each year, according to the National Association of Dental Plans.<sup>10</sup> Regular office visits for cleanings and X-rays are generally covered at 100 percent, while fillings and other basic procedures are covered at 80 percent.

Plans typically pay just half of the cost of major procedures such as crowns and inlays.

As mentioned in the introduction, recent studies have shown that cost is the most significant barrier to receiving dental services.<sup>1,2</sup> Although the percentage of the U.S. population reporting cost barriers to dental care declined each year from 2010 to 2013, cost barriers for dental care remain significantly higher than for other segments of the health care system.<sup>3</sup> However, we found that mean out-of-pocket expenditures for hospital inpatient services were considerably higher than mean out-of-pocket dental expenditures.

Studies of the demand for health care services have found that the demand for hospital care is among the least price-responsive while the demand for dental care is among the most price-responsive.<sup>11</sup> The patterns of demand correspond to intuition about “medical necessity” and urgency. This tendency of patients to place a lower value on dental services than other health care services may make them more sensitive to out-of-pocket expenditures for dental services and more likely to see the cost as a barrier to care. Because of dental care’s greater sensitivity to cost (elasticity), the imposition of out-of-pocket patient costs for dental care can be employed by payers to manage their financial risks by discouraging the utilization of care.<sup>12</sup>

On the other hand, for half of all dental patients, annual costs were \$254 or less, and those with private dental insurance paid even less out of pocket. This reflects

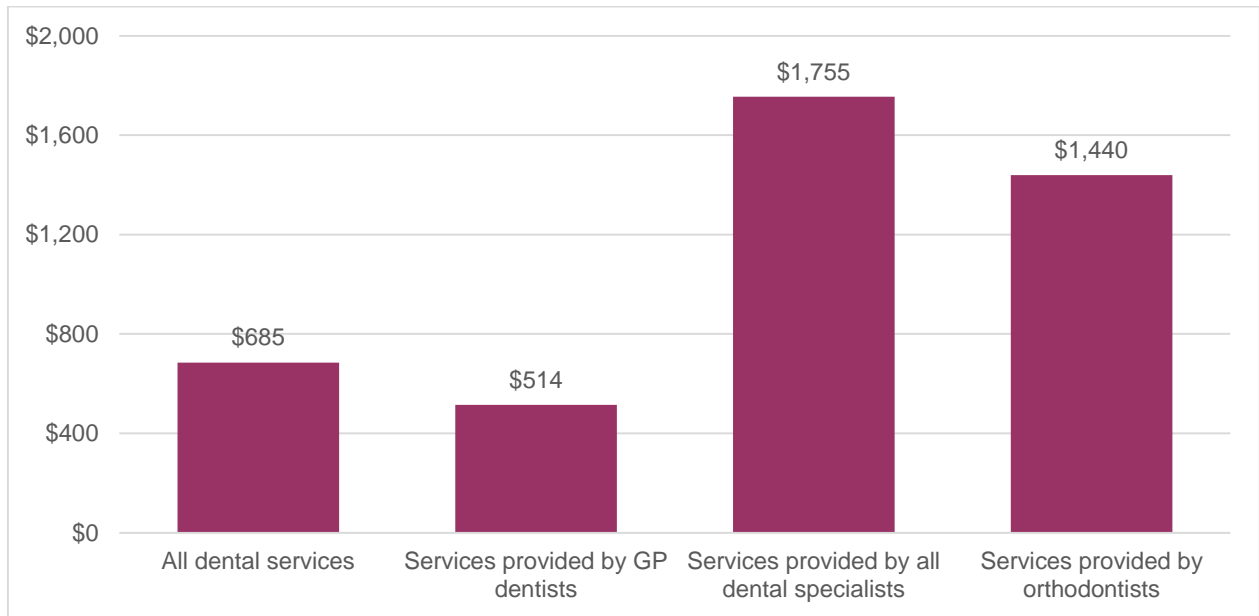
improvements in the oral health of the U.S. population<sup>13</sup> and the shift in the dental services mix from relatively high cost restorative services to lower cost diagnostic and preventive services.<sup>14</sup> In 2004, approximately 73 percent of dental procedures were either diagnostic (42.5 percent) or preventive (30.4 percent).<sup>15</sup>

We have introduced “cost” into the discussion because the out-of-pocket costs that patients pay for their care are, in reality, the “price” patients must contend with. This is regardless of the price providers charge for their services because of the partial insulation from the true price providers receive by the various subsidies delivered by third party payers. The costs to patients must include opportunity and acquisition costs, such as transportation, child care, time lost from work, etc. In other words, a price of zero would still leave costs to patients when personal considerations are factored in.

On the surface, it appears to be incongruous that oral health care consumes the smallest portion of health care spending but dental patients pay the greatest share of the costs for care out of pocket. The impact of out-of-pocket spending on the amount of all health spending is small; however, the impact on seeking care by individual patients can be significant.

Meaningful reduction of the financial barriers to oral health care must include moderating out-of-pocket costs for patients and consideration of opportunity and acquisition costs to patients beyond the price for services.

**Figure 1:** Average Annual Expenditures Among Those with a Visit by Visit Type, 2013



Source: 2013 Medical Expenditure Panel Survey.

**Table 1:** Annual Expenditures for Dental Services Provided by All Dentists, 2013

10th percentile	25th percentile	50th percentile	75th percentile	90th percentile
\$74	\$127	\$254	\$595	\$1,624

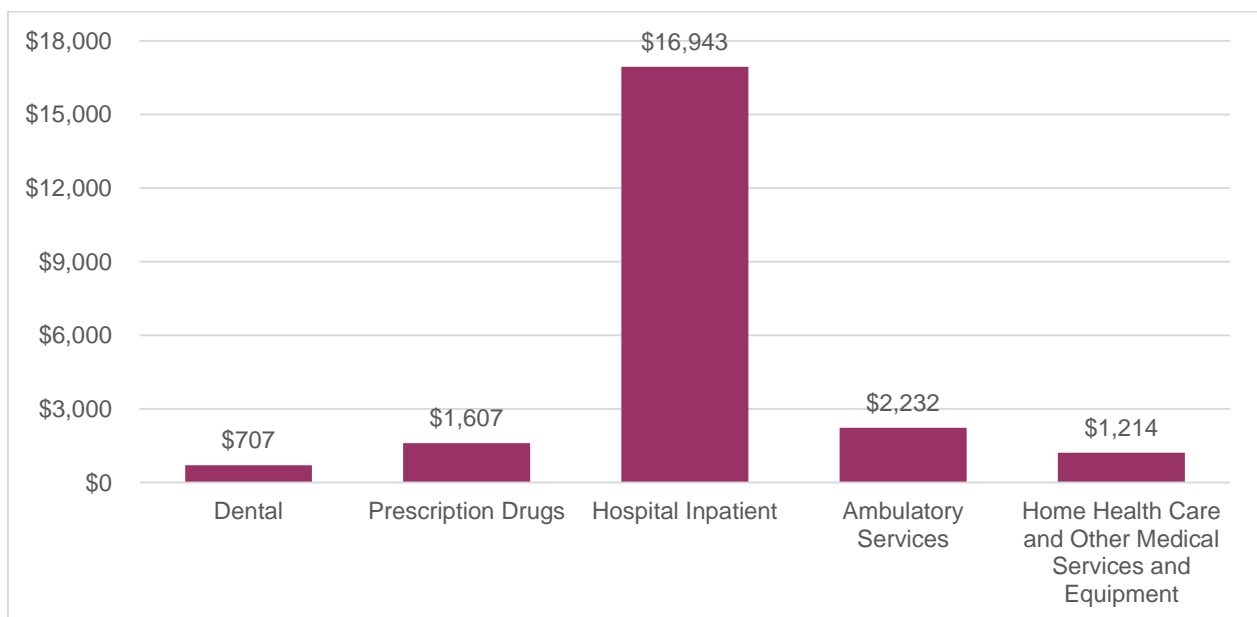
Source: 2013 Medical Expenditure Panel Survey.

**Table 2:** Health Care Spending by Type of Service, 2013

	Mean (per person with an expense)	Percentage with an expense	Percentage out of pocket	Mean out of pocket	Total out of pocket (billions)	Percentage of total out of pocket	Total expenditures (billions)	Percentage of total expenditures
Dental	\$706.73	41.2%	45.1%	\$318.85	\$41.4	21.5%	\$91.8	6.6%
Prescription Drugs	\$1,606.63	60.7%	16.5%	\$264.84	\$50.7	26.3%	\$307.8	22.0%
Hospital Inpatient	\$16,942.66	7.3%	3.2%	\$544.18	\$12.6	6.5%	\$390.9	27.9%
Ambulatory Services	\$2,231.93	75.3%	12.7%	\$283.39	\$67.4	34.9%	\$530.6	37.9%
Home Health Care and Other Medical Services and Equipment	\$1,213.51	20.7%	26.3%	\$318.50	\$20.9	10.8%	\$79.4	5.7%
<b>Total Health Care</b>	<b>\$5,255.95</b>	<b>84.4%</b>	<b>13.8%</b>	<b>\$724.07</b>	<b>\$192.9</b>	<b>100.0%</b>	<b>\$1,400.5</b>	<b>100.0%</b>

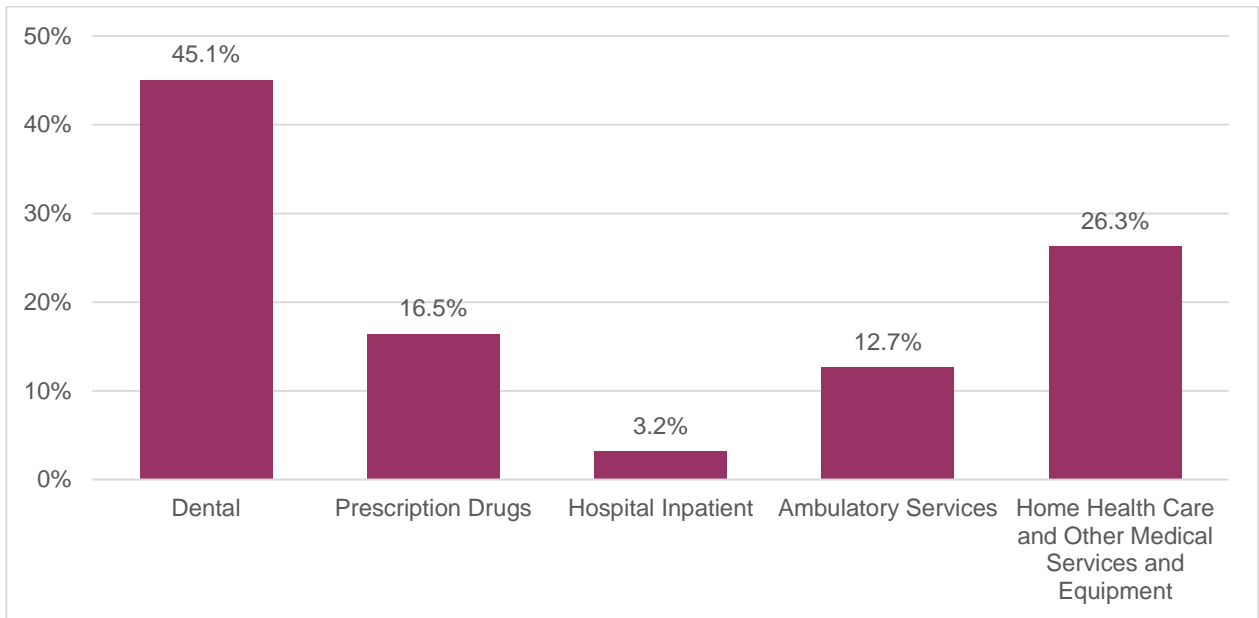
**Source:** 2013 Medical Expenditure Panel Survey. **Note:** Expenditures include total direct payments from all sources to hospitals, physicians, home health providers (agency and independent providers), dental providers, other types of health care providers (e.g., physical therapists, chiropractors, optometrists, etc.), and pharmacies for services reported by respondents in the MEPS. Expenditures for hospital-based services include those for both facility and separately billed physician services. Estimates are for the U.S. civilian non-institutionalized population.

**Figure 2:** Average Annual Expenditures Per Person With an Expense, 2013



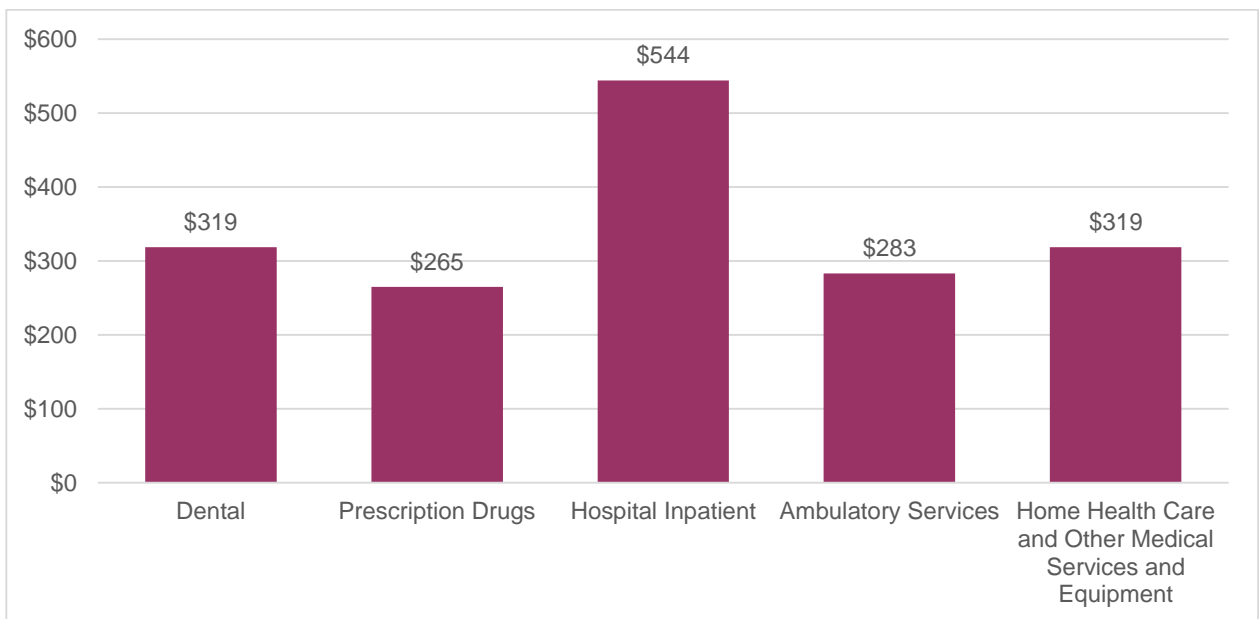
**Source:** 2013 Medical Expenditure Panel Survey.

**Figure 3:** Percentage of Annual Expenditure Paid for Out of Pocket, 2013



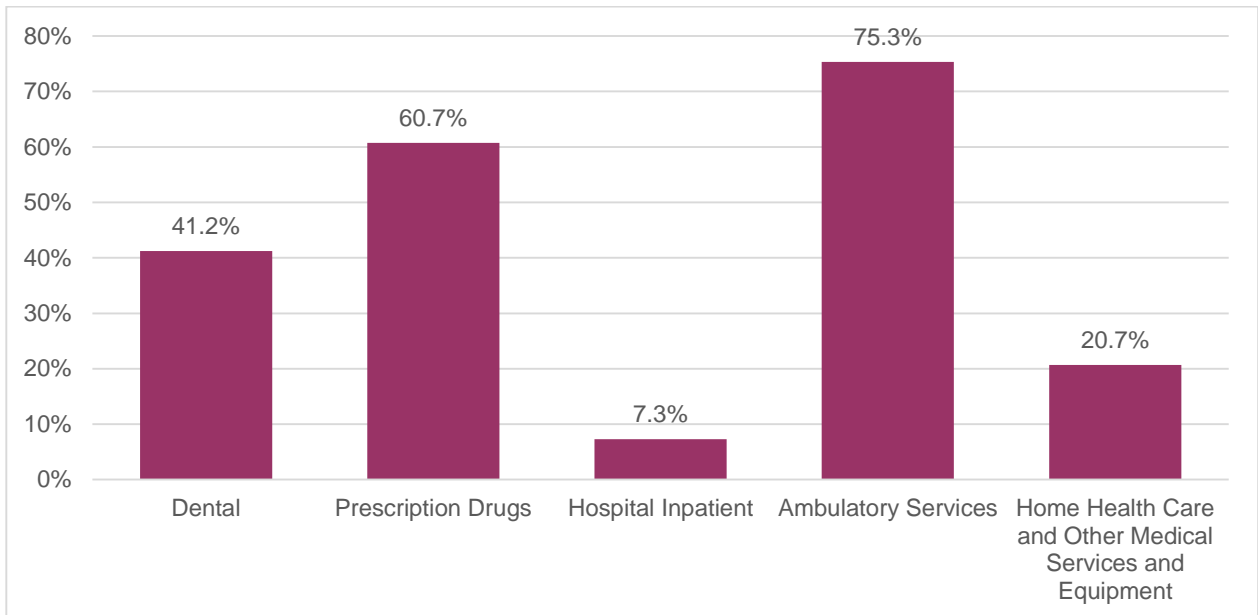
Source: 2013 Medical Expenditure Panel Survey.

**Figure 4:** Average Out-of-Pocket Expenditure, 2013



Source: 2013 Medical Expenditure Panel Survey.

**Figure 5:** Percentage of the Population with an Expense, 2013



Source: 2013 Medical Expenditure Panel Survey.

## Data & Methods

We analyzed data from the Medical Expenditure Panel Survey (MEPS) that is managed by the Agency for Healthcare Research and Quality (AHRQ). We focused on the year 2013, the most recent year for which data are available (data for 2013 were released in September 2015). The MEPS provides nationally representative estimates of health care use, expenditures, sources of payment, and health insurance coverage for the U.S. civilian non-institutionalized population. Studies have documented differences between the MEPS and National Health Expenditure Accounts (NHEA) regarding health care expenditure estimates.<sup>16</sup>

We present annual dental expenditure estimates for all dental services, dental services provided by general practice (GP) dentists, and dental services provided by

dental specialists. Dental specialists include the following categories in the MEPS: (1) dental surgeon, (2) orthodontist, (3) endodontist, (4) periodontist and (5) other dental specialist.

We also examine expenditures for dental care in the context of other categories of health care expenditures included in the MEPS, including prescription drugs, hospital inpatient services, ambulatory services (includes hospital out-patient visits, office-based medical provider visits, and hospital ED visits), and home health care and other medical services and equipment. We include per-patient and total expenditures as well as out-of-pocket expenditures as a percentage of the total.

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