

RESEARCH REPORT

# Medicaid Adult Dental Benefits

**increase access and reduce out-of-pocket expenditures**

PART 2 of 3

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# Authors

## **Yara A. Halasa-Rappel, DMD, PhD**

Biostatistician, Analytics and Evaluation  
DentaQuest Partnership for Oral Health Advancement  
at the time of report release  
Senior Project Direction and Research Faculty  
Commonwealth Medicine — UMass Medical School

## **Avery R. Brow, MA<sup>2</sup>**

Former Scientific Communications Manager, Analytics and Evaluation  
DentaQuest Partnership for Oral Health Advancement  
at the time of report release  
Senior Operations Project Analyst  
Chase Brexton Health Care

## **Eric P. Tranby, PhD**

Data and Impact Manager, Analytics and Evaluation  
CareQuest Institute for Oral Health

## **Julie Frantsve-Hawley, PhD, CAE**

Director, Analytics and Evaluation  
CareQuest Institute for Oral Health

# Key Findings



- Medicaid, with its limited dental coverage, **significantly improved adults' access and utilization of dental services**, compared to those who lack medical coverage.
- Between 2011-2016, access to dental services for adults enrolled in Medicaid was **9 percentage points higher** than those who lack medical coverage but **23 percentage points lower** than those with private medical coverage.
- For those utilizing dental services, **persons covered by Medicaid had an average of 2.18 annual visits**, compared to 2.09 visits for those with private medical coverage, and 1.93 visits for those who lack medical coverage.
- The average annual out-of-pocket (OOP) cost for dental care was **\$196 for those covered by Medicaid, \$283 for those with private medical coverage, and \$466 for those who lack medical coverage.**

# Medicaid and Health Care Access

Medicaid enrollment increased by 57%, rising from 48 million in 2008 to 75 million in 2018 (1). This increase is due to several changes in the program, mainly the Affordable Care Act (ACA) which allowed states to expand eligibility to adults with annual incomes up to 138% of the Federal Poverty Level (2). Medicaid is a federal-state program that plays an important role in health care by providing health coverage to one in five low-income Americans. While dental coverage is mandated for children under the age of 21, similar benefits remain optional for adults enrolled in Medicaid (3).

Evidence links oral health status to general health and well-being, school attendance and performance, employability, and other social indicators (2, 4-9). However, less than half of states provide comprehensive dental coverage for adults and, as of 2018, thirteen offered only emergency dental coverage, and three offer no coverage (10-11). In this report, we compare key access and expenditures on dental services for adults enrolled in Medicaid to adults with private coverage and to those who lack coverage.

## Methods

We used the Medicare Expenditure Panel Survey (MEPS) to estimate utilization and expenditures on dental care by adults from 2011 through 2016 (12). The MEPS database contains large-scale, national surveys of civilian, non-institutionalized families, individuals, medical providers, and their employers. It is one of the most complete sources of data on cost and use of dental health care services and insurance coverage. For this brief, we focused on three groups of adults age 21 and older:

1. adults covered by Medicaid
2. adults covered by private medical plans
3. uninsured adults

We divided the Medicaid population into three subgroups: those covered only by Medicaid, those covered by Medicaid and Medicare, and those covered by Medicaid and non-Medicare medical plans (non-Medicare coverage). We assumed that those covered by Medicaid and non-Medicare health plans would be sicker but more informed than the traditional Medicaid population or those covered by Medicaid and Medicare, and therefore, their access to and utilization of dental services would be higher.

The following indicators were estimated among adults age 21 years or older, from 2011-2016: the percentage of individuals in each of the groups above who had at least one dental visit, as a proxy for access; the annual number of visits per user of dental services, as a proxy for dental utilization; overall dental expenditure per user of dental services; and the out-of-pocket expenditure(s) per user of dental services. The annual average value for each indicator for the study period was reported and adjusted to 2016 dollars (13). We used t-test and Chi-square to compare utilization and expenditure statistics.

This study stratified income level into the following five categories:

- poor families were those with annual incomes at or below \$9,207
- near-poor families as those at or below \$19,840
- low-income families as those at or below \$29,726
- middle-income families as those at or below \$51,467
- high-income families as those at or above \$117,015

# Limitations

There are several limitations associated with this analysis. First, MEPS data are representative at the national and regional level, but not state level. This affects our ability to analyze data by state. Therefore, we present national estimates. Second, MEPS data on dental coverage, utilization and expenditures are self-reported. Dental coverage reported among adults covered by

Medicaid was less than one percent during the study period. Therefore, in categorizing adults by insurance status, we opted to use the medical coverage instead of the dental coverage. Third, payers for dental services did not align with the reported insurance status. To address this, we decided to report total and out-of-pocket (OOP) expenditures only.

## Access and Utilization of Dental Services

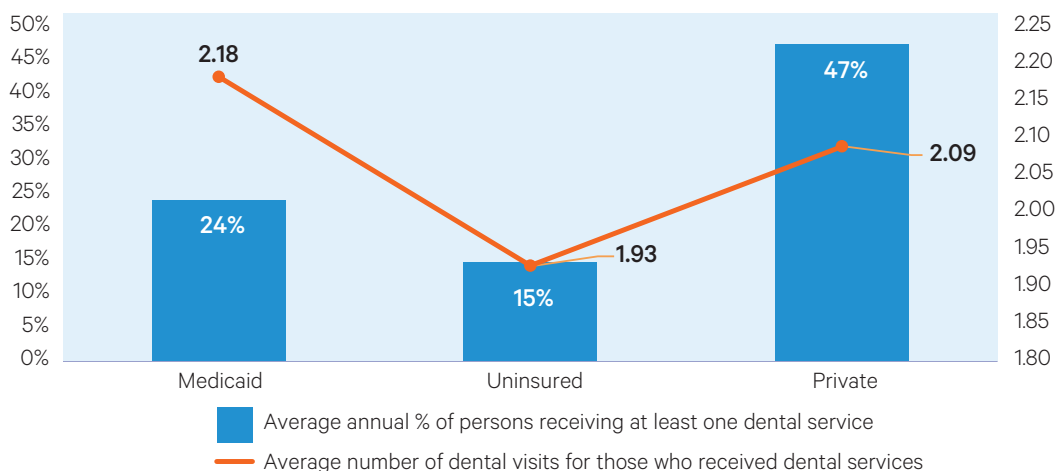
We found statistically significant differences in the use of dental services among the studied population: 24% [Confidence Interval (CI): 22.6%–25.3%] of Medicaid enrollees utilized dental services compared to 15% [CI: 13.8%–15.7%] of uninsured adults and 47% [CI: 46.6%–47.8%] for those holding private coverage. As illustrated in Figure 1a and presented in Appendix 1, access to dental services for adults enrolled in Medicaid was 9.3 percentage points [CI: 8.9%– 9.7%] higher than those with no coverage but 23.2 percentage points [CI: -24.0%– -22.5%] lower than those with private coverage.

Among those who used dental services, there was no statistically significant difference in the number of dental visits for those covered by Medicaid compared to private insurance.

However, there was a statistically significant difference in the number of dental visits utilized by those covered by Medicaid compared to uninsured patients. Among those utilizing dental services, individuals covered by Medicaid had an average of 2.18 [CI: 2.09–2.27] annual visits, compared to 2.09 [CI: 2.04–2.14] visits for those with private medical coverage, and 1.93 [CI: 1.86–1.99] visits for those individuals lacking medical coverage, as illustrated in Figure 1a and presented in Appendix 2.

For those with Medicaid, utilization of dental services varied by a beneficiary's status. We found statistically significant differences in the use of dental services among the Medicaid population: 32.4% [CI: 30.2%–34.5%] of those covered with Medicaid and non-Medicare coverage used dental services

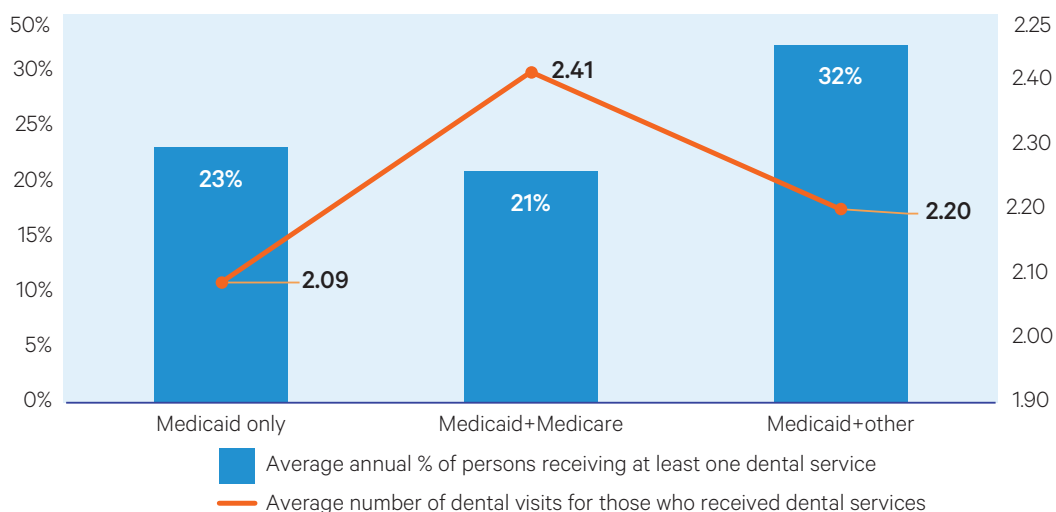
**Figure 1a: Annual percentage of adults who accessed dental care and annual number of visits for those who received dental services by their medical coverage, average for 2011-2016**



Notes: Medicaid denotes individuals covered by Medicaid; Uninsured denotes individuals lacking medical insurance; Private denotes individuals with private medical insurance.

compared to 23.1% [CI: 21.3%–24.9%] of those covered only by Medicaid and 21.0% [CI: 19.2%–22.7%] of those dually eligible for both Medicare and Medicaid, as illustrated in Figure 1b. We found a statistically significant difference in the number of visits utilized by those covered only by Medicaid, 2.09 visits [CI: 1.99–2.19] per year, and those dually eligible for Medicare and Medicaid, with average annual visits of 2.41 [CI: 2.26–2.57]. However, we found no statistical differences between those covered only by Medicaid and those covered by Medicaid and non-Medicare coverage, with 2.20 [CI: 2.05–2.35] visits a year.

**Figure 1b: Annual percentage of adults enrolled in Medicaid who accessed dental care and annual number of visits for those who received dental services, by type of Medicaid coverage, average for 2011-2016**



Notes: Medicaid only denotes individuals covered by Medicaid; Medicaid+Medicare denotes individuals with dual eligibility for Medicaid and Medicare; Medicaid+other denotes individuals enrolled in Medicaid and non-Medicare medical plans.

# Expenditures and Out-of-Pocket Costs for Dental Services

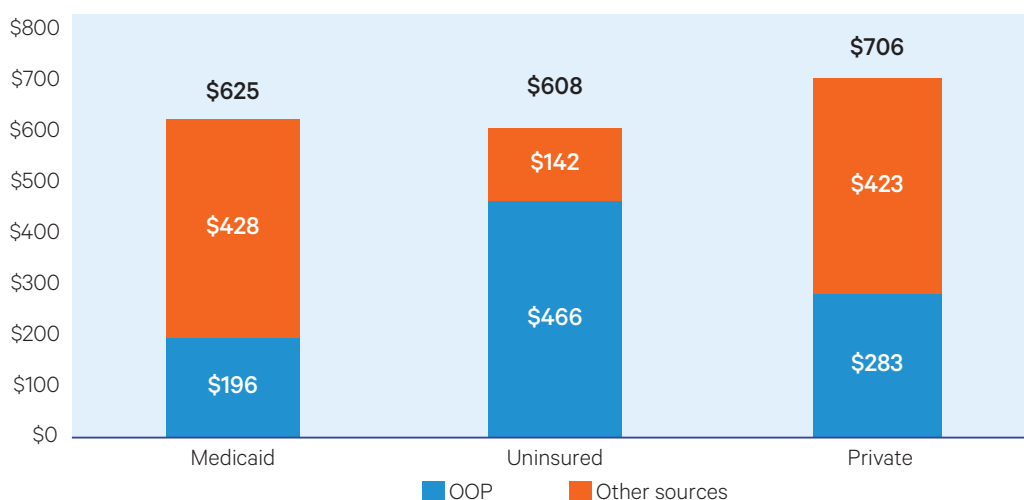
For those using dental services, we found a statically significant difference in the total expenditures spent on dental services between those with private coverage compared to Medicaid coverage. However, we found no statistical differences in dental expenditures for patients with Medicaid coverage compared to uninsured patients. Among those using dental services, the average per user annual cost for dental care by Medicaid enrollees was \$625 [CI: \$573–\$677], compared to \$608 [CI: \$571–\$645] for uninsured patients and \$706 [CI: \$666–\$746] for those with private coverage. This is illustrated in Figure 2 and presented in Appendices 3 and 4.

For those with private coverage and who used dental services, there was a statistically significant difference in OOP expenditures on dental services when compared to those with Medicaid, and similar significant differences were found between Medicaid and those without any coverage. The average annual OOP for dental care was \$196 [CI: \$180–\$212] for those with Medicaid, \$466 [CI: \$426–\$506] for the uninsured, and \$283 [CI: \$268–\$298] for those with private

coverage. This represents 31.4% [CI: 31.4%–31.5%], 76.6% [CI: 74.7%–78.3%] and 40.0% [CI: 39.9%–40.2%] of the total per-user expenditure for dental care for those with Medicare, the uninsured, and those with private coverage, respectively. On average, Medicaid recipients spend less out-of-pocket than those with private insurance or the uninsured. However, the relatively low total spending may reflect the limited benefits that Medicaid recipients have in many states, which affect their utilization of dental services.

Within Medicaid, we found statistically significant differences in overall expenditures among those with Medicaid only, those dually eligible for Medicare and Medicaid, and those with Medicaid and non-Medicare coverage. We found statistically significant differences in OOP expenditures between those with Medicaid only and those with Medicaid and non-Medicare coverage. However, we found no statistically significant differences in the OOP expenditures between those with Medicaid only and dual eligibles for Medicare and Medicaid. See Appendices 3 and 4.

**Figure 2: Annual average cost per user of dental services and average OOP for users of dental services, for adults by their medical coverage 2011-2016, in inflation adjusted dollars**



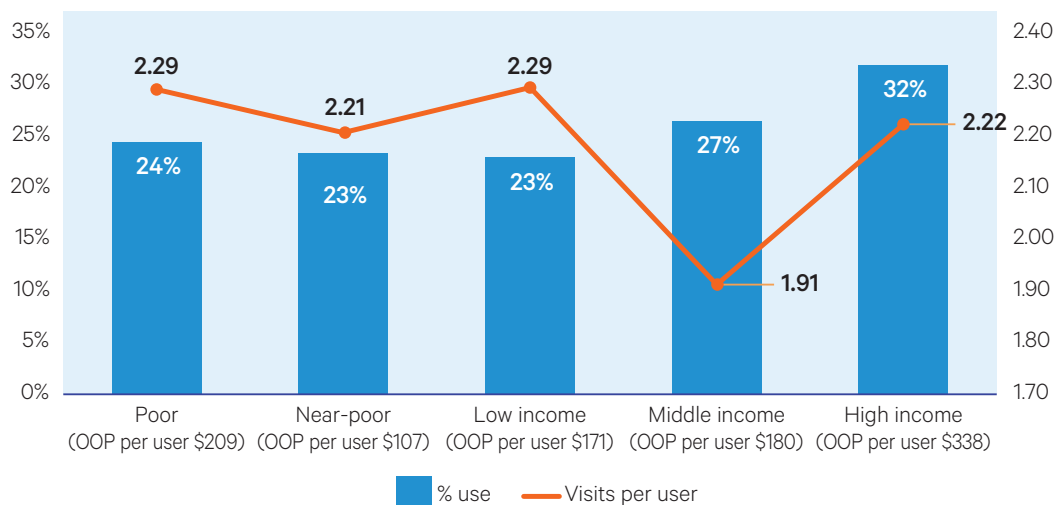
Notes: Medicaid denotes individuals covered by Medicaid; Uninsured denotes individuals lacking medical insurance; Private denotes individuals with private medical insurance.

# Medicaid, Family Income, and Dental Services

Prior research shows a higher dental need among poor families (14). In 2016, use of dental services by adult Medicaid enrollees varied by income level. Of those adults living in poor families, 24% used dental services compared to 23% of adults from near-poor or low-income families, 27% of middle-income families, and 32% of high-income families. This is illustrated in Figure 3. Among adults with Medicaid coverage accessing dental services, those living in poor families had an average of 2.29 [CI: 2.05–2.53] dental visits compared to an average of 2.21 [CI: 1.88–2.54] for high-income adults. The annual OOP expenditures associated with these visits were: \$209 [CI: \$132–\$286] for adults living in poor families compared to \$335 [CI: \$42–\$628] for adults from high-income families. Consistent with prior analysis, these results suggest that OOP expenditures may be a barrier to access and utilization of dental services, particularly for those Medicaid-enrolled adults from poor or near-poor families (14).

To better understand the impact of OOP on use and expenditures of dental services, we compared the average number of visits and total expenditures on dental services for those who paid OOP for dental services compared to those who did not. We assumed that adults covered by Medicaid with comprehensive dental coverage will have no OOP expenditures, compared to those who have restricted or no dental coverage through their state's Medicaid program (15). Interestingly, adults covered by Medicaid who used dental services and did not pay OOP for these services had 0.40 [CI: 0.34–0.45] fewer dental visits compared to adults covered by Medicaid who had an OOP expenditure for dental services, see Table 1. Adults covered by Medicaid who had OOP expenditures for dental care paid on average \$568 [CI: \$474–\$666], or 67% [CI: 64%–70%] of the total cost of dental care. Additionally, the total annual cost of dental services for those who had no OOP expenditures was \$475 [CI: \$382–\$568], compared to \$844 [CI: \$736–\$952] of those who had OOP expenditures on dental services.

**Figure 3: Percentage of adults enrolled in Medicaid who accessed dental care, and annual number of visits and OOP for those who received dental services, by income level in 2016**



Notes: Poor denotes adults living in a family with an annual income of \$9,207 (represents 38% of adults covered by Medicaid in 2016); Near-poor denotes adults living in a family with an annual income of \$19,840 (represents 11% of adults covered by Medicaid in 2016); Low-income denotes adults living in a family with an annual income of \$29,726 (represents 23% of adults covered by Medicaid in 2016); Middle-income denotes adults living in a family with an annual income of \$51,467 (represents 20% of adults covered by Medicaid in 2016); High-income denotes adults living in a family with an annual income of \$117,015 (represents 8% of adults covered by Medicaid in 2016).

Table 1: **Average number of visits and overall cost of dental services for adults enrolled in Medicaid by out-of-pocket expenditures**

|                                       | <b>No OOP</b><br>Mean [95% CI] | <b>OOP</b><br>Mean [95% CI]   | <b>Differences*</b><br>Mean [95% CI] |
|---------------------------------------|--------------------------------|-------------------------------|--------------------------------------|
| <b>Number of visits</b>               | <b>2.05</b><br>[1.90-2.20]     | <b>2.45</b><br>[2.25-2.65]    | <b>- 0.4</b><br>[-0.34 – -0.45]      |
| <b>Annual cost of dental services</b> | <b>\$475</b><br>[\$382-\$568]  | <b>\$844</b><br>[\$736-\$952] | <b>- \$430</b><br>[-\$354 – -\$384]  |
| <b>% paid by Medicaid</b>             | <b>86%</b><br>[84%-88%]        | <b>16%</b><br>[14%-17%]       | <b>71%</b><br>[70%-71%]              |
| <b>% paid OOP</b>                     | <b>0%</b><br>[0%-0%]           | <b>67%</b><br>[64%-70%]       | <b>-67%</b><br>[-64% – -70%]         |
| <b>% paid by other sources</b>        | <b>14%</b><br>[12%-16%]        | <b>17%</b><br>[13%-22%]       | <b>-3%</b><br>[-6% – -1%]            |

Notes: CI denotes 95% confidence interval; \* - sign indicates better outcomes; No OOP category includes individuals who had restorative care including crowns.



## Discussion

Medicaid plays a major role in expanding health coverage to low income families and improving access to medical and dental care (16). Medicaid, with its limited dental coverage in some states, improved adults' access to and utilization of dental services, compared to those who lacked medical coverage. Between 2011 and 2016, 24% of adults enrolled in Medicaid accessed dental services compared to 15% of those who lack insurance. However, the access gap between adults with private coverage and those with Medicaid coverage is still significant, and more needs to be done to close the access gap between those who have private medical insurance and those covered by Medicaid.

The ACA left the provision of dental coverage to each state and, on the aggregate, the mandate did little to change access and utilization patterns of dental services for enrolled adults. Requiring states to offer comprehensive dental coverage as part of Medicaid, regardless of the state's participation in expanded coverage, would go far at reducing the access gap, decreasing the associated negative social affects, and lowering out-of-pocket expenditures for patients, and costs for states (17-20).

Unfortunately, previous trends show that states often eliminate adult dental benefits in periods of budget tightening or shortfalls, like Alaska's decision to eliminate Medicaid dental coverage (21). Block grant proposals, currently being designed in Tennessee and discussed in other states, also jeopardize oral health of Medicaid beneficiaries (22). Alternatively, Medicaid dental programs can focus on oral health benefits and invest in prevention and value-based care initiatives that are designed to target adult populations. Finally, future work should consider directly comparing access and expenditures in states with comprehensive benefits to states with more limited, or no benefits, in order to better understand and improve oral and overall health, affecting the life, health, and well-being of this vulnerable population. A better alternative is for Medicaid dental programs to focus on and invest in oral health prevention and oral health value-based care initiatives targeting the adult population. This should lower costs in the long run and improve lives.

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# Appendices

**Appendix 1: Percentage of individuals 21 years of age or older who received at least one dental service, by their medical coverage status**

|   | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Average |
|---|------|------|------|------|------|------|---------|
| Medicaid  | 22%  | 22%  | 23%  | 26%  | 26%  | 25%  | 24%     |
| Individuals covered by Medicaid only                                    | 20%  | 22%  | 22%  | 26%  | 25%  | 23%  | 23%     |
| Individuals covered by Medicare and Medicaid                            | 22%  | 17%  | 20%  | 22%  | 21%  | 24%  | 21%     |
| Individuals covered by Medicaid and another insurer other than Medicare | 33%  | 30%  | 37%  | 29%  | 32%  | 33%  | 32%     |
| Uninsured   | 15%  | 17%  | 15%  | 13%  | 14%  | 15%  | 15%     |
| Private   | 48%  | 47%  | 48%  | 47%  | 47%  | 46%  | 47%     |

**Appendix 2. Annual visits per user of dental services for individuals 21 years of age or older by their medical coverage status**

|   | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Average |
|---|------|------|------|------|------|------|---------|
| Medicaid  | 2.06 | 2.08 | 2.23 | 2.17 | 2.36 | 2.20 | 2.18    |
| Individuals covered by Medicaid only                                    | 2.00 | 1.90 | 2.11 | 2.06 | 2.23 | 2.21 | 2.09    |
| Individuals covered by Medicare and Medicaid                            | 2.22 | 2.31 | 2.68 | 2.34 | 2.63 | 2.30 | 2.41    |
| Individuals covered by Medicaid and another insurer other than Medicare | 2.00 | 2.33 | 2.04 | 2.33 | 2.44 | 2.06 | 2.20    |
| Uninsured   | 2.00 | 1.83 | 1.94 | 1.90 | 2.04 | 1.85 | 1.93    |
| Private   | 2.05 | 2.03 | 2.19 | 2.14 | 2.09 | 2.04 | 2.09    |

**Appendix 3. Cost per user of dental services for individuals 21 years of age or older by their medical coverage status**

|   | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | Average |
|---|-------|-------|-------|-------|-------|-------|---------|
| Medicaid  | \$633 | \$632 | \$560 | \$576 | \$744 | \$604 | \$625   |
| Individuals covered by Medicaid only                                    | \$539 | \$531 | \$499 | \$506 | \$678 | \$597 | \$558   |
| Individuals covered by Medicare and Medicaid                            | \$636 | \$816 | \$700 | \$597 | \$879 | \$607 | \$706   |
| Individuals covered by Medicaid and another insurer other than Medicare | \$901 | \$725 | \$552 | \$776 | \$790 | \$616 | \$727   |
| Uninsured   | \$629 | \$627 | \$558 | \$616 | \$670 | \$547 | \$608   |
| Private   | \$735 | \$674 | \$792 | \$679 | \$659 | \$697 | \$706   |

**Appendix 4. OOP expenditures on dental services for individuals 21 years of age or older by their medical coverage status**

|   | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | Average |
|---|-------|-------|-------|-------|-------|-------|---------|
| Medicaid  | \$215 | \$208 | \$206 | \$157 | \$194 | \$198 | \$196   |
| Individuals covered by Medicaid only                                    | \$174 | \$166 | \$156 | \$145 | \$169 | \$170 | \$163   |
| Individuals covered by Medicare and Medicaid                            | \$224 | \$270 | \$315 | \$117 | \$213 | \$168 | \$218   |
| Individuals covered by Medicaid and another insurer other than Medicare | \$325 | \$261 | \$210 | \$242 | \$242 | \$285 | \$261   |
| Uninsured   | \$533 | \$438 | \$452 | \$434 | \$523 | \$415 | \$466   |
| Private   | \$292 | \$288 | \$309 | \$260 | \$262 | \$286 | \$283   |

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