THE NORTH CAROLINA MEDICAID PROGRAM: PARTICIPATION AND PERCEPTIONS AMONG PRACTICING ORTHODONTISTS. A 15-YEAR UPDATE.

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ABSTRACT

JEFFREY NEAL GOLDSMITH: The North Carolina Medicaid Program: Participation and Perceptions Among Practicing Orthodontists. A 15-year Update.
(Under the direction of Tate Jackson)

This study was an update to a 2004 study that investigated the participation and perception of licensed, active orthodontists in the North Carolina Medicaid program. Im's survey from 2004 was slightly modified and used for a direct comparison to their data to provide a 15-year update. Respondents were asked if they currently accepted new Medicaid patients. Additionally, ten commonly cited problems with the Medicaid program and patients that have been identified as barriers to participation were given. In 2019, twenty-four practitioners (37.5%) reported that they currently accept new Medicaid patients for treatment, a 56% increase by percentage from 2004 reporting of forty practitioners (24.1%). For all ten commonly cited problems, providers who never accepted Medicaid reported the problem to be a major problem more often than current Medicaid providers. From 2004 to 2019, changes in participation and perception of licensed, active orthodontists regarding the North Carolina Medicaid program were observed.

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SECTION I

Literature Review

President Lyndon B. Johnson initiated the 'War on Poverty' in 1964, which included government intervention for the neediest families[1]. Furthermore, the Medicaid program was created in 1965 as Title XIX of the Social Security Act, providing low-income households with public health insurance[2]. In 1966, the ADA created a task force to collaborate with the ADA Council on Dental Health, the Council on Legislation, the Bureau of Economic Research and Statistics, the Bureau of Dental Health Education, and the Bureau of Public Information. Later that year, Medicaid services became approved for "Treatment of malocclusion with priority for interceptive service and disfiguring or handicapping malocclusions."[3]. The following year, in 1967, the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program was created, which directed dental providers to treat Medicaid-eligible children younger than 21 years old[2].

Orthodontists were included in the EPSDT directive and were instructed to treat children with handicapping malocclusions, however, many impediments prevented their participation. Dentists complained about low reimbursement amounts, excessive paperwork, need for prior authorization, denial of payments, restrictions in reimbursable services, payment delays, and broken appointments[2,4–12].

In 2004, 168 North Carolina orthodontists were surveyed regarding participation and perceived problems with Medicaid, including fee reimbursement too low, difficulty collecting

from Medicaid, loss of coverage during treatment, need for prior authorization, getting billing questions answered, delays in receiving payment, unruly/uncooperative behavior, patients' failure to show for appointments, patients being late, and last-minute patient cancellations[13]. Only one in four North Carolina orthodontists accepted Medicaid.

In North Carolina in 2004, current Medicaid providers were analyzed relative to former Medicaid providers and never Medicaid providers. Out of the ten aforementioned perceived problems, Fee reimbursement too low was the consensus number one complaint from all providers and was the only perceived problem that was found to not have any statically significant discrepancies between groups[13]. The consensus second biggest perceived problem for all three provider categories was that patients fail to show up to their appointments[13]. The comparison of groups concluded that, in general, perceived problems with patient-related issues were cited more often by practitioners who never accepted or are not currently accepting Medicaid patients rather than current providers. Additionally, there is no evidence of demographic or practice pattern differences among current Medicaid providers, nonproviders who used to accept Medicaid, and nonproviders who never accepted Medicaid.

President Barack Obama, with control of both houses of congress, passed the Affordable Care Act (ACA), commonly referred to as Obamacare, into legislation in March 2010[16]. Effective Jan. 1, 2014, one of its major provisions expanded Medicaid coverage to over 30 million uninsured American primarily by expanding Medicaid from 100% to 138% of the federal poverty level[17,18]. In June 2012, the Supreme Court ruled that states could not be forced into Medicaid expansion but mostly left the other provisions intact. The federal government incentivized states by offering 100% federal funding the first 3 years (2014-2016), then 90% federal fundingthereafter[17,18].

North Carolina was among 25 states who opted out of Medicaid expansion initially and currently remains 1 of 14 states that have still not adopted Medicaid expansion as of March 2020[19,20]. The expansion plan has experienced increased resistance compared to the initial Medicaid implementation in 1965, where nearly all states implemented the Medicaid program within 4 year. Alaska and Arizona were the only two states that did nor implement the program within 4 years but eventually would join in 1972 and 1982, respectively.[18]

Although Medicaid expansion was not adopted by all states, changes to modernize and simplify Medicaid enrollment were mandated, which led to an increase in enrollees[21]. Before the ACA, states had no standard in the modernization of the enrollment process. There were three major ACA reforms to the Medicaid application process that promised to promoted increased enrollment for those already eligible even if a state voted against Medicaid expansion like North Carolina.

The first major reform was permitting multiple options to apply, including convenient options such as online, by mail, or by phone as many states still only had the option to apply in person[21]. This posed as a barrier to applying for many Americans who could not afford to miss work or had to pay for childcare[22]. Many reported that the hours that the Social Services offices were open for in-person applications were inconvenient[22]. Additionally, some Medicaid-eligible applicants do not own a vehicle and report difficulty finding a means of transportation[22]. Lastly, many reported difficulties finding a translator to come with them to assist with the application process[22]. By allowing online, by mail, or by phone options in addition to in-person, many of these barriers to applying were minimized or eliminated.

The second major reform was real-time determination of eligibility and the ability to provide an electronic verification database. Historically, waiting for the verification of eligibility

was a burdensome process that would make an applicant wait weeks or even months to determine eligibility[23]. Many found this process to be long and cumbersome[22,23]. An applicant now can receive a real-time determination without the paperwork burden of compiling documentation when, instead, they can now apply through an electronic data match via trusted sources.[23]Converting the lengthy, confusing, paper applications to simplified, technology-driven applications minimized the burden for both the applicant as well as the state[21–23].

In addition to those reforms, the ACA increased outreach to encourage and assist eligible individuals to easily navigate through the enrollment process.[21] Barriers to enrollment previously were thought to include uncertainty of how or where to apply, immigrants are afraid to apply, confusion about who is eligible to apply, hard to get papers to apply, application is long and complicated, misconceptions about the Medicaid enrollment process, and the general feeling that it's not worth the hassle[22,24]. The mission of the outreach and enrollment efforts were to help bridge the gap between eligible people and coverage. Part of the outreach program was designated to reach out and encourage individuals to apply for coverage while another leg of the program was to serve assistance to help individuals with questions about enrolling[21]. The outreach and enrollment efforts are not just available for help during the enrollment period, instead, they are active all year long[21].

From 2004 to 2019, the increase in the population of North Carolina was considerably outpaced by the amount of Medicaid enrollees. The population of North Carolina increased by 22.6% (8.55M to 10.49M)[25] while the Medicaid enrollees increased by 82.3% (1.15M to 2.11M)[26]. The total number of active, licensed orthodontists increased by 39.4% (203 to 283)[27].

From 2011 to 2018, the North Carolina Medicaid reimbursement rate for orthodontics decreased by 2 percent[14]. Recently, North Carolina policymakers have made a major change as the Medicaid reimbursement rate increased by 10 percent beginning on January 1, 2019[15].

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SECTION II

MANUSCRIPT

Introduction:

President Lyndon B. Johnson initiated the 'War on Poverty' in 1964, which included government intervention for the neediest families[1], which helped lead to the inception of the Medicaid program in 1965 as Title XIX of the Social Security Act, providing low-income households with public health insurance[2]. A year later, in 1966, the American Dental Association (ADA) created a task force to collaborate with the ADA Council on Dental Health, the Council on Legislation, the Bureau of Economic Research and Statistics, the Bureau of Dental Health Education, and the Bureau of Public Information to create access to care for those in need. Later that year, Medicaid services became approved for treatment of more severe malocclusions[3]. The following year, in 1967, the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program was created, which directed dental care of Medicaid-eligible children younger than 21 years old, including orthodontists[2]. Dentists complained about low reimbursement amounts, excessive paperwork, need for prior authorization, denial of payments, restrictions in reimbursable services, payment delays, and broken appointments[2,4–12].

In 2004, 168 North Carolina orthodontists were surveyed regarding participation and perceived problems with Medicaid, including fee reimbursement too low, difficulty collecting from Medicaid, loss of coverage during treatment, need for prior authorization, getting billing questions answered, delays in receiving payment, unruly/uncooperative behavior, patients' failure to show for appointments, patients being late, and last-minute patient cancellations[13].

Only one in four NC orthodontists accepted Medicaid at the time of the 2004 study, and analyses comparing current Medicaid providers with former Medicaid providers and never Medicaid providers showed statistically significant disagreement on all perceived problems except one: fee reimbursement too low[13]. From 2011 to 2018, the Medicaid reimbursement rate for orthodontics decreased by 2 percent[14]. Recently, Medicaid reimbursement rates for all dental services, beginning January 1, 2019, increased by 10 percent[15].

President Barack Obama, with control of both houses of congress, passed the Affordable Care Act (ACA), commonly referred to as Obamacare, into legislation in March 2010[16]. Effective Jan. 1, 2014, one of its major provisions, expanded Medicaid coverage to over 30 million uninsured Americans, primarily by expanding Medicaid eligibility from 100% to 138% of the federal poverty level[17,18]. In June 2012, the Supreme Court ruled that states could not be forced into Medicaid expansion. The federal government incentivized states by offering 100% federal funding the first 3 years (2014-2016), then 90% federal funding thereafter[17,18].

North Carolina was among twenty-five states who opted out of Medicaid expansion initially and currently remains one of fouteen states that have still not adopted Medicaid expansion as of March 2020[19,20]. Although Medicaid expansion was not adopted by all states, changes to modernize and simplify Medicaid enrollment were mandated, which led to an increase in enrollees[21]. Major ACA reforms to the Medicaid application process included multiple options to apply (online, by mail, or by phone; instead of in-person only), real-time determination of eligibility (instead of a waiting period), and the ability to provide electronic verification (instead of paper documentation only)[21]. In addition to those reforms, the ACA increased outreach to encourage and assist eligible individuals to easily navigate through the

enrollment process.[21] From 2004 to 2019, the population of NC increased by 22.6% (8.55M to 10.49M)[22] while the Medicaid enrollees increased by 82.3% (1.15M to 2.11M)[23].

In our study, the current participation and perceptions of practicing orthodontists regarding the NC Medicaid program were investigated as an update to Im et al's 2004 study[13]. In 2019, there were 302 licensed orthodontists, a 48.8% increase in total orthodontists in NC since 2004[24] (from 203 to 302). With an increase in Medicaid enrollees, total orthodontists practicing in NC, and Medicaid reimbursement rate, the current attitudes toward the Medicaid program and participation of orthodontic providers must be understood.

Ultimately, understanding participation in and perceptions of Medicaid by orthodontic providers may provide North Carolina policymakers guidance regarding the effectiveness of the current state of the Medicaid program.

Methods

After obtaining IRB exemption (#19-0760), Im's survey from 2004 was used as a template for a direct comparison to their published data. The survey was developed by Im with the help of full-time professors at the University of North Carolina (UNC) Department of Orthodontics in conjunction with the Survey Research Unit of the Biostatistics Department and the Assistant Director for Survey Research and Development at the Odum Institute for Research in Social Sciences at UNC. The survey instrument consists of 28 Likert-scale response questions. The original survey was converted to a digital format using Qualtrics. The Qualtrics survey was validated by full-time professors at the UNC Division of Orthodontics who meet the exclusion criteria. Similar inclusion and exclusion criteria from the 2004 study will be applied (Table 1)[25]:

Inclusion Criteria	Exclusion Criteria
Orthodontist as reported by the North Carolina Association of Orthodontists	Practitioner is deceased
Practitioner has an active license	Practitioner has an inactive license
	Full-time faculty at UNC Division of Orthodontics

The survey instrument was divided into four domains: patient population, practitioner demographics, practice characteristics, and Medicaid issues. Practices were categorized as solo practitioners and non-solo practitioners for analytical purposes. Respondents were asked if they currently accepted new Medicaid patients and, if yes, what percentage of the active patient population is Medicaid; whether all new Medicaid patients are accepted and whether the amount of Medicaid revenue results in a net profit, breaking even, or a net loss. Those respondents who did not currently accept new Medicaid patients were asked if they had ever accepted Medicaid patients and, if so, in what year they stopped accepting Medicaid patients. Finally, ten commonly cited problems with the Medicaid program that have been identified as barriers to participation were given. The respondents were asked if they perceive each of these problems to be "not a problem", "a minor problem", "a major problem", or "don't know"[25].

Acquisition of Practitioner Data

Cross-sectional data reflecting the licensed orthodontists in NC was acquired from the North Carolina Association of Orthodontists (NCAO), who reported 354 members. Those names were cross-referenced with the license verification tool provided for public use by the NC State Board of Dental Examiners to verify which orthodontists held an active NC dental license[26], resulting in 302 licensed orthodontists. The survey that was distributed asked the licensed orthodontists to report if they were inactive, nineteen respondents reported that they were

inactive, yielding a total of 283 active, licensed orthodontists in NC at the time of survey distribution.

Distribution of Survey

The survey was emailed to all identified licensed, practicing orthodontists in NC. The survey included a description of the study along with the questionnaire. One week later, the email was sent a second time to those who had yet to respond. Two weeks after the second email, a third and final email was sent to those who had yet to respond.

Results

136 eligible orthodontists responded to the survey. Nineteen respondents reported they are not active practitioners, yielding a response rate of 117/275 (43%). The median age of the respondents was 49 years (IQR 41-64) with a range of 30-88 years. The respondents were majority male (77.42%) and Caucasian (90.32%). They were more likely to be a solo practitioner (64.04%) and the median number of years in practice was reported to be 18.5 years (IQR 10-33) (see Tables I and II). There were no statistically significant differences in any demographic measures across those orthodontists who currently accept Medicaid versus those who have never accepted Medicaid or those who have previously accepted Medicaid.

TABLE I: PRACTITIONER DEMOGRAPHICS

	Total		Medicaid Providers		Accepted Medicaid at one time		Never Accepted Medicaid		Probability	P value
	N*	Median (q1 -q3)	N	Median (q1 -q3)	N	Median (q1 -q3)	N	Median (q1 -q3)		
Age (years)	61	49 (41-64)	24	50.5 (41.5-65.5)	9	53.0 (42.0-63.0)	28	45 (40.0-56.5)	0.40^	--
Number of years in practice	62	18.5 (10-33)	24	19 (9.5-34.5)	10	23 (11-35)	28	16.5 (10.5-26)	0.62^	--
	N %		N %		N %		N %			
Gender										
Female	14 (22.58)		5 (20.83)		2 (20.00)		7 (25.00)		0.92#	--
Male	48 (77.42)		19 (19.17)		8 (80.00)		21 (75.00)			
Race										
Caucasian	56 (90.32)		20 (83.33)		10 (100)		26 (92.86)		--	0.62&
African-American	2 (3.23)		2 (8.33)		0 (0)		0 (0)			

* N represents respondants to each specific question
^ Cochran-Mantel-Haenszel Statistics
# Chi-Square
& Fisher's Exact Test

TABLE II: PRACTICE CHARACTERISTICS

	Total		Medicaid Providers		Accepted Medicaid at One Time		Never Accepted Medicaid		Probability
	N	Median (q1-q3)	N	Median (q1-q3)	N	Median (q1-q3)	N	Median (q1-q3)	
Number if new full treatment cases started in 2019	64	334 (210-500)	24	335 (224.5-534)	10	312.5 (200-355)	30	250 (160-450)	0.28*
Method of payment	64		24		10		30		
% Private Insurance		60 (40-75)		55 (19-70)		62.5 (50-80)		60 (50-75)	0.09*
% Medicaid		0 (0-10)		16.5 (5-73)		0 (0-1)		0 (0-0)	<.0001^
% No Insurance		25.0 (10-40)		10.0 (6.5-28.0)		32.5 (19-35)		37.5 (25-50)	0.003*
% Other Funding		0 (0-0)		0 (0-0)		0 (0-0)		0 (0-0)	0.61*
Percentage of referred patients with Medicaid	64	5.5 (2.0-27.5)	24	25.0 (10.0-77.5)	10	4.0 (2.0-20.0)	29	5.0 (1.0-5.0)	<.0001^
Percentage of new cases with no fee*	39	1 (0-2)	16	2 (0-4.5)	5	2.0 (0-2)	17	1.0 (0-1)	0.12*
Number of Medicaid inquiries per month	61	5 (2-15)	24	18 (5-30)	10	5 (2-25)	30	2.8 (1-5)	0.06*
	N (%)		N (%)		N (%)		N (%)		
Practice Arrangement									
Solo	41 (64.04)		12 (50.00)		9 (90.00)		20 (66.67)		0.11#
Non-solo	23 (35.96)		12 (50.00)		1 (10.00)		10 (33.33)		
Busyness									
Too Busy	3 (4.69)		2 (8.33)		0 (0.00)		1 (3.33)		
Comfortable load	45 (70.31)		16 (66.67)		8 (80.00)		21 (70.00)		0.93&
Not busy enough	16 (25.00)		6 (25.00)		2 (20.00)		8 (26.67)		
Average Fee									
$5000 or less	9 (14.06)		4 (16.67)		0 (0.00)		5 (16.67)		
$5001-$6000	46 (71.88)		17 (70.83)		8 (80.00)		21 (70.00)		0.78&
$6001 or more	9 (14.06)		3 (12.50)		2 (20.00)		4 (13.33)		
Quoted no fee or reduced fee?									0.61
No	26 (40.63)		8 (33.33)		5 (50.00)		13 (43.33)		
Yes	38 (59.38)		16 (66.67)		5 (50.00)		17 (56.67)		

*39 out of 71 respondants report starting a new case with either no fee and a discounted fee, not including family or staff ; ^ Cochran-Mantel-Haenszel Statistics ; # Chi-Square ; & Fisher's Exact Test

In 2019, 24 practitioners (37.5%) reported that they currently accept new Medicaid patients for treatment. Of the practitioners who currently accept new Medicaid patients, 45.8% do not accept all new Medicaid patients who contact their clinic. For those that did not accept all new Medicaid patients, only 10 providers (26.3%) reported that they would accept medically compromised new Medicaid patients. Of the current Medicaid providers, 58.3% stated that Medicaid patients make up more than 20% of their patients. In 2019, 9 orthodontists (37.5%) reported a net profit from these cases, 9 (37.5%) reported breaking even, and 6 (25%) reported a net loss.

TABLE III: PERCEIVED PROBLEMS WITH MEDICAID

C = Current Medicaid Provider A = Accepted Medicaid at one time N = Never accepted Medicaid		Don't Know* (N)	Not a Problem N (%)	Minor Problem N (%)	Major Problem N (%)	P value&
Fee reimbursement too low (N=62)	C	(0)	1(1.67)	5 (20.83)	18 (75.00)	0.0070
	A	(0)	0 (0)	2 (20.00)	8 (80.00)	
	N	(4)	1 (3.85)	1 (3.85)	24 (92.31)	
Difficulty collecting from Medicaid (N=62)	C	(0)	14 (58.33)	8(33.33)	2 (8.33)	<.0001
	A	(0)	3 (30.00	4 (40.00)	3 (30.00)	
	N	(17)	1 (7.69)	2(15.38)	10 (76.92)	
Loss of coverage during treatment (N=62)	C	(0)	14 (58.33)	9 (37.50)	1 (4.17)	<.0001
	A	(0)	2 (20.00)	6 (60.00)	2 (20.00)	
	N	(16)	3 (21.43)	5 (35.71)	6 (42.86)	
Need for prior authorization (N=62)	C	(0)	8 (33.33)	12(50.00)	4 (16.67)	0.001
	A	(0)	1 (10.00)	6(60.00)	3 (30.00)	
	N	(10)	0 (0)	4(20.00)	16 (80.00)	
Getting billing questions answered (N=62)	C	(2)	11 (50.00)	10(45.45)	1 (4.55)	<.0001
	A	(0)	1 (10.00)	6(60.00)	3 (30.00)	
	N	(17)	1(7.69)	2 (15.38)	10 (76.92)	
Delays in receiving payment (N=62)	C	(2)	14 (63.64)	8(36.36)	0 (0)	0.0001
	A	(1)	4 (44.44)	3(33.33)	2 (22.22)	
	N	(18)	1 (8.33)	4 (33.33)	7 (58.33)	
Unruly/uncooperative behavior (N=62)	C	(0)	6 (25.00)	15(62.50)	3 (12.50)	0.0007
	A	(0)	2 (20.00)	5(50.00)	3 (30.00)	
	N	(13)	1 (5.88)	9 (52.94)	7 (41.18)	
Patient may fail to show for appts (N=62)	C	(0)	2 (8.33)	12(50.00)	10 (41.67)	0.0047
	A	(0)	0(0)	4 (40.00)	6 (60.00)	
	N	(11)	0 (0)	6(31.58)	13 (68.42)	
Patients are often late (N=62)	C	(0)	2 (8.33)	17 (70.83)	5 (20.83)	0.0041
	A	(0)	0 (0)	7 (70.00)	3 (30.00)	
	N	(13)	1 (5.88)	8 (47.06)	8 (47.06)	
Patients cancel at the last minute (N=62)	C	(0)	3 (12.50)	16(66.67)	5 (20.83)	0.0023
	A	(0)	0 (0)	5(50.00)	5 (50.00)	
	N	(13)	0 (0)	10 (58.82)	7 (41.18)	

* Respondents who did not answer the question or responded "don't know" were recoded to missing and were not included in the calculations.
& Fisher's Exact Test

40 (37.5%) of the 64 respondents did not currently accept new Medicaid patients. 10 (25%) of the 40 nonparticipating orthodontists reported accepting Medicaid in the past but not currently: 60 % (n=6) stopped accepting Medicaid patients in the last 9 years (2010 or later), 30% (n= 3) stopped between 2000 and 2009, and 10% (n=1) stopped between 1990 and 1999. 30 of the 40 nonparticipating orthodontists (75%) reported never accepting Medicaid.

The age, race, gender, and number of years in practice did not differ statistically among the 3 groups (current Medicaid providers, non-providers who accepted Medicaid at one time, and non-providers who have never accepted Medicaid), nor did the 3 groups differ in the number of new full treatment cases started in 2019, percentage of cases that had private insurance, percentage of cases quoted no fee or a reduced fee because the patient could not afford treatment, number of Medicaid inquiries per month, practice arrangement (solo versus non-solo), how busy the practitioner perceived the practice to be, or the average fee of the practitioners (Table II). Medicaid providers did have a significantly higher percentage of referred patients with Medicaid than both groups of non-providers ($p<.0001$) and Medicaid providers did have a significantly lower percentage of referred patients with no insurance than both groups of non-providers ($p=.003$). Current Medicaid providers had a higher number of Medicaid inquiries in a typical month than non-providers who have never accepted Medicaid or those who used to accept Medicaid in the past ($p<.0001$).

A large number of non-providers who have never accepted Medicaid responded with "don't know" to questions regarding reasons why orthodontists may limit the number of Medicaid patients they treat (Table III). Thus, for the items related to barriers to participation in Medicaid, these respondents were excluded from the analyses.

For all 10 commonly cited problems, providers who never accepted Medicaid reported the barrier in question to be a major problem more often than the current Medicaid providers. In 9 out of 10 commonly cited problems, with the exception of patients cancelling last minute, providers who never accepted Medicaid reported the barrier to be a major problem more often than the nonproviders who accepted Medicaid at one time. All 3 groups perceived low fee reimbursement to be a major problem with the Medicaid program (Table III). This was the only issue where the

opinions of the three groups all had at least 75% report a major problem. For the remaining issues (Table III), current Medicaid providers, in general, perceived the issues to be no problem or a minor problem while non-providers (past and never) tended to report the issues to be minor or major problems. Interestingly, those who never accepted Medicaid and expressed an opinion were more likely to perceive the issues as major problem.

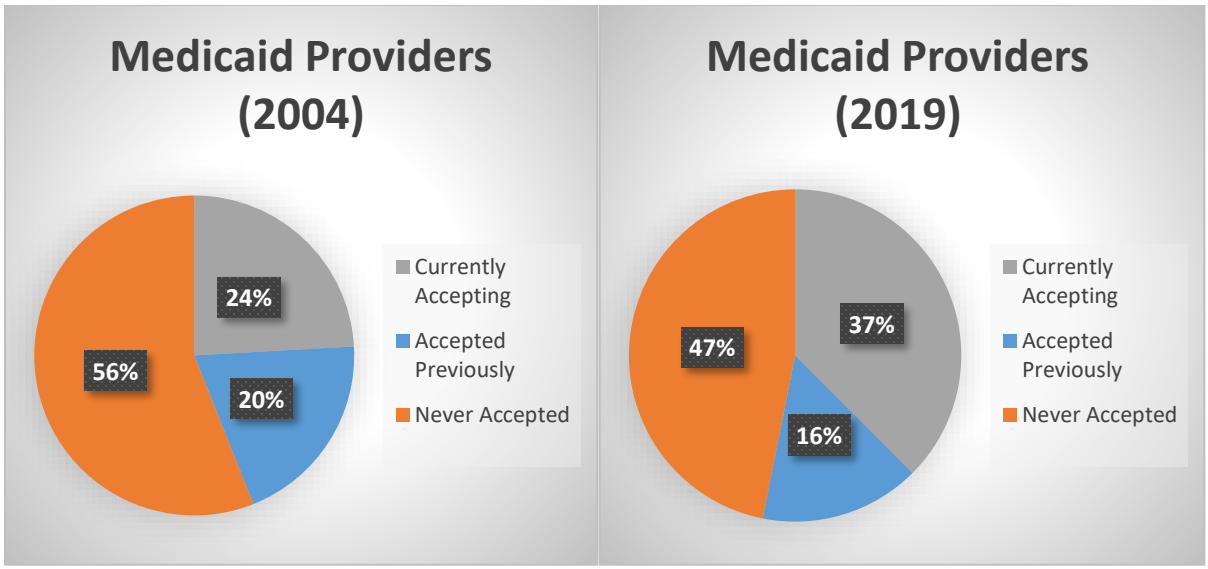

FIGURE I: MEDICAID PROVIDERS (%) IN 2004 VS 2019

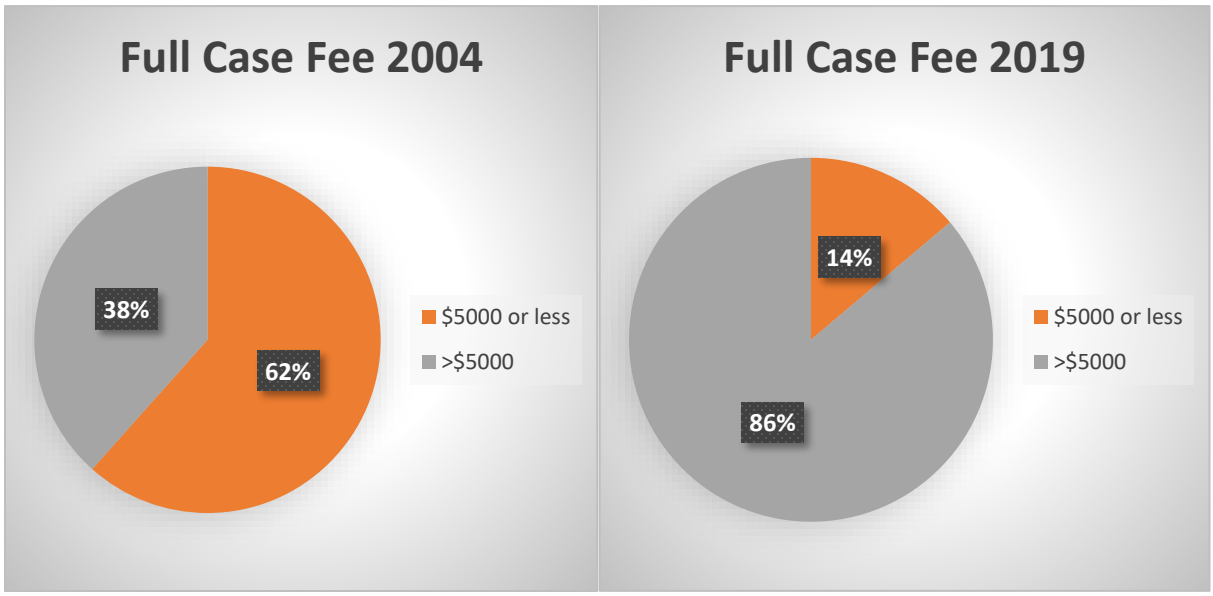

FIGURE II: FULL CASE FEE (%) IN 2004 VS 2019

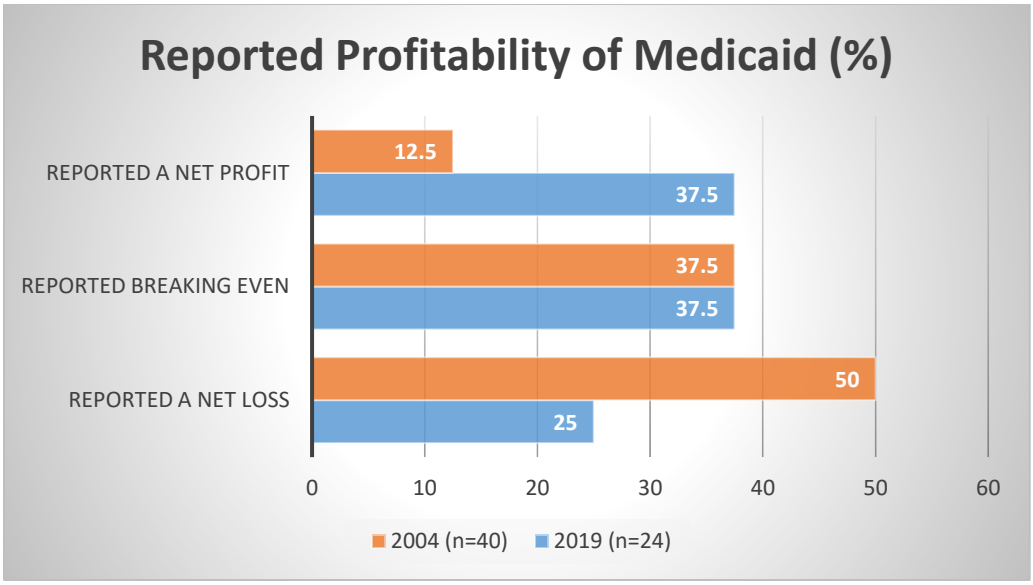

FIGURE III: MEDICAID PROFITABILITY (%) IN 2004 VS 2019

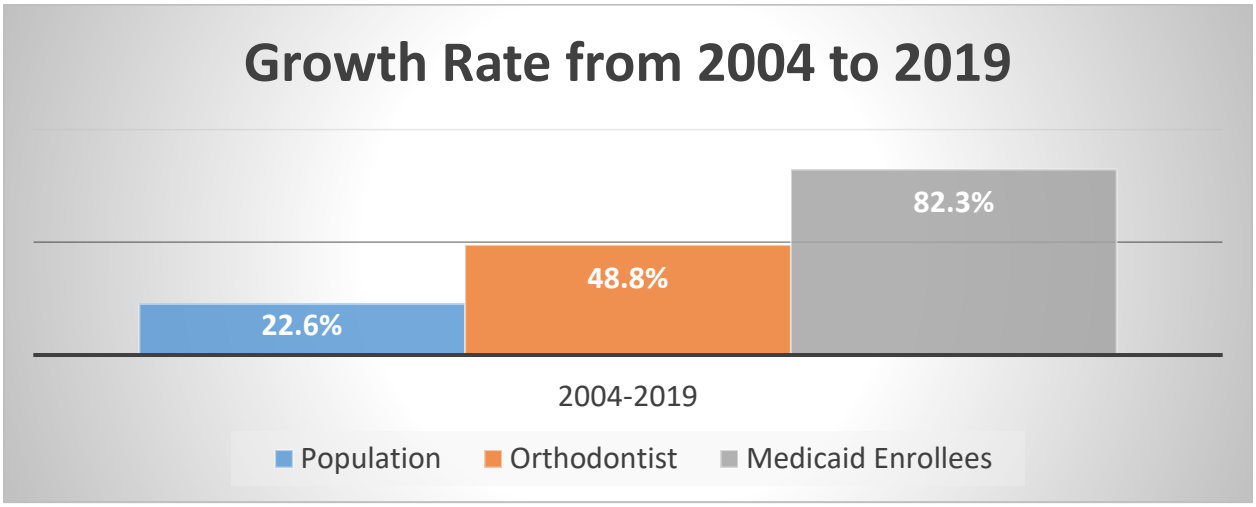

FIGURE IV: GROWTH RATE (%) FROM 2004 VS 2019

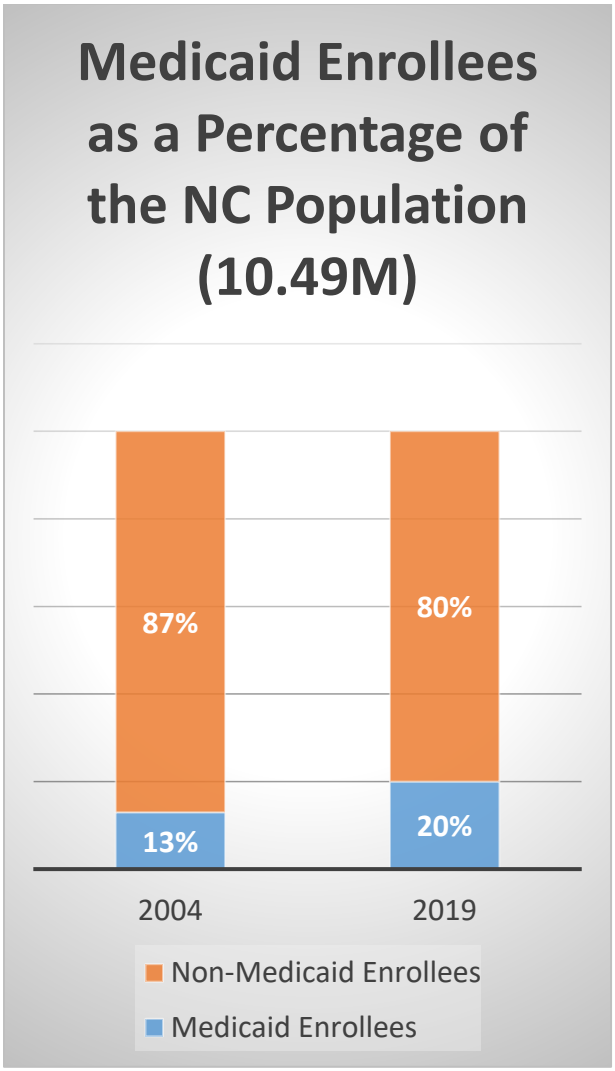

FIGURE V: MEDICAID ENROLLEES (%) IN NC FROM 2004 VS 2019

Discussion

Comparing Participation and Profitability from 2004 to 2019

There was an increase of 37.5% in providers accepting Medicaid in 2019 compared to 2004. Almost 4 times as many practitioners had Medicaid patients account for at least 20% of their patients in 2019 compared to 2004. In 2019 compared to 2004, 3 times as many practitioners reported a net profit from these Medicaid cases, equal amounts of practitioners reported breaking even, and half as many practitioners reported a loss.

Comparing Attitudes and Perceptions from 2004 to 2019

When comparing the current Medicaid providers, all ten commonly cited problems were reported as a major problem less often in 2019 compared to 2004. When comparing nonproviders who have previously accepted Medicaid, eight out of the ten commonly cited problems were reported as a major problem less often in 2019 compared to 2004, with the exception of fee reimbursement too low and patients cancelling at the last minute. When comparing nonproviders who never accepted Medicaid, fee reimbursement being too low was cited as a major problem 92.3% in 2019, an increase from 84.4% in 2004, even though the fee reimbursement increased by 10% for the 2019 year.

Practitioner Participation in the NC Medicaid Program

The data suggests that the level of practitioner participation in the NC Medicaid program has increased from 2004 (24.1%) to 2019 (37.5%). Financially, the increase in providers is supported by the fact that more Medicaid providers found accepting Medicaid to result in a net profit in 2019 (37.5%) than in 2004 (12.5%). Additionally, less practitioners that accepted Medicaid reported a loss in profit in 2019 (12.5%) when compared to 2004 (50%). One explanation for these numbers is the increase in the amount of eligible Medicaid patients. From 2004 to 2019 in NC, there was a 48.8% increase in licensed orthodontists, which outpaced the increase in the population of NC (22.6%) but not the increase in Medicaid enrollees (82.3%)[21-23]. A lot of the Medicaid growth seems to be connected to the initiatives formed in the Affordable Care Act. It seems reasonable that orthodontists accepted Medicaid patients to either fill open slots in their schedules or increase the number of started cases. One of the practitioners that currently accepts Medicaid and reported a profit talked to me on the phone. They reported that they had a Medicaid waitlist and whenever a non-Medicaid patient cancelled an initial records appointment at the last minute, a patient off the Medicaid waitlist would readily fill the slot.

They explained that this was very profitable as it is not dropping down profits from a full fee to a Medicaid fee, instead, it is increasing profits from not starting a case to the Medicaid fee. Although the NC Medicaid program increased their fees by about 10% from 2019 to 2004, Medicaid providers and nonproviders still reported the fee reimbursement being too low as a major problem. Even though case fees were reported as a range and not an exact number, there was a large increase in the number of providers whose average fee was greater than $5000 in 2019 (86%) when compared to 2004 (38%). This makes it reasonable to assume that the 10% fee increase was merely keeping up with the rising orthodontic fees since 2004 instead improving their perceived low fee reimbursement from 2004.

Practitioner Perceptions in the NC Medicaid Program

The data suggests that the practitioner perceptions of the NC Medicaid program were worse for those who never participated in Medicaid when compared to those who currently accept Medicaid patients. This implies a lack of knowledge and understanding of the NC Medicaid system from those who do not accept Medicaid. Only 4.2% of current Medicaid providers reported loss of coverage as a major problem while 42.9% of nonproviders who have never accepted Medicaid reported it as a major problem. To be clear about rules, the NC Medicaid program will continue to pay for a patient who has lost coverage in the middle of non-surgical treatment plan until the case is completed. For cases that involve orthognathic surgery, however, if the patient loses Medicaid status, the NC Medicaid program will not pay for the surgery. One provider who currently accepts Medicaid emailed me to discuss this point and acknowledged that it's getting harder to obtain prior authorization for cases involving orthognathic surgery. The practitioner tries to treat non-surgically when possible and to quickly set-up a surgery case but reported that the loss of coverage is an issue in only a very small

amount of cases. One of the most notable discrepancy between current Medicaid providers and never-providers of Medicaid is between those reporting delays in payment. 0% of current Medicaid providers perceived a major issue with delays in receiving payments while 58.3% of never-providers of Medicaid reported a perceived major problem. All 10 questions had a discrepancy of at least 20% with never-providers of Medicaid reporting higher numbers of perceived major problems than current Medicaid providers. There is a clear disconnect between the harsher perceptions of those who have never treated Medicaid and the more accurate perceptions of those who currently treat Medicaid which demonstrates the needs for more education about the Medicaid process for Orthodontists in NC.

Limitations

The survey only had 64 total practitioners (23%) complete the survey in full but had 117/275 (43%) respondents answer at least one question compared to 163/202 (82%) respondents in 2004. The lower repsonse rate could be, in part, due to the survey being disseminated in August of 2020 in the middle of a COVID-19 pandemic. Additionally, the second question of the survey instrument asked for the total number of starts, which can be seen as a personal question for an individual, a difficult number to know off the top of the provider's head, or a difficult question to answer if a practitioner is in a partnership. If this study is updated in the future, I would recommend not asking about number of starts as it of little importance compared to the later questions about Medicaid. If the future researcher wants to ask about starts, I would recommend asking for it as the last question.

Conclusions

When comparing Participation and Perceptions of the NC Medicaid program for licensed, active orthodontist from 2004 to 2019, it can be concluded that:

1. There was a notable increase in the proportion of survey respondents who currently accept Medicaid.
2. More orthodontic providers reported generating a net profit from Medicaid cases.
3. Less orthodontic providers reported generating a net loss from Medicaid cases.
4. Fee reimbursement is still perceived as a major problem by all providers.

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