Scientific Article

# Medicaid Participation by Private Dentists in Alabama

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**Abstract:** ***Objective:*** *The objective of this study was to examine the relationship between private dentists' attitudes toward Medicaid and Medicaid patients and their extent of Medicaid participation.* ***Methods:*** *A survey was mailed to all Medicaid dentists in Alabama in 2003 (N=518). Descriptive statistics were calculated, and multiple regression models were tested. The "dentists' extent of participation" was a measure of the percentage of Medicaid patients seen in one month. Independent variables included dentists' personal and practice characteristics; market area characteristics; and dentists' attitudes toward Medicaid and Medicaid patients.* ***Results:*** *A total of 277 (54%) surveys was returned. Non-Caucasian dentists in group practice had a higher mean of extent of Medicaid participation than Caucasian dentists in solo practice. Moreover, compared to privately insured families, dentists had significantly higher mean of extent of Medicaid participation if they perceived Medicaid reimbursement as generous; payments being processed faster; and families as not acceptable to non-Medicaid families in the practice.* ***Conclusions:*** *Dentists' perceptions of Medicaid policies, such as generosity of payment and speed of processing payment, are important to ensure continued provider participation in Medicaid. Strategies to improve dentists' participation in Medicaid must be multifaceted to increase access to dental services for Medicaid children. (Pediatr Dent 2007;29:293-302)*

KEYWORDS: ORAL HEALTH POLICY, ORAL HEALTH SERVICES, MEDICAID

Lack of access to dental services for Medicaid-enrolled children is a significant and persistent problem for most American states.[1] Medicaid-eligible children have 3 times greater unmet need for dental care than do children from higher-income families.[2] According to a 1996 report prepared by the Office of the Inspector General, US Department of Health and Human Services (DHHS), only 1 in 5 Medicaid children nationally received 1 preventive dental service.[3] Furthermore, an analysis of a 1995 Health Care Financing Administration (HCFA) state Medicaid resource file from 27 state Medicaid programs showed that only 1 in 3 children who were enrolled in Medicaid fee-for-service plans had visited the dentist in the preceding year.[4]

Analyses of children enrolled in Medicaid for at least 6 months in calendar years 1999 in Alabama and 1997 in Georgia found that only 22% of Alabama Medicaid children age 3 years or over and 39% of comparable Georgia Medicaid children received dental care during the study period.[5] Utilization rates among Alabama Medicaid patients are even lower among the very young and the 12- to 18-year-olds, and among non-Caucasian Medicaid patients.[5-7] Furthermore, Medicaid-enrolled children in Alabama and Georgia who lived in counties with the greatest number of Medicaid dentists per enrollee were 24% more likely to receive restorative dental care than their peers living in counties with the fewest Medicaid dentists per enrollee.[5] The comparable percentages of dental services' use for non-Medicaid children in Alabama are not available. Parental reports, however, showed that the percentage of all children at or below 100% of the federal poverty level (FPL) who received preventive dental care in Alabama in 2005 was 65% compared to 84% of those at or above 400% FPL.[8]

A key factor in the low utilization rate of Medicaid dental services is dentists' nonparticipation or limited participation in Medicaid.[1] A survey of Medicaid program officials nationwide found that 23 of 39 states which provided information about dentists' participation in Medicaid reported that less than 50% of their dentists saw at least 1 Medicaid patient during 1999.[4] In addition, none reported that more than 50% of their Medicaid-participating dentists saw at least 100 or more Medicaid patients in 1999 and most states reported that less than 25% of their Medicaid-participating dentists

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saw 100 or more patients.[4] Individual state surveys of dentists' participation in Medicaid programs reported 50% participation rate among Michigan dentists, 27% among Illinois dentists, and only 16% among pediatric and general dentists in California.[9-11] Among the few surveys of pediatric dentists' participation in Medicaid in individual states, North Carolina had the highest participation rates (80%), followed by Connecticut (64%). The lowest rates were for California and Louisiana (45% each).[12-15]

Furthermore, as few as 30% of all licensed dentists in the United States allow more than 10% of their patients to be Medicaid enrollees, and only one of six dentists who participate in the program receive at least $10,000 in Medicaid payments per year.[16] In addition, about 75% of pediatric dentists in North Carolina place some limits on access of Medicaid patients to their practices.[13] These limitations include: (1) age restrictions; (2) geographic restrictions; (3) accepting referrals only; (4) accepting only certain types of patients; (4) establishing a waiting list; and (5) scheduling Medicaid patients on selected days or times.[13]

The principal objective of dental coverage under Medicaid is to ensure adequate access to dental health services for poor children. Dentists' nonparticipation or limited participation significantly contributes to the low use of dental services by Medicaid-covered children.[17] The low use of dental services by poor children translates into poor oral health.[18]

## Determinants of dentists' participation in Medicaid

Dentists' demographic characteristics, such as the dentist's age, gender, and race, were examined in some of the few studies of dentists' participation in Medicaid. The effect of dentists' age is not clear. In one study, general dentists with at least 10% Medicaid patients were significantly younger than dentists with <10% Medicaid.[10] In another study, however, pediatric dentists who see any Medicaid patients were significantly older (66+) than those who see none.[12] Likewise, the effect of gender is not clear. North Carolina female dentists were less likely to participate in Medicaid.[19] There was, however, no difference in California dentists' decisions to participate in Medicaid by gender.[12] Non-Caucasian dentists in North Carolina were 2.5 times more likely to participate in Medicaid than Caucasian dentists.[19]

Nationally, dentists in pediatric specialty practice see more Medicaid patients than general dentists, 70% vs 40%.[20] Most studies found that dentists in group practice were significantly more likely to participate in Medicaid.[10,12,21] One study, however, found that solo dentists were more likely to participate in Medicaid.[19] The effect of the number of years in practice on participation in Medicaid is also not clear. In one study, participation among general dentists decreased as the number of years in practice increased.[10] In another study, however, pediatric dentists with 15 or more years of experience were 2.5 times more likely to accept all new Medicaid patients compared to pediatric dentists with fewer years of experience.[13]

In general, rural dentists are more likely to participate in Medicaid.[9,12] In Alabama, 49% of rural dentists treat Medicaid patients compared to 26% of urban dentists (Stuart Lockwood, DMD, MPH, written communication, March 2006). Thus, rural dentists were almost twice as likely to treat as many Medicaid patients as urban dentists. This trend was also observed among dentists located in different rural categories in Alabama. The Rural Health Research Center at the University of Washington, Seattle, Wash, surveyed 400 rural Alabama dentists in 2003 and indicated Medicaid participation to be: (a) 36% for large rural areas; (b) 49% for small areas; and (c) 53% for isolated small areas.[22] Finally, a dentist in a very busy practice is less likely to participate in Medicaid.[12]

Several market area characteristics, such as the demand for health services and the supply of providers and their effect on provider participation in Medicaid, were studied among private physicians.[23] Mayer et al used Medicaid claims data to evaluate the effect of market area characteristics and Medicaid reimbursement on dentists' likelihood of participation and the extent of participation in North Carolina Medicaid.[19] The dentist-to-population ratio per county was not significantly associated with dentists' likelihood or extent of participation in Medicaid.[19] Higher per capita income per county, however, was associated with significantly lower likelihood and extent of participation among dentists in North Carolina Medicaid.[19]

Little is known about the effects of Medicaid policy and Medicaid patients' characteristics on dentists' participation in Medicaid. Previous studies found that the perceived low reimbursement rate is a significant factor in determining dentists' willingness to participate in Medicaid.[13,24,25] Of the 41 states surveyed regarding their strategies in increasing Medicaid patients' access to dental care, 34 indicated that increasing payment rates was among their strategies to improve access to dental care for Medicaid patients.[17] Dentists were more likely to accept new Medicaid patients in the states that implemented fee increases to improve dentists' participation.[26-28] Mayer et al, however, found that the level of reimbursement was not associated with North Carolina dentists' likelihood or extent of participation in Medicaid.[19] The authors explained, however, that the Medicaid fee increase was not sufficient to influence North Carolina dentists to participate in Medicaid.[19]

Other Medicaid policies and their association with likelihood or extent of participation of dentists in Medicaid were not studied. Likewise, there are no studies of the effect of Medicaid patients' characteristics on dentists' participation

in Medicaid. Only a ranking of importance of Medicaid policies and Medicaid patients' characteristics is documented in the dental literature.[27,28]

The purpose of this study was to investigate the relationship between dentists' perceptions of Medicaid and Medicaid patients and their extent of participation in Medicaid while controlling for market area characteristics. Understanding why some dentists participate in Medicaid more than others will help policy makers develop strategies to improve dentists' likelihood and extent of participation in Medicaid and, hence, children's access to dental services.

## Methods

**Data sources**. The data for this study were drawn from both primary and secondary sources. The University of Alabama at Birmingham (UAB), Birmingham, Ala, and the Alabama Medicaid Agency conducted a mailed, self-administered, 40-question survey. Market area characteristics were obtained from the: (1) 2003 area resource file[29]; (2) 2003 Alabama Medicaid statistics[30]; (3) State Health Access Data Assistance Center[31]; and (4) Alabama Department of Public Health.

**Research design.** This investigation used a cross-sectional design to determine the factors related to dentists' extent of participation in Medicaid. The study population was obtained from the Alabama Medicaid Agency and consisted of all dentists/offices (N=566) that submitted any Medicaid dental claim in 2003. The aforementioned 40-question survey was designed and pretested among 10 general and pediatric dentists affiliated with the UAB School of Dentistry for feedback on clarity, ease of completion, and inclusion of the most relevant issues to dentists who participate in Medicaid.

The survey collected information about dentists': (1) demographics; (2) practice characteristics; and (3) attitudes toward Medicaid and Medicaid patients. The research protocol was approved by the Institutional Review Board for Human Use at UAB.

A package containing: (1) a cover letter from Medicaid; (2) the survey; and (3) a return-addressed, postage-paid envelope was mailed in June 2003 to all of the aforementioned dentists/offices. Follow-up cards were mailed to nonrespondents 4 weeks after the initial mailing, and a second survey was mailed 2 weeks later. Follow-up phone calls were made to respondents to complete missing information. Responses were entered into a database using Access software (Microsoft Corp, Redmond, Wash).

Demographic and practice characteristics as well as dentist practice locations for all licensed dentists in Alabama were verified using a 2003 masterfile from the Alabama Board of Dental Examiners. Consequently, a total of 48 names/offices were eliminated from the claims database. These included: (a) 27 duplicate names; (b) 4 inactive dentists during and prior to 2003; (c) 12 out-of-state dentists; and (c) 5 nondental providers (N=518).

**Exclusion criteria.** Criteria for exclusion from the analysis included:

1. nonprimary care dentists (dentists other than general and pediatric dentists);
2. dentists who listed their form of employment as government service and those who practiced in school or university settings or in community health centers; and
3. dentists who did not see any Medicaid patients in 2002.

**The dependent and independent variables.** The dentists were asked to report the total number of all patients they see in their practice in a month and the number of Medicaid covered patients they see in a month. The outcome, or "extent of participation" of Medicaid-participating dentists, was measured as the mean percentage of Medicaid patients the surveyed participating dentists see in one month. Many respondents, however, left these questions blank in the survey; some explained that it would take a long time to estimate. Therefore, the authors called these offices to complete these questions. The office managers were asked to calculate the average percentage of Medicaid patients seen over the three months prior to the time of the survey.

The independent variables included dentists': (1) personal characteristics; (2) practice characteristics; (3) market area characteristics; and (4) perceptions of Medicaid and Medicaid patients. Table 1 shows a detailed list of the independent variables; their operational definitions; and their expected direction of effect on dentists' extent of participation in Medicaid.

**Data analysis methods.** Descriptive statistics in the form of means and frequencies for the total sample dependent and independent variables were computed using Statistical Analysis Software (SAS) version 9.1 (SAS Institute Inc, Cary, NC). Regression models were used to test the model of dentists' extent of Medicaid participation. Initially, a Proc Mixed procedure in SAS with a Random statement was used to fit multilevel regression models. A clustering test was performed and indicated insignificant county clustering in the data set ($P$=.2). Therefore, a Proc GLM procedure in SAS was used to test the ordinary least squares (OLS) regression model.[32]

Forward selection, backward elimination, and forward stepwise selection methods were used to eliminate those variables that did not contribute significantly to the model. An $\alpha$=0.15 level of significance was selected as the "entry" or "stay" level for variables to enter and remain in the model. Other selection methods, such as the coefficient of determi-

Table 1. THE INDEPENDENT VARIABLES, THEIR OPERATIONAL DEFINITIONS, AND THE EXPECTED DIRECTION OF THEIR EFFECT ON DENTISTS' EXTENT OF PARTICIPATION IN MEDICAID

| Variable | Operational definition | Categories | Expected direction of effect on participation |
|---|---|---|---|
| **Personal Characteristics** | | | |
| Age (ys) | Howe old are you? | <35; 35-55; >55 | — |
| Years in practice | How long have you been in practice? | <5; 5-15; >15 | — |
| Race | What is your race? Caucasian/ African American/ other | C=0; NC=1* | + |
| **Practice Characteristics** | | | |
| Practice type | What type of dentist are you? General/pedodontists/ other | General practitioner=0; Pediatric=1 | + |
| Practice location | In which county do you practice? | Urban=1, Rural north= 2, rural south=3 | +/– |
| Practice size | How many dentists work in this practice? 1 / >1 | Solo=0, group =1 | + |
| **Patients' characteristics** | *Compared to private patients, Medicaid patients:* | | |
| Severity of oral health needs | Have more, less, or same severity of oral health needs? | More=0, same/ less=1 | + |
| Child's behavior in chair | Have more, less, or same behavior in the dental chair? | Worse=0, same/ better=1 | + |
| Acceptability to others | Are more, less, similarly acceptable to others in the practice? | Less=0, more/ same=1 | + |
| Likelihood of breaking appointment | Have more, less, similar likelihood of missing appointment? | More=0, same/ less=1 | + |
| Likelihood of noncompliance | Are more, less, similarly likely to cot comply? | More=0, same/ less=1 | + |
| **Medicaid program factors** | *Compared to private insurance, Medicaid:* | | |
| Amount of paperwork | Has more, less, same amount of paperwork? | More=0, same/ less=1 | + |
| Limits on services | Has more, less, same limits on services? | More=0, same/ less=1 | + |
| Denial of payment | Has more, less, same denial of payment? | More=0, same/ less=1 | + |
| Speed of processing payment | Has faster, slower, same speed of payment? | Faster/ same=0, slower=1 | + |
| Generosity of payment | Has more, less, same amount of reimbursement? | More=0, same/ less=1 | + |
| **Dentist supply** | | | |
| Dentist-to-child ratio | No. of dentists per 1,000 county children population | | + |
| Dental public clinic | Presence of a community dental clinic per county | No=0, yes=1 | — |

Table 1. CONTINUATION

| Variable | Operational definition | Categories | Expected direction of effect on participation |
|---|---|---|---|
| **Patient demand** | | | |
| County per capita income | Mean county per capita income | | — |
| % of children on Medicaid | Mean % of Medicaid children | | + |
| % of population uninsured | Mean % of uninsured population | | + |

* C=Caucasian; NC=non-Caucasian

nation (adjusted $R^2$ and Mallow's Cp, were used to obtain the best fit model).[33] The best-fit model has both high adjusted $R^2$ and low Mallow's Cp statistics.[33]

## Results

Of the 518 dentists surveyed, 277 (54%) responded. Among surveys returned, 21 were from nonprimary dental care providers and 17 were from public or Medicaid-only dental clinics. In addition, 33 dentists excluded themselves based on the authors' criteria for exclusion. After these surveys were eliminated, a total of 206 surveys were eligible for analysis.

There were no significant statistical differences between responders and nonresponders by age or location of practice ($P>.05$). There was a significant statistical difference by specialty, however, as indicated by more pediatric dentists responding to this survey ($P<.05$).

The majority of responding dentists were Caucasian male general dentists over 50 years old in solo practice. Of these dentists 55% practiced in urban areas; 24% practiced in the rural north areas; and 21% practiced in the rural south settings (Table 2). On average, 450 (range=25-2,150) total patients are seen in one month by responding dentists. Of these, 26% are Medicaid.

After controlling for market area characteristics, non-Caucasian dentists practicing in a group practice had a higher mean of extent of participation in Medicaid. Moreover, dentists with a perception of faster speed of processing payment in Medicaid compared to private insurance and a perception of Medicaid families as not acceptable to other non-Medicaid families in the practice were significantly associated with dentists' extent of participation. Market factors were not significantly associated with dentists' extent of participation in Medicaid (Table 3). The adjusted $R^2$ of this model was 0.3423, and Mallow's Cp was 22.00. Therefore, 34% of the variation in the mean percentages of the extent of dentists' Medicaid participation can be explained by the model.

The variables that did not contribute significantly to the model were eliminated (Table 4). The reduced model had the lowest Mallow's Cp (-0.9433) and the highest adjusted $R^2$ (0.2881). The coefficients in the reduced model indicated that:

1. Non-Caucasian dentists have a 17% higher mean of extent of Medicaid participation than Caucasian dentists; and
2. Dentists in group practices have a 10% higher mean of extent of Medicaid participation than solo practitioners;
3. Dentists with perceptions of Medicaid reimbursement as generous have an 18% higher mean of extent of Medicaid participation; and
4. Dentists with perceptions of Medicaid bill processing as faster than that for private insurance have a 12% higher mean of extent of Medicaid participation compared to their reference counterparts;
5. Dentists with perceptions of Medicaid families being not acceptable to other non-Medicaid families in the practice have a 8% higher mean of extent of Medicaid participation than their reference group.

## Discussion

This study's limitations include its relatively small sample size (N=206), which causes the standard errors to be higher than those of a larger sample size. This study's sample size, however, was 50% of the entire population of Medicaid dental providers at the time of the survey. Furthermore, to offset the effects of a small sample size, the authors used different variable selection methods to arrive at the model that best fits this study's data set.

Forty-eight dentists were deleted from the original Medicaid claims file by the authors after the surveys were mailed and data entry started. These names were eliminated because they were either duplicate names or names of dentists not in practice or nondental practitioners. In retrospect, this file

Table 2. PERSONAL AND PRACTICE CHARACTERISTICS OF RESPONDING DENTISTS*

| VARIABLE | NO. (%) |
|---|---|
| **AGE (ys)** | |
| Mean | 49 |
| <35 | 33 (16) |
| 35-50 | 74 (36) |
| >50 | 99 (48) |
| **YEARS IN PRACTICE** | |
| Mean | 20 |
| <5 | 34 (17) |
| 5-15 | 44 (21) |
| >15 | 128 (62) |
| **GENDER** | |
| Male | 175 (85) |
| Female | 31 (15) |
| **RACE** | |
| Caucasian | 175 (85) |
| Non-Caucasian | 31 (15) |
| **PRACTICE TYPE** | |
| General | 172 (83) |
| Pediatric | 35 (17) |
| **PRACTICE LOCATION** | |
| Urban | 113 (55) |
| Rural North | 49 (24) |
| Rural South | 43 (21) |
| **PRACTICE SIZE** | |
| Solo | 144 (70) |
| Group | 62 (30) |

* *N*=206

should have been cleaned and verified with the Alabama Dental Licensure Masterfile before the start of the study to avoid having to delete subjects after their inclusion in the study.

Another study limitation is the use of dentists' self-reports to measure the extent of Medicaid participation. This measure may overestimate the percentage of Medicaid participation. Most of these estimates, however, were obtained from office managers who performed an actual calculation of the mean percentage of all Medicaid patients seen over the three months prior to the time of the survey. The authors were not able to separate between those who estimated and those who calculated to compare the two groups for consistency. In a study of Medicaid participation by medical and surgical specialists, however, both self-reported and actual participation rates were used and the results were similar in the two analyses.[31] This study's strengths include the collaboration and relevant contributions of many partners, such as the: (1) Alabama Medicaid Agency; (2) Alabama Department of Public Health; (3) School of Public Health; and (4) School of Dentistry at UAB. Another strength was the prompt follow-up of nonresponders to encourage them to respond; and responders to complete missing information in the questionnaires.

A larger percentage of responders than of nonresponders were pediatric dentists. Typically, Medicaid is more important to pediatric dentists than to general practitioners. Medicaid under the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Program covers dental services for eligible children younger than 21 years of age. In Alabama, very few adults on Medicaid qualify for benefits. Therefore, the authors believe that this difference did not bias this study's results. The authors, however, expect the conditional mean of the extent of Medicaid participation, the dependent, to be higher in this study's analytical sample than the mean of the extent of Medicaid participation in the general population of dentists.

This study's findings suggest that dentists' perceptions of Medicaid policies such as generosity of payment and speed of processing payment are keys to ensuring continued provider participation in the Medicaid program. Because dental services to Medicaid children are primarily provided through private practice,[19] this study's findings, particularly for Alabama, emphasize the need for the Medicaid program to sustain the improvements achieved during the Smile Alabama! Initiative. This initiative was implemented in October 2000 as a response to low dental utilization rates among low-income children. It increased reimbursement rates to 100% of the rates of Blue Cross and Blue Shield of Alabama and enhanced the speed and efficiency of the claims processing system.[24] During the 3-year grant period, which ended in January 31, 2004, the number of participating dentists increased from 328 in 1999 to 566 participating dentists in 2004—a participation rate of 37%.[35]

To recruit new Medicaid participants and to retain already participating dentists, it is crucial to sustain increases in payment, improve speed of payment processing, and reduce administrative hassles in Medicaid. Moreover, outreach and marketing to nonparticipating dentists by satisfied Medicaid dentists may encourage nonparticipants to participate in Medicaid and, thus, increase the overall participation rates in Alabama beyond the current rate of 37%.

Furthermore, this study's findings highlight the importance of matching minority dentists in the dental health care workforce to their representative patients in the general population. Currently, the distribution of racial and ethnic minority dentists is disproportionately lower than their respective distribution within the general population. Nationally, African Americans account for 12% of the total population and represent 2% of active dentists while Hispanics make up 13% of the nation's population and represent 3% of dentists.[36,38] In addition, African American dentists and Hispanic dentists provide dental care to 62% African American patients and 45% Hispanic patients, respectively.[36,38] In Alabama, African Americans account for 26% of Alabama's population and represent 3% of the active Alabama dentists.[37] Thus, increasing the proportion of minority dentists

to match their representation in the general population is a key to increasing access to dental care for minority children and, hence, decreasing oral health disparities.[39]

Moreover, minority dentists are the chief source of dental health care delivery in minority communities.[40] Increasing the number of minority dental graduates will expand the number of dentists in underserved communities. Health professionals from minority backgrounds are five times more likely to practice in underserved communities and to treat larger numbers of minority patients, irrespective of income.[40] Likewise, it's equally important to recruit more minority students into dentistry-related professions, such as dental hygiene and dental assistant programs, and incorporate staff who retain a cultural understanding of and/or similarity with their patients into the provision of care.

Finally, dentists and dental schools need to address the racial and ethnic diversity in the United States and the projected population trends in the US demographics. According to US Census Bureau projections, minority groups have increased from 13% of the population in 1950 to 30% of the population in 2000 and are projected to account for 46% of the total population by 2050.[41] Therefore, it is imperative that primary care dental practitioners be able to deliver both technically and culturally effective dental health care. These efforts would potentially increase the number of dentists serving minority children, including Medicaid children, and eventually increase access to dental care for the poor and Medicaid-covered children.

This study's findings also show that dentists with a perception that Medicaid families were not acceptable to private families in their practice had a significantly larger mean of extent of participation in Medicaid than those who perceived Medicaid families as acceptable to private

**Table 3.** REGRESSION MODEL OF DENTISTS' EXTENT OF MEDICAID PARTICIPATION*

| Variable | Reference Category | Regression coefficient ± (SD) | *P*-Value |
|---|---|---|---|
| Intercept | | 19.48±24.79 | .43 |
| **County level** | | | |
| Dentist/ child ratio | | 0.00 ±0.00 | .58 |
| Dental public clinic | | 1.21 ± 3.97 | .76 |
| County per capita income | | -0.00 ± 0.00 | .89 |
| % Medicaid population | | -0.01 ± 0.22 | .95 |
| % Uninsured population | | 0.03 ± 0.82 | .97 |
| **Dentist level** | | | |
| Non-Caucasian | Caucasian | 18.25 ± 4.22 | <.001 |
| Urban | Rural South | 3.66 ± 5.48 | .51 |
| Rural North | Rural North | 7.48 ± 4.85 | .12 |
| Age (ys) | | 0.00 ± 0.33 | .99 |
| Years in practice | | -0.10 ± 0.34 | .76 |
| Solo practice | Group | – 10.49 ± 3.19 | <.001 |
| General dentist | Pediatric | -2.36 ± 4.30 | .58 |
| Severity of dental needs = 1 | 0 | 2.88 ± 3.58 | .42 |
| Likelihood of missing appointments= 1 | 0 | 2.38 ± 3.86 | .54 |
| Likelihood of non-compliance= 1 | 0 | -6.05 ± 3.45 | .08 |
| Acceptability to others families= 1 | 0 | 9.06 ± 3.79 | .02 |
| Difficult child behavior= 1 | 0 | 2.01 ± 3.67 | .59 |
| Generosity of reimbursement= 1 | 0 | 14.25 ± 8.28 | .09 |
| Limits on payments codes= 1 | 0 | -0.69 ± 3.85 | .86 |
| Denial of payment= 1 | 0 | 3.16 ± 3.47 | .36 |
| Speed of processing payment= 1 | 0 | 14.53 ± 3.78 | <.001 |
| Amount of paperwork=1 | 0 | 1.50 ± 3.47 | .67 |

* *N=177; the number of observations dropped to 177 as a result of eliminations of observations with any missing data in any of the defined variables in the multivariate model.*

Table 4. REDUCED MODEL OF DENTISTS' MEDICAID PARTICIPATION*

| Variable | Reference Category | Regression coefficient ± (SD) | *P*-Value |
|---|---|---|---|
| Intercept | | 22.92 ± 3.60 | <.001 |
| Non-Caucasian | Caucasian | 17.25 ± 3.77 | <.001 |
| Solo practice | Group | –10.10 ± 2.95 | <0.001 |
| Likelihood of non-compliance= 1 | 0 | -4.21 ± 2.85 | .14 |
| Acceptability to others families= 1 | 0 | 8.20 ± 3.25 | .01 |
| Generosity of reimbursement= 1 | 0 | 18.07 ± 7.38 | .02 |
| Speed of processing payment= 1 | 0 | 11.71 ± 2.96 | <.001 |

* *N=192; the number of observations dropped to 192 as a result of eliminations of observations with any missing data in any of the defined variables in the multivariate model.*

patients. The lite-rature on physicians and dentists' participation in Medicaid lacks information on physicians' and dentists' perceptions of Medicaid patients, which makes it difficult to test for reliability. The dentists who pretested the survey, however, did not raise any issues or concerns about the clarity or the meaning of the question. Moreover, because questions about dentists' perceptions of Medicaid patients are attitudinal in nature, there is no objective way of validating the answers.[42]

One explanation for this finding may be that, among dentists already participating in Medicaid, those who believe that Medicaid-covered patients are not acceptable to private patients are more likely to specialize in Medicaid patients, and thus to have larger Medicaid practices. This type of specialization in large Medicaid practices has been observed among physicians.[43]

The perceived Medicaid patients' characteristics such as: (1) the likelihood of breaking appointments; (2) noncompliance with treatment; and (3) families' behavior in the waiting room were not associated with dentists' extent of participation in Medicaid. Perhaps Medicaid-participating dentists had become familiar with these issues and/or learned how to deal with these problems. These findings may also reflect some of the improvements in the Alabama Medicaid program that were accomplished through the Smile Alabama! Initiative program, which was ongoing during the time of the survey.

## Conclusions

Based on this study's results, the following conclusions can be made:

1. Dentists' perceptions of Medicaid policies, such as generosity of payment and speed of processing payment, are keys to ensuring continued provider participation in the Medicaid program.
2. Strategies to improve dentists' likelihood of participation and to increase the extent of participation in Medicaid among participants must be multifaceted to improve access to dental services for Medicaid-covered children.

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