

A photograph of a hospital building with a blue sky background. In the foreground, there are two large directional signs. The top sign is red with a white arrow pointing up and the word "EMERGENCY" in white capital letters. Below it is a grey sign with a blue arrow pointing up and the words "Main Entrance" in blue. In the upper right corner, a blue sign with a white "H" is visible on the building's facade.

**↑ EMERGENCY**

**↑ Main Entrance**

A large, stylized orange arrow pointing to the right, positioned on the left side of the page, partially overlapping the blue background.

**Financial Impact of Emergency  
Department Visits by Adults for  
Dental Conditions in Maryland**

# Background

Access to dental care remains challenging for many children and adults. Lack of preventive care services often results in chronic dental conditions, which can lead to dental pain and infection. Hospital Emergency Departments (ED) are usually not equipped to provide appropriate treatment for chronic dental conditions. Costs in the ED are very high and the dental care provided is limited in scope and usually palliative. Lack of access to definitive care following an ED dental visit usually leads to many patients returning. When left untreated chronic dental conditions can become life-threatening and some patient presenting to the ED must be admitted. The national impact of ED utilization for dental needs is estimated to be \$1.8 billion and in 2014, for the first time, Medicaid paid the largest proportion of these costs (41%).<sup>1</sup> In Maryland in Fiscal Year (FY) 2016, there were **42,327** ED visits for chronic dental conditions among adults with an average charge of \$537 and a total charge of \$22.7 million.

692,229 adult Maryland residents were eligible for enrollment in Medicaid in FY2016, a 29% increase from FY2013. Currently, Maryland only offers emergency dental services for non-pregnant, non-disabled adults (ages 21 and over) enrolled in Medicaid. These services include prescriptions for pain relief and infection control under previously defined emergency situations.<sup>2</sup> In addition, 6 of the 7 Healthchoice Managed Care Organizations (MCOs) in Maryland voluntarily offer limited dental benefits with low fixed annual caps or high coinsurance costs to non-pregnant, non-disabled Medicaid enrolled adults that are not reimbursed by the state. However, as these benefits are voluntary, MCOs may opt to drop coverage or change provisions from year to year.<sup>3</sup> In 2016, MCOs spent \$14.5 million on unreimbursed dental benefits to non-pregnant, non-disabled adults.<sup>2</sup>

<sup>1</sup> ADA Health Policy Institute (2015). Emergency Department Visits for Dental Conditions – A Snapshot. Retrieved from [http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIgraphic\\_0617\\_3.pdf?la=en](http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIgraphic_0617_3.pdf?la=en)

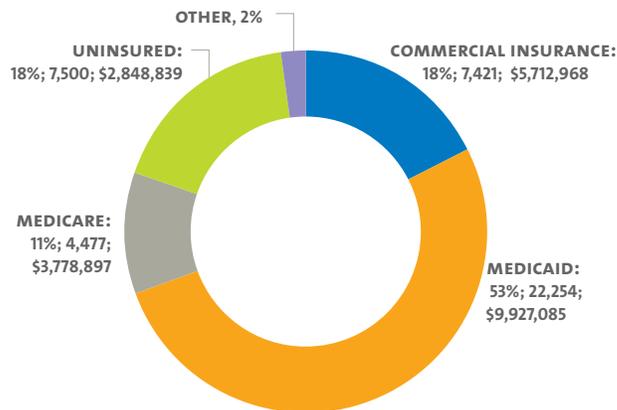
<sup>2</sup> Maryland Department of Legislative Services. (2017). Analysis of the FY 2018 Maryland Executive Budget, 2017: MedicalCare Programs Administration. Pg. 82. Retrieved from <http://mgaleg.maryland.gov/pubs/budgetfiscal/2018fy-budget-docs-operating-MooQo1-DHMH-Medical-Care-Programs-Administration.pdf>

<sup>3</sup> Betley, C., Idala, D., James, P., Mueller, C., Smirnow, A., & Tan, B. (2016). Adult Dental Coverage in Maryland Medicaid. The Hilltop Institute. Retrieved from <http://www.hilltopinstitute.org/publications/AdultDentalCoverageInMarylandMedicaid-Feb2016.pdf>

# Financial Impact on all Payers

In Maryland many patients visit the ED for treatment of chronic dental conditions every year. This use results in substantial cost to taxpayers, hospitals, Managed Care Organizations (MCOs), Medicaid, and the patients themselves. In total, there were **42,327** ED visits for chronic dental conditions among adults in Maryland in FY2016 with an average charge of \$537 and a total charge of **\$22.7 million** (*Exhibit 1*). ED visits for chronic dental conditions accounted for **2.7%** of all ED visits by adults. Cost for these visits accounted for **1.7%** of the total \$1.36 billion charged for all ED visits in FY2016.

*Exhibit 2: Distribution of Payers of ED Visits for Chronic Dental Conditions among Adults in Maryland, FY2016*



The distribution between all payers for ED visits for chronic dental conditions by adult residents of Maryland in Fiscal Year (FY) 2016 is as follows (*Exhibit 2*):

- Medicaid paid for **53%** of ED visits for chronic dental conditions with an average charge of \$446 and a total charge of nearly **\$10 million**.
- The uninsured paid for **18%** of ED visits with an average charge of \$380 and a total charge of **\$2.85 million**.
- Commercial insurance paid for **18%** of ED visits for chronic dental conditions with an average charge of \$770 and a total charge of **\$5.7 million**.
- Medicare paid for **11%** of ED visits for chronic dental conditions with an average charge of \$844 and a total charge of **\$3.8 million**.
- Other types of insurance, such as Workmen's Compensation or Title V Maternal & Child Health, paid for **2%** of ED visits for chronic dental conditions with an average charge of \$723 and a total charge of \$469,000.

*Exhibit 1: Hospital Visits for Chronic Dental Conditions among Adults in Maryland, Fiscal Years 2013-2016.*

	2016				Average (FY2013 - 2016)			
	# of Visits	Rate Per 10,000 of Population	Average Charge	Total Charges	# of Visits	Rate Per 10,000 of Population	Inflation Adjusted Average Charge	Inflation Adjusted Total Charge
<b>ED Visits for Chronic Dental</b>								
Single Visit in Year	32,909	72.91	\$465	\$18,780,742	37,993	84.92	\$472	\$20,771,689
Repeat Visit	9,418	20.87	\$394	\$3,919,258	11,048	24.69	\$372	\$4,112,811
<b>Total ED Visits for Chronic Dental</b>	<b>42,327</b>	<b>93.78</b>	<b>\$446</b>	<b>\$22,700,000</b>	<b>49,041</b>	<b>109.61</b>	<b>\$509</b>	<b>\$24,884,500</b>
Inpatient Admissions for Chronic Dental	395	0.88	\$9,912	\$3,680,277	546	1.22	\$9,274	\$4,664,588
<b>Total Visits for Chronic Dental</b>	<b>42,722</b>	<b>94.66</b>	<b>\$590</b>	<b>\$26,380,277</b>	<b>49,588</b>	<b>110.84</b>	<b>\$552</b>	<b>\$29,549,088</b>

# Financial Impact on Medicaid

Summary of financial impact on Medicaid, for adult enrollees who received treatment of chronic dental conditions in the hospital in FY2016 (*Exhibit 3*):

- **22,254** adults visited the hospital ED for dental with an average charge of \$446 and total charge of nearly **\$10 million**.
- **25%** of them returned to the ED within a year with similar dental complaint, but the majority return within 15 days. They have an average charge of \$394 and total charge of **\$2.34 million**. This is much higher than reported readmission rates for Medicaid enrolled patients for all other conditions.<sup>4</sup>

- 145 adults who visited the ED for dental needs required hospitalization. These admissions are costly, with an average charge of \$9,900 per visit and total of **\$1.44 million**.

Taken together, **22,399** Medicaid enrollees visited the ED for a chronic dental condition in FY2016, with a total charge of **\$11,364,349**.

*Exhibit 3: Hospital Visits for Chronic Dental Conditions among Adult Medicaid Enrollees in Maryland, Fiscal Years 2013-2016.*

	2016					Average (FY2013 - 2016)				
	# of Visits	% of Total Visits among Adults in MD	Rate Per 10,000 Eligible Pop.	Average Charge	Total Charges	# of Visits	% of Total Visits among Adults in MD	Rate Per 10,000 Eligible Pop.	Inflation Adjusted Average Charge	Inflation Adjusted Total Charge
<b>ED Visits for Chronic Dental</b>										
Single Visit in Year	16,308	50%	235.59	\$465	\$7,582,980	17,727	47%	283.04	\$493	\$7,785,005
Repeat Visit	5,946	63%	85.90	\$394	\$2,344,105	6,655	60%	106.26	\$347	\$2,308,366
<b>Total ED Visits for Chronic Dental</b>	<b>22,254</b>	<b>53%</b>	<b>321.48</b>	<b>\$446</b>	<b>\$9,927,085</b>	<b>24,383</b>	<b>50%</b>	<b>389.31</b>	<b>\$414</b>	<b>\$10,093,371</b>
Inpatient Admissions for Chronic Dental	145	37%	2.09	\$9,912	\$1,437,264	151	28%	2.41	\$9,274	\$1,397,921
<b>Total Visits for Chronic Dental</b>	<b>22,399</b>	<b>46%</b>	<b>323.58</b>	<b>\$590</b>	<b>\$11,364,349</b>	<b>24,533</b>	<b>44%</b>	<b>391.71</b>	<b>\$552</b>	<b>\$11,491,292</b>

<sup>4</sup> Maryland Department of Legislative Services. (2017). Analysis of the FY 2018 Maryland Executive Budget, 2017: Medical Care Programs Administration. Pg. 48. Retrieved from <http://mgaleg.maryland.gov/pubs/budgetfiscal/2018fy-budget-docs-operating-MooQo1-DHMH-Medical-Care-Programs-Administration.pdf>

# Trends in Emergency Department Visits

On average, between FY2013 and FY2016 (*Exhibit 4*):

- 24,553 adult Medicaid enrollees visited a Maryland hospital ED for a chronic dental condition.
- Inflation adjusted total charges for these ED visits for chronic dental needs average **\$11.5 million** dollars.
- The number and the charges associated with those hospital dental visits increased every fiscal year from 2013 to 2015, with a slight reduction in 2016.
- Rates of ED visits per 10,000 of the Medicaid eligible population decline over time, as the rate of increase in the number of ED visits for chronic dental conditions is lower than the rate of increase in Medicaid enrollment. This is consistent with other reports that show declining rates of ED visits for any condition over the expansion period among Medicaid enrollees.<sup>5</sup>

# Disproportional Burden on Medicaid

Adult Medicaid enrollees are more likely to visit the hospital for the treatment of chronic dental conditions than other adults in Maryland. For example, in FY2016 (*Exhibit 3*):

- Medicaid eligible adults are only 15.3% of the total adult population in Maryland.
  - However, Medicaid enrolled adults account for **53%** of the 42,327 total Emergency Department dental visits among all adult Maryland residents.
  - And **44%** of the **\$22.7 million** charged for ED dental visits
  - Rates of visits per 10,000 of the Medicaid eligible adult population are more than 3 times higher than rates of visits per 10,000 of the total adult population.
- Medicaid enrolled adults make up 63% of all patients who were readmitted to the ED for a chronic dental condition in FY2016.
  - This may be evidence that a lack of routine dental care in this population is associated with more frequent return visits to the ED for palliative dental care.

<sup>5</sup> Maryland Department of Legislative Services. (2017). Analysis of the FY 2018 Maryland Executive Budget, 2017: MedicalCare Programs Administration. Pg. 50. Retrieved from <http://mgaleg.maryland.gov/pubs/budgetfiscal/2018fy-budget-docs-operating-MooQ01-DHMH-Medical-Care-Programs-Administration.pdf>

# Who are the patients?

There are significant demographic differences among adult Medicaid enrollees visiting the hospital for chronic dental conditions in Maryland, reflecting the demographic differences in total Medicaid enrollment. In FY2016 (*Exhibit 4*):

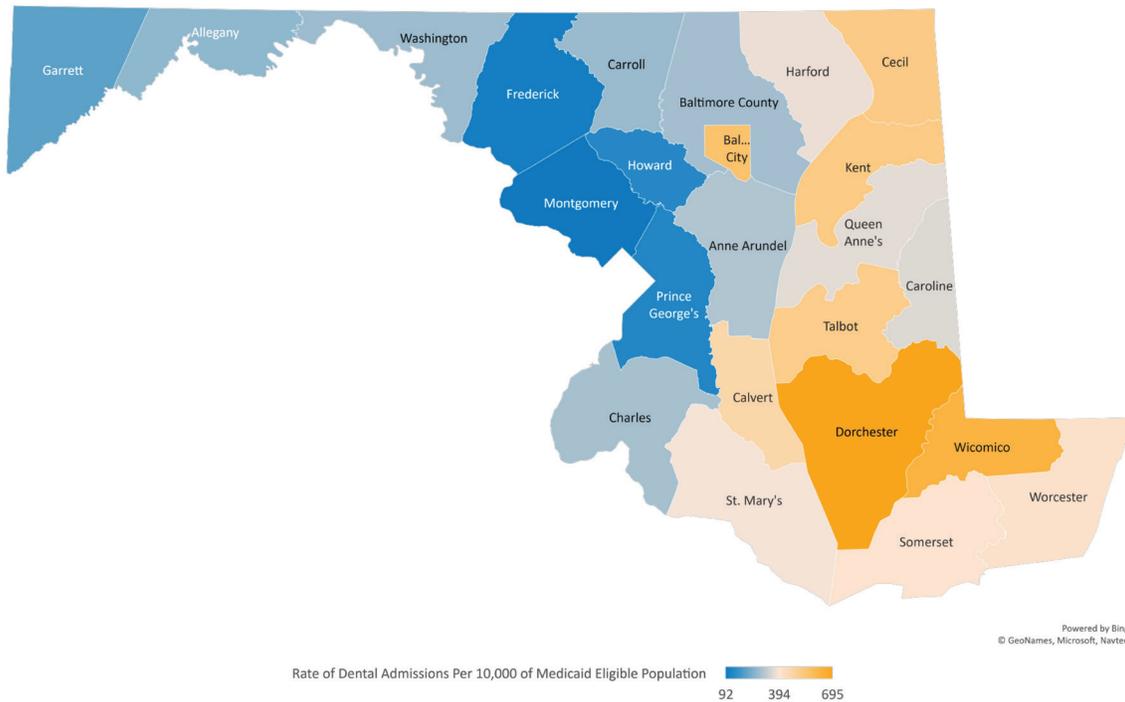
- **62%** of adult Medicaid enrollees who visited the ED for a chronic dental condition were female.
- **61%** of adult Medicaid enrollees who visited the hospital for a chronic dental condition were between the ages of **20 and 34**, with the majority of the remainder between 35 and 64.

- **57%** of adult Medicaid enrollees who visited the hospital for a chronic dental condition were Black, **38%** were white, and the remainder being either Hispanic origin or of another race.
- Baltimore City and the rural counties of eastern shore Maryland have the highest rates of ED visits for chronic dental conditions (*Exhibit 5*).

*Exhibit 4: Emergency Department Visits for Chronic Dental Conditions among Adults in Maryland in FY2016, by Payer, Sex, Age, and Race.*

	All Payers				Medicaid			
	Count	%	Rate Per 10,000 of Population	Total Charge	# of Visits	%	Rate Per 10,000 Medicaid Population	Total Charge
<b>Payer</b>								
Medicaid	22,254	53%	--	\$9,927,085	--	--	--	--
Uninsured	7,500	18%	--	\$2,848,839	--	--	--	--
Commercial Insurance	7,421	18%	--	\$5,712,968	--	--	--	--
Medicare	4,477	11%	--	\$3,778,897	--	--	--	--
Other	649	2%	--	\$469,370	--	--	--	--
<b>Sex</b>								
Male	19,010	45%	88.5	\$10,300,000	8,479	38%	314.3	\$3,956,507
Female	23,316	55%	98.6	\$12,500,000	13,774	62%	325.9	\$5,969,286
<b>Age</b>								
20-24	5,871	14%	149.6	\$2,924,479	3,384	15%	--	\$1,504,267
25-34	16,738	40%	200.6	\$7,153,468	10,131	46%	--	\$4,113,081
35-44	8,383	20%	110.1	\$3,962,021	4,410	20%	--	\$1,904,124
45-54	6,322	15%	74.0	\$3,842,878	3,096	14%	--	\$1,565,664
55-64	3,329	8%	41.9	\$2,730,111	1,198	5%	--	\$803,584
65-74	1,078	3%	20.9	\$1,446,761	27	0%	--	\$22,184
Age 75+	606	1%	16.8	\$685,646	--	0%	--	\$14,182
<b>Race</b>								
White	16,629	39%	67.9	\$9,773,317	8,554	38%	--	\$3,479,196
Black	22,966	54%	174.6	\$11,400,000	12,638	57%	--	\$5,920,709
Hispanic	1,102	3%	29.5	\$630,064	358	2%	--	\$212,706
Other Race	991	2%	26.3	\$664,321	428	2%	--	\$209,482

Exhibit 5: Rate of ED Visits for Chronic Dental Conditions among Medicaid Enrolled Adults in Maryland, FY2016



## Study Information and Methodology

This study was conducted in response to Maryland Senate Bill 169, authorizing the Maryland Dental Action Coalition (MDAC) to conduct an evaluation of the cost of emergency department (ED) visits for adults with dental conditions. This study was performed by the DentaQuest Institute Analytics and Publication team on behalf of the Maryland Dental Action Coalition (MDAC). The study received IRB approval from the Western Institutional Review Board (study number: 1178697).

Data from the Health Services Cost Review Commission (HSCRC) for Fiscal Years (FY) 2013 to FY2016 was used to generate this report. The data is restricted to adult residents of Maryland, defined as those 20 and over at the time of the visit with an address in Maryland. To be

included in the study, patients must visit the hospital with a chronic dental condition. Chronic dental conditions are defined, as previously reported in the literature<sup>6,7</sup>, as a diagnosis of ICD-9-CM codes 520.0 through 529.9 and/or ICD-10-CM codes A690, K000-K149, and M260-M279. Patients are defined as a Medicaid enrollee if the primary payer is a MCO or fee-for-service (FFS) Medicaid plan. Visits to the ED were defined as those who used those hospital services. Inpatient admissions to the hospital were defined as patients admitted to the hospital with an emergency from home or emergency department and assigned to medical or surgical services. Repeat visits are calculated using a unique patient ID and the time elapsed between admissions/discharges. The statistics on costs represent total charges.

<sup>6</sup> Chalmers, N., Grover, J., & Compton, R. (2016). After Medicaid Expansion In Kentucky, Use Of Hospital Emergency Departments For Dental Conditions Increased. *Health Affairs*, 35(12), 2268-2276.

<sup>7</sup> Chalmers, N. I. (2017). Racial Disparities in Emergency Department Utilization for Dental/Oral Health-Related Conditions in Maryland. *Frontiers in Public Health*, 5(164).

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*Our mission is to improve  
the oral health of all.*