Medicaid in the orthodontic community: provider trends and perceptions

Miranda L. Fabrega
West Virginia University, mlf0044@mix.wvu.edu

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Medicaid in the orthodontic community: provider trends and perceptions

Miranda Fabrega, D.M.D.

Thesis submitted
to the School of Dentistry at
West Virginia University
in partial fulfillment of the requirements for the degree of

Master of Science in
Orthodontics

Peter Ngan, D.M.D., Chair
Chris Martin, D.D.S., M.S.
Khaled Alsharif, BDS, MS.

Department of Orthodontics

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ABSTRACT

MEDICAID IN THE ORTHODONTIC COMMUNITY: PROVIDER TRENDS AND PERCEPTIONS

Miranda Fabrega, D.M.D.

**Background and Objectives:** Medicaid is a federal and state insurance program aimed at helping economically disadvantaged individuals and families with gaining access to health care. Lack of provider participation in the Medicaid program leaves many Medicaid-eligible individuals with the inability to obtain certain medical services, such as orthodontic care. The objective of this study was to use an electronic survey to better understand the beliefs and behaviors of orthodontists in regard to participation in the Medicaid program, and to determine if differences exist between Medicaid providers and non-Medicaid providers.

**Experimental Design and Methods: Survey:** Requests to participate in an electronic survey were submitted to private practicing orthodontists located in Ohio, Pennsylvania and West Virginia (n = 580). Contact information was obtained from the member directory listed on the American Association of Orthodontists (AAO) website. Participants’ responses were categorized based on Medicaid participation; current, former, or never accepted.

**Results:** One hundred nine practitioners responded to the survey (19%). A total of 58 practitioners currently accepted Medicaid patients, 13 formerly accepted Medicaid patients, and 39 had never accepted Medicaid patients. All three groups cited low fees as a major deterrent to participating in the Medicaid program. More providers in the state of West Virginia accept Medicaid patients than those in Pennsylvania and Ohio. Providers who felt confident with their own and their administrative staff’s ability to navigate the Medicaid system participated in the Medicaid program in higher numbers than those that felt less confident. There were no significant differences in perceptions of Medicaid patient’s compliance in appointment keeping, breakage of appliances or oral hygiene among the different Medicaid participation statuses.

**Conclusions:** Fee reimbursement, reimbursement schedule, and lack of confidence in navigating the Medicaid system are major barriers to orthodontic provider participation.
DEDICATION

To my parents, Mom and Dad: I am so lucky to have you two by my side. You have taught me one of the most important lessons in life – kindness. Thank you for loving me unconditionally.

To my siblings, Betsy and Paul: I could not imagine a life without either of you. You’ve been there for me through the worst, and the best of times. I’m so proud of the humans you are, and cannot wait to live in the same state again after all of this time. I love you so much!

To my partner, Thomas: Where would I be without your endless encouragement and support? There is no way to thank you for all of your love and sacrifice, but I’ll try. I can’t wait to see where the next chapter of life takes us.

To Theo: Becoming a parent has been the most surprisingly beautiful thing that has come out of residency. To watch you grow and thrive has been the greatest blessing of my life. I love you more than anything! Thank you for inspiring me, and letting me be your mama.
ACKNOWLEDGEMENTS

It is my belief that no one in life achieves their goals and dreams alone; it comes with the love, encouragement and sacrifice of those around them. I would not be where I am today if not for many people providing unconditional support from both near and far. Thank you for believing in my, for bettering me, and for helping me to become who I am today.

**Dr. Ngan,** thank you for giving me the chance to join the greatest profession. I will use my opportunity to better the lives of those around me. I’m proud to now be in the ranks of WVU alumni.

**Dr. Martin,** I will miss seeing you every day. Thank you for teaching me the fundamentals of orthodontics, and for always making sure I wouldn’t get stuck in a snowstorm.

**Dr. Alsharif,** I am so glad you joined us at WVU. Your dedication to education is inspiring, and I look forward to being colleagues!

**Jun Xiang,** I could not have completed this project without you! Thank you for your guidance and help.

**Joanna, Sarah, Mohammed, Steph, Minh, Dustin,** thank you for showing me the ropes in the early days. I will remember our time together fondly.

**Justin, Sharon,** what a ride its been! I’ll never forget you guys – good luck out there.

**Nick, Rachel, Ian, Mona, Josh, Adam,** I hope the time passes for you as quickly as it did for me. Thank you for always being there to listen, or to look at pictures of my baby. I will miss you all!

**Marsha, Leslee and Kelly,** I truly could not have survived without you all! I wish I could pack you and bring you out west. Please keep in touch!

**Dr. Heinemann,** you are the reason I am here. Your dedication, commitment and passion for serving others is what I strive for. Thank you for believing in me, and for pushing me.

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CHAPTER 1: INTRODUCTION

BACKGROUND and SIGNIFICANCE

Title XIX of the Social Security Act, also known as Medicaid, was signed into law in 1965. The aim of this program was to provide health and dental care for low-income individuals and families.\(^1\) Although the Federal government sets the framework for the program and shares the financial cost of provision of Medicaid, it is up to each individual state to develop and administer their Medicaid program. Variation among states undoubtedly leads to disparities in participation, and subsequently availability of dental Medicaid services available to children in need.\(^2\) While not specified, orthodontics is included under dental care,\(^3\) and faces many of the same challenges as does utilization of general dental services. In addition to a wide variation in eligibility and participation of Medicaid providers among states,\(^4\) there are other factors that likely lead to lack of orthodontic Medicaid coverage. Such barriers include bureaucracy such as increased administrative work and understanding how the Medicaid system operates, variation in reimbursement rates, and provider’s perceptions of the population that utilizes Medicaid services.\(^5\) The overarching goal of this study is to shed light on the current state of orthodontic practitioners’ ideas and beliefs on the Medicaid system and to generate concepts for future research that will improve access to care for those most in need.

STATEMENT OF THE PROBLEM

Medicaid participation and eligibility is not uniform across the country. There is wide variation in provider participation and availability of services for Medicaid beneficiaries.
PURPOSE OF THE STUDY

1. To better understand the decision of orthodontic practitioners to participate or not participate in the Medicaid program.

2. To conduct a survey analysis of all private practice orthodontists in Ohio, Pennsylvania and West Virginia to show trends in provider participation, perceptions, as well as potential barriers to care for Medicaid beneficiaries.

NULL HYPOTHESIS

1. Reimbursement rate is not a deterrent of providers from participating in the Medicaid program.

2. Provider and staff’s familiarity with the Medicaid system is not a deterrent of providers from participating in Medicaid program.

3. Bureaucratic issues are not a limiting factor of Medicaid provider participation.

4. There is no difference in Medicaid provider participation based on time in practice.

5. There is no difference in Medicaid provider participation based on state of practice.

6. There is no difference in Medicaid provider participation based on practice type.

7. There is no difference in Medicaid provider participation based on region of practice location.

ALTERNATIVE HYPOTHESIS

1. Reimbursement rate is a deterrent from Medicaid provider participation.

2. Being unfamiliar with the Medicaid system is a deterrent from Medicaid provider participation.
3. Bureaucratic issues are a limiting factor in Medicaid provider participation
4. There is a difference in Medicaid provider participation based on time in practice
5. There is a difference in Medicaid provider participation based on state of practice
6. There is a difference in Medicaid provider participation based on practice type
7. There is a difference in Medicaid provider participation based on region of practice location

ASSUMPTIONS
1. Survey participants will answer questions honestly and truthfully
2. The survey questionnaire is reliable

LIMITATIONS
1. Other factors not listed in the survey may influence respondents’ opinions of or participation in the Medicaid program
2. Some respondents’ ability to participate in the survey may be affected due to lack of computer literacy

DELIMIATIONS
1. The study is limited to currently practicing orthodontists in the states of Ohio, Pennsylvania, and West Virginia
2. The study is limited to currently practicing orthodontists with an active email address listed in the American Association of Orthodontists member directory
CHAPTER 2: REVIEW OF THE LITERATURE

Qualifiers and Indices

All fifty states participate in Medicaid, providing dental care for children whose families are below the poverty line. In 1997, CHIP, or Children’s Health Insurance Program, was passed to alleviate financial strain on families that would not traditionally qualify for coverage under Medicaid, and thus expand coverage to more in-need children. The American Dental Association (ADA) worked with the federal government to establish and define which procedures would be covered under Medicaid. In addition to general dental care such as cleanings and restorations, some level of orthodontic care is also available under Medicaid. A loose definition of “handicapping malocclusion” was used to describe situations in which children would qualify for orthodontic treatment. Such a malocclusion is defined by the American Association of Orthodontists as “a malocclusion (including craniofacial abnormalities/anomalies) that compromises the patient’s physical, emotional, or dental health.”

Although the official definition of handicapping malocclusion is determined by individual states, many include patients with dental findings such as: Class II and Class III skeletal relationships, maxillary and mandibular incisor inter-arch problems, deviations such as excess or deficient overjet (horizontal distance between teeth) and overbite (vertical overlap of anterior teeth), impinging deep bite, dental impactions, as well as intra-arch deviations such as crowding, rotations, and crossbites. As this definition can have varying interpretations and the Medicaid budget is not infinite, states need to use an index or list of qualifiers to help determine which patients qualify for orthodontic treatment. One factor that leads to the health inequities seen across states is that different indices are used to determine what qualifies as a “handicapping
malocclusion.” For example, Washington State uses the HLD or handicapping labiolingual\(^8\) whereas neighboring state Oregon only allows coverage to patients with an International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis of cleft lip and/or palate. \(^9\) Without a standardization of indices and eligibility criteria across the country, disparities are bound to exist in Medicaid case approvals, sometimes by just a mere mile of a state line.

**Financial and Perceived Barriers**

A common reason that practitioners abstain from participation in Medicaid is the need for increased administrative resources, as well as “bureaucratic complexities.”\(^5\) For orthodontics specifically, there is a complex and often poorly understood pre-authorization process. This usually requires the taking and submission of various records including radiographs, intra-oral and extra-oral photographs, models, as well as the state-specific forms that include measurements that help to verify eligibility. In some cases, providers are not even reimbursed for certain records that are taken. Additional staff may be required to process the paperwork, submit records, and follow up on payments for services.\(^4\) With already high overhead costs and low reimbursement rates, this further loss of income is likely to prevent many practitioners from accepting Medicaid patients into their practice.

Not surprisingly, the most largely cited reason that practitioners do not accept Medicaid patients is the poor reimbursement rate.\(^5,10\) Not only do the amounts of reimbursement vary by state, but the method by which payments are made to practitioners can vary as well. In a 2016
study, reimbursement rates for a single orthodontic case could vary by as much as almost $3,000, with the average rate for “high reimbursement regions” such as New England and the Southwestern areas collecting $3,719, whereas the average rate for “low reimbursement regions” such as the Mid-Atlantic area collecting only $850 per case.4 Aside from the amount of reimbursement, the method in which providers are reimbursed varies by state. The reimbursement schedules can range from a single payment at the start of treatment to an annual, quarterly, or monthly payment. One problematic aspect of a periodic reimbursement schedule results when Medicaid funding is no longer available to a patient that is in active treatment. This puts the burden of either finishing the case free of cost (or at a cost to the patient), as well as debonding and retention on the provider. The wide variation in compensation amount and method is likely to affect how and where orthodontists practice, with those in higher reimbursement regions and one-time payment for service more likely to participate in Medicaid. This will only increase the geographic disparities that eligible patients face.

In addition to financial barriers, there can be perceptions by staff and practitioners that affect whether or not a practice accepts Medicaid patients. One study out of Washington State examined the role that front-office staff has on perception and acceptance of Medicaid insured patients. The study included in depth interviews with office personnel in dental offices that included participants and nonparticipants in the Access to Baby and Child Dentistry (ABCD) Program. This is a “dental society/community program aimed at expanding dental services provided to Medicaid-insured children.”11 The program was created in 1995 in Spokane, WA, in order to address the lack of access to dental care for low-income preschool children. In each county, the local health department or other community agency works to recruit local dentists to
participate in Washington State’s Medicaid program. In addition, the ABCD programs work with community agencies, schools, and health care organizations to identify and recruit children and families for ABCD. The aim of the ABCD study was to explore participants’ beliefs and attitudes toward serving the Medicaid population. In regard to office policy on seeing Medicaid-insured patients, those that worked in ABCD offices responded that their offices readily accepted any children receiving Medicaid, whereas the non-ABCD group stated that Medicaid patients were put on waiting lists, double-booked and scheduled for appointments with a 3-4 month waiting period and were turned away for service after two failures to keep an appointment. When asked about the staff members’ perceptions of Medicaid-insured patients’ barriers to care, only the ABCD groups indicated an understanding of the access issues faced by Medicaid-insured patients. Interestingly, the non-ABCD group members frequently described the billing hassles and low fees associated with Medicaid patients. On the other hand, participants in the ABCD practices reported no such problems. Finally, participants in the ABCD groups seemed more “empowered” to make decisions on whether or not to accept a Medicaid-insured individual as a patient than those in the non-ABCD groups.

**Benefits of Orthodontic Treatment**

With all of the other dental needs that many people from disadvantaged backgrounds face, one might ask themselves “Why waste money on orthodontics? Surely there is a better use of the state and federal funds, when many of these people have teeth that are badly decayed and have other severe problems.” While it is likely that there are other, possibly more immediate, dental needs that Medicaid insured individuals require, it is not to say that there is no place for Medicaid-funded orthodontic treatments. In fact, orthodontic treatment could potentially lead to
a lesser need for restorative work due to caries. In one cross-sectional study conducted on 509 11 to 14-year-old adolescents in Brazil, there was found to be a significantly higher prevalence of dental caries in individuals with a severe malocclusion. The study showed that individuals with a severe or “handicapping” malocclusion had a 31% greater probability of having dental caries, even after demographics, socio-economic status (SES) and clinical aspects were controlled for.

In addition to decrease in caries prevalence, orthodontic treatment may also have the benefit of decreasing the occurrence of traumatic dental injuries. In a similar study to the aforementioned one, a cross-sectional study in Brazil examined the prevalence of traumatic dental injury (TDI) in children with severe and handicapping malocclusions, as compared to those with normal or minor malocclusions. In both the severe and handicapping groups, the prevalence of TDI was 21.6% and 22.0%, respectively. The multivariate analysis showed that the probability of TDI was approximately twofold higher among adolescents with handicapping malocclusion.

It is not only physical problems, but emotional and psychological too, that may arise from being a child with a malocclusion. In a systematic review performed by Bresnahn et al, researchers “identified issues from the perspectives of the various stakeholders, such as dentists, patients/parents, and Medicaid programs, and developed a conceptual model” for strategizing early and interceptive treatment to children in the mixed dentition phase. They found that from the patient’s perspective, there was a reduced or diminished oral-health quality of life (OHQOL) when one is burdened with a malocclusion. Alternatively, potential benefits of orthodontic treatment include “improved occlusion and OHQOL, better body image, greater knowledge of oral hygiene, improved oral comfort, and enhanced self-esteem. Improving one’s malocclusion
may go beyond just improvement of self-esteem, to confidence in school and subsequently the workforce, thus helping to lessen the often-greater burdens that individuals low-income backgrounds face. For example, it has been shown that children with normal dental esthetics were judged to be “more intelligent by their teachers, more desirable as friends, and better looking compared to children with an orthodontic need”.

CHAPTER 3: MATERIALS AND METHODS

IRB Approval

Approval for exempted human subject research was obtained from West Virginia University Institutional Review Board prior to the start of this study (See Appendix A).

Survey Design

A cross-sectional survey study design was used to measure the extent of Ohio, Pennsylvania, and West Virginia private practice orthodontist’s participation in the Medicaid program, as well as perceptions of the Medicaid system and its beneficiaries. The survey consisted of 20 questions, including 12 Likert-scale responses. A pilot survey was pre-tested on full and part-time orthodontic faculty at the University of Pennsylvania. Faculty members were invited to provide feedback on the survey, including wording, straightforwardness of questions and flow of the overall survey. The practitioners that provided feedback were not included in the final survey sample.

The survey consisted of three areas of concentration: provider demographics, practice type and location, and perceptions on Medicaid recipients’ behaviors and patterns. Provider type was
categorized as solo private practice, partner or group practice, corporate practice, or Hospital/University. Providers answered whether they practiced in an urban, suburban, or rural location for their primary practice. Respondents were asked how long they had been in practice: 1-5 years, 6-10 years, 11-15 years, or more than 15 years. Respondents indicated their level of Medicaid participation as current acceptance, former acceptance, or never accepted. Additionally, twelve Likert-scale questions were asked that related to perceived problems with the Medicaid system and its beneficiaries as per commonly described problems found in the literature. Answer options included “strongly agree,” “agree,” “neither agree nor disagree,” “disagree,” or “strongly disagree.”

Survey Distribution

A request for survey participation was sent via email to all currently practicing orthodontists in Ohio, Pennsylvania, and West Virginia. Practitioner information was obtained from the American Association of Orthodontists member directory. The sample consisted of 627 orthodontists amongst the three states listed. A total of 47 respondents opted out of receiving emails or had an incorrect email address listed, thus reducing the number of requests to 580. The survey instrument was sent through the survey platform Survey Monkey, with a cover letter describing the study in the body of the initial email. Two follow-up requests were resent to non-responsive participants, at two and four weeks following the initial request. Responses were collected from September through November 2021.

Statistical Analysis
All tests in the current study were conducted using SAS (version 9.4, 2013, SAS Institute Inc. Cary, NC). Respondents were divided into three categories based on Medicaid participation: currently accepted, formerly accepted, and never accepted. Descriptive statistics for all survey questions were performed. Normality was assessed with the Shapiro-Wilk test. The Kruskal-Wallis test followed by Dunn’s test with Bonferroni correction was conducted to evaluate the effect of beliefs, perception of compliance, and barriers of orthodontists’ participation in the Medicaid program. To assess the effect of the practice location and years of practice on Medicaid participation, we used Fisher’s exact test or Mantel-Haenszel exact test. All tests were two-sided, p-value of less than .05 was considered statistical significance.

CHAPTER 4: RESULTS

Data Collection

One hundred and twelve orthodontists responded to the survey. Two responded via email and were excluded from the data analysis. Another respondent was not from the survey states and was excluded, resulting in an effective response rate of 109 of 580 (19%).

Respondent Biographical Data

Thirty (27%) providers were located in Ohio, 60 providers (55%) in Pennsylvania, and 20 (18%) in West Virginia (Figure 1). Sixty-nine (63%) providers reported their main practice as being a solo private practice, 28 (25%) were associated with a partner or group practice, 2 (2%) were in a corporate practice, and 11 (10%) were associated with a hospital or university (Figure2). Twenty-one (19%) of providers’ practices were located in an urban setting, 58 (53%) were suburban, and 31 (28%) were rural (Figure 3). Fourteen (13%) providers were in practice for 1-5
years, 9 (8%) for 6-10 years, 13 (12%) 11-15 years, and 74 (67%) for 15 or more years (Figure 4). Medicaid participation was reported as fifty-eight (53%) currently accepting, 13 (12%) providers as formerly accepting, and 39 (36%) as never accepting (Figure 5).

Significant differences in Medicaid participation were found among the three states (P=.02). Providers in West Virginia were more likely to accept Medicaid patients than those from OH and PA (Table 3). Significant difference were also seen in type of practice among Medicaid participation status (Table 4); it seems that practices in a hospital or university setting are more likely to be in the category of “currently accepted” than other types of practices (P=.003). There was also a significant difference (P=.003) in practice years among Medicaid participation status; providers with longer years in practice were less likely to be in the category of “currently accepted” for Medicaid participation status (Table 5). There was no significant difference in practice location among Medicaid Participation status (Table 6).

Figure 1: Respondents by State
Figure 2: Practice Type

Figure 3: Practice Location

Figure 4: Time in Practice
Figure 5: Medicaid Participation

Medicaid Participation by Percent

<table>
<thead>
<tr>
<th>Currently accept</th>
<th>Formerly accepted</th>
<th>Never accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>13</td>
<td>39</td>
</tr>
</tbody>
</table>

**Clearness of Eligibility Requirements**

Among the three groups of Medicaid participation, there were significant differences in whether Medicaid eligibility requirements were clear. The results of the Kruskal-Wallis test indicate that there was a significant difference (about 1 point) in the median with 95% confidence interval for “currently accepted” (2.0 [2.0-3.0]) and “never accepted” (3.0 [3.0-4.0]). Thus, the currently accepted group felt that the eligibility requirements were clearer than that of the group that never accepted Medicaid.

**Provider and Staff Assessment of Qualifiers**

There were also significant differences between groups in terms of provider’s confidence levels with their own, and staff’s ability to assess patient eligibility for coverage through Medicaid. The results of the Kruskal-Wallis test indicate that there is a significant difference (about 1 point) in the median with 95% confidence interval for “currently accepted” (2.0 [2.0-2.0]) and “never accepted” (3.0 [3.0-4.0]). This is to say that providers that currently accept Medicaid are more confident with their ability to assess a patient’s eligibility for coverage. Similarly, providers that currently accept Medicaid are also more confident in their administrative staff’s ability to
properly complete and file the appropriate Medicaid paperwork when compared to providers that do not accept Medicaid. The Kruskal-Wallis test indicates that there is a significant difference (about 2 points) in the median with 95% confidence interval for “currently accepted” (2.5 [2.0-4.0]) and “never accepted” (4.0 [3.0-4.0]).

**Provider Perceptions of Commonly Cited Problems**

When evaluating compliance in regards to appointment keeping, emergencies and breakage of appliances and oral hygiene, there were no significant differences in perception among the three groups. Regarding appointment keeping, the Kruskal-Wallis test indicated a p-value of .45, thus there is no significant difference for “currently accepted” (2.0 [1.0-2.0]), “formerly accepted” (2.0 [1.0-2.0]) and “never accepted” (2.0 [2.0-3.0]) groups. Regarding emergencies and breakage, the p-value was p=.93, and for oral hygiene it was p =.35.

**Reimbursement Rate**

All three groups noted that low reimbursement rate was a major issue with the Medicaid system (Table 2). However, there were significant differences among groups as to which group was more likely to take on more Medicaid patients if fees were to be increased. The results of the Kruskal-Wallis test indicate that there is a significant difference (p=.03) in the median with 95% confidence interval for “currently accepted” (2.0 [1.0-2.0]) and “never accepted” (2.0 [2.0-3.0]). Providers that currently accept Medicaid are more likely to treat more patients if fees were to be increased when compared with their “never accepted” counterparts.

**Residency Training**
When evaluating the experience that providers had with navigating the Medicaid system while in residency, there was no significant difference among the three groups. The Kruskal-Wallis test indicated a p-value of .39, thus there is no significant difference for “currently accepted” (4.0 [3.0-4.0]), “formerly accepted” (4.0 [3.0-4.0]) and “never accepted” (4.0 [4.0-5.0]) groups.

**Ethical Obligations**

There were also marked differences in whether providers felt it was their ethical obligation to include Medicaid patients in their practice. The results of the Kruskal-Wallis test indicate that there is a significant difference (about 2 points) in median with 95% confidence interval for “currently accepted” (2.0 [2.0-2.0]) and “never accepted” (4.0 [3.0-4.0]) and there is a significant difference (about 1 point) in median with 95% confidence interval for “currently accepted” (2.0 [2.0-2.0]) and “formerly accepted” (3.0 [2.0-5.0]). In each comparison, the “currently accepted” group felt more strongly that it was their ethical obligation to treat Medicaid patients, compared to the groups that did not accept Medicaid (p=.0001).

**CHAPTER 5: DISCUSSION**

**Provider and Practice Demographics**

The length of time a provider has been in practice seemed to influence Medicaid participation. Providers that were in practice for fewer years were more likely to accept Medicaid patients in their practice compared to their longer-in-practice counterparts. This is consistent with previous research by Lang, which found that dentists who treat Medicaid-eligible patients tend to be younger.²⁰ This could be because orthodontists that are earlier in their careers may have a greater
need to grow their practice and to gain new patients, leading to accepting Medicaid despite the lower treatment fee reimbursements.

Contrary to the same study by Lang, this survey showed no statistically significant difference in practice location and Medicaid participation status. This could be attributed to an increase in younger orthodontists practicing in urban and suburban areas. An Australian study found that a higher percentage of dentists aged 30-39 were found to practice in major city locations (27%) compared to more remote locations (14.8%). Additionally, the type of practice a younger orthodontist might join may impact the geographic location they serve. A recent study argued that future dental school graduates are more likely to choose a “non-traditional dental practice” such as a group-practice or dental service organization (DSO), which are more commonly located in major urban areas.

The practice types that were most likely to accept Medicaid patients were those associated with a hospital or university. This is likely due to the fact that a larger organization such as a hospital receives additional funding from the state and federal levels. Additionally, any loss of revenue associated with treating such patients is not passed on to the individual provider as it would be in private practice.

Provider Participation and Cost Concerns

Of the total respondents, 53% reported currently accepting Medicaid. 63% of respondents felt that they would be losing revenue by seeing Medicaid patients in their practice, while 73% reported that they would treat more Medicaid patients if the reimbursement rate were increased. In terms of state-specific demographics, 33% of those from Ohio, 53% of those from PA, and
80% of those from West Virginia reported being current Medicaid providers. As each of these states has a different method and rate of reimbursement, it is no surprise that there is such a disparity in participation. In Ohio, a list of auto-qualifiers is used to determine eligibility. Meanwhile, in Pennsylvania, the Salzman index (SI) is used. West Virginia also employs a list of auto qualifiers, with patients needing to meet at least one criterion to be eligible for coverage. Among these states, it is not only the index or list of qualifiers that differs, but the reimbursement rate and schedule as well (Table 6). Ohio has by far the lowest reimbursement rate, with a comprehensive orthodontic case yielding around $2700 in reimbursement. Pennsylvania has the highest reimbursement rate at $3450 per comprehensive case. West Virginia falls in the middle at around $3000. Interestingly, there is 27% higher participation in West Virginia orthodontists when compared to Pennsylvania’s despite the lower reimbursement rate, suggesting that maybe reimbursement rates may not be the most important factor in participation.

The reimbursement schedule differs between these states as well (Table 6). Both Ohio and Pennsylvania use a reimbursement schedule that pays out a lump-sum at the start of treatment, with continuing payments for treatment made quarterly (with an 8 quarter total limit). In this schedule, the burden of billing to receive payment each quarter is put on the provider. Additionally, if a patient loses Medicaid coverage during the course of treatment, they either need to obtain the funds to continue treatment, the practitioner has to continue the care free of charge, or the treatment has to be terminated. Conversely, West Virginia uses a one-time payment in full at the beginning to treatment for patients that qualify for coverage. In the open-ended question of the survey, several West Virginia Orthodontists reported this as a benefit to
participation when compared with other states’ methods of reimbursement. In addition, many orthodontists cited the quarterly reimbursement schedule as a major problem and deterrent to Medicaid participation (Table 9).

According to the AAO’s definition of medically necessary orthodontic care, these cases “intrinsically represent[s] the highest level of orthodontic complexity and severity.” 7 This is consistent with 57% of survey respondents that stated Medicaid patients generally require more complex treatment and longer treatment time than privately-insured or self-pay patients (Table 2). Assuming that most patients that qualify for orthodontic care under Medicaid will require at least 8 quarters (2 years) of treatment, it makes sense that the reimbursement fee could be paid at the start of treatment. This would not cost any more to the state budgets, but may entice more providers to provide care for Medicaid patients, thus expanding access to care for those most in-need.

**Perceptions of Medicaid Program and Patients**

Of the survey respondents, 76% either agreed or strongly agreed that Medicaid patients miss more appointments when compared to privately insured patients. When responding to the question regarding emergencies and appliance breakage, 54% of respondents felt that Medicaid patients had more breakage and emergencies when compared to privately insured patients. Finally, 62% of respondents either agreed or strongly agreed that in general, Medicaid patients had worse oral hygiene when compared to privately insured or private pay patients. However, the perceptions did not appear to differ by Medicaid participation status.
These perceptions are in contrast to a study by Dobbs et al. This retrospective study compared charts of 30 Medicaid and 30 non-Medicaid orthodontic patients at both a private orthodontic practice and university orthodontic clinic in Illinois. Results showed that there were no statistically significant differences in appointment-keeping behavior between Medicaid and non-Medicaid patients. The study also evaluated appliance breakage and found no statistically significant differences in with regards to the number of broken appliances between Medicaid and non-Medicaid patients. Lastly, contrary to the results of this survey, the Dobbs study found that the majority of Medicaid as well as non-Medicaid patients had fair-to-excellent oral hygiene, with no statistically significant differences between the groups being observed. Although these results disagree with another study shows that Medicaid patients have a higher rate of failure than non-Medicaid patients, the Dobbs study results support previous findings from Dickens et al that found no clinically important differences seen between Medicaid and non-Medicaid groups with respect to broken appointments, broken appliances or poor oral hygiene.

These studies highlight the differences between provider’s perceptions and some of the statistical data regarding Medicaid patient compliance when it comes to appointments, breakage and oral hygiene. Although some providers will continue to use their personal experience and judgements to guide their approach to deciding whether or not to accept Medicaid in their practices, the aforementioned research could serve to lessen some of the concerns that orthodontists have when treating this population, and could help increase the availability of Medicaid covered orthodontics.

**Null Hypothesis Testing**
1. REJECTED: Reimbursement rate and method is the most cited deterrent from Medicaid provider participation.

2. REJECTED: There was a statistically significant difference in Medicaid participation among providers that were comfortable with navigating the Medicaid system and those who weren’t.

3. REJECTED: Bureaucratic issues such as inconsistent approval and increase in paperwork and administrative time were largely cited as deterrents from Medicaid provider participation.

4. REJECTED: There is a difference in Medicaid provider participation based on time in practice

5. REJECTED: There is a difference in Medicaid provider participation based on state of practice

6. REJECTED: There is a difference in Medicaid provider participation based on practice type

7. ACCEPTED: There is no difference in Medicaid provider participation based on region of practice

Clinical Implications

There are known differences in Medicaid eligibility and provider participation amongst states.\textsuperscript{4} This study demonstrates that the reasons for this are likely multi-factorial. Low fee reimbursement remains at the forefront of barriers in provider participation, and unless state and federal governments adjust the budgets allotted to this care, not much can be done by practitioners to increase reimbursement fees. There are, however, non-monetary ways of lessening some of the other barriers that were noted in this study. Changing the reimbursement
schedule to a one-time, up-front payment at the start of treatment may entice more providers to participate in the Medicaid program. Employing a national standard (as proposed by the AAO) for a list of auto-qualifiers may remove some of the ambiguity and frustration that providers report in obtaining patient approval for services. In addition to standardizing qualifiers, a simpler and streamlined submission form and records requirement may serve to lessen the bureaucratic burden when applying for case approval. Finally, increasing provider’s confidence with the Medicaid system may serve to increase their comfort and acceptance of the system, thus increasing access to care for those that need it most.

**Limitations**

There are several limitations to this study. First, with such a small sample size, it can be difficult to generalize survey results to a larger population. Although the survey respondents did number more than one hundred, the margin of error would fall even lower with a higher number of respondents. Additionally, the online survey format requires that the respondents be computer literate. There may be some in the survey population that are unable or uncomfortable completing a survey in the electronic format. Finally, there is a chance for bias in which of the requested participants fill out the survey. If a participant feels more strongly one way or another in regards to the topic of Medicaid in orthodontics, they may be more likely to respond to the survey, thus causing their bias to become over-represented.

**CHAPTER 6: SUMMARY AND CONCLUSIONS**

**Summary**
In this study, trends in participation and perceptions were examined for orthodontic providers in Ohio, Pennsylvania and West Virginia. Due to the limited geographical span of this study, generalizations cannot necessarily be made for each state.

**Conclusions**

Under the limits of this study, we can conclude:

1. 53% of the orthodontists that responded to the survey currently accept, 12% formerly accepted, and 35% have never accepted Medicaid in their practices.
2. Providers in a hospital or university setting, that have been practicing fewer years, and that are located in West Virginia are most likely to participate in the Medicaid program.
3. Low fee reimbursement and fee repayment schedule are cited as the biggest deterrents to participation among all groups.
4. Provider perceptions with patient compliance as it relates to appointment keeping, appliance breakage and oral hygiene are largely noted as concerns when treating Medicaid patients, but do not differ among Medicaid participation status.

**CHAPTER 7: RECOMMENDATIONS FOR FUTURE RESEARCH**

In light of the differing research results on provider perceptions, a more comprehensive study would prove beneficial to elucidate whether commonly held perceptions regarding Medicaid-patient are indeed valid. Additionally, survey expansion to include a wider range of states/regions would add greater depth to the trends seen in orthodontist’s perceptions and participation in Medicaid programs nationwide.
REFERENCES


APPENDIX A-IRB APPROVAL LETTER

Acknowledgement of Exemption

08/31/2020

To: Chris Martin
From: WVU Office of Research Integrity & Compliance

Protocol Type: Exempt
Submission Type: Initial
Funding: N/A

WVU Protocol #: 2008084967
Protocol Title: Orthodontics in the Medicaid Community: Provider Trends and Perceptions

The West Virginia University Institutional Review Board has reviewed your submission of Exempt protocol 2008084967. Additional details regarding the review are below:

- This research study was granted an exemption because the Research involves educational tests, survey procedures, interview procedures or observation of public behavior and (i) information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects, and (ii) any disclosure of the human subjects responses outside the research could not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects financial standing, employability, or reputation [45 CFR 46.101(2)]. All exemptions are only good for three years. If this research extends more than three years beyond the approved date, then the researcher will have to request another exemption. The following documents have been acknowledged for use in this study and are available in the WVU*kc system:

The following documents were reviewed and approved for use as part of this submission. Only the documents listed below may be used in the research. Please access and print the files in the Notes & Attachments section of your approved protocol.

- Cover Letter.pdf
- Ortho Survey.docx

Protocol #: 2008084967
FWA: 0006978
IRB: 0000104
Phone: 104-283-7073
Fax: 104-283-3868
Email: IRB@mail.wvu.edu
WVU IRB acknowledgement of protocol 2008084987 will expire on 08/30/2025.

If the study is to continue beyond the expiration date, a renewal application must be submitted no later than two (2) weeks prior to expiration date. It is your responsibility to submit your protocol for renewal.

Once you begin your human subjects research, the following regulations apply:

1. Unanticipated or serious adverse events and/or side effects encountered in this research study must be reported to the IRB within five (5) days, using the Notify IRB action in the electronic protocol.
2. Any modifications to the study protocol should be submitted only if there will be an increase in risk to subjects accompanying the proposed change(s).
3. You may not use a modified information sheet until it has been reviewed and acknowledged by the WVU IRB prior to implementation.

The Office of Research Integrity and Compliance will be glad to provide assistance to you throughout the research process. Please feel free to contact us by phone, at 304.293.7073 or by email at IRB@mail.wvu.edu

Sincerely,

[Signature]
Lila Axt
IRB Administrator

Protocol #: 2008084987           Phone: 304-293-7073
FWA: 0000578                  Fax: 304-293-3988
IIEF: 0003144          Email: IRB@mail.wvu.edu
## Appendix B – Raw Statistics

Table 1. Medicaid Survey results (N=110)

<table>
<thead>
<tr>
<th>Question</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I practice in WV/OH/PA</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>109 (99.1)</td>
</tr>
<tr>
<td>No</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>2. My practice is located in</td>
<td></td>
</tr>
<tr>
<td>Ohio</td>
<td>30 (27.3)</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>60 (54.5)</td>
</tr>
<tr>
<td>West Virginia</td>
<td>20 (18.2)</td>
</tr>
<tr>
<td>3. The following best describes my main practice</td>
<td></td>
</tr>
<tr>
<td>Solo private practice</td>
<td>69 (62.7)</td>
</tr>
<tr>
<td>Partner or group practice</td>
<td>28 (25.5)</td>
</tr>
<tr>
<td>Corporate practice</td>
<td>2 (1.8)</td>
</tr>
<tr>
<td>Hospital or University</td>
<td>11 (10.0)</td>
</tr>
<tr>
<td>4. My participation in the Medicaid program is best described as</td>
<td></td>
</tr>
<tr>
<td>Currently accepted</td>
<td>58 (52.7)</td>
</tr>
<tr>
<td>Formerly accepted</td>
<td>13 (11.8)</td>
</tr>
<tr>
<td>Never accepted</td>
<td>39 (35.5)</td>
</tr>
<tr>
<td>5. The amount of time I have been practicing orthodontics is</td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>14 (12.7)</td>
</tr>
<tr>
<td>6-10 years</td>
<td>9 (8.2)</td>
</tr>
<tr>
<td>11-15 years</td>
<td>13 (11.8)</td>
</tr>
<tr>
<td>15+ years</td>
<td>74 (67.3)</td>
</tr>
<tr>
<td>6. The location that would best describe my main practice is</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>21 (19.1)</td>
</tr>
<tr>
<td>Suburban</td>
<td>58 (52.7)</td>
</tr>
<tr>
<td>Rural</td>
<td>31 (28.2)</td>
</tr>
</tbody>
</table>
Table 2. Medicaid survey results (continued)

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Scale n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Survey question</strong></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>7. I feel as if the Medicaid eligibility requirements are clear for which patients are considered to have medically necessary orthodontic treatment</td>
<td>9 (8.2)</td>
</tr>
<tr>
<td>8. I feel confident with my ability to assess my patient’s eligibility to be covered for orthodontic treatment through Medicaid</td>
<td>24 (21.8)</td>
</tr>
<tr>
<td>9. I feel confident that my administrative staff knows how to property complete and file appropriate Medicaid paperwork</td>
<td>26 (23.8)</td>
</tr>
<tr>
<td>10. I feel as if I will be losing revenue seeing Medicaid patients in my practice</td>
<td>32 (29.1)</td>
</tr>
<tr>
<td>11. I believe Medicaid patients miss more appointments than privately insured patients</td>
<td>40 (36.4)</td>
</tr>
<tr>
<td>12. I believe Medicaid patients have more emergencies and breakage than privately insured patients</td>
<td>29 (26.3)</td>
</tr>
<tr>
<td>13. I feel that Medicaid patients generally have worse oral hygiene than privately insured or self-pay patients</td>
<td>35 (31.8)</td>
</tr>
<tr>
<td>14. I feel that Medicaid patients generally require more complex treatment and longer treatment time than privately insured or self-pay patients</td>
<td>32 (29.1)</td>
</tr>
<tr>
<td>15. I feel as if my residency educated me in how to navigate the Medicaid system</td>
<td>4 (3.7)</td>
</tr>
<tr>
<td>16. I would treat more Medicaid patients if the reimbursement rate were increased</td>
<td>32 (29.1)</td>
</tr>
<tr>
<td>17. I would treat more Medicaid patients if interceptive/early treatment was a covered service</td>
<td>25 (22.7)</td>
</tr>
<tr>
<td>18. I feel it is my ethical obligation to include Medicaid patients in my practice</td>
<td>20 (18.2)</td>
</tr>
</tbody>
</table>
Table 3: Practice Location by State

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Medicaid participation status</th>
<th>p-value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Currently accepted (n=58)</td>
<td>Formerly accepted (n=13)</td>
</tr>
<tr>
<td>2. My practice is located in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohio</td>
<td>10 (33.3)</td>
<td>5 (16.7)</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>32 (53.3)</td>
<td>6 (10.0)</td>
</tr>
<tr>
<td>West Virginia</td>
<td>16 (80.0)</td>
<td>2 (10.0)</td>
</tr>
</tbody>
</table>

Data are presented as n (%)
<sup>a</sup>p-value from Fisher’s exact test or Mantel-Haenszel exact test, *p<.05, **p<.01, ***p<.001

Table 4: Main Practice type

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Medicaid participation status</th>
<th>p-value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Currently accepted (n=58)</td>
<td>Formerly accepted (n=13)</td>
</tr>
<tr>
<td>3. The following best describes my main practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solo private practice</td>
<td>29 (42.0)</td>
<td>7 (10.1)</td>
</tr>
<tr>
<td>Partner or group practice</td>
<td>18 (64.3)</td>
<td>5 (17.9)</td>
</tr>
<tr>
<td>Corporate practice</td>
<td>1 (50.0)</td>
<td>0</td>
</tr>
<tr>
<td>Hospital or University</td>
<td>10 (90.9)</td>
<td>1 (9.1)</td>
</tr>
</tbody>
</table>

Data are presented as n (%)
<sup>a</sup>p-value from Fisher’s exact test or Mantel-Haenszel exact test, *p<.05, **p<.01, ***p<.001

Table 5: Time in Practice

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Medicaid participation status</th>
<th>p-value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Currently accepted (n=58)</td>
<td>Formerly accepted (n=13)</td>
</tr>
<tr>
<td>5. The amount of time I have been practicing orthodontics is</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>12 (85.7)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>6-10 years</td>
<td>6 (66.7)</td>
<td>0</td>
</tr>
<tr>
<td>11-15 years</td>
<td>8 (61.5)</td>
<td>2 (15.4)</td>
</tr>
<tr>
<td>15+ years</td>
<td>32 (43.2)</td>
<td>10 (13.5)</td>
</tr>
</tbody>
</table>

Data are presented as n (%)
<sup>a</sup>p-value from Fisher’s exact test or Mantel-Haenszel exact test, *p<.05, **p<.01, ***p<.001

Table 6: Practice Location by Region
Survey question | Medicaid participation status | p-value
--- | --- | ---
Currently accepted (n=58) | Formerly accepted (n=13) | Never accepted (n=39)

6. The location that would best describe my main practice is

<table>
<thead>
<tr>
<th>Location</th>
<th>Currently accepted</th>
<th>Formerly accepted</th>
<th>Never accepted</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>13 (61.9)</td>
<td>3 (14.3)</td>
<td>5 (23.8)</td>
<td>.61</td>
</tr>
<tr>
<td>Suburban</td>
<td>27 (46.5)</td>
<td>7 (12.1)</td>
<td>24 (41.4)</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>18 (58.1)</td>
<td>3 (9.7)</td>
<td>10 (32.3)</td>
<td></td>
</tr>
</tbody>
</table>

Data are presented as n (%)

a p-value from Fisher’s exact test or Mantel-Haenszel exact test, *p<.05, **p<.01, ***p<.001

Table 7: Medicaid Qualifiers and Reimbursement

<table>
<thead>
<tr>
<th>State</th>
<th>Qualifiers</th>
<th>Reimbursement Rate</th>
<th>Reimbursement Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>OHIO</td>
<td>List of qualifiers</td>
<td>$2700</td>
<td>$624 + 1st quarter at start, $262 per quarter for 7 more quarters maximum</td>
</tr>
<tr>
<td>PENNSYLVANIA</td>
<td>Salzman index</td>
<td>$3450</td>
<td>$1000 at start, $350 per quarter for 7 quarters maximum</td>
</tr>
<tr>
<td>WEST VIRGINIA</td>
<td>List of qualifiers</td>
<td>$3000</td>
<td>One time pmt at start of treatment</td>
</tr>
</tbody>
</table>

Table 8. Survey question by Medicaid participation status

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Medicaid participation status</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently accepted (n=58)</td>
<td>Formerly accepted (n=13)</td>
<td>Never accepted (n=39)</td>
</tr>
<tr>
<td>7. I feel as if the Medicaid eligibility requirements are clear for which patients are considered to have medically necessary orthodontic treatment</td>
<td>2.0 (2.0-3.0)c</td>
<td>3.0 (2.0-5.0)</td>
</tr>
<tr>
<td>8. I feel confident with my ability to assess my patient’s eligibility to be covered for orthodontic treatment through Medicaid</td>
<td>2.0 (2.0-2.0)c</td>
<td>2.0 (1.0-4.0)</td>
</tr>
</tbody>
</table>
9. I feel confident that my administrative staff knows how to properly complete and file appropriate Medicaid paperwork

<table>
<thead>
<tr>
<th></th>
<th>Median (95% CL)</th>
<th>95% CL</th>
<th>95% CL</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 (2.0-2.0)c</td>
<td>2.5 (2.0-4.0)c</td>
<td>4.0 (3.0-4.0)c</td>
<td>&lt;.0001***</td>
<td></td>
</tr>
</tbody>
</table>

11. I believe Medicaid patients miss more appointments than privately insured patients

<table>
<thead>
<tr>
<th></th>
<th>Median (95% CL)</th>
<th>95% CL</th>
<th>95% CL</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 (1.0-2.0)</td>
<td>2.0 (1.0-2.0)</td>
<td>2.0 (2.0-3.0)</td>
<td>.45</td>
<td></td>
</tr>
</tbody>
</table>

12. I believe Medicaid patients have more emergencies and breakage than privately insured patients

<table>
<thead>
<tr>
<th></th>
<th>Median (95% CL)</th>
<th>95% CL</th>
<th>95% CL</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 (2.0-3.0)</td>
<td>2.0 (2.0-3.0)</td>
<td>3.0 (2.0-3.0)</td>
<td>.93</td>
<td></td>
</tr>
</tbody>
</table>

13. I feel that Medicaid patients generally have worse oral hygiene than privately insured or self-pay patients

<table>
<thead>
<tr>
<th></th>
<th>Median (95% CL)</th>
<th>95% CL</th>
<th>95% CL</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 (1.0-2.0)</td>
<td>2.0 (1.0-3.0)</td>
<td>2.0 (2.0-3.0)</td>
<td>.35</td>
<td></td>
</tr>
</tbody>
</table>

14. I feel that Medicaid patients generally require more complex treatment and longer treatment time than privately insured or self-pay patients

<table>
<thead>
<tr>
<th></th>
<th>Median (95% CL)</th>
<th>95% CL</th>
<th>95% CL</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 (2.0-2.0)c</td>
<td>2.0 (1.0-3.0)</td>
<td>3.0 (3.0-3.0)c</td>
<td>.001**</td>
<td></td>
</tr>
</tbody>
</table>

15. I feel as if my residency educated me in how to navigate the Medicaid system

<table>
<thead>
<tr>
<th></th>
<th>Median (95% CL)</th>
<th>95% CL</th>
<th>95% CL</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0 (3.0-4.0)</td>
<td>4.0 (3.0-5.0)</td>
<td>4.0 (4.0-5.0)</td>
<td>.39</td>
<td></td>
</tr>
</tbody>
</table>

16. I would treat more Medicaid patients if the reimbursement rate were increased

<table>
<thead>
<tr>
<th></th>
<th>Median (95% CL)</th>
<th>95% CL</th>
<th>95% CL</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 (1.0-2.0)c</td>
<td>2.0 (1.0-3.0)</td>
<td>2.0 (2.0-3.0)c</td>
<td>.03*</td>
<td></td>
</tr>
</tbody>
</table>

18. I feel it is my ethical obligation to include Medicaid patients in my practice

<table>
<thead>
<tr>
<th></th>
<th>Median (95% CL)</th>
<th>95% CL</th>
<th>95% CL</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 (2.0-2.0)c</td>
<td>3.0 (2.0-5.0)b</td>
<td>4.0 (3.0-4.0)c</td>
<td>&lt;.0001***</td>
<td></td>
</tr>
</tbody>
</table>

Data are presented as median (95% Confidence Limits)

a p-value from Kruskal-Wallis test *p<.05, **p<.01, ***p<.001

b Currently accepted versus Formerly accepted, significant; Multiple comparison procedure (Dunn’s test)

c Never accepted versus Currently accepted, significant; Multiple comparison procedure (Dunn’s test)

Table 9: Open Ended Responses
<table>
<thead>
<tr>
<th>Please provide any additional information that you feel is relevant to the topic of Medicaid in orthodontic practices</th>
<th>Reimbursement</th>
<th>Reimbursement Schedule</th>
<th>Lack of Phase I coverage</th>
<th>Inconsistent approval</th>
<th>Paperwork / bureaucracy /</th>
<th>Unclear criteria / process</th>
<th>Patient / parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interceptive/ early treatment is a covered service by WV Medicaid</td>
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<tr>
<td>85% of children in WV are covered by MC or WVCHIP. It would be hard to survive as an orthodontist if you did not accept MC.</td>
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<td>Medicaid in WV will currently accept phase 1 treatment</td>
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<td>CBCT coverage is not clear with Medicaid patients</td>
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<tr>
<td>I need more information about this topic.</td>
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<td>It is financially impossible to treat Medicaid patients in a private practice setting. Perhaps several clinics throughout the state providing these services underwritten by the state would be more efficient.</td>
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<td>Early treatment would be great</td>
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<td>The bottom line is that the reimbursement rate is so low for the type of cases accepted that there is no incentive for private practices to accept Medicaid pts. Offices that I have spoken with which accept Medicaid pts are performing less than ideal treatment. They feel that providing 'some' treatment, even though it is not ideal or complete, is better than providing no treatment and therefore they are able to 'make it work' with the low reimbursement.</td>
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<td>The medicaid process requires an incredible amount of paperwork and admin time. I would prefer to treat patients in need for free in my office rather than deal with the medicaid system.</td>
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<td>I am a fee for service provider (since 1998) and am unfamiliar with medicaid patients in general.</td>
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<td>The stress to the staff regarding the paperwork and sometimes the attitude of parents that they are &quot;owed&quot; this service is a great deterrent. In addition, if pedodontists are going to provide interceptive treatment it may waste time and resources from my personal experience. I believe if early treatment was covered for orthodontists only, at least you may prevent many patients from being so severely handicapped that there is little chance for a successful outcome in the future. It should also provide many patients a big window of when any future treatment could be rendered. Perhaps, comprehensive treatment could be delivered when they are adults and out of the system.</td>
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<td>Concerns over being exposed to legal action if you limit the amount of Medicaid patients that you treat. For example, if you decide to fill no more than 10% or 20% of your practice with Medicaid patients.</td>
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<td>It is sad they don’t improve the reimbursement, especially now with Covid and so many programs for those in need. Currently most Ins companies are very. Very understaffed, put you on hold forever, drop calls, and such, and do not speak directly with you, all email, unless a peer to peer review, it’s nice to be able to pick up the phone and talk to a real dental director… who might even be orthodontically inclined, and not an MD. It’s no longer affordable to do, unfortunate.</td>
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<td>Please donate the gift card to a charity of your choice</td>
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<td>I have not participated in the states Medicaid program but I have been a provider of BCMH for 30 years. I feel that all orthodontists should be required to accept a small percentage of Medicaid patients (Dentists too). The oversight of the program is not strong where a number of orthodontists embellish the difficulty index.</td>
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<td>We were 'forced' to accept MA because it is linked to private insurance carriers web promotion (UPMC). Otherwise we would not accept - we are compensated below our cost (each patient is a financial loss)</td>
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<tr>
<td>Eligibility is too time consuming. Reimbursement is too low</td>
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<td>Currently accept it to help the community and referring dentists, but the paperwork burden on our staff is substantial and a deterrent to accepting Medicaid for many practices. One unreasonable issue with Ohio is that they only pay out in full if treatment is 24 months, or 8 quarters. Also you have to bill quarterly which is very time consuming and logistically difficult. If the case is accepting, the case should be paid in full and reimbursement should not be tied to treatment time. These reasons, along with paperwork burden, are a major factor why we may stop taking Ohio medicaid in the future.</td>
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<td>I prefer to not do business with government insurance...too many rules and regulations. Participation provides challenges and rewards not experienced in a practice that doesn’t include patients with unique needs. I have learned to appreciate the challenges that these families face.</td>
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Reimbursement was frequently challenging even when all required paperwork sent. Some patients and parents did not value the work. Some were even clearly gaming the system and this was very discouraging. Low reimbursement. Reimbursed by age. If an 11YO has a full permanent dentition and is need of Tx, reimbursement should not be lower than if patient was 12.

WV pays in full up front and I believe this is why so many WV orthodontists participate in the program. This is a frustrating topic I am well aware of the different orthodontist receive different compensation and their cases go through easier it is cumbersome requires quite a bit of time by my staff to do the paperwork and follow up at this point We have chosen to take care of people on a charity basis rather be involved also I don’t know that orthodontics wow I love it I know the benefit is really where the Medicare dollar should be going.

I DO NOT accept medicaid in my Pennsylvania office at this time. I was participating with the PA CHIP program, but they incorporated the Salmon Index requirement in 2017 and I did not have ONE SINGLE patient approved. I, therefore, quit accepting that insurance. If I have a patient with CHIP insurance in PA, then I tell them why they would not qualify. PA also does not pay out up front at the beginning of treatment. It makes it much harder if a patient changed from CHIP to another insurance in the middle of treatment. Payment is very difficult in PA. I’ve had trouble collection from the state as well. WV has itself together and makes things very EASY!! If something isn’t approve, I call the person who approves cases and then resubmit. Payment up front is key. Patients on this insurance move and disappear (infrequently) as well and it doesn’t leave the doctor hanging.

Like many orthodontists, I believe it is a duty to serve this population. But, this population has some challenges and is not right for everyone. I wish that more orthodontists would treat Cleft palate and Medicaid insurance patients. This would relieve some of the burden on orthodontists, like me, who do accept/treat Cleft palate and Medicaid insurance patients.

The majority of orthodontic treatment is elective. Our care is a luxury not a necessity, as it is in general dentistry. Ohio Medicaid used to cover Phase 1 interceptive treatments. Now Caresource has been acquired by Dentaquest, and they are denying all Phase I treatments. They are requiring us to code them as full treatments and reduce their benefit accordingly. This handicaps our ability to correct serious problems that require interceptive treatment.

Our practice is in a large, urban safety-net hospital. If we did not treat subsidized treatment patients, there are no providers in the area who will.

Medicaid fees need to increase. There has not been an increase in fees since I think 1992.

Rules are unclear and too extreme for qualification.

Approvals are inconsistent.

Generally it is known Medicaid does not cover orthodontic treatment.

I think the reimbursement of a one time fee like the current system in WV is superior over multiple payments. The biggest problem is having multiple TPA for Medicaid or a patient have dual coverage and having to submit to both insurance companies. If a patient has dual coverage, I think we should be allowed to bill the patient for the balance not covered.

Too many hoops to jump through for little money.

The ease to file a claim and be paid is important. The amount of time the staff spends on claims cannot be more than with private pay or insurance patients.

It doesn’t pay enough for what you have to do.

My answers would be different and more positive if we had not just undergone a transition to DentaQuest as the administrator. The program was not perfect, but it was reasonably fair and predictable. Now it is neither. They, as administrators agree with the science around providing care for defensible conditions, but will not unless Medicaid requires it. They are in it for the money.
Although the criteria are straightforward as to which patients should be accepted for treatment, those that get approved is incredibly ambiguous. One week a single tooth out of position is enough, the next week the patients need severe dentofacial deformities to be accepted. We need a more objective criteria and it must be held to, regardless of the amount of money available in the system. Once a patient has started treatment the full treatment cost should be set aside regardless of patient eligibility after the fact. It is unfair to the patient and treating doctor to have to stop because compensation ends part way through treatment. If that happens either the patient stops coming to appointments putting them at risk or the doctor completes treatment with no further compensation on a fee that was already a loss to the practice at the start.

I am a Medicaid provider as I treat all patients with craniofacial anomalies and in Ohio to receive BCMH payments, you have to be a Medicaid provider. In my private practice, I do not accept Medicaid.

I am ordered to treat Medicaid by my employer, who does NOT treat them. The taxpayer WERE NEVER ASKED IF THEY WANTED TO PAY FOR THIS! Politicians started it and want kudos for spending taxpayer money on votes for politicians. Medicaid parents are NOT appreciative—once approved they are already seeking their next free service. The children are resentful and do NOT want treatment, but since it is "free" a parent or grandparent will pursue the free thing until they get it. This program MUST END since it rewards the wrong incentives, ruins self-reliance, and adds more demands from the populace, who should be asking "...not what your country can do for you, but what you can do for your country."!!

**Appeal process is poor**, often plans blame providers for patients not qualifying

**Bureaucracy too much.** Too many rules.

The system is not perfect but is manageable. The biggest challenge honestly is not in the paperwork, but rather managing patient/parent expectations as to what is covered and not covered.

**Fees need to be increased** especially with Ohio and wv plans. The cases are complex and the reimbursement is low

I participate with the PA CHIP program, so we do preauthorizations with this program. Although I am happy to provide this service and do feel that I am adequately reimbursed for my work I also feel that the approval requirements are not consistent or clear. This is frustrating when discussing insurance coverage with patients.

**Reimbursement is so low** it often costs us to treat these patients, however they often need it more than private pay. **Phase I treatment** with a better reimbursement rate or getting two phases of treatment covered by medical card would entice more orthodontists to participate

The Salzmann is not the best way to determine need for orthodontics

Some Medicaid examiners who grade the patients are general dentists and sometimes they do not understand certain criteria which goes into approval of a case. Also I feel the Salzmann Index for orthodontic approval is very subjective. I would bet the inter-rater reliability would be very low among examiners and orthodontists. Remember who are we doing this for the state or the patient. I think this concept gets lost
I believe that submitting an authorization for a patient who clearly does not meet inclusion criteria should not be reimbursed for records without a detailed narrative note. I believe it would be better to include additional patients covered (expanding inclusion criteria) and reduce the number of rejected patients who are clearly outside the inclusion criteria.

Access to normal dental care is tough for our Medicaid patients. Urban, suburban, rural all have issues. There is a high prevalence of lack of urgency/responsibility without financial investment potentially or could stem from the instability of home life. Simple things like forgetting your toothbrush at a friend’s house, just leads to not brushing until your next adjustment since you have no one to take you to the store to get another one. It’s a great service to offer but comes with many, many other practice headaches that will now come into play. Better reimbursement would likely help more orthodontists be willing to take on some of these headaches.

Reimbursement levels haven’t changed in years and yet overhead levels keep going up. Paperwork and hassles continue to rise also. At some point, the state will lose a lot of practitioners, which seems to be what they want.

I do practice in Alaska with the YKHC Native Health Consortium. We do have a significant number of Medicaid patients. My answer to the missed appt question is primarily my experience with the Alaska system. In my Ohio practice, Medicaid orthodontic experience has to do with cleft palate patients.

The criteria of "medically necessary" is asinine. In PA, the criteria is that it must impact the patient’s ability to eat, speak, or breathe; all of which can be performed without teeth.

There seems to be no consistency in the evaluation process. Some examiners approve with as little as 5-7 points while other examiners reject patient with significant needs and over 30 points.

One of the most important factors to consider is the percentage of patients on Medicaid versus your total patient population. If that number gets too high, if drastically affects your bottom line. It would be an absolute benefit to Orthodontists to use virtual treatment techniques to screen state patients ahead of time to make a reasonable determination if it’s worth bringing them in for an appointment to submit or not. Although we cannot be certain for 100% of the patients, a fast majority would know if treatment is needed in the approximate costs. The other factor that you did not address in your list of questions was how each state insurance actually reimburses us. I think more orthodontist would be willing to participate if they were paid upfront for the case. Often times, we are not paid our agreed-upon fee because the patient allow their coverage to lapse and then the state doesn’t pay for those few months. If you would like to spend a day in my practice reviewing how Medicaid works in a real practice, please let me know.

Early treatment can be covered but the reimbursement is very, very low. Once all of your fixed operating expense costs are covered, Medicaid patients, even at lower reimbursement adds profit to the practice. However, you need to cover costs with self pay patients and have the extra time to see Medicaid for this to work well.

The payment schedule for Medicaid patients should be automated is a patient this is an appointment we only have 24 months to complete their treatment, and sometimes we are not finished and then we don’t get paid the full treatment treatment fee.
Orthodontics and Medicaid Survey

1. I practice in WV/OH/PA
   YES  NO (If no, end survey)

2. My practice is located in (select all that apply)
   OHIO  PENNSYLVANIA  WEST VIRGINIA

3. The following best describes my main practice
   Solo private practice  Partner or group practice  Corporate practice  Hospital or University

4. My participation in the Medicaid program is best described as
   Currently accept  Formerly accepted  Never accepted

5. The amount of time I have been practicing orthodontics is
   1-5 years  6-10 years  11-15 years  15+ years

6. The location that would best describe my main practice is
   Urban  Suburban  Rural
7. I feel as if the Medicaid eligibility requirements are clear for which patients are considered to have medically necessary orthodontic treatment

   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

8. I feel confident with my ability to assess my patient’s eligibility to be covered for orthodontic treatment through Medicaid

   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

9. I feel confident that my administrative staff knows how to properly complete and file appropriate Medicaid paperwork

   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

10. I feel as if I will be losing revenue seeing Medicaid patients in my practice

    Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

11. I believe Medicaid patients miss more appointments than privately insured patients

    Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

12. I believe Medicaid patients have more emergencies and breakage than privately insured patients

    Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
13. I feel that Medicaid patients generally have worse oral hygiene than privately insured or self-pay patients
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

14. I feel that Medicaid patients generally require more complex treatment and longer treatment time than privately insured or self-pay patients
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

15. I feel as if my residency educated me in how to navigate the Medicaid system
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

16. I would treat more Medicaid patients if the reimbursement rate were increased
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

17. I would treat more Medicaid patients if interceptive / early treatment was a covered service
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

18. I feel it is my ethical obligation to include Medicaid patients in my practice
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
19. Please provide any additional information that you feel is relevant to the topic of Medicaid in orthodontic practices ________________________________