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Research Brief

Estimating the Cost of Introducing Comprehensive Medicaid Adult Dental Benefits in Florida

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Key Messages

- *In this analysis, we estimated the net cost of introducing comprehensive adult dental benefits in the Medicaid program in Florida. We factored in the cost of dental care as well as offsets for medical care cost reductions since improved oral health is associated with lower medical care costs for conditions like diabetes, heart disease, and pregnancy.*
- *We modeled costs and savings over a three-year timeframe to account for the fact that the impact of introducing Medicaid dental benefits is not immediate; awareness among enrollees and provider adjustment is required for full impact.*
- *The estimated annual net cost to the state of Florida of introducing comprehensive adult dental benefits in Medicaid is $29.6 million after reaching a "steady state." This estimate comes from $61.3 million in additional dental care costs offset by $31.6 million in medical care cost savings. The net cost translates to $1.65 per enrollee per month.*
- *In addition, our analysis estimated the broader impact to the Florida economy from investing in oral health for adult Medicaid enrollees. We estimated that dental care spending will generate additional economic activity in the amount of $223.2 million after reaching a "steady state" in year three.*

Introduction

Medicaid provides health insurance coverage for some of the nation's most vulnerable populations, including low-income children, adults and older adults, pregnant women, and individuals with disabilities.[1] All states are required to comply with the Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefit to provide preventive and medically necessary comprehensive health care services for Medicaid-enrolled children under age 21, including dental care.[2] There is no corresponding dental care requirement for adult Medicaid

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beneficiaries; adult dental benefits are optional under Medicaid programs. According to the most recent analysis, Florida is one of nine states that provide emergency-only adult dental benefits.[3] There are 22 states (including the District of Columbia) that provide comprehensive adult dental benefits, 16 that provide limited benefits, three that provide no dental benefits, and one with a dental benefit under development.

Evidence indicates that providing adult dental benefits through Medicaid has a significant impact on access to and utilization of dental care among low-income adults.[4] Cost is the most significant barrier to obtaining dental care, particularly among low-income adults.[5] According to the most recent data, two out of three low-income adults in Florida who did not visit the dentist in the past year indicated cost was the reason.[6] Additionally, 31 percent of low-income adults in Florida indicated that the condition of their mouth and teeth affects their ability to interview for a job,[6] suggesting that increased dental coverage could have economic benefits.

In addition, providing comprehensive dental benefits to Medicaid-enrolled adults has the potential to reduce health care spending in other areas. For example, expanding dental coverage to Medicaid adults reduces costly emergency department (ED) visits for dental conditions.[7,8] There is also emerging evidence that increased access to dental care can lead to lower medical care costs among patients who are pregnant or who have chronic conditions such as diabetes and heart disease.[9,10] There may be generational effects of increased dental care coverage for adults enrolled in Medicaid, as well. Children who reside in states that have an extensive Medicaid adult dental benefit under which their parents have dental coverage are more likely to have had a dental visit in the past year and are less likely to have deferred dental care.[11]

In this report, we estimated the net additional cost to the state of Florida of adding a comprehensive adult dental benefit to Medicaid. We estimated medical care cost savings attributable to a reduction in ED visits for dental conditions and reduced medical care costs among Medicaid enrollees who are pregnant or who have diabetes or coronary artery disease. Throughout our analysis, we collaborated closely with the Florida Policy Institute and Florida Voices for Health.

Results

Table 1 outlines our estimates of the net cost of implementing an adult dental benefit in Florida's Medicaid program. Our estimate include the additional costs for dental care services offset by reduced spending on dental-related ED visits and medical care cost savings resulting from improved oral health. Our analysis incorporated three conditions for which there is evidence linking dental care and reductions in medical care costs: diabetes, coronary artery disease (CAD), and pregnancy. Because dental care utilization will not increase immediately, these savings will not be realized immediately; therefore, our analysis covered a three-year timeframe.

The estimated total additional cost of providing Medicaid adult dental benefits in Florida is $76.5 million in year one, $116.8 million in year two, and $157.2 million in year three. Estimated total reductions in spending on dental-related ED visits and medical care costs related to diabetes, CAD, and pregnancy are $0 in year one, $35.2 million in year two, and $81.2 million in year three. Thus, the net additional cost of the adult dental benefit is $76.5 million in year one, $81.6 million in year two, and $76.0 million in year three.

Applying the federal medical assistance percentage (FMAP) for federal fiscal year 2022[12] yields a net cost of an adult dental benefit in Florida's Medicaid program

as $29.8 million in year one, $31.8 million in year two, and $29.6 million in year three. The remaining cost would be paid by the federal government per the FMAP as specified by the Centers for Medicare & Medicaid Services (CMS).

On a per enrollee per month basis, the net additional cost to the state of Florida of adding an adult dental benefit is estimated to be $1.66 in year one, $1.77 in year two, and $1.65 in year three.

The estimated impact to the Florida economy stemming from increased dental spending under an adult dental benefit is $108.6 million in year one, $165.9 million in year two, and $223.2 million in year three (Table 2). This "economic multiplier effect" results from increased spending on services, facilities, utilities, and other direct and indirect impacts resulting from increased dental spending.

Dental care typically ranks above all other health care services in terms of unmet need due to financial barriers, especially among low-income adults. Research shows that improved oral health is linked with increased employability and lifetime earnings, particularly among women and low-income populations.[13,14] One study estimates that water fluoridation contributes to a 4 percent increase in lifetime earnings among women.[15] While an adult dental benefit will lessen cost barriers for Medicaid beneficiaries, it is difficult to quantify the impact on employment. The available evidence focuses on the link between oral health status and employability and earnings. As far as we know, there is no available research examining how expanding dental coverage impacts these outcomes. As a result, we were unable to provide a quantitative estimate on employment, other than simply to state it will be a positive effect.

Discussion

In this research brief, we estimated the cost of introducing comprehensive Medicaid adult dental benefits in Florida. Our analysis estimated that adding comprehensive adult dental benefits to the Florida Medicaid program will result in an annual net cost of $29.6 million by year three of implementation after taking into account additional spending on dental care and fiscal offsets from reduced spending on emergency dental services and broader medical care cost savings. This translates to an estimated net cost for the state of Florida of $1.65 on a per enrollee per month basis by year three. We also estimated that the investment in dental care for low-income adults will generate an additional $223.2 million per year in economic activity by year three.

This analysis required making several key assumptions that, although guided by evidence and data, are subject to uncertainty. Nevertheless, we incorporated the best available evidence and data to guide our modeling. The analysis is meant to assist policymakers in Florida in assessing the fiscal impact of introducing a comprehensive adult dental benefit into the state Medicaid program. The Health Policy Institute is pleased to work with policymakers and advocates in Florida on other research initiatives related to the dental care sector.

Data & Methods

We worked closely with the Florida Policy Institute and Florida Voices for Health, who facilitated access to data from the Florida Agency for Health Care Administration via a public records request. We received the data necessary for our analysis in March 2021. The data included Medicaid enrollment, number of Medicaid enrollees with a dental visit, current dental care spending, current number of dental-related emergency department visits, and the number of

Medicaid enrollees diagnosed with diabetes and coronary artery disease. The three most recent years of available data (from state fiscal years 2017-18, 2018-19, and 2019-20) were provided for each data element.[16]

We previously developed a methodology for estimating the cost of introducing a Medicaid adult dental benefit[17] and modified this methodology specifically for Florida. We modeled increased dental care costs and offsetting medical care cost savings over a three-year timeframe to account for the fact that the impact of introducing comprehensive adult dental benefits in Medicaid is not immediate. There is very little research to draw on to predict exactly when these costs and savings would be realized following the implementation of a comprehensive benefit. Awareness among enrollees takes time, providers need time to adjust,[18] and medical care cost reductions are not realized immediately.

We estimated the Medicaid adult enrollment in Florida to be 1,496,898, which is an average of the three most recent years of enrollment data.[17] While enrollment in the state declined over that three-year period, we recognized that Medicaid enrollment is up nationally due to the COVID-19 pandemic.[19] We deemed it reasonable to assume the downward trend will reverse temporarily, thus we chose the average of the last three years.

We estimated the increase in dental care use resulting from adding a comprehensive adult dental benefit in Medicaid. In the three most recent years for which data are available, an average of 9.9 percent of adults enrolled in Medicaid in Florida received some type of dental care service (i.e., had a dental care claim).[17] Across all states that provide comprehensive dental benefits to adults in Medicaid, the average dental care utilization rate is 28.4 percent.[20] We predicted that the dental care utilization rate will increase linearly from its baseline at 9.9 percent and reach its “steady state” of 28.4 percent by year three following the implementation of the comprehensive benefit.

We then estimated additional dental care spending among adult Medicaid enrollees who use dental care services. We analyzed Medicaid claims data and calculated average per patient per year dental care spending among Medicaid enrollees with a dental visit across all states with a comprehensive adult dental benefit. This was $437 per year.[20] Currently, Florida Medicaid enrollees who use dental care spend an average of $193 per year, a significantly lower amount.[17] New dental care costs will result from new patients accessing dental care services as well as from increased spending among those already visiting the dentist who will have more comprehensive benefits.

We modeled offsetting medical care cost savings among dental patients enrolled in Medicaid who are pregnant or who have chronic conditions such as diabetes and heart disease.[10,11] We assumed no medical care cost savings in year one. We assumed year two will bring half of the expected medical care cost savings and the “steady state” level of cost savings will be reached in year three. There is little evidence to draw on, but the best available evidence suggests that medical care cost savings start to appear as early as year two,[9] consistent with our assumptions.

Based on enrollment and diagnosis data from the three most recent years for which data are available, 7.0 percent of adults enrolled in Medicaid in Florida were diagnosed with diabetes.[17] This is likely a conservative estimate, as the national prevalence of diabetes among Medicaid enrollees was 11.4 percent in 2018.[21] We assumed adults with diabetes will behave similarly to other adult enrollees in terms of their dental care seeking behavior when a comprehensive dental benefit for adults is introduced into Medicaid, meaning their

utilization rate will increase by the same amount as other adults.

According to available evidence, estimated medical costs would reduce between $900[10] and $2,840[9] per year per patient with diabetes who receives periodontal treatment. We believed the most accurate estimate is toward the lower end of this range. Thus, we assumed a medical care cost savings of $900 per year for each new dental patient with diabetes once in "steady state" in year three. As noted, in year one we assumed no cost savings and in year two we assumed half the "steady state" amount.

Based on enrollment and diagnosis data from the three most recent years for which data are available, 2.7 percent of adults enrolled in Medicaid in Florida were diagnosed with coronary artery disease (CAD).[17] This is comparable to the national average of Medicaid enrollees with CAD at 3.0 percent.[21] We assumed patients with CAD will behave similarly to other adult enrollees in terms of their dental care seeking behavior when a comprehensive dental benefit for adults is introduced into Medicaid, meaning their utilization rate will increase by the same amount as other adults. Available evidence suggests that medical care cost savings among adults with CAD who receive periodontal treatment are $1,090[9] per year. As noted, we assumed no cost savings in year one, half this amount in year two, and reaching the full amount in year three.

Data provided to us on the share of Medicaid enrollees who are pregnant in a given year did not align with other data sources and were unreliable in our view. We therefore used state-level data from the Medicaid and CHIP Payment and Access Commission on the number of births among Medicaid enrollees in Florida[22] minus the number of teen births.[23] Approximately 77.5 percent of teen births nationally are paid for by Medicaid.[23] We estimated 6.8 percent of Medicaid enrollees in Florida become pregnant in a given year.

We assumed that pregnant women will behave similarly in terms of their dental care seeking behavior when a dental benefit for adults is introduced into Medicaid, meaning their utilization rate will increase by the same amount as other adults. Based on the available evidence, estimated medical care cost savings are between $1,500 (second pregnancy) and $2,400 (first pregnancy) per year per pregnant woman receiving periodontal treatment.[9] For our modeling, we chose the low end of this range and assumed a medical cost reduction of $1,500 per year per pregnant woman.

Based on the most recent national data, we assumed that 60 percent of adult Medicaid enrollees in Florida have some form of periodontal disease.[24] This 60 percent estimate also applies to pregnant women.[25]

In the three most recent years for which data are available, there was an average of 76,008 dental-related emergency department (ED) visits among adults ages 21-64 paid for by Medicaid each year.[17] 2019 data from the Florida Agency for Health Care Administration indicate that the average charge for a dental-related ED visit among Medicaid enrollees in the state was $2,336.[26] Another study using 2014 Florida-specific data estimated that the average dental-related ED visit costs $1,430.[27] The most recent national analysis found the average dental-related ED visit costs $1,286.[28] We used this more conservative national estimate in our modeling.

The available evidence suggests that up to 78 percent of ED visits for dental conditions nationwide could be diverted to a dental office or ambulatory setting for more cost-effective and clinically appropriate care.[29] Another recent study found a 14 percent reduction in dental-related ED visits one year after expanding adult

dental benefits via Medicaid expansion under the Affordable Care Act.[30] We also obtained state-level data through our contacts in state Medicaid agencies. For example, data provided to us from the Missouri Medicaid program show a 9 percent reduction in dental-related ED visits one year after introducing dental benefits to adults in Medicaid. By year two, the reduction was 18 percent and by year three it was 63 percent. Based on these studies, our model made a conservative approach and assumed no reduction in ED visits for dental conditions one year after introducing an adult dental benefit in Medicaid, a 25 percent reduction by year two, and a 50 percent reduction by year three.

We used the federal medical assistance percentage (FMAP), or federal matching shares, to distribute these medical care cost offsets across state and federal programs. The FMAP for Florida is 61.03 percent in federal fiscal year 2022, making the state's share of expenditure responsibility 38.97 percent.[12]

For the estimated economic impact, we relied on previous research summarizing the impact to the local economy associated with increased dental care utilization and spending.[31,32] This research estimated the local economic impact of a new dental practice opening. The underlying analysis can also be used to estimate an "economic multiplier" effect from increased dental spending rather than new dental offices opening, which is more relevant for our analysis. This multiplier effect is estimated at 1.42 based on the available research. In other words, for every additional $1 spent on dental care, an additional $1.42 in other spending (e.g., real estate, transportation) is generated. We applied this multiplier effect to the estimated increase in dental care spending to calculate the broader impact to the Florida economy of adding dental benefits for adults to the Medicaid program.

While an adult dental benefit will lessen cost barriers for Medicaid beneficiaries, it is difficult to quantify the impact on employment. For the estimated impact on employment prospects of adult Medicaid beneficiaries resulting from improved oral health, we drew on broad research that quantifies the link as well as Florida-specific data. There is no research to draw on that links the provision of adult dental benefits directly to employability. However, there is research linking oral health with the probability of being employed and earnings, and this research indicates that women and low-income populations benefit.[14,15] Thus, it is reasonable to assume that introducing an adult dental benefit in the Florida Medicaid program will result in improved job prospects for beneficiaries.

There are numerous limitations to our analysis, which have been outlined in our original modeling work.[17] For example, the assumed gradual scaling up of dental care utilization is based on our expert opinion as there is little research on this issue. However, there could be pent-up demand for dental care among low-income adults that could produce higher expenditures in early years and a subsequent decline. Medical care cost savings estimates are subject to a high degree of uncertainty. This is partly because the evidence base is still relatively weak on exactly how much medical care costs decline when patients with chronic conditions like diabetes have increased access to dental care. We took a very conservative approach to modeling medical care cost savings, taking the lower end of the estimates from the research.

Table 1: Estimated Cost of Adding a Comprehensive Adult Dental Benefit in Medicaid in Florida

	Year One	Year Two	Year Three
Medicaid enrollment, adults	1,496,898	1,496,898	1,496,898
Dental care utilization rate, baseline	9.9%	9.9%	9.9%
Dental care utilization rate, post reform	16.1%	22.2%	28.4%
Additional enrollees receiving dental care	92,309	184,617	276,926
Average dental care costs per patient per year, post reform	$437	$437	$437
Additional costs for new dental patients	$40,338,906	$80,677,813	$121,016,719
Additional costs for existing dental patients	$36,159,068	$36,159,068	$36,159,068
Estimated total additional dental care costs	**$76,497,974**	**$116,836,881**	**$157,175,787**
State share of additional dental care costs	**$29,811,261**	**$45,531,332**	**$61,251,404**
Estimated reduction in health care costs for those…			
with diabetes	$0	$3,489,269	$10,467,808
with cardiovascular disease	$0	$1,629,987	$4,889,962
who are pregnant	$0	$5,649,293	$16,947,879
with an emergency department visit for a dental condition	$0	$24,436,572	$48,873,144
Estimated total medical care cost savings	**$0**	**$35,205,121**	**$81,178,792**
State share of cost savings	**$0**	**$13,719,436**	**$31,635,375**
Net additional cost of adult dental benefit	**$76,497,974**	**$81,631,759**	**$75,996,994**
State share of net additional cost of adult dental benefit	**$29,811,261**	**$31,811,897**	**$29,616,029**
Per enrollee per month (state share)	**$1.66**	**$1.77**	**$1.65**

Table 2: Estimated Economic Impact Due to Investment in Dental Spending in Florida

	Year One	Year Two	Year Three
Net additional cost of adult dental benefit to state of Florida	$29,811,261	$31,811,897	$29,616,029
Additional economic activity in Florida	$108,627,124	$165,908,370	$223,189,617

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