

Research Brief

Diverting Emergency Department Dental Visits Could Save Maryland's Medicaid Program \$4 Million per Year

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Key Messages

- *Since Fiscal Year 2012, per-capita outpatient dental emergency department visits have decreased in Maryland. The decline can be attributed to reduced visits among children and adults ages 21-40.*
- *The decrease in outpatient dental emergency department visits among children could be attributed to reforms Maryland has instituted in its pediatric Medicaid program since 2007.*
- *As the majority of expenditure for outpatient dental emergency department visits is financed by Medicaid, an effective statewide emergency department diversion program could save Maryland Medicaid up to \$4 million per year.*

Introduction

Emergency department (ED) use for dental care has been a growing problem in the United States, particularly for young adults. From 2000 through 2010, utilization of dental services in EDs has steadily risen for young adults ages 21-34.¹ Other studies also documented an increase in dental ED utilization over the last decade. Dental ED visits are growing as a percentage of all ED visits.^{2,3,4} In 2010, it was estimated that it costs up to \$2.1 billion to treat dental ED visits. Recent work has also shown that a substantial number of ED dental visits can be diverted to outpatient dental offices. Up to 1.65 million dental visits can be diverted to dental clinics, which could potentially save the healthcare system \$1.7 billion.⁵

In this policy note, we analyze trends in dental ED use in the state of Maryland. We analyze dental expenditures in the ED and utilization of dental ED visits by age and payer. We estimate how much the state of Maryland could save by diverting emergency department dental visits to dental offices.

Data & Methods

The American Dental Association's Health Policy Institute (HPI) received data from the Maryland Health Services Cost Review Commission (HSCRC). These data contain the most common ICD-9 dental codes that were seen in hospital EDs across the state of Maryland from fiscal years (FY) 2009-2014 (current June 30th 2014). FY 2014 is defined from July 1, 2013 through June 30, 2014, with each previous fiscal year defined in the same manner. We received tabulated data by hospital, county, age and payer for both inpatient and outpatient encounters. A dental ED encounter is defined with one of the following ICD-9 codes: 521.0-521.0, 522.0-522.9, 523, 525.0-525.9, 873.63 or 873.73. The HSCRC data covers all 52 hospitals in the state of Maryland.

We analyzed outpatient dental ED encounters by age and payer. We inspected trends in per-capita outpatient ED dental care utilization for children ages 0-20, young adults ages 21-40, middle aged adults ages 41-60, and older adults above age 60. Sources of payment included charges attributed to Medicaid enrollees, commercially insured individuals, Medicare enrollees and "other" individuals who pay out-of-pocket for dental services in EDs.

Results

As shown in Figure 1, outpatient dental care utilization in EDs increased from FY 2009 to FY 2012, but then fell from FY 2012 through FY 2014. From FY 2009 to FY 2012, outpatient dental care utilization in EDs increased from 8.8 visits per 1,000 individuals to 9.4 visits per 1,000 individuals. From FY 2012 through FY 2014, dental care utilization in EDs fell from 9.4 visits per 1,000 individuals to 8.9 visits per 1,000 individuals. In FY 2014, there were 52,631 outpatient dental visits in EDs in Maryland.

Total outpatient charges (Figure 2) and charges per visit (Figure 3) steadily increased from FY 2009 through FY 2014. Total charges for outpatient ED dental encounters rose from \$14.9 million in FY 2009 to \$21 million in FY 2014. Average outpatient dental ED charges per visit rose from \$298.57 in FY 2009 to \$399.31 in FY 2014.

Outpatient ED dental care utilization also varied by age (Figure 4). Overall, adults ages 21-40 had a higher rate of outpatient dental ED visits relative to other age groups. For adults ages 21-40, outpatient dental care utilization in EDs increased from 19.4 visits per 1,000 individuals in FY 2009 to 22.0 visits per 1,000 individuals in FY 2013. However, outpatient ED dental care utilization fell to 20.9 visits per 1,000 individuals in FY 2014 for adults ages 21-40. For children, outpatient dental ED utilization fell from 4.5 visits per 1,000 children to 3.3 visits per 1,000 children. Outpatient dental ED utilization increased from 1.4 visits per 1,000 individuals in FY 2009 to 1.8 visits per 1,000 individuals in FY 2014 for elderly adults ages 61 and older. For adults ages 41 to 60, outpatient dental care utilization in EDs increased from 7.2 visits per 1,000 individuals in FY 2009 to 7.7 visits per 1,000 individuals in FY 2014.

Relative to 2009, children also had a lower share to outpatient ED dental spending in 2014 (Figure 5). In FY 2009, children accounted for 15.1 percent of total outpatient dental ED spending. However, in FY 2014, children accounted for only 8.9 percent of total dental outpatient ED spending. Elderly adults accounted for a greater share of outpatient dental ED spending in 2014 (6.8 percent) than they did in 2009 (3.6 percent).

As shown in Figure 6, Medicaid accounted for a greater share of total outpatient dental ED spending in FY 2014 (50.7 percent) compared to FY 2009 (30.1

percent). The share of total outpatient dental ED spending from commercially insured payers fell from 21.2 percent in FY 2009 to 17 percent in FY 2014. The share of total outpatient dental ED spending from self-funded payers (other) also fell significantly from FY 2009 (41.7 percent) through FY 2014 (21.2 percent).

In FY 2014, there were 27,500 outpatient dental ED visits from Medicaid payers and these visits cost \$387.62 per visit. Total outpatient dental ED expenditures were \$10.7 million in FY 2014.

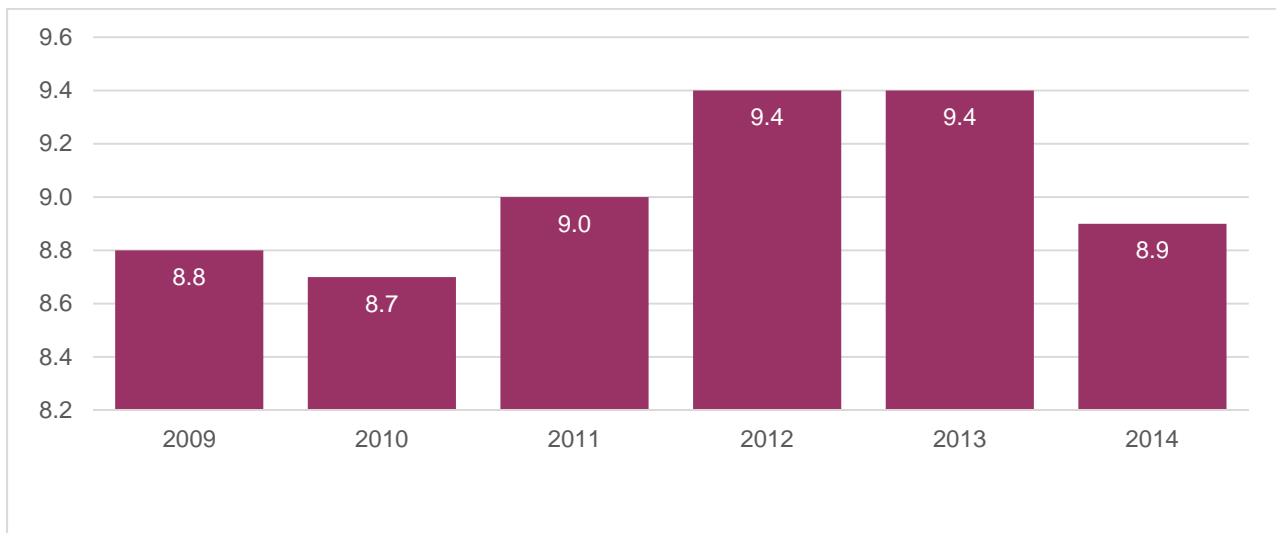
Costing Analysis

Based on data from the 2012 Medical Expenditure Panel Survey (MEPS), the average cost of a general practice (GP) dental visit for a person with private dental insurance was \$288.69 (inflated to 2014 dollars with the GDP deflator).⁶ If Maryland were to offer dental benefits to adults in Medicaid and if reimbursement to dentists was set at 70 percent of

average commercial dental charges in Maryland, an average GP dental visit would be estimated to cost \$202.08.

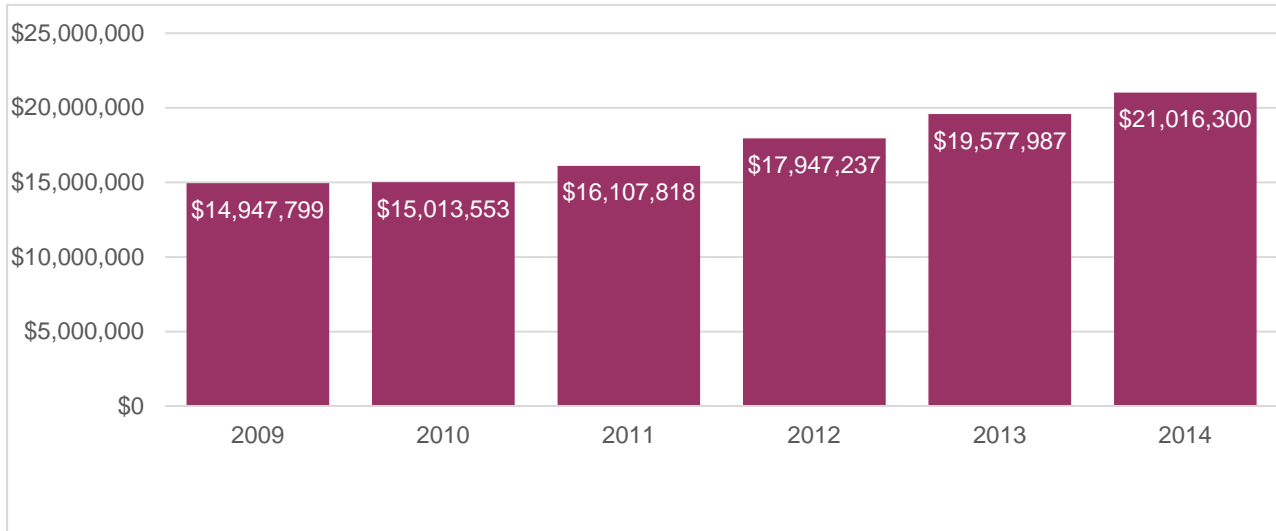
In FY 2014, there were 27,500 outpatient dental ED visits from Medicaid payers and each visit cost on average \$387.62. It was estimated that, nationally, up to 78.4 percent of dental ED visits could be diverted to a local dental office.⁷ There is no similar analysis for Maryland, and based on these national data, we can estimate that 21,615 outpatient dental ED visits can be diverted to a non-hospital dental care provider. These diverted patients would cost the Medicaid program approximately \$4.37 million per year in the GP dental office setting. The current cost to the Medicaid program of these “divertible” 21,615 outpatient dental ED visits is \$8.4 million. Thus, an effective statewide ED diversion program, or some other mechanisms to provide dental care in non-hospital settings (e.g., expanding adult dental benefits) would save the Maryland Medicaid program up to \$4 million per year.

Figure 1: Total Outpatient Dental Emergency Department Visits per 1,000 Individuals in Maryland, Fiscal Years 2009-2014



Source: Maryland Health Services Cost Review Commission Hospital Data.

Figure 2: Total Dental Expenditures for Outpatient Emergency Department Visits in Maryland, Fiscal Years 2009-2014



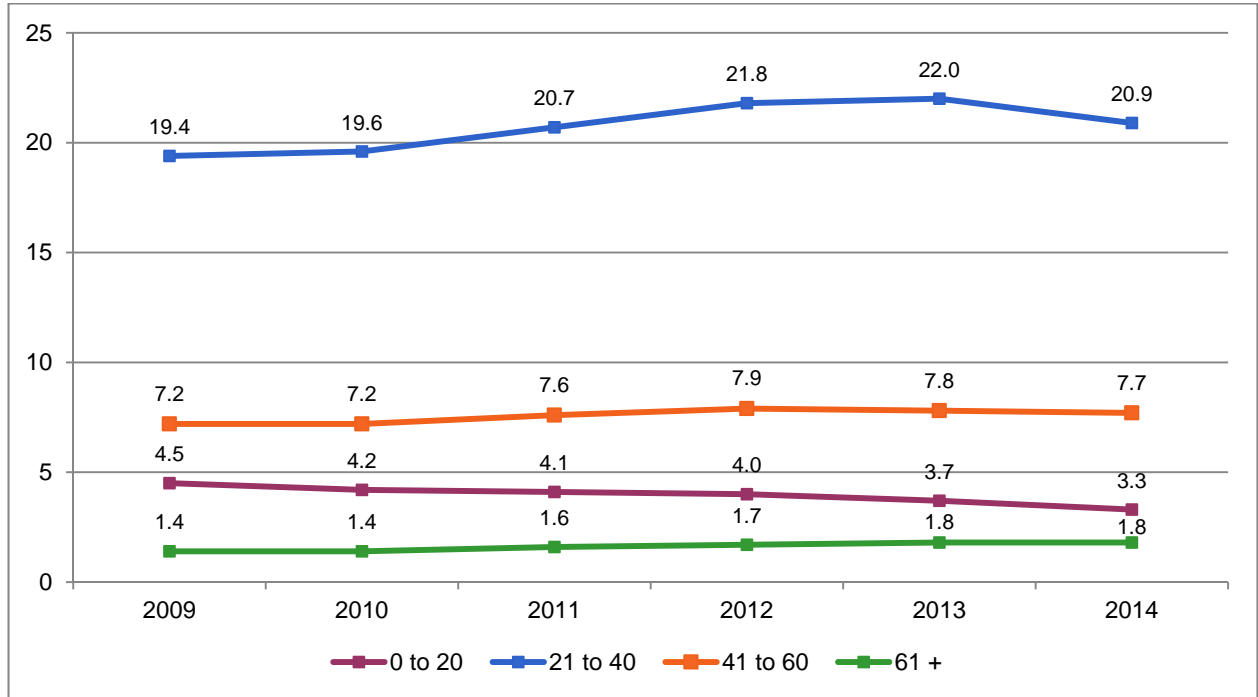
Source: Maryland Health Services Cost Review Commission Hospital Data. **Notes:** Total charges were adjusted to 2014 dollars using the GDP deflator.

Figure 3: Dental Outpatient Emergency Department Charges per Visit in Maryland, Fiscal Years 2009-2014



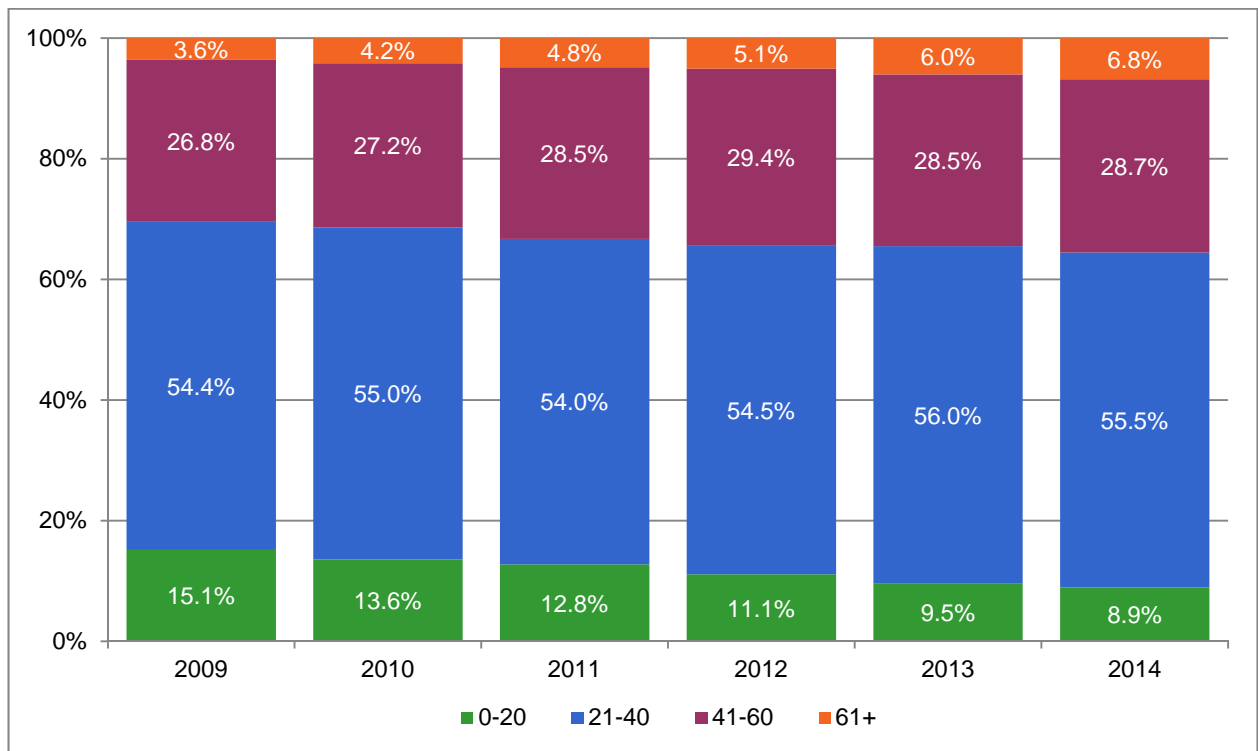
Source: Maryland Health Services Cost Review Commission Hospital Data. **Notes:** Average charges per visit were adjusted to 2014 using the GDP deflator.

Figure 4: Per-Capita Outpatient Dental Emergency Department Visits by Age in Maryland, Fiscal Years 2009-2014



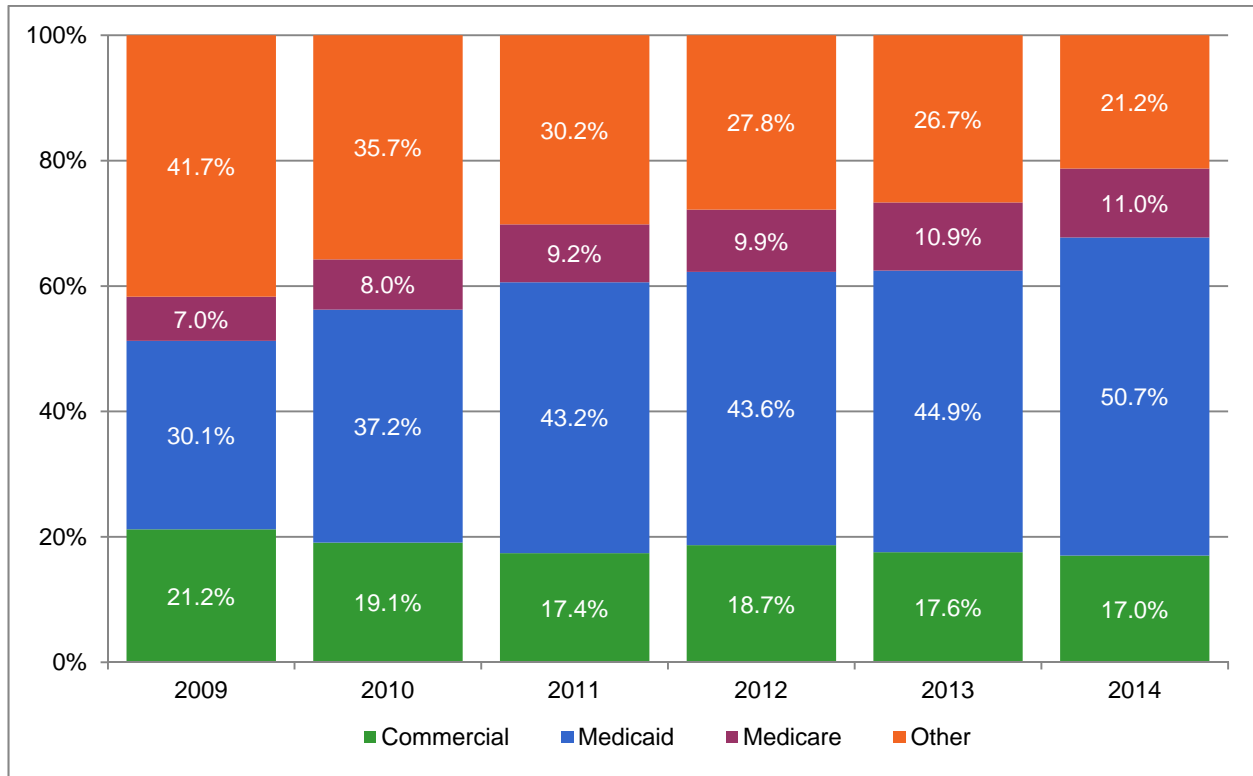
Source: Maryland Health Services Cost Review Commission Hospital Data.

Figure 5: Share of Outpatient Dental Emergency Department Spending by Age in Maryland, Fiscal Years 2009-2014



Source: Maryland Health Services Cost Review Commission Hospital Data.

Figure 6: Share of Outpatient Dental Emergency Department Spending by Primary Payer in Maryland, Fiscal Years 2009-2014



Source: Maryland Health Services Cost Review Commission Hospital Data.

Discussion

Since FY 2012, per-capita outpatient dental ED visits fell in Maryland, a decline that can be attributed to a fall in outpatient ED dental care utilization among children and adults ages 21-40. We cannot attribute these changes to shifts in adult Medicaid dental benefit levels since there has been no change in the adult dental benefit in the Maryland Medicaid program since 2010. As of 2014, Maryland’s Medicaid program officially covers emergency dental services for adults, but the majority of Medicaid beneficiaries are enrolled in a managed care program which provides a slightly broader set of dental benefits. Still, adults on Medicaid have, at best, a limited set of dental benefits.^{8,9}

In contrast, Maryland significantly reformed its pediatric dental Medicaid program beginning in 2007.¹⁰

Maryland increased Medicaid dental provider reimbursement to the 50th percentile of private insurance fees and carved Medicaid dental services out of managed care in 2009.¹¹ Maryland also increased the dental provider network, improved customer services for providers and patients, streamlined credentialing and created a missed appointment tracker.¹² These reforms are likely to have been an important factor in decreasing per-capita dental care utilization in EDs among children and the share of outpatient ED dental spending from children.

Since 2010, the Affordable Care Act (ACA) has made it possible for young adults to stay on their parent’s health insurance plan up age 26. Although the ACA did not explicitly require young adults to receive private

dental benefits through their parents' dental insurance policies, there has been a documented "spillover" effect of this provision of the ACA. It has led to an increase in the percentage of young adults with private dental benefits, a decline in cost barriers to dental care and an increased in utilization of dental services among young adults ages 19-25.^{13,14} The ACA expanded dependent coverage policy, therefore, could also have contributed to a decline in outpatient ED dental care utilization in Maryland among young adults.

In Maryland, Medicaid accounts for a greater share of outpatient ED dental spending in FY 2014 compared to FY 2009. During this timeframe, Medicaid enrollment has expanded. For example, the percentage of adults ages 18 to 64 on Medicaid increased from 7.8 percent in 2008 to 13.1 percent in 2013. The percentage of children under age 18 on Medicaid increased from 22.8 percent in 2008 to 32.1 percent in 2013.^{15,16} This increase in Medicaid enrollment is likely to have accounted for the dramatic increase in the share of outpatient ED dental expenditure that is paid for by Medicaid.

Our analysis estimates that the Medicaid program could save up to \$4 million per year by diverting emergency department dental visits to dental offices where more appropriate and more cost-effective care can be provided. There are numerous pilot programs operating in several states that have demonstrated the effectiveness of emergency department diversion programs targeted to patients with a dental-related complaint.^{17,18,19,20} For example, a Virginia program diverts ED patients with a dental complaint to a special urgent dental care clinic located in the hospital's oral and maxillofacial surgery clinic.²¹ Dental ED visits decreased more than 52 percent during the first year of the pilot program. There is clearly an opportunity in Maryland, and in many other states,²² to improve both patient outcomes and to reduce health care costs through improved management of dental-related emergency department visits.

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