Implementing a Medicaid Dental Benefit for Adults with Disabilities Can Yield Significant Cost Savings

Potential Cost Offsets

Hospital Savings

Emergency Department Savings

Medical Savings for People with Chronic Diagnoses

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Background. The most recent evidence base suggests significant Medicaid cost savings associated with dental benefits for adults with disabilities. This issue brief focuses on three primary sources of potential cost savings. Each has a clear mechanism in which the provision of dental benefits can realize Medicaid program cost savings. The first two sources, potential savings from reduced hospital and emergency department visits, are based on Texas Health Institute's (THI) prior research using inpatient admissions and emergency department visits data from the Texas Health Care Information Council.[1] The potential for cost savings arises from non-traumatic dental conditions in hospital and emergency department visits that could easily have been averted through earlier prevention, diagnosis, and treatment in a dental office visit. The third primary source of cost savings is based on prior research by the National Association of Dental Plans (NADP). NADP estimates mean Medicaid payment differences among beneficiaries with chronic disease. The analysis presents Medicaid cost differences across 10 chronic disease diagnoses with statistically significant differences in payments by those with and without preventive dental care.[2]

The lower mean costs observed among Medicaid beneficiaries with preventive dental care in the NADP analysis suggest considering the role of oral health in facilitating improved outcomes for people at risk of or suffering from chronic health conditions.[3] First, an emerging body of evidence shows a relationship between chronic disease and dental conditions. For example, research has shown the beneficial effect of regular dental care on stroke[4], diabetes[5,6], and hypertension[7]. Second, chronic diseases are costly conditions that are a key target for improved prevention, management, and cost control. Moreover, chronic diseases are more prevalent among Medicaid adults than the general population[8], and dental care is increasingly seen as a core component of health promotion and integrated care strategies to prevent and better manage chronic disease while lowering medical costs.[9,10,11]

Given the heavy burden of chronic disease for enrollees and families and the high financial costs of chronic disease to the Texas Medicaid program, implementing a dental benefit for adults with disabilities can be a key strategy to help Texas achieve the triple aim. Further research on the role of providers, patient advocacy groups, and other stakeholders during implementation can help optimize cost savings, improve health outcomes, and enhance quality of care.

Discussion. Based on the Coalition of Texans with Disabilities' estimated number of program enrollees, the state share of program costs would total $5,324,128 per year (see Table 1). The data suggests the potential for large savings associated with a modest preventive dental program for adults with disabilities in Medicaid. For example, for every dollar in program expenditures, there are $3.58 in potential cost savings that could be realized by avoiding hospitalizations and ED visits from non-traumatic dental conditions (NTDCs) while preventing and better managing chronic conditions (see graphic and Table 2). Given the evidence of the potential impacts from dental services on overall healthcare utilization and costs, a dental benefit for adult Medicaid enrollees with disabilities would likely be cost effective.

For every dollar in program expenditures, **there are $3.58 in potential cost savings that could be** realized by avoiding hospitalizations and ED visits from NTDCs while **preventing and better managing chronic conditions.**

The estimated program offsets, particularly for chronic health conditions, appear rather high. The estimates, however, are based on the best available data and conservative assumptions. For example, potential cost savings accrue only to the 22.2% of users who are assumed to utilize dental services in a given year and who additionally have a NTDC or chronic health condition. The estimated rate of users with NTDCs and chronic health conditions is based on data from Medicaid non-elderly adults in Texas and the nation, respectively. Both sets of rates are lower than the actual rates for adults with disabilities, as disabled persons are on average less healthy than able persons.[12,13] Additionally, the rates for chronic health conditions among adult disabled Medicaid beneficiaries in Texas are higher than the rates listed in the table because of Texans' higher rates of obesity, tobacco smoking, and other risk factors.[14,15] Further, whereas good oral health is recognized to prevent chronic conditions, no allowance for these prevented conditions is included in the offsets.

Potential savings for chronic health conditions are based on an NADP analysis of point-in-time differences in costs between those with and without preventive dental care. We are aware that the observed gap in medical costs in cross sectional data could reflect state differences in patient populations, benefit generosity, and reimbursement policies. Statistical biases could exist that lead to both over and under estimates of potential savings. More important, however, is the high prevalence of people with chronic health conditions and the magnitude of medical costs associated with them. The provision of dental benefits can be seen as a key component in ongoing efforts at reducing costs and improving quality of care for people with chronic disease. It creates the conditions to build on existing systems changes brought about by the Texas 1115 medical waiver to improve care at reduced costs.

Uncertain factors and behavioral responses to the new program will determine whether and to what extent these potential cost savings are realized. For example, the estimated 22.2 percent of enrollees could be far greater and more impactful depending on promotional efforts of patient advocacy groups, health systems, providers, philanthropy, and the government. Health centers and providers could be especially instrumental at patient and provider education about the availability of the benefit and the synergistic relationship between oral health and chronic disease. Referrals to preventative dental could become the basis of quality indicators for value-based payments, and dental offices could be the site of chronic disease screening. The potential is there if stakeholders collaborate to make the most of a new dental benefit program.

Provision of dental benefits can be seen as a key component in **ongoing efforts at reducing costs and improving quality of care** for people with chronic disease.

Conclusion. The potential exists to implement a dental benefit that would yield cost savings to Texas Medicaid significantly in excess of program costs. Partnership and collaboration between the Medicaid program and other stakeholders to realize cost savings, improved health outcomes, and greater quality of care may be the key to success. In our future research, we intend to inform efforts for successful program rollout and ongoing collaborative efforts to improve health systems.

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Table 1: Estimated Program Costs and Offsets by Assumed Enrollees

Program Assumptions	Total Annual Enrollees	Total Potential Program Offsets	Annual Program Costs		
			Total	Federal Share	State Share
Texas Health and Human Services Analysis 2020 Analysis[16]	252,684	($30,513,016)	$8,526,569	$5,184,154	$3,342,415
Coalition of Texans with Disabilities, Adjusted Population	402,500	($48,604,142)	$13,581,960	$8,257,832	$5,324,128

Note: Program offsets are estimates of potential savings to Medicaid. Program costs assume 22.2% of beneficiaries visit the dentist annually. Cost and offset estimates are inflation-adjusted to 2020 dollars.

Cost Analysis of Medicaid Dental Benefit for Adults with Disabilities

Program Costs[18]
402,500 Enrollees
Total Annual Costs[19,20]
$13,581,960

State Share $5,324,128
Federal Share $8,257,832

A modest program cost based on a single visit of $152 per visit among the estimated 22.2% of enrollees who visit the dentist in a given year.

Total Potential Cost Offsets
$48,604,142

The potential annual cost savings to Medicaid are far larger than program costs. The extent to which Texas Medicaid can realize these cost savings depends on a wide variety of stakeholders, including providers, health systems, advocacy groups, and the Medicaid beneficiaries and their families. Stakeholders would need to be aware of and promote the new preventive dental benefit.

Potential Hospital Savings[21,22]

$520,689

Potential annual savings to Texas Medicaid from averted hospitalizations from non-traumatic dental conditions among those receiving dental services.[23, 24]

Potential Emergency Department Savings[25]

$388,066

Potential annual savings to Texas Medicaid from averted emergency department visits from non-traumatic dental conditions among those receiving dental services.[26]

Potential Medical Savings for People with Chronic Diagnoses[27, 28]

$47,695,386

Among Medicaid enrollees with chronic health conditions, the gap in medical costs between those with and without preventive dental care represents the greatest potential for realizing cost savings.[29]

Intangible Benefits and Other Cost Savings

Potential program outcomes include intangible benefits associated with improved oral health including self-esteem, reduced stigma, improved quality of life, improved employment outcomes[30], and reduced burden of illness for disabled adults and their families.[31,32] Other state programs might benefit from cost savings associated with these outcomes.

Table 2: Potential Medicaid Cost Savings for Adults with Chronic Conditions[33,34]

Chronic Health Condition	Rate per Thousand	Mean Medicaid Payments Without Preventive Dental Care	Potential Savings Associated with Lower Mean Payments Among Patients with Preventative Dental	
			Minimal Mean Difference	Percent of Payments Without Dental Care
Coronary Heart Disease	21.8	$2,958	$1,385	47%
Diabetes	72.3	$2,640	$929	35%
High Blood Pressure	280.2	$1,305	$355	27%
Heart Attack	17.0	$2,773	$787	28%
Stroke	18.5	$3,205	$1,301	41%
Angina	11.9	$3,243	$755	23%
Other Heart Disease	78.4	$1,661	$686	41%
Cancer	67.2	$1,688	$836	50%
High Cholesterol	268.1	$1,238	$509	41%
Asthma	92.2	$1,674	$474	28%

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[1] Texas Health Institute. Emergency Department and Inpatient Hospitalization for Non-Traumatic Dental Conditions in Texas. October 2018.

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[15] Centers for Disease Control and Prevention. Stats of the State of Texas, 2017. https://www.cdc.gov/nchs/pressroom/states/texas/texas.htm

[16] Prior information from the Texas Health and Human Services estimates 252,684 program enrollees which would be associated with annual costs of $8,526, Such a program would be associated with potential annual cost savings of $326,882 for averted NTDC hospital visits, $243,623 for averted emergency department visits, and $29,942,512 for improved prevention and management of chronic health conditions.

[17] All estimates of costs, savings, and total offsets are based on the Coalition for Texans with Disabilities' estimated 402,500 Medicaid adults with disabilities. All figures are annual costs and savings inflation-adjusted to 2020 dollars.

[18] Program costs are based Yarbrough's (2016) estimate of $152 per dental visit Texas Health and Human Services' (2020) estimate of 22.2% of enrollees visiting a dentist in a given year.

[19] Texas Health and Human Services, Center for Analytics and Decision Support. HB4533 Pilot Dental Study. June 2020.

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[21] Note: All estimates of cost savings from averted hospitalization and emergency department non-traumatic dental condition (NTDC) visits are the product of the enrollment population, the rate of NTDC hospital (32 per 100,000) or ED (1,821 per 100,000) visit averted, the use ratio (22.2 percent), the estimated mean costs of an averted NTDC visit, and a cost inflator based on the Consumer Price Index.

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[23] Note: Estimate of potential savings are based on mean charges of $42,726 per NTDC visit. We imputed Medicaid cost savings by applying the reciprocal of the mean hospital charge-to-cost ratio (3.4) observed in the Medicare program, as the charge-to-cost ratio for Texas Medicaid was unavailable at the time of this research.

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[26] Potential savings is based on the reimbursement costs in Texas for emergency department visits in Texas. In a report to the IDD SRAC (Intellectual and Developmental Disabilities System Redesign Advisory Committee) on 11-16-2020, Dr. Julie Parsons of HHSC verbally stated the cost of an emergency department visit was an average of $320.

[27] Estimates of savings from chronic health conditions is based on estimates from an analysis of cost differences between Medicaid non-elderly adults with 10 chronic conditions for which observed cost differences were statistically significant. Conducted by the National Association of Dental Plans, the analysis was based on the 2014 Medical Expenditure Panel Survey.

[28] The estimate is based on the sum of all cost differences between those with and without preventive dental care. The difference calculated was based on the lower cost difference based on 95 percent confidence interval. Thus, the figure represents the more conservative most feasible amount of potential cost savings.

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[33] National Association of Dental Plans. NADP Analysis Shows Adults with Medicaid Preventive Dental Benefits Have Lower Medical Costs for Chronic Conditions. November 2017.

[34] Note that estimates are inflated to 2020 dollars. The percentages in the last column are lower in absolute value than those reported by NADP, as THI calculated the mean minimal difference as the lower of a 95% confidence interval of cost differences to represent a more conservative estimate of potential cost savings.