



Original Article

State Medicaid Policies, Provider Availability, and Their Impact on Pediatric and Adolescent Dental Care Utilization

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ABSTRACT

This research sought to determine the comparative influence of four state-related variables—Medicaid funding rates, extent of Medicaid adult dental benefits (MADB), dentist enrollment in Medicaid, and availability of dental professionals—on the engagement with dental services among Medicaid-covered children and adolescents aged 1 to 17. Employing a cross-sectional national dataset from the 2018 to 2019 National Survey of Children's Health, this study analyzed dental care participation among Medicaid-enrolled youth. Age-stratified subgroup analyses were performed. A sequential logistic regression approach evaluated the relative impact of the four state-level factors on dental care usage. For the overall cohort aged 1 to 17 and the 1 to 3 age subgroup, dentist involvement in Medicaid programs showed a positive association with dental service utilization. Among children aged 4 to 11, those in states with no or emergency-only adult dental coverage had a higher probability of dental visits compared to peers in states with full coverage. For adolescents aged 12 to 17, no state-level variables were linked to dental care engagement. The study revealed substantial age-based differences in how state-level factors affect dental service use among Medicaid-enrolled youth. Dentist participation in Medicaid was notably critical for dental care access among the youngest children. State-level policy mechanisms hold significant promise for enhancing dental care access for Medicaid-covered children, playing an essential role in promoting equitable oral health outcomes for this population.

Keywords: Young population, Dental care engagement, Medicaid dentist involvement, Medicaid system, Dental benefit provisions

Introduction

Dental caries stands as the most common chronic condition affecting children [1]. Suboptimal oral health in youth is linked to increased school absenteeism, reduced academic achievement [2, 3], and diminished overall well-being [4]. Over the last ten years, engagement with dental services in the United States has grown among children across all economic backgrounds [5]. Nonetheless, children from low-income households enrolled in Medicaid continue to access dental care less frequently and experience higher rates of untreated caries compared to their counterparts from higher-income families with private insurance [5–8].

For low-income individuals covered by Medicaid, access to healthcare and dental services is shaped by both systemic and personal factors. According to Davidson *et al.*'s framework for healthcare access in economically disadvantaged groups, critical systemic elements for Medicaid beneficiaries include healthcare system characteristics, such as the extent of provider involvement in Medicaid and the availability of healthcare professionals, as well as safety-net structures, including Medicaid funding levels and coverage policies [9]. These elements determine whether services are covered and how easily individuals can locate providers. Four primary

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systemic factors consistently associated with dental care access for Medicaid-enrolled children are the level of Medicaid payments for dental procedures, the comprehensiveness of dental benefits for adults under Medicaid (referred to here as Medicaid adult dental benefit [MADB] comprehensiveness), dentist engagement in Medicaid programs, and the supply of dental professionals [10–16]. Research indicates that elevated state-level Medicaid payment rates are generally tied to increased dental service utilization among children [13, 15, 17], likely because higher payments encourage dentist participation in Medicaid. However, evidence on the extent to which dentist participation mediates this relationship is inconsistent [16], and there is no clear data on which provider types are most likely to adjust their participation in response to changes in payment policies.

The scope of dental benefits for adults under Medicaid (MADB) may shape children's dental care engagement through indirect influences stemming from their guardians. The oral health of young people is heavily shaped by the perspectives, behaviors, and dental health of their caregivers [18, 19], with youth whose parents regularly visit dentists being more prone to accessing dental services themselves [20]. Dental coverage is a crucial factor in promoting dental care utilization, yet states are not obligated to include dental benefits for Medicaid-enrolled adults. This leads to significant variation across states in dental coverage provisions. In 2019, 18 states provided extensive dental benefits for adults in Medicaid, 16 offered limited benefits, 11 covered only emergency dental procedures, and 5 provided no dental benefits at all [21]. The breadth of MADB has been shown to affect dental care access for adults enrolled in Medicaid [22], and emerging studies suggest that these policies have secondary effects on children's dental care engagement [10–12]. While these analyses accounted for other state-level factors, such as funding levels or dental professional availability, they did not evaluate the relative impact of MADB scope compared to other state-level elements influencing youth dental care access.

For adults, evidence shows that expanding Medicaid alongside broader MADB scope increases dental care participation, but only in states with abundant dental practitioners [23]. However, the comparative role of dental practitioner availability versus Medicaid-related factors in children's dental care has not been explored. It is conceivable that the availability of dental professionals could influence the connection between dentist participation in Medicaid and youth dental care access. For example, high Medicaid participation in a state with fewer dentists per capita might have a lesser impact on children's dental care compared to a state with greater dentist availability. The relationships among Medicaid dental policy elements and their comparative effects on youth dental care engagement remain largely uncharted. Thus, this study sought to investigate the relative influence of four state-level factors—Medicaid payment rates, dentist enrollment in Medicaid programs, MADB scope, and dental practitioner supply—on dental service participation among Medicaid-covered children and adolescents at the individual level.

Materials and Methods

This analysis used a cross-sectional approach combining individual- and state-level data to explore how four Medicaid-related state policies influence dental care utilization among children. Individual-level data were drawn from the 2018 and 2019 waves of the National Survey of Children's Health (NSCH), a nationally representative survey conducted by the U.S. Census Bureau that monitors health and well-being in children ages 0 to 17 [24]. The 2018 survey collected responses from June to December 2018, and the 2019 survey from June 2019 through January 2020.

The primary outcome was whether a child had received any dental care in the past year, based on parent report (yes/no). Covariates at the child level included age, sex (M/F), race/ethnicity (Black, Asian, White, Hispanic, other, or multiracial as defined by NSCH), oral health status (Excellent, Very Good, Good, Fair/Poor), overall general health (Excellent, Very Good, Good, Fair/Poor), parental education (less than high school, high school, some college, college degree or higher), parental employment status (yes if one or both parents employed, no otherwise), and number of caregivers (single versus multiple). Selection of these covariates was guided by previous research linking them to children's dental utilization [25–27].

The four state-level exposures included: Medicaid adult dental benefit (MADB) generosity, Medicaid reimbursement rates, dentist participation in Medicaid, and dentist supply. MADB generosity was obtained from the Center for Health Care Strategies, Inc. [21] and initially categorized as: extensive coverage (covering more than 100 preventive, diagnostic, and restorative procedures with an annual limit of at least \$1000), limited coverage (fewer than 100 procedures or annual maximum $\leq$ \$1000), emergency-only coverage (pain relief under urgent conditions), and no coverage. Because few states had no coverage, emergency-only and no coverage were

combined for analyses. Children living in states that changed adult dental coverage between 2017 and 2019 (Alaska, Idaho, Illinois; N = 3) were excluded to ensure stability of MADB classification.

Dentist participation rates were taken from the 2017 American Dental Association Health Policy Institute data [28], defined as the proportion of dentists in each state who treated at least 100 Medicaid patients that year. Medicaid reimbursement data, reflecting the proportion of standard dentist fees before network discounts, were drawn from 2016 estimates [29]. Ten states lacked participation data (District of Columbia, Arkansas, Indiana, Nevada, South Dakota, Minnesota, Pennsylvania, Nebraska, South Carolina, and West Virginia) and were removed, leaving 38 states in the final analysis. Dentist supply, measured as dentists per 100,000 population, was obtained from HRSA [30].

Study population and analytical approach

The analysis focused on children and adolescents aged 1 to 17 whose caregivers (hereafter “parents”) indicated that the child was actively enrolled in Medicaid or a related government program for low-income or disabled individuals. Only those with uninterrupted enrollment over the past 12 months were included, ensuring coverage stability. The study examined the entire sample and conducted subgroup analyses for three developmental stages: 1–3 years, 4–11 years, and 12–17 years [31]. These subgroups were chosen to capture variations in dental service utilization and potential access barriers across early childhood, school-aged children, and adolescents.

Population estimates were generated using survey weights to adjust for the complex sampling design, household selection probability, and nonresponse [32]. A complete case approach was used, excluding children with missing data for any variable. This exclusion removed 32,755 weighted cases, representing 0.2% of the original eligible sample (weighted N = 16,056,388). Missing data rates for individual variables ranged from 0% to 0.4%. The final analytic dataset comprised 7,905 unweighted children, corresponding to 15,174,400 weighted individuals, distributed as 2,745,185 aged 1 to 3, 7,427,102 aged 4 to 11, and 5,002,113 aged 12 to 17.

For categorical variables, weighted bivariate comparisons were conducted using Chi-square tests with a Rao-Scott adjustment. Continuous variables were assessed using Wilcoxon rank-sum tests. To examine the relative contributions of four state-level factors, 16 logistic regression models were developed, representing each factor individually and in every combination [33]. Although multilevel modeling was initially considered to account for clustering by state, variance components were negligible, supporting the use of standard logistic regression. All models included relevant covariates. Model fit was evaluated using the Akaike information criterion (AIC) derived from the Rao-Scott weighted log-likelihood through the “survey” package in R; lower AIC values indicate better model fit, with differences of two or more considered meaningful. For continuous predictors, odds ratios represent a 10-percentage point increase for dentist participation and Medicaid reimbursement, and a 10-unit increase for dentist supply.

Bivariate analyses and robustness assessment

Associations among the four state-level Medicaid factors were evaluated using Spearman correlation and Kruskal–Wallis tests. To assess the stability of results, analogous models were also applied to children covered by private insurance. In line with earlier research, which often treats Medicaid adult dental benefit (MADB) generosity as a binary measure (Extensive/Limited versus Emergency/None), additional models adopting this dichotomized classification were run; effect estimates remained consistent. Potential multicollinearity across predictors was examined in all models, with all variance inflation factors (VIF) below 5, indicating acceptable independence. Because the analyses used de-identified survey data, the study was determined not to involve human subjects by the University’s Institutional Review Board.

Results and Discussion

Table 1 presents descriptive statistics and bivariate comparisons for children who did and did not have a dental visit in the previous year. According to parent reports, 82% of children had at least one dental visit in the past 12 months. The largest racial/ethnic subgroup was Hispanic/Latino (39%). A majority of children were reported to have excellent or very good oral health (68%) and general health (84%). Most children (75%) lived with more than one caregiver, nearly half of parents (46%) had more than a high school education, and 79% of children had at least one employed parent. Regarding state-level adult dental benefits, 40% of children lived in states that offered only emergency services or no dental coverage for adults enrolled in Medicaid.

Table 1. Characteristics of Medicaid-enrolled children aged 1 to 17 and relevant state-level factors, overall and by dental service use, NSCH 2018–2019

Feature	Total Population ^a	Dental Visit in Past Year ^a		p-value ^b
		Yes (N=12,384,957, Weighted N=15,174,400, 82%)	No (N=2,789,443, 18%)	
Age				<0.001
1–3 Years	18%	54%	46%	
4–11 Years	49%	89%	11%	
12–17 Years	33%	86%	14%	
Gender				0.59
Female	48%	82%	18%	
Male	52%	81%	19%	
Racial/Ethnic Background				<0.001
Asian	3.0%	74%	26%	
Black	21%	78%	22%	
Hispanic/Latino	39%	86%	14%	
Other or Multiracial	5.6%	80%	20%	
White	31%	79%	21%	
Child's Oral Health Condition				0.91
Outstanding	35%	81%	19%	
Very Good	33%	81%	19%	
Good	23%	83%	17%	
Fair/Poor	9.1%	82%	18%	
Child's Overall Health Condition				0.48
Exceptional	55%	81%	19%	
Very Good	29%	83%	17%	
Good	13%	84%	16%	
Fair/Poor	2.7%	79%	21%	
Parental Education Level				0.36
Below High School	19%	84%	16%	
High School Graduate	35%	80%	20%	
Some College or Associate Degree	28%	80%	20%	
Bachelor's Degree or Higher	18%	84%	16%	
Parental Employment Status				0.09
Employed	79%	82%	18%	
Unemployed	21%	79%	21%	
Number of Caregivers				0.10
Multiple Caregivers	75%	81%	19%	
Single Caregiver	25%	84%	16%	
State-Level Characteristics ^c				
Medicaid Reimbursement ^d	44.4 (21.6)	44.4 (22.0)	43.6 (14.2)	0.06
Dentist Medicaid Engagement ^e	14.0 (10.0)	14.0 (10.0)	14.0 (8.0)	0.05
Dentist Workforce Availability ^f	53.8 (24.8)	53.8 (24.8)	53.0 (24.8)	0.16
Medicaid Adult Dental Benefit Scope				0.19
None or Emergency Only	40%	83%	17%	
Limited Coverage	13%	78%	22%	
Comprehensive Coverage	47%	82%	18%	

• ^aPercent or median (interquartile range)

• ^bChi-square test with Rao-Scott correction; Wilcoxon rank-sum test for continuous variables

• ^cState-level variables summarize the characteristics of the states in which sampled children reside

- ^dMedicaid reimbursement expressed as a percentage of standard dentist fees
- ^ePercentage of dentists in the state treating ≥ 100 Medicaid-enrolled children in the prior year
- ^fDentist supply expressed per 100,000 population

We explored how dental care utilization varied among children and adolescents in relation to age, race/ethnicity, and state-level Medicaid characteristics. Overall, younger children and certain racial/ethnic groups exhibited distinct patterns of dental visits. The associations of dental care use with Medicaid reimbursement ($p = 0.06$) and dentist participation in Medicaid ($p = 0.05$) approached significance (**Table 1**). Children aged 1 to 3 years were less likely than older peers to have visited a dentist ($p < 0.001$), while Hispanic children demonstrated the highest utilization rates ($p < 0.001$). Within the 1–3-year subgroup, dental visits were significantly influenced by race/ethnicity ($p = 0.03$), reimbursement levels ($p = 0.03$), and dentist participation ($p = 0.011$). For children aged 4 to 11, dental care use was associated with race/ethnicity ($p = 0.003$) and oral health status ($p = 0.03$). Among adolescents aged 12 to 17, usage was linked to race/ethnicity ($p = 0.003$), sex ($p = 0.026$), oral health status ($p < 0.001$), caregiver education ($p = 0.01$), and the availability of dentists in the state ($p = 0.029$).

State-level correlations for the 38 states with complete data are displayed in **Table 2**. Higher dentist participation correlated positively with Medicaid reimbursement ($r = 0.33$, $p = 0.03$) but negatively with dentist workforce supply ($r = -0.36$, $p = 0.02$). The link between dentist supply and reimbursement was weak and not statistically significant ($r = -0.07$, $p = 0.65$). Medicaid adult dental benefit (MADB) generosity did not show a meaningful relationship with either reimbursement or dentist participation but was positively associated with dentist supply ($p = 0.01$), indicating that states offering broader adult dental coverage tended to have more dentists per capita. States providing only limited or emergency/no adult dental benefits reported higher average Medicaid reimbursement (51%) compared to states with extensive coverage (43%), though this difference was not statistically significant ($p = 0.13$).

Table 2. Correlation of state-level Medicaid policies and dentist availability (N = 38 states)

Attribute	Availability of Dental Practitioners ^a	Engagement in Medicaid by Dentists ^a	Scope of Adult Medicaid Dental Benefits			Statistical Significance ^c
			Comprehensive Coverage (N=15 ^b)	Limited Coverage (N=8 ^b)	Emergency Only/None (N=15 ^b)	
Medicaid Payment Rates ^d	-0.07 ($p=0.65$)	0.33 ($p=0.03$)	42.8 (10.2)	51.4 (14.3)	51.2 (11.9)	0.13
Dentist Participation in Medicaid ^e	-0.36 ($p=0.02$)	—	15.8 (5.6)	17.4 (9.1)	15.5 (8.1)	0.90
Supply of Dental Professionals ^f	—	—	65.3 (10.8)	55.0 (5.4)	53.9 (10.1)	0.01

- ^aSpearman correlation
- ^bMean (SD)
- ^cKruskal–Wallis rank sum test
- ^dMedicaid reimbursement (% of dentist fees)
- ^eProportion of dentists treating ≥ 100 Medicaid children in the prior year
- ^fDentists per 100,000 population

Tables 3 and 4 display the results of multivariable logistic regression for the overall sample and age-specific subgroups, respectively. For the entire cohort, initial models indicated that both Medicaid reimbursement levels and dentist participation were linked to dental care utilization. However, once dentist participation was included, the strength of the reimbursement association was substantially attenuated, suggesting that dentist participation mediates part of the relationship between reimbursement and dental visit occurrence. Models 4 and 9 showed the lowest and comparable Akaike information criterion (AIC) values. Given its simpler design with fewer predictors, Model 4—which considers only dentist participation—is identified as the most efficient. In this model, a 10-percentage point increase in dentist participation corresponded to a 31% increase in the odds of a dental visit (OR 1.31, 95% CI 1.09–1.56).

Table 3. Adjusted odds ratios for state-level variables from multivariable logistic regression (full sample, N = 15,174,400 weighted subjects aged 1–17, NSCH 2018–2019) Uniquely Reformulated Model Characteristics Table

Feature	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16
Scope of Adult Medicaid Dental Coverage																
Comprehensive																
Partial	1.06				0.94	1.05	1.10		0.98	0.98	1.22		1.14			
None or Emergency Only	1.21				1.08	1.11	1.28		1.06	1.16	1.34*		1.27			
Medicaid Payment Levels		1.14*				1.13*		1.08	1.14*		1.08	1.13*		1.09	1.06	
Dental Professional Medicaid Involvement			1.31**				1.28**		1.22*		1.36**	1.20*		1.39**	1.27*	1.31**
Availability of Dental Professionals				0.97				1.03		1.01	1.04		1.04	1.14	1.05	1.12
AIC	7142	7145	7126	7121	7149	7135	7130	7151	7119	7134	7127	7129	7140	7126	7125	7128

All models account for individual-level characteristics. Bold highlights the most parsimonious model.

*p < 0.05; **p < 0.01; ***p < 0.001

Table 4. Adjusted odds ratios for state-level variables by age subgroup (NSCH 2018–2019)

Ages 1–3 (Weighted N = 2,745,185)																
Feature	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16
Adult Medicaid Dental Coverage Scope (2017–2019)																
Comprehensive																
Partial	1.11				0.75	1.04	1.13		0.83	0.79	1.38		1.08			
None or Emergency Only	1.47				1.04	1.15	1.49		1.00	1.11	1.65		1.38			
Medicaid Payment Rates		1.4**				1.41**		1.22	1.4***		1.24*	1.42**		1.24*	1.21	
Dental Professional Medicaid Involvement			1.95***				1.89***		1.60**		2.11***	1.56*		2.17***	1.74**	1.79**

Supply of Dental Professionals				0.91				1.01		1.02	1.09		1.04	1.26	1.12	1.21
AIC	1544	1545	1511	1504	1546	1518	1513	1549	1499	1517	1509	1508	1522	1511	1503	1508
Ages 4–11 (Weighted N = 7,427,102)																
Feature	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16
Adult Medicaid Dental Coverage Scope (2017–2019)																
Comprehensive																
Partial	1.14				1.03	1.14	1.16		1.05	1.06	1.23		1.12			
None or Emergency Only	1.66*				1.52	1.59*	1.72*		1.51	1.58	1.77*		1.65			
Medicaid Payment Rates		1.17				1.11		1.14	1.14		1.09	1.11		1.13	1.08	
Dental Professional Medicaid Involvement			1.25				1.15		1.11		1.17	1.07		1.20	1.06	1.11
Supply of Dental Professionals				0.89				1.02		0.93	0.93		1.03	1.08	0.93	1.06
AIC	2617	2608	2613	2616	2619	2609	2611	2613	2615	2617	2621	2612	2615	2615	2620	2618
Ages 12–17 (Weighted N = 5,002,113)																
Feature	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16
Adult Medicaid Dental Coverage Scope (2017–2019)																
Comprehensive																
Partial	1.18				1.13	1.18	1.18		1.21	1.13	1.32		1.39			
None or Emergency Only	0.77				0.73	0.69	0.77		0.70	0.73	0.79		0.83			
Medicaid Payment Rates		1.02				1.06		0.96	1.04		0.97	1.06		0.96	0.95	
Dental Professional Medicaid Involvement			1.21				1.35		1.26		1.38	1.38*		1.44	1.43	1.50*
Supply of Dental Professionals				1.06				1.00		1.08	1.15		1.00	1.10	1.15	1.12
AIC	2249	2252	2255	2252	2255	2257	2248	2257	2255	2260	2254	2252	2262	2253	2257	2257

Remark: All models account for characteristics specific to individuals. Bold signifies the model with the greatest efficiency.

p < 0.05.

** p < 0.01.

*** p < 0.001.

For children aged 1 to 3 years, trends echoed the general sample but displayed more pronounced effect magnitudes. Model 9 was identified as the most economical, incorporating Medicaid funding amounts and dentist involvement in the Medicaid program. Within this model, a 10-percentage point increase in dentist participation was associated with a 60% elevated chance of a dental appointment (OR 1.60, 95% CI 1.13–2.26).

Among children aged 4 to 11 years, the only state-level attribute linked to dental care utilization was the breadth of Medicaid adult dental benefits (MADB). Children residing in states with emergency-only or no adult coverage were markedly more likely to visit a dentist compared to those in states offering comprehensive coverage. This relationship weakened slightly when including Medicaid funding amounts and dentist participation. Model 2 was deemed the most efficient, focusing solely on the scope of MADB. In Model 2, children in states with no or emergency-only adult coverage had a 66% increased likelihood (OR 1.66, 95% CI 1.08–2.57) of attending a dental visit compared to those in states with comprehensive coverage, while those in states with partial coverage showed no notable difference in dental visit likelihood compared to comprehensive coverage states.

For adolescents aged 12 to 17 years, engagement with dental care was significantly related to dentist participation in Medicaid, but only in models factoring in Medicaid funding amounts and MADB breadth. Model 1 proved the most economical, relying exclusively on individual-level characteristics.

In the most economical model, only the availability of dental practitioners was tied to dental appointment attendance, with no Medicaid-related attributes showing an association, thus reinforcing the reliability of results for children enrolled in Medicaid.

This study investigated how four state-level Medicaid and provider factors—dental reimbursement, adult Medicaid dental benefit generosity, dentist participation, and dentist supply—collectively influence dental care utilization among children. Unlike prior research, which often examined these factors without differentiating by age [13–16], our findings reveal that the impact of these policies varies notably across developmental stages.

Across the full sample of children aged 1 to 17, higher levels of dentist participation correlated with greater dental visits. However, breaking down the analysis by age indicated that this effect was primarily driven by the youngest cohort, ages 1–3. These results are in line with evidence from Indiana showing that policy changes, including enhanced reimbursement, had the most pronounced effect on dental care among very young children [34].

Previous studies assessing the role of dentist participation frequently relied on provider enrollment as a stand-in for actual participation due to the limited availability of service-level data [12, 16]. In contrast, our approach used Medicaid claims data compiled by the American Dental Association Health Policy Institute to estimate the proportion of dentists actively providing care to Medicaid patients at the state level [28]. By capturing actual service provision rather than mere enrollment, these data offer a more accurate picture of how dentist participation affects dental care use among Medicaid-enrolled children.

In this study, the influence of Medicaid adult dental benefits (MADB) on children's dental visits was observed only among those aged 4–11, and the results were opposite to expectations. Surprisingly, children in states providing more comprehensive adult dental benefits were less likely to have attended a dental visit than those in states with more limited coverage. This contrasts with two recent studies that reported expanded MADB generosity led to higher rates of dental care and better oral health in children, although both studies also found the strongest effects in younger age groups (1 to 11 and 12 to 17 years) [11, 12]. Those earlier investigations relied on quasi-experimental designs and national survey data, adjusting for both time-sensitive state characteristics and unobserved factors that could affect children's dental utilization, such as broader economic changes or concurrent policy shifts. Because our study is cross-sectional and cannot account for such unmeasured or dynamic state-level influences, the results regarding MADB effects should be interpreted with caution.

Examination of the relationships between the state-level variables indicated that Medicaid reimbursement rates and the proportion of dentists actively treating Medicaid patients were moderately correlated. Historical longitudinal studies investigating the effects of fee increases often combined these adjustments with other policy changes, such as reducing administrative requirements or expanding case management support, which makes it challenging to determine the isolated effect of higher reimbursement on dentist engagement and children's dental service use [14, 17]. One prior study that assessed changes in provider participation included both general and pediatric dentists [14]; however, it is unclear whether different dental specialties respond similarly to changes in reimbursement. Pediatric dentists, due to their typically larger daily patient loads, may show a stronger reaction to fee adjustments. The observation that reimbursement effects were most pronounced for the youngest children suggests that pediatric dentists may drive this relationship, consistent with the fact that this specialty generally has the highest Medicaid participation compared with general dentists and other specialists [35]. Because the

state-level participation estimates in this study combined general and specialist dentists, it was not possible to analyze pediatric dentist participation independently.

Several constraints should be noted when interpreting these findings. First, the study's cross-sectional design limits the ability to infer causal relationships, and unmeasured differences at the state level may have influenced the results. Future research using quasi-experimental or longitudinal designs could better isolate the separate impacts of policy decisions and provider availability on children's dental care. Second, survey data are prone to recall errors and social desirability effects, which may distort reporting. Administrative datasets could provide more precise measures of dental service use, but they are often costly and difficult to access. Third, because the NSCH does not include parental insurance information, assumptions about the effect of Medicaid adult dental benefit (MADB) generosity on child utilization through parental access remain unverified. Fourth, although we used state-level estimates to measure dentist availability, distribution within states is uneven, so these figures may not reflect access accurately in all areas. Fifth, ten states were excluded due to missing data or recent changes in adult dental benefits, limiting generalizability to the full U.S. Medicaid population. Finally, reimbursement data were based on fee-for-service schedules, yet approximately 30 states had children enrolled in managed care dental plans, and how closely these plan rates match fee-for-service schedules is unknown because the information is proprietary.

Conclusion

State-level policies have the capacity to enhance dental care access for children covered by Medicaid and are essential for advancing oral health equity. In this study, dentist participation was found to be associated with increased dental visits among the youngest children. Improving utilization among this group may help establish long-term oral health benefits that extend into adulthood.

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