

THE LANDSCAPE OF DENTAL CARE

for People with Intellectual
and Developmental Disabilities
in Tennessee



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INTRODUCTION

The primary objective of this report is to comprehensively assess access to and utilization of oral health care services among people with intellectual and developmental disabilities (IDD) in Tennessee. The report synthesizes data from multiple sources to evaluate the readiness and responsiveness of the state's dental care infrastructure to the unique needs of people with IDD in the state of Tennessee. By examining existing disparities, identifying strengths, and pinpointing challenges within the system, this study provides a roadmap for stakeholders to improve oral health outcomes for this medically underserved population.



National And State-Level Oral Health Disparities Among The IDD Community

Developmental disabilities, as defined by the Centers for Disease Control and Prevention (CDC), encompass a range of conditions affecting physical, learning, language, or behavioral areas.¹ Examples include autism spectrum disorder (ASD), cerebral palsy, Down syndrome, and intellectual disability. People with IDD face significant challenges in maintaining oral health. They often struggle with oral hygiene, leading to a higher prevalence of periodontal (gum) disease and untreated dental caries (cavities).² Additionally, common dental issues such as malocclusion, trauma, and habits like teeth grinding or clenching contribute to their oral disease burden.³

The importance of oral health extends beyond dental hygiene; it impacts overall health, including conditions like diabetes and cardiovascular disease, as well as psychological and social

well-being. However, people with disabilities encounter barriers to dental care, including transportation, behavioral challenges, and provider comfort,⁴ exacerbating existing disparities.

While understanding national disparities is crucial, it's equally important to zoom in on Tennessee-specific data to comprehend the unique challenges faced by the IDD community in the state. Tennesseans, like many other communities, grapple with disparities in oral health care access and outcomes. By delving into the state's specific landscape, this study uncovered insights that will inform targeted strategies for improvement.

Tennessee Infrastructure for Promoting Dental Health

National analysis of the Behavioral Risk Factor Surveillance System (BRFSS) data provides insights into oral health equity in Tennessee. While nearly 66% of adults nationally visited a dentist or dental

clinic in the last year,⁵ only 64% of Tennesseans without disabilities and 47% of those with disabilities reported annual dental visits.

In 2015, the Health Policy Institute of the American Dental Association analyzed self-reported oral health data in Tennessee, revealing that 1 in 3 adults rated their oral health as “fair” or “poor.” Additionally, 34% reported oral pain, and 23% felt embarrassed due to their oral health.⁶ These disparities highlight the urgent need for targeted interventions to improve oral health outcomes, especially among medically underserved populations, like the IDD community.

The Oral Health Services Section of the Tennessee Department of Health (TDH), collaborates with local and metropolitan health departments to advance oral health. Oral Health Services promotes programs advancing the public’s knowledge about the importance of dental health and implements initiatives preventing disease. One focus of the division’s work is on marginalized groups, whom they assist through collaboration with statewide dental public health clinics in order to facilitate basic and emergent dental care access.⁷

In 2008, the Tennessee Dental Safety Net Program was created to provide emergency dental services (tooth extractions) for uninsured adults ages 19 to 64. The program expanded in 2016 to also include hygiene procedures (cleanings) and patient education. By 2021, services also included restorations (fillings), removable prosthetics (dentures), and teledentistry. In 2021, “24,982 individuals received 102,340 procedures over 42,260 patient visits.”⁷ Despite these successes, Tennessee still ranks 45th in the country in its number of dentists per 100,000 residents.⁷

The ongoing Tennessee State Oral Health Plan (2022-2027) supports the Department of Health’s mission “to protect, promote, and improve the health and prosperity of people in Tennessee.”¹⁷ It contains four areas of focus: access to care, education and advocacy, disease prevention, and resources and workforce. In the plan’s first year, TDH enrolled participating providers for adult Medicaid expansion; extended basic dental

care services for uninsured adults in TDH dental clinics; planned a statewide oral health survey; established partnerships with primary care clinics and Community Health Access and Navigation in Tennessee (CHANT) to facilitate dental referrals; and updated mapping of existing safety net dental clinics.⁸

Although people with IDD are not specifically mentioned in the Dental Safety Net Program, or in the current or previous 5-year oral health plan,⁹ a key focus of the Tennessee Department of Health’s division of Oral Health Services is on dental care delivery for marginalized groups. Tennesseans with disabilities remain an underserved group facing significant challenges in accessing and utilizing oral health care.

News reports and individual stories (including those from Chattanooga Times Free Press,¹⁰ WZTV Nashville,¹¹ and News Channel 8 in Knoxville)¹² illuminate the problems associated with accessing dental care for Tennessee residents with disabilities. While these anecdotal reports suggest widespread patterns of barriers to care among Tennesseans with IDD, there is limited knowledge of the true extent and nature of these challenges and how that translates to unmet dental needs.

In conclusion, this evaluation aims to analyze access to and utilization of oral health care services among the IDD community in Tennessee. By scrutinizing national and state-level disparities, these findings emphasize the pressing need for targeted interventions to mitigate the unique challenges faced by this population. This white paper endeavors to delve deeper into Tennessee’s oral health landscape, examine existing infrastructure, discern barriers, and present actionable recommendations for stakeholders. The objectives are twofold — to shed light on disparities; and to offer a clear roadmap for enhancing oral health outcomes and advancing equity for the IDD community. Subsequent sections will offer detailed explorations of data sources, methodologies, findings, and implications, laying the groundwork for informed strategies to improve equitable oral health care delivery in Tennessee.

PART ONE

**ANALYZING OUTCOMES FOR
PEOPLE IN TENNESSEE WITH IDD
USING BRFSS DATA**



SECTION ONE: ANALYZING OVERALL HEALTH OUTCOMES

Given the paucity of available information on oral health outcomes and dental care access for IDD communities in Tennessee, an analysis using the Behavioral Risk Factor Surveillance System (BRFSS) data was conducted to evaluate differences in oral health outcomes and access.

Aims of Behavioral Risk Factor and Surveillance Survey (BRFSS Analysis)

BRFSS is a national telephone-based survey compiling state-level data on chronic health conditions, use of preventive services, and health risk behaviors.¹³ The first aim in analyzing 2022 BRFSS data was to assess demographic and general health indicators among Tennesseans with disabilities. BRFSS uses six questions to assess aspects of disability. In this analysis, all six variables were collapsed to analyze Tennesseans with any disability. For cognitive disability, the question

“Because of a physical, mental, etc.” was used in alignment with previous research despite limitations in this definition.”¹⁴

Demographic Characteristics

In 2022, nearly 1.5 million adults in Tennessee had a disability (about 34% of Tennessee’s total adult population). Among those individuals, approximately 53% identified as female and 47% as male. Compared to their peers without disabilities, Tennesseans with disabilities have lower educational attainment, employment, and incomes. Among this group, about 23% attended at least some college (663,533 individuals), and 19% (272,367 individuals) have less than a high school education. 46.9% of adults with disabilities are not employed and 29.6% are unable to work and 53% earn less than \$35,001 annually (Table 1).¹³

TABLE 1: DEMOGRAPHICS FOR PEOPLE WITH ANY DISABILITY IN TENNESSEE, BRFSS 2022

	ADULTS WITH ANY DISABILITY		ADULTS WITHOUT ANY DISABILITY	
	Frequency	Percent	Frequency	Percent
	1,430,947	33.8	2,799,923	66.2
SEX				
Male	668,216	46.7	1,450,270	51.8
Female	762,731	53.3	1,349,653	48.2
EDUCATION				
Less than high school	272,367	19.0	159,688	5.7
High school graduate	495,046	34.6	819,302	29.3
College	663,533	23.1	1,820,934	65.0
EMPLOYMENT STATUS				
Employed	564,851	6.1	1,923,761	68.7
Not employed	535,281	46.9	810,096	28.9
Unable to work	330,815	29.6	66,066	2.4
INCOME LEVEL (ANN.)				
Less than \$10,000	86,754	6.1	53,227	1.9
\$10,001-\$35,000	671,619	46.9	575,216	20.5
\$35,001-\$75,000	423,189	29.6	940,161	33.6
\$75,001-\$100,000	108,554	7.6	423,094	15.1
\$100,001+	140,830	9.8	808,226	28.9



Overall Health Status And Health Indicators

Tennesseans with disabilities reported their health to be worse overall and also endorsed more days of poor physical and mental health than their peers without disabilities. Notably, nearly half (43%) of these respondents perceive their health as “fair” or “poor.” In contrast, adults without disabilities overwhelmingly rated their general health positively, with 92% describing it as “excellent,” “very good,” or “good.”¹³

Among people with disabilities, 23% indicated having 21-30 days each month where their physical health was “not good,” compared to only 3% of people without a disability. Similarly, 22% of people with a disability endorsed between 21-30 days each month where their mental health was “not good,” compared to 5% of people without disabilities (Table 2). Among Tennesseans with disabilities, 16% lack a primary care physician, while 37% endorse multiple providers; 80% had a doctor’s visit within the past year (Table 2).¹³

Health Insurance And Cost

Health insurance coverage is nearly equivalent among Tennessee adults, with 85% of those with disabilities and 87% of those without them reporting some form of health insurance coverage. Among those with a disability, 11% report coverage through Medicaid or state-sponsored insurance, 24% through their employers, 8% through private insurance, and 35% through Medicare (Table 2).

One-fifth (21%) of adults with disabilities reported that they did not see a doctor due to cost, compared to only 8% of adults without a disability (Table 2). While there are no direct data in BRFSS assessing why a respondent didn’t visit a dentist in the past year, previous research indicates a primary barrier to accessing dental care is cost, and among health care services, oral health care “presents the highest level of financial barriers.”¹⁵

SECTION ONE KEY TAKEAWAYS

- Compared to Tennessee adults without disabilities, those with disabilities have lower educational attainment, employment, and incomes. These structural barriers impact access to healthcare, including dental care, and influence health outcomes.
 - Tennessee adults with disabilities consider their overall, physical, and mental health to be worse than adults without IDD. In fact, these feelings were pervasive, often spanning 3 to 4 weeks out of each month.
 - Adults in Tennessee with disabilities are more likely to report not seeing a doctor due to cost—a likely indicator of delaying dental visits due to cost.
-

TABLE 2: HEALTH INDICATORS FOR INDIVIDUALS WITH ANY DISABILITY IN TENNESSEE, BRFSS 2022

	ADULTS WITH ANY DISABILITY		ADULTS WITHOUT ANY DISABILITY	
	Frequency	Percent	Frequency	Percent
GENERAL HEALTH				
Excellent	82,273	5.7	510,731	18.2
Very Good	232,547	16.3	1,125,040	40.2
Good	494,450	34.6	932,786	33.3
Fair	409,636	28.6	213,910	7.6
Poor	206,533	14.4	16,751	0.6
Don't Know	5,508	0.4	705	0.03
# OF DAYS OF PHYSICAL HEALTH NOT GOOD				
1-10 Days	417,943	29.2	663,821	23.7
11-20 Days	168,792	11.8	63,744	2.3
21-30 Days	332,255	23.2	78,428	2.8
None	463,929	32.4	1,967,878	70.3
Refused	2,378	0.2	2,384	0.1
Don't Know	45,650	3.2	23,668	0.8
# OF DAYS OF MENTAL HEALTH NOT GOOD				
1-10 Days	361,153	25.2	761,674	27.2
11-20 Days	199,053	13.9	22,239	7.9
21-30 Days	309,305	21.6	131,844	4.7
None	519,160	36.3	1,658,923	59.2
Refused	2,976	0.2	6,009	0.2
Don't Know	39,300	2.7	19,234	0.7
HEALTH INSURANCE				
Have health insurance	1,217,221	85.1	2,421,473	86.5
Do not have health insurance	162,463	11.4	266,231	9.5
Don't Know	51,263	3.6	112,219	4.0
PRIMARY INSURANCE SOURCE				
Employer	347,145	24.3	1,406,382	50.2
Private	110,922	7.8	265,120	9.5
Medicare	496,842	34.7	418,985	15.0
Medigap	2,193	0.2	1,233	0.04
Medicaid	121,400	8.5	127,038	4.5
CHIP	636	0.04	255	0.01
Military	58,257	4.1	109,664	3.9
IHS	0	0	492	0.02
State-sponsored	33,034	2.3	59,146	2.1
Other	46,792	3.3	33,158	1.2
Don't Know	43,433	3.0	86,377	3.1
No coverage	162,463	11.4	266,231	9.5
Refused	7,830	0.5	25,842	0.9

TABLE TWO CONTINUED ON NEXT PAGE



TABLE 2: HEALTH INDICATORS FOR INDIVIDUALS WITH ANY DISABILITY IN TENNESSEE, BRFSS 2022 (CONTINUED)

	ADULTS WITH ANY DISABILITY		ADULTS WITHOUT ANY DISABILITY	
	Frequency	Percent	Frequency	Percent
HAVING A PRIMARY CARE PHYSICIAN				
Yes, only one	684,769	47.9	1,534,415	54.8
More than one	521,635	36.5	699,311	25.0
No	221,469	15.5	545,876	19.5
Don't know	3,073	0.2	19,501	0.7
Refused	0	0.0	821	0.03
NOT SEEING A DOCTOR DUE TO COST				
Yes	306,460	21.4	224,300	8.0
No	1,123,113	78.5	2,572,262	91.9
Don't Know	895	0.06	1,893	0.07
Refused	478	0.03	1,469	0.05
HOW LONG SINCE LAST DOCTOR'S VISIT				
Within the past year	1,147,463	80.2	2,061,626	73.6
Within the past 2 years	112,633	7.9	261,655	9.3
Within the past 5 years	66,203	4.6	220,500	7.9
5 years or more	76,741	5.4	195,507	7.0
Don't know	22,561	1.6	41,865	1.5
Never	5,345	0.4	18,771	0.7

SECTION TWO: ANALYZING ORAL HEALTH OUTCOMES AMONG ADULTS WITH IDD

For this analysis, IDD was defined as a cognitive disability in the BRFSS data, which is the accepted method of analyzing IDD in this data despite limitations associated with that indicator. Oral health disparities are evident between Tennesseans with and without disabilities. More adults without a disability had a recent dental visit, while adults with a disability were more likely to have teeth extracted. Only 47% of adults with a disability have visited their dentist within the past year, compared to 64% of their peers without a disability. Additionally, 24% of adults with disabilities have not seen a dentist in 5 years or more, or have never seen one.¹³

Nearly one-third (28%) of adults in Tennessee with a disability report having had between 1 to 5 teeth removed; 19% had 6 or more teeth removed; and

15% had all teeth extracted. In stark contrast, 61% of adults without a disability did not have any teeth extracted (Table 3).¹³

Tennesseans with disabilities more frequently experienced extractions, which are indicated for severe dental disease. If a tooth is not salvageable due to extensive caries (cavities) or periodontal (gum) disease, then the tooth is indicated to be removed. While more complex dental treatments such as endodontic (root canal) therapy or crowns may help to save the tooth, this is often not financially feasible for patients, especially those with lower incomes. Dental disease is largely preventable, and access to routine dental care is critical to averting serious dental conditions, like extractions.



TABLE 3: DENTAL HEALTH INDICATORS, BRFSS 2022

	ADULTS WITH IDD		ADULTS WITHOUT IDD	
HOW LONG SINCE LAST DENTIST VISIT				
Within the past year	675,421	47.2	1,795,539	64.1
Within the past 2 years	187,610	13.1	361,774	12.9
Within the past 5 years	202,452	14.1	278,185	9.9
5 years or more	328,072	22.9	306,405	10.9
Don't know	22,668	1.6	22,996	0.8
Never	14,519	1.0	33,922	1.2
Refused	205	0.014	1,102	0.04
# OF TEETH REMOVED				
1 to 5	394,598	27.6	740,306	26.4
6 or more	268,332	18.8	218,030	7.8
All	212,378	14.8	98,775	3.5
Don't know	38,143	2.7	29,909	1.1
None	516,929	36.1	1,710,930	61.1
Refused	567	0.04	1,973	0.07

Associations with Oral Health Indicators

Inferential analyses were completed to assess associations with dental visit frequency among people in Tennessee with disabilities. An inferential analysis involves examining relationships or associations between variables in a dataset to make predictions or draw conclusions about a larger population based on a sample. The final analytical model adjusted for variables related to demographics and health access: sex, race and ethnicity, education, employment, income, a recent doctor’s visit, and health insurance coverage. The outcome of interest was a dental visit within the past year.

Among people in Tennessee with a disability, results indicated that women, people with higher educational attainment and income, people who see a doctor regularly, and people with health insurance coverage all had greater odds of having had a dental visit in the past year.¹³ Compared to Tennesseans without a disability, those with disabilities had 28% lower odds of a dental visit in the past year. Compared to men, women with a disability had 23% greater odds of having had a recent dental visit.

In evaluating adults with IDD, high school graduates had 77% greater odds; and those with at least some college education were roughly 2.5 times more likely to have seen a dentist in the past year. Adults who earned \$100,001+ annually were 2.4 times more likely to have seen a dentist in the past year.¹³

Adults with disabilities who did not have a personal doctor had 32% lower odds of having seen a dentist in the past year, compared to adults who had a personal doctor. Adults who reported having state-sponsored health insurance coverage had 46% lower odds of having seen a dentist in the past year, compared to adults who have employer-based health insurance. Adults who reported not having health insurance coverage had 55% lower odds of having seen a dentist in the past year, compared to adults who have employer-based health insurance.¹³



TABLE 4: INFERENCE STATISTICAL ANALYSIS, BRFS 2022

	ODDS RATIO, ADJUSTED MODEL
ANY DISABILITY	
Ref: Any disability	0.72*
SEX	
Ref: Female	1.23*
RACE/ETHNICITY (REF: NON-HISPANIC WHITE)	
Non-Hispanic Black	1.36
Non-Hispanic Asian	1.03
Hispanic or Latino	1.35
Native Hawaiian or other Pacific Islander	0.06*
American Indian or Alaska Native	0.64
Mixed Race	1.42
Other	0.6
Don't Know/not sure	0.47
Refused	1.71
EDUCATION (REF: LESS THAN HIGH SCHOOL)	
High school graduate	1.77*
College	2.45*
EMPLOYMENT STATUS (REF: EMPLOYED)	
Not employed	1.08
Unable to work	0.69
INCOME LEVEL (REF: LESS THAN \$10 000)	
\$10 001-\$25 000	0.73
\$25 001-\$75 000	1.24
\$75 001-\$100 000	1.73
\$100 000+	2.39*
PERSONAL DOCTOR (REF: YES, ONLY 1)	
More than 1	1.24
No	0.68*
Don't know/not sure	0.68
PRIMARY SOURCE OF HEALTH INSURANCE (REF: EMPLOYER)	
Private	1.01
Medicare	1.34
Medigap	0.48
Medicaid	0.67
CHIP	—
Military-provided	1.32
State-sponsored	0.54*
Other government program	0.77
Don't know/not sure	0.81
No coverage	0.45*
Refused	0.78

* Statistically significant at $p < 0.05$.

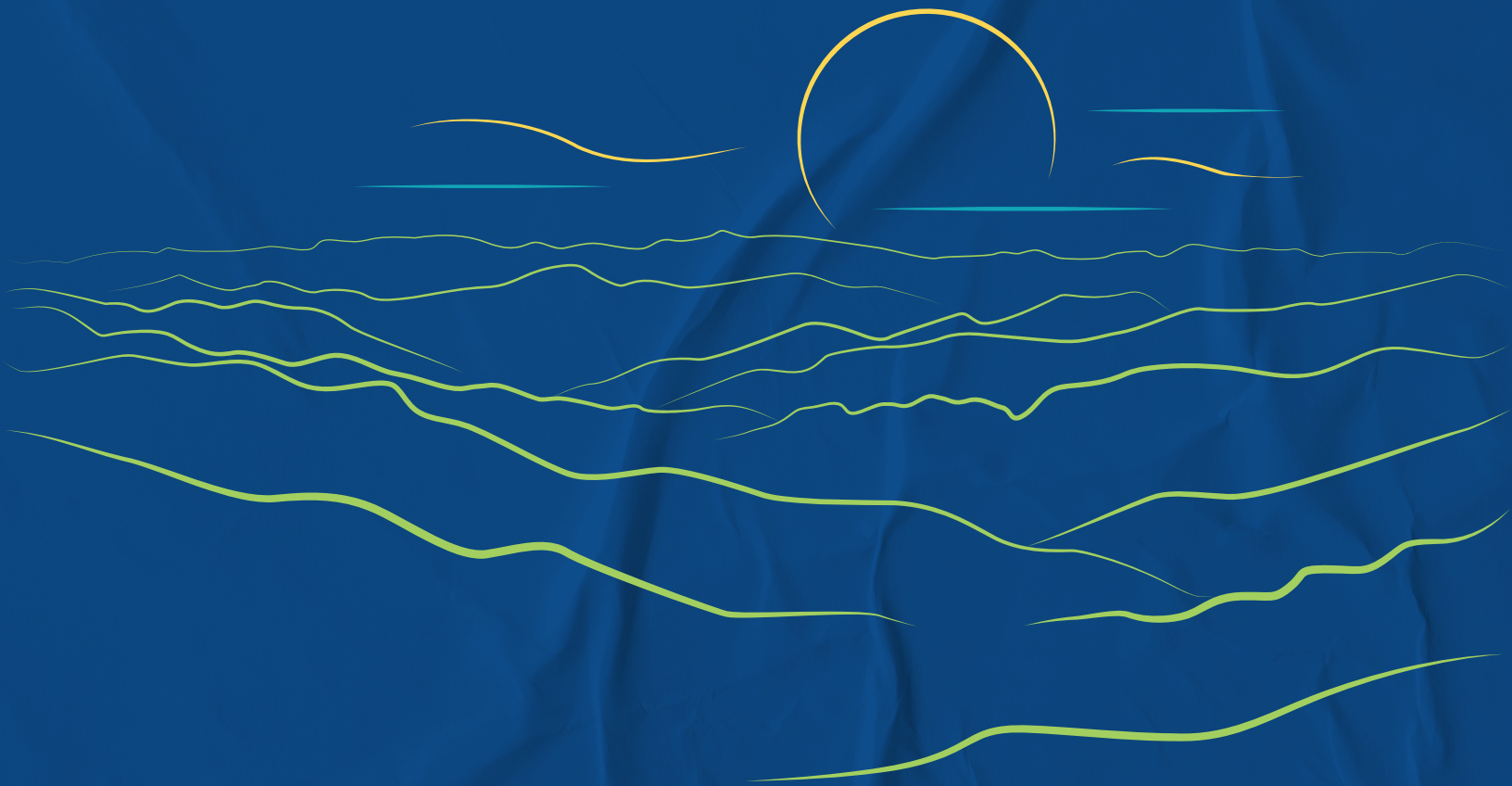


SECTION TWO KEY TAKEAWAYS

- Compared to Tennessee adults without a disability, adults with a disability visited the dentist less frequently, with almost one-fourth not having had a dental visit in the past 5 years. This is a significant indicator of barriers to accessing and utilizing dental care.
 - Tennessee adults with disabilities face significant oral health disparities, including a high prevalence of edentulism. Additionally, the elevated rates of extractions underscore the extent of dental disease, likely exacerbated by inadequate access to preventive care.
 - Among adults with a disability in Tennessee, facilitating factors to accessing dental care include identifying as female, higher income, advanced educational attainment, and an established medical provider, and advanced educational attainment.
-

PART TWO

**ANALYZING WAIT TIMES THROUGH
AN ACCESSIBILITY AUDIT FOR
PEOPLE WITH IDD IN TENNESSEE**



SECTION ONE: APPLYING A MYSTERY SHOPPER METHODOLOGY TO ASSESSING WAIT TIMES

Aims of Dental Care Accessibility Audit

Using established methods,¹⁶ a state-level “mystery shopper” analysis was conducted to understand key parameters of the existing dental care delivery system. Borrowed from marketing research, the premise of a secret shopper approach uses trained individuals posing as regular “customers” or consumers to evaluate a business’s customer service, alignment with expectations, and overall experience. Given the paucity of available data, a mystery shopper evaluation was conducted to analyze the availability of dental appointments and willingness of providers to accept patients with IDD.

A sample of dental practices and clinical care organizations was selected based on their appearance and order in a Google Places registry, representing a cross-sectional composition of offices in a combination of urban and rural areas. The research team employed rotating scenarios when making phone calls to these dental offices:

- **Scenario 1** centered on a pediatric patient with TennCare (Medicaid) insurance coverage;
- **Scenario 2** was based on a pediatric patient with IDD, commercial dental insurance, and an ability to pay;
- **Scenario 3** focused on an adult with commercial dental insurance and an ability to pay; and
- **Scenario 4** included a family who would be paying out of pocket for dental care.

This analysis aimed to examine practical aspects of the oral health care system in Tennessee, including wait times for routine care, the geographic distribution of clinic types, and the willingness of practices to accept dental insurances. Spatial analysis also included examination of regional and county-level patterns of care.

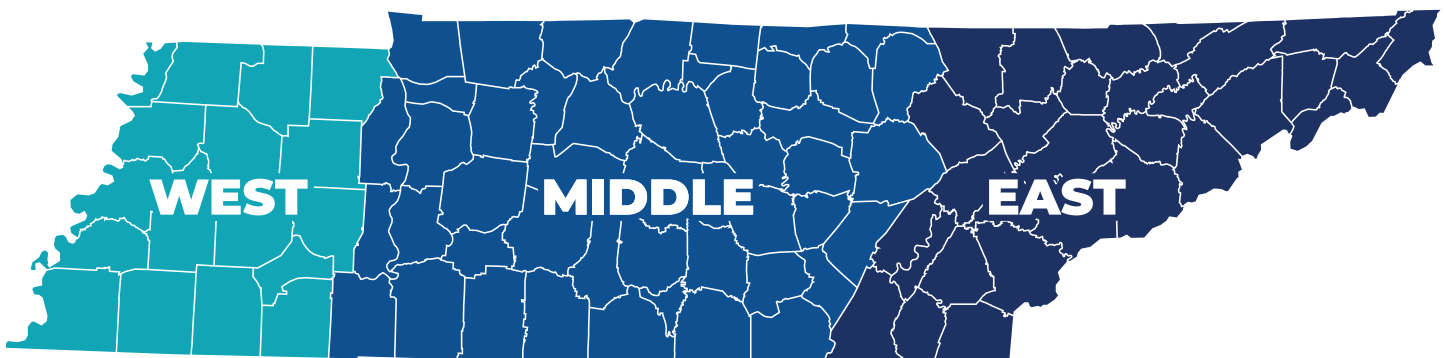
Statewide Findings

1308 clinics in 85 counties provided information on new patient and Medicaid acceptance and were included in the analysis. Approximately half (50%) of clinics contacted were considered rural, 81% were private, 12% were corporate, and 7% identified as safety net clinics. While most (85%) offices reported accepting new patients, only 14% accepted Medicaid. The overall wait time, on average, was 63 days for an initial new patient appointment and 20 additional days for the first treatment visit.

Regional Findings

Overall, these findings suggest that dental clinics in each region are generally consistent in terms of their Google ratings, wait times, clinic types, and Medicaid acceptance. Regions of the state were delineated in accordance with the Tennessee Government’s Three Grand Divisions. The surveyed sample of dental offices that were accepting new patients included 224 clinics in the West, 419 clinics in the Middle region, and 454 clinics in the East.

THREE GRAND DIVISIONS



Google ratings, wait times for both initial examination and treatment, and the proportion of clinics taking Medicaid were similar across regions. There was a slightly higher proportion of private clinics in the West (84.8%, compared to 82.8% in the Middle and 81.3% in the East) and a slightly greater proportion

of safety net clinics in the East (5.1%, compared to 2.7% in the West and 4.1% in the Middle) (Table 5). These results suggest that further investigation of place-based differences contribute to the disparities in clinic ratings, wait times, types, and insurance acceptance for Tennessee residents.

TABLE 5: REGION-LEVEL DESCRIPTIVE STATISTIC ANALYSIS

	REGION		
	West	Middle	East
CLINIC COUNT	224	419	454
AVERAGE GOOGLE RATING OF DENTAL CLINICS	4.6 out of 5	4.5 out of 5	4.5 out of 5
AVERAGE # OF DAYS UNTIL INITIAL DENTAL EXAMINATION VISIT	64	62	63
AVERAGE # OF DAYS UNTIL FIRST DENTAL TREATMENT VISIT	21	19	20
PROPORTION OF DENTAL CLINIC TYPES			
Private	84.8%	82.8%	81.3%
Safety net	2.7%	4.1%	5.1%
Corporate	12.5%	13.1%	13.7%
PROPORTION OF DENTAL CLINICS TAKING MEDICAID	10.7%	12.9%	11.5%

Impact of Rurality

Rural location is a common barrier to accessing dental care. Interestingly, dental clinic metrics appeared generally consistent, regardless of rurality, although rural clinics had slightly lower

Google ratings and slightly longer wait times. Although this pattern was observed statewide, this finding again indicates the need for a more in-depth investigation of oral health disparities, including by county level.

TABLE 6:

	LOCATION	
	Rural	Non-Rural
CLINIC COUNT	538	569
AVERAGE GOOGLE RATING OF DENTAL CLINICS	4.5 out of 5	4.6 out of 5
AVERAGE # OF DAYS UNTIL INITIAL DENTAL EXAMINATION VISIT	66	60
AVERAGE # OF DAYS UNTIL FIRST DENTAL TREATMENT VISIT	20	19

County-Level Findings

Knowledge of specific counties associated with both positive and negative dental system characteristics is important, as it identifies where existing and new programs should focus targeted efforts on improving equity in the oral health care delivery system in Tennessee. Out of the 10 counties with the highest proportion of safety net dental clinics, 9 of those were located in the Middle or East regions. Out of the 10 counties with the

highest proportion of corporate dental clinics, 8 of those were located in the Middle or East regions. On average, dental clinics in Lauderdale, McNairy, Wilson, Sequatchie, and Hardin counties had the highest Google ratings (4.89 to 4.78). Only 3 counties in the state had average Google ratings lower than 4.0: Humphreys, Warren, and Moore counties.

Stewart county had the lowest average percentage of accepting new patients (40%). Eighteen out of 95 counties in the state did not have any dental



clinics that reported accepting Medicaid but were accepting new patients. Only one county (Fentress) had over half of clinics that reported taking Medicaid. Five counties had average wait times over 100 days before an initial dental examination visit (Lincoln, Overton, Washington, Macon, and Hardin counties). Out of those, Overton and Lincoln counties also had the longest wait times from that visit until the first treatment visit (45 and 38 days, respectively) (Appendix Figure 1 and Table 8).

Clinic-Level Factors

To better understand the relationships between clinic- and county-level factors, further investigation of the dental accessibility audit data was completed using linear regression analyses. All clinic-level variables (number of days until the initial dental examination visit, number of days until the first dental treatment visit, dental clinic type, and Medicaid acceptance) had statistically significant relationships with the outcome of Google rating. Clinics with longer waits until the initial visit, shorter wait times from the initial visit until treatment, safety net clinics, and taking Medicaid were all factors associated with lower Google ratings (Table 7a).

Both clinic-level variables and scenario type had statistically significant associations with the second outcome of interest, which was the number of days until the initial dental exam. Offices with higher Google ratings had shorter wait times until the initial evaluation appointment. Private offices had longer wait times until the first dental evaluation appointment. Compared with Scenario one, Scenarios 3 and 4 had shorter wait times until the initial evaluation appointment (Table 7b).

Finally, only clinic-level variables had statistically significant relationships with the final outcome of interest, which was the number of days until the first treatment visit. Offices with higher Google ratings, longer times until the first appointment, and taking Medicaid were associated with longer times until the treatment visit (Table 7c).

Although these results were not specific to Tennesseans with disabilities, it is important to understand baseline information about the state's dental care delivery system. The "mystery shopper" approach is especially valuable, as it replicates patient experiences navigating the process of finding a dental office that matches their needs, including accommodating dental insurance restrictions. Examining Google ratings is also novel, as this is a metric of patient satisfaction with the quality of care and experience across the state.

SECTION ONE KEY TAKEAWAYS

- Very few offices in the sample accepted adult Medicaid dental patients, creating fewer access points for people who used Medicaid as a dental benefit.
 - Among the geographic regions, West Tennessee had the fewest safety net clinics and the fewest clinics overall. In general, rurality was not a major indicator of wait times nor new patient acceptance.
 - In general, the Google ratings indicated high satisfaction among most patients, and higher ratings were given to clinics that could see patients more quickly.
-



TABLE 7A: LINEAR REGRESSION ANALYSIS, OUTCOME 1, AVERAGE GOOGLE RATING AMONG CLINICS ACCEPTING NEW PATIENTS

CLINIC-LEVEL VARIABLES	ESTIMATE	P-VALUE
# OF DAYS UNTIL INITIAL DENTAL EXAMINATION VISIT	-0.003*	< 0.01
# OF DAYS UNTIL FIRST DENTAL TREATMENT VISIT	0.01*	< 0.01
DENTAL CLINIC TYPES		
Private	0.32*	< 0.01
Safety net	-0.28*	< 0.01
Corporate	Reference Group	Reference Group
TAKES MEDICAID	-0.38*	< 0.01
COUNTY-LEVEL VARIABLES		
Rural	0.03	NS
SCENARIO		
1	Reference Group	Reference Group
2	-0.01	NS
3	-0.19	NS
4	-0.16	NS

* Statistically significant at $p < 0.05$. NS indicates not significant. Model was also adjusted for county-level median income and dentist density.

TABLE 7B: LINEAR REGRESSION ANALYSIS, OUTCOME 2, AVERAGE # OF DAYS UNTIL INITIAL DENTAL EXAMINATION VISIT AMONG CLINICS ACCEPTING NEW PATIENTS

CLINIC-LEVEL VARIABLES	ESTIMATE	P-VALUE
GOOGLE RATING	-9.3	< 0.01
# OF DAYS UNTIL FIRST DENTAL TREATMENT VISIT	2.1*	< 0.01
DENTAL CLINIC TYPES		
Private	7.7*	< 0.01
Safety net	9.9	NA
Corporate	Reference Group	Reference Group
TAKES MEDICAID	-8.4	NS
COUNTY-LEVEL VARIABLES		
Rural	3.8	NS
SCENARIO		
1	Reference Group	Reference Group
2	9.4	NS
3	-20.9	< 0.01
4	-19.6	< 0.01

* Statistically significant at $p < 0.05$. NS indicates not significant. Model was also adjusted for county-level median income and dentist density.

TABLE 7C LINEAR REGRESSION ANALYSIS, OUTCOME 3, AVERAGE # OF DAYS UNTIL DENTAL TREATMENT VISIT AMONG CLINICS ACCEPTING NEW PATIENTS

CLINIC-LEVEL VARIABLES	ESTIMATE	P-VALUE
GOOGLE RATING	1.6*	0.02
# OF DAYS UNTIL INITIAL DENTAL EXAMINATION VISIT	0.2*	< 0.01
DENTAL CLINIC TYPES		
Private	1.9	NS
Safety net	3.4	NS
Corporate	Reference Group	Reference Group
TAKES MEDICAID	6.1*	< 0.01
COUNTY-LEVEL VARIABLES		
Rural	0.1	NS
SCENARIO		
1	Reference Group	Reference Group
2	2.0	NS
3	2.8	NS
4	2.2	NS

* Statistically significant at $p < 0.05$, NS indicates not significant. Model was also adjusted for county-level median income and dentist density.

SECTION TWO: APPLYING A MYSTERY SHOPPER METHODOLOGY TO WORKFORCE READINESS

Aims of Dental Accessibility Analysis

As discussed in the previous section, the dental accessibility analysis included multiple scenarios to reflect a variety of patient experiences. One scenario focused on a pediatric patient with IDD and commercial dental insurance. To reflect this situation, the caller identified themselves as the parent/caregiver of a child with IDD. In this case, the child was described to be cooperative and able to get cleanings done but may need additional time. In the past, the child had been sedated for dental care, usually when a filling or a shot was needed.

Clinic Metrics and Application to the Adolescent-Adult Oral Health Transition

From the 336 clinics called in the pediatric IDD scenario—which provided information on seeing new patients and accepting Medicaid—over half (50.2%) reported that they did not see patients with disabilities consistent with the scenario described. Out of those offices not seeing patients with IDD, 35% did not give referral information regarding a dental practice that may treat this population or provide sedation. Among the 65% of offices that did provide referral information to another practice,

the average round-trip distance to the suggested dental clinic was 97 miles, which would take 102 minutes.

Among the offices that were accepting patients matching the description presented, 45% of those offices reported that they would either use the examination appointment to determine the patient's behavior and assess the patient's tolerance for treatment, or they would refer them to another provider if they identified treatment needs beyond their scope.

Out of the 336 clinics called, only 26% (87 clinics) indicated the ability to provide care without providing a future referral for the patient described—a child with IDD who “can be cooperative and can get cleanings done but may need additional time” and would likely need sedation for a filling. Out of those 87 clinics, only 23 accepted Medicaid (and were also accepting new patients). That is an important indicator as to the landscape of clinics that may offer care to an adult with IDD, as TennCare (Medicaid) is a critical safety net program for this population.

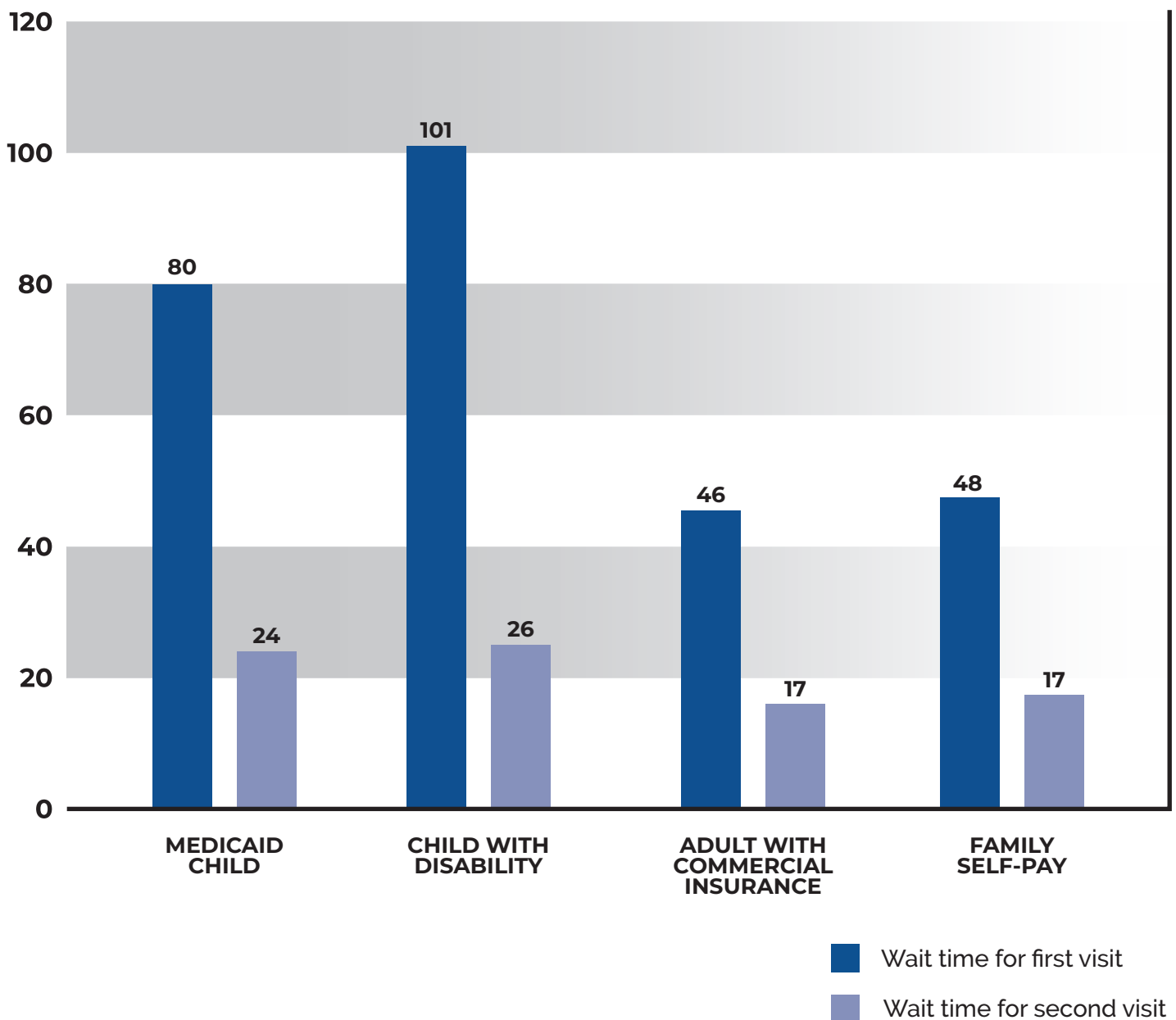


The average Google rating of the 23 clinics identified was 4.3. Five of those clinics were corporate, 5 safety net, and 13 private. The wait time until the initial evaluation visit was 98 days and 26 days until the first treatment visit. From those 23 clinics, 7 were in the West, 7 in the East, and 9 in the Middle.

On average, compared to the other scenarios presented, the scenario with a pediatric patient having IDD presented the longest wait times (101

days until initial dental examination visit and 26 days from then until the first dental treatment visit). The scenario presenting a child without IDD using Medicaid had the second-longest wait times (80 days until the initial examination visit and 24 days from then until the first treatment visit). Scenarios with an adult with commercial insurance and family paying out of pocket had much shorter wait times (46 and 48 days, respectively) until the initial examination visit and 17 days from then to the first treatment visit.

AVERAGE # OF DAYS UNTIL INITIAL DENTAL EXAMINATION VISIT AND FIRST TREATMENT VISIT AMONG CLINICS



Although there was not a scenario reflecting an adult with IDD, this information reveals an important pattern. At baseline, a child with an intellectual or developmental disability had to wait over 3 months, on average, to be seen for an initial dental evaluation. It would be nearly another month before treatment would begin.

Transitioning from pediatric to adult dental care is often difficult, and oral health needs are frequently unmet.¹⁷ There are multiple barriers impeding this transition, including a lack of availability of general dentists, insurance reimbursement limitations, and staff capacity.¹⁸ In the dental office, procedures may need more time, as well as more advanced clinical training—such as sedation or behavior management techniques—to safely deliver quality care. Therefore, adults with IDD often face even longer wait times than children, if they are able to find a dentist at all.

KEY THEMES FROM CALLS

From the 336 clinics contacted where the pediatric patient with IDD was presented, several key themes emerged.

Theme 1: Scope of a pediatric dentist

Despite the information that the patient had previously tolerated preventive care with minor adaptations to treatment, many offices deemed the patient to fall into the scope of care of a pediatric, rather than a general, dentist. This result suggests that providers need additional training to build their competency and confidence in treating people with IDD. While pediatric dentists often receive more specific training for children with IDD, it is important that general dentists develop and maintain the clinical skills necessary to provide services for people with disabilities. More broadly, providers need access to a robust referral network for procedures and services beyond their procedure scope, such as surgical extractions and administration of sedatives.

Theme 2: Direct referral options

Besides the recommendation to see a “pediatric dentist,” several trends emerged in specific referrals for care. There were a few general dentists practicing in Chattanooga, Tennessee, that had developed a reputation for treating people with IDD. Additionally, dental schools (the University of Tennessee Memphis College of Dentistry and Meharry Medical College School of Dentistry)

in Memphis and Nashville, respectively, were frequently mentioned as an option. One volunteer-driven nonprofit organization (Interfaith Dental in the greater Nashville and Rutherford County areas) was frequently noted, as well as another nonprofit providing comprehensive services for people with IDD (Orange Grove Center in Chattanooga). On a statewide basis, this reflects the extent of knowledge about the state dental office landscape, which largely exists in the major cities of Chattanooga, Memphis, and Nashville. For people residing in rural areas of the state away from these cities, transportation and travel barriers would likely be significant. This presents a concern, as rural residents are 14.7% more likely to experience disability, compared to those living in urban areas.¹⁹

Theme 3: Evaluation prior to determining the extent of treatment that may be provided

Reflecting the challenges faced by patients with IDD and their caregivers, scheduling appointments can be difficult. Even securing an initial evaluation appointment may be followed by a referral to another provider. Several private offices accepting patients with IDD expressed sentiments such as: “We would determine cooperation at the first appointment and refer to a pediatric dentist if uncooperative,” or “We would gauge cooperation, then determine the treatment plan or possible referral.” While the front office staff is well versed in patient appointment scheduling, billing, and logistics, the clinician is most prepared to conduct a thorough assessment to determine both feasibility and the extent of treatment they are comfortable providing.

Theme 4: Challenges with TennCare and practice sustainability

Private clinics across both rural and non-rural areas cited problems with reimbursement and logistics that ultimately prohibited accepting TennCare (Medicaid). One office stated, “They won’t pay us anything, so we don’t take TennCare, sorry.” Others noted that they “stopped taking TennCare in 2021. [There were] too many steps and [they] could not afford to take it anymore”; they “previously accepted TennCare, but [it was] no longer financially sustainable”; and “the paperwork was too much.” To expand the network of practices accepting patients with TennCare, providers are advocating for reforms to facilitate financial sustainability, as well as streamlined integration into their existing billing and reimbursement systems.

SECTION TWO KEY TAKEAWAYS

- It is profoundly difficult to find a dental provider who is comfortable providing comprehensive oral health care for people with IDD.
 - Many providers sampled in this research were unwilling to evaluate an IDD patient's dental needs, even when that patient was described as having successful dental appointments in the past.
 - Providers often lack the training and confidence to treat people with IDD. A pervasive perception that all people with IDD have significant behavioral issues that extend beyond the scope of a dental clinician's ability to deliver care creates profound strain on available resources.
 - TennCare covers dental services for people with disabilities, but the administrative burden providers experience prohibits many offices from accepting patients with this insurance, exacerbating an already strained system of dental care.
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PART THREE

**STRATEGIC RECOMMENDATIONS
FOR IMPROVING ACCESS TO ORAL
HEALTH CARE FOR PEOPLE WITH
IDD IN TENNESSEE**



This report analyzes dental practice-, county-, and state-level data to comprehensively examine the state infrastructure in providing oral health care to this population. That combination of data revealed key themes regarding Tennessee's strengths and challenges in optimizing its dental care delivery system for people with disabilities.

Historically, Tennessee has demonstrated a strong commitment to oral health. In 1935, the Department of Health (DOH) established one of the first dental health programs in the nation. In the late 1940s, the state partnered with the United States Public Health Service to initiate research on the use of topical sodium fluoride to prevent dental caries (cavities). In 1961, the DOH published the innovative Dental Health Guide for Teachers of Tennessee, which was replicated by other states. In the early 1970s, the state was a pioneer in bringing portable dental equipment into schools to provide dental sealants. In 2018, the state passed its first oral health plan, which began a robust series of defined goals and initiatives and subsequent program evaluations.⁷

However, the IDD community still faces disparities in accessing and utilizing oral health services, as well as in resulting dental outcomes. Therefore, the following strategic recommendations were developed to promote oral health equity among this population.

STRATEGIC RECOMMENDATIONS FOR POLICY IMPROVEMENTS

1. Streamlining the Medicaid billing process to facilitate access to care.

This dental accessibility audit revealed that many providers are hesitant to register with Medicaid, given the perceived high administrative demand and relatively low reimbursement commensurate with the time investment. Dental services are available to all Medicaid-eligible individuals; however, many are not covered by Medicaid, as many billing codes are excluded from Medicaid funding. Since January 2023, Tennessee has funded dental services with state dollars, offering potential flexibility for modifying reimbursement processes and tailoring administrative requirements to better suit providers' needs. State-funded programs can adapt more quickly and efficiently to changing circumstances, potentially reducing the administrative burden on providers and making it easier for them to engage with Medicaid. However, this program will need to undergo regular evaluation while

ensuring that relevant government departments are transparent with ongoing implementation. Establishing detailed guidelines and billing codes specific to IDD dental care ensures providers are appropriately compensated and encourages more providers to participate in Medicaid. Addressing both the administrative process and the billing procedures streamlines the process and expectations for Medicaid enrollment, thereby improving provider engagement while still maintaining robust oversight. This approach creates a more efficient and provider-friendly Medicaid reimbursement system that supports comprehensive dental care for all eligible members.

2. Enhance Medicaid policies to incorporate comprehensive dental benefits tailored to the needs of people with IDD.

Currently, adults under the Division of Intellectual and Developmental Disabilities (DIDD) and Employment and Community First (ECF) IDD programs have access to additional dental coverage, with high utilization of sedation and anesthesia. People with IDD are not always covered under waiver programs, and this enhanced coverage should be universal, regardless of the participant's program status. Expanding these benefits to include home health care services and mobile oral health prevention ensures that individuals with IDD receive comprehensive dental care in settings that are most convenient and comfortable for them. Recently, new billing codes allow for in-office evaluations and additional chair time, provided sedation is not used. Uptake of these codes has been slow, with providers citing low reimbursement rates—an issue worth evaluating further. Policy adjustments should consider lower co-pays and higher reimbursement rates for dental services provided to people with IDD, thereby incentivizing providers to accept Medicaid patients. Moreover, compensating providers for the additional time needed to treat patients, such as encounter fees and/or teledentistry visits to establish patient rapport and trust, can financially incentivize providers to work with IDD communities.

3. Establish a community-driven task force for improved governance that infuses lived experience.

To further enhance oral health outcomes for Tennessee's IDD population, the creation of a dedicated community advisory board (CAB) that involves patients, caregivers, and other stakeholders with lived experiences—in tandem with policy advisors—would be beneficial. The

CAB would be empowered with decision-making authority to review, validate, and utilize data to drive impactful oral health initiatives. Charged with ensuring that data-driven strategies align with the specific needs and challenges of the IDD community, this group would also be responsible for the ongoing assessment of existing oral health programs, recommending modifications based on real-world data and emerging trends. In concert with policy advisors, the CAB can add context to the dental health disparities exhibited across different counties, establishing robust monitoring and evaluation mechanisms informed by lived experience. The CAB should not only track the implementation of policies but should also measure their impact on reducing geographic and demographic disparities. By regularly reviewing data on dental health access and outcomes, Tennessee can dynamically adjust its strategies to better meet the needs of the IDD population, ensuring that all interventions are data-driven and results-oriented.

4. Develop a referral network of trained dental clinicians that can be publicly accessed by providers and patients.

These dental accessibility analyses revealed that dental clinicians often had no idea where to send patients with IDD. The major academic centers are the most established sources of patient care, and, as a result, long wait times or long drive times often prevent patients with IDD from being seen in a timely manner. After increasing provider training and skills to support this community, the state can develop a registry of available dental providers with a matrix of available care (e.g., sedation, prevention, surgical, etc.) to reduce the burden of locating dental offices. This referral system can be joined with a provider recognition program, described below, to increase both access to care and provider involvement in clinical competency measures.

5. Quantify the oral disease burden through a comprehensive needs assessment.

In order to design effective programs and evaluate their impacts, there first needs to be a clear consensus on the problem to be addressed. Although data suggests increased rates of untreated dental caries (cavities) and periodontal (gum) disease among the IDD community, there first needs to be clear measurement of the extent of those problems.

This may be accomplished through a state survey of oral health among this specific population, similar to the Association of State and Territorial Dental Directors (ASTDD) Basic Screening Surveys.²⁰ Once the extent of the problem is recognized, external stakeholders may grasp the importance of addressing these disparities.

STRATEGIC RECOMMENDATIONS FOR CLINICAL CARE DELIVERY

1. Train and incentivize clinical proficiency for dental providers to work with IDD communities.

Results from the dental accessibility audit revealed a significant gap in provider competency and confidence when treating patients with intellectual and developmental disabilities. Clinical training should be provided and incentivized to build the capacity of the oral health workforce in Tennessee. This initiative could include mandatory training modules covering specific dental care techniques, patient communication strategies, and behavior management practices tailored to IDD patients. Continuing Education (CE) credits and higher reimbursement rates for treating IDD patients can incentivize training completion in order to both reward providers and also make the economic rationale for such specialized care more compelling. Additionally, a certification system could be implemented to recognize and promote providers who demonstrate exceptional competency and dedication in IDD dental care, further enhancing patient trust and provider reputation within the community. This structured approach will ensure a skilled, confident, and motivated dental workforce equipped to provide high-quality, sensitive care to the IDD population.

2. Facilitate medical-dental integration for integrated approaches to care delivery.

Medical-dental integration is critical to promote person-centered care. For people with disabilities with complex medical conditions, the medical team plays an essential role in promoting oral health. Besides collaboration with dental providers, medical providers may provide oral screenings, as well as some preventive services. These providers often support patients in their transitions from adolescent to adult health services, and medical providers should be supported in their knowledge of the Tennessee dental system for adults. Medical-dental integration is the most actionable way to translate the importance of oral health to systemic health, and it is supported by the



Tennessee State Oral Health Plan's focus on "oral health education and advocacy" and "prevention of oral disease."⁷ A first step would be to test integrated care models where dental and primary care services are co-located, particularly focusing on facilities that serve large numbers of IDD patients; then evaluate the impact on patient outcomes and provider satisfaction and explore value-based financing implications.

3. Leverage technology to enhance oral health and hygiene for people with IDD in Tennessee.

To significantly improve oral health care for Tennessee's IDD population, it is imperative to integrate cutting-edge technologies that foster personalized care, enhance access to prevention, and empower patients. Building on the success of the TN-DIDD Enabling Technology (ET) Program,²¹ which provides comprehensive support for greater self-sufficiency through innovative, person-centered technology solutions, stakeholders should extend similar technological frameworks to oral health care. This includes the adoption of mobile health apps, connected dental devices, and AI-driven diagnostic tools integrated into a hybrid reimbursement model that incentivizes preventive care and early intervention. Considering the challenges highlighted in this study in accessing timely dental evaluations, particularly in counties with fewer dental clinics per capita, integrating technology such as teledentistry can play

a transformative role. The data demonstrate a clear need for more immediate assessments and interventions, which can be facilitated by these technologies, thereby enhancing access and efficiency. This strategic move will also align with the national push towards integrating healthcare technologies, ensuring Tennessee remains at the forefront of innovative dental care solutions for the IDD community.

4. Develop a specialized curriculum for future oral health clinicians to receive during foundational education programs.

To address the lack of provider competency and confidence in treating patients with IDD, introduce a comprehensive curriculum focusing on IDD-specific dental care techniques, patient communication, and behavior management. This curriculum should be integrated as required education into dental schools and dental hygiene programs, with a strong emphasis on clinically treating IDD patients so that dental students gain real-world training techniques. Pairing hands-on training and real-world clinical experiences with IDD patients, dental students can build practical skills and confidence. By preparing future oral health clinicians to support patients with IDD during their education, they will be better equipped to meet the unique needs of these patients as part of the clinical workforce.



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APPENDIX

ACRONYMS

ASD: Autism Spectrum Disorder
BRFSS: Behavioral Risk Factor and Surveillance Survey
CAB: Community Advisory Board
CDC: Centers for Disease Control and Prevention
CHANT: Community Health Access and Navigation in Tennessee
CHIP: Children's Health Insurance Program
DIDD: Division of Intellectual and Developmental Disabilities
DOH: Department of Health
ECF: Employment and Community First
IDD: Individuals with Developmental Disabilities
IHS: Indian Health Service
TDH: Tennessee Department of Health

FIGURES

Figure 1: Maps of County-Level Analysis

Figures 1a-1e: Maps of County-Level Analysis

Figure 1a: County-Level Average Google Rating

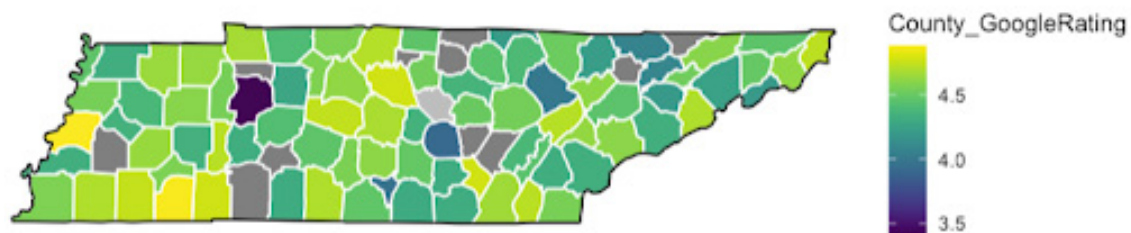


Figure 1b: County-Level Average Days until First Evaluation Visit and First Treatment Visit

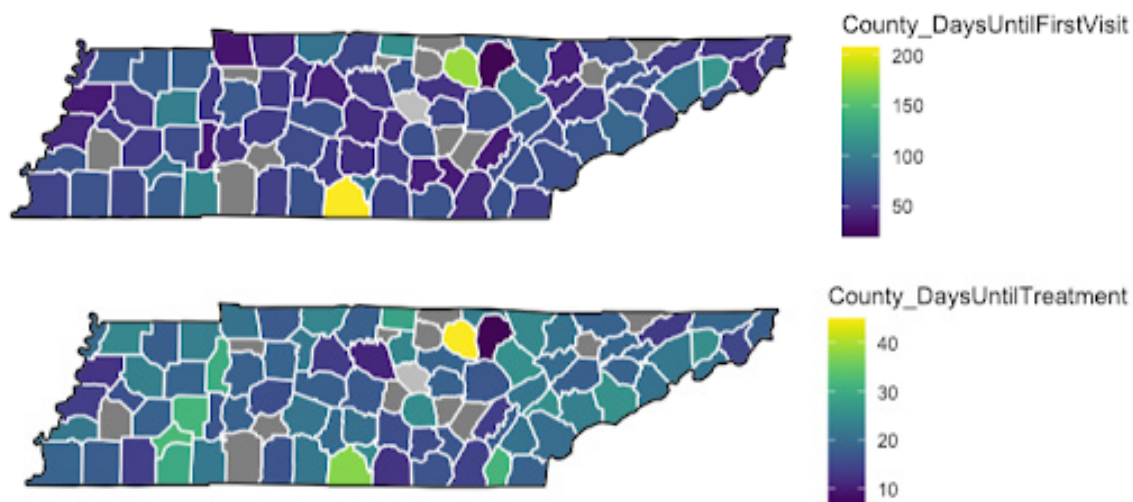


Figure 1c: County-Level Proportion of Private, Safety Net, and Corporate Dental Clinics

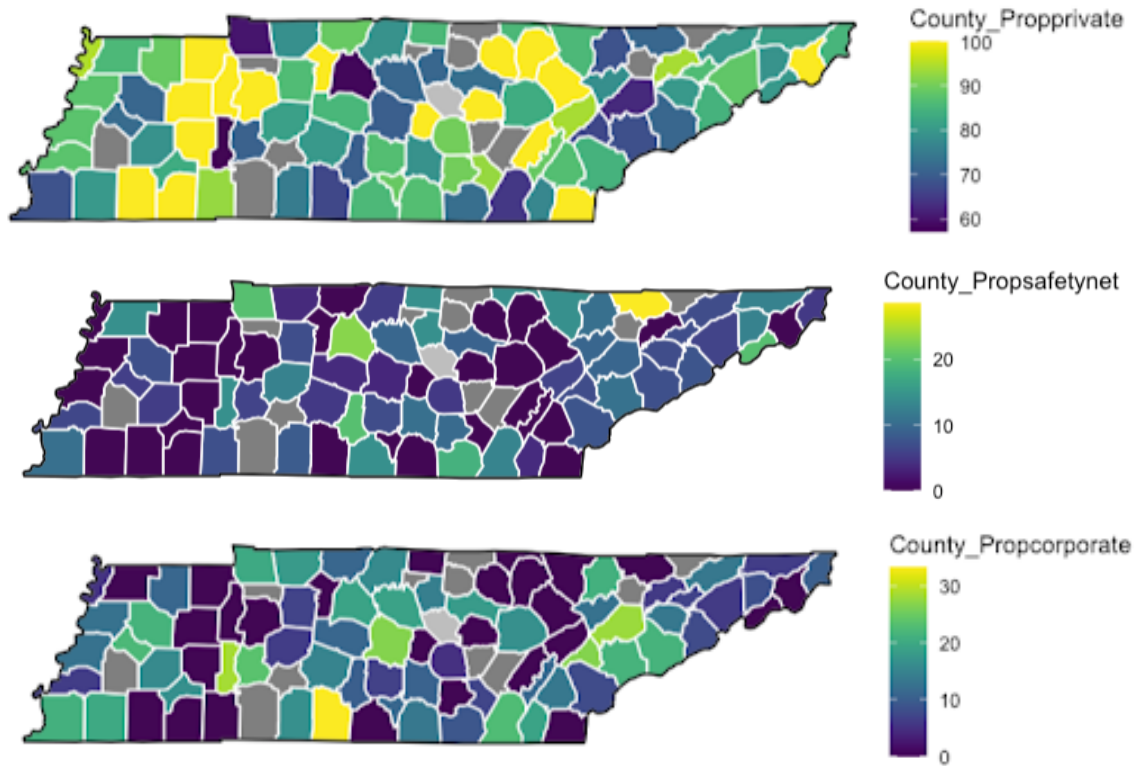


Figure 1d: County-Level Proportion of Dental Clinics Accepting New Patients

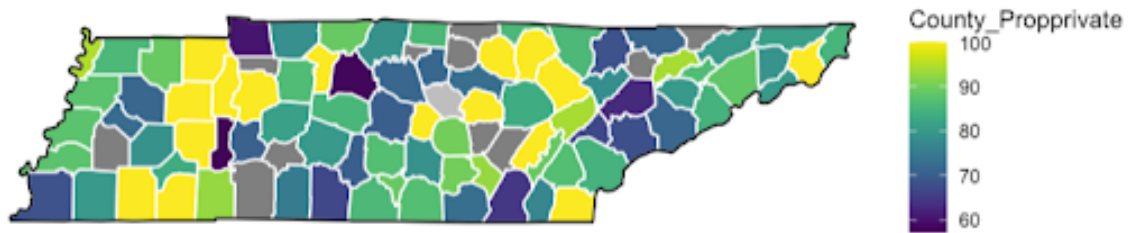


Figure 1d: County-Level Proportion of Dental Clinics Taking Medicaid

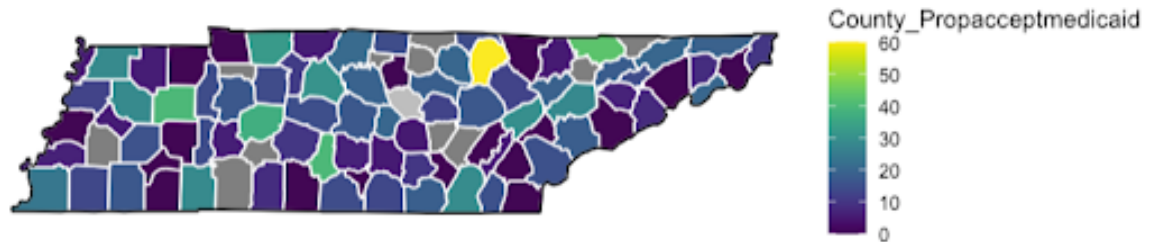


TABLE 8: COUNTY-LEVEL DESCRIPTIVE STATISTICS

County	Avg Google Rating	Avg % of Accepting New Patients	% Taking Medicaid	Avg # of Days until First Visit	Avg # of Days until First Treatment Visit	Propn. Private	Propn. Safety Net	Propn. Corporate	Region
Anderson	4.614286	90.625	18.75	47.82609	20.04762	78.125	9.375	12.5	East
Blount	4.607692	85.71429	17.85714	70.58824	23.07692	67.85714	10.71429	21.42857	East
Bradley	4.722727	96.15385	15.38462	68.4375	31.33333	76.92308	3.846154	19.23077	East
Campbell	4.221429	68.42105	5.263158	40.25	21	68.42105	10.52632	21.05263	East
Cannon	4.35	60	20	48	NA	100	0	0	Middle
Carter	4.625	85.71429	0	44	15	100	0	0	East
Cheatham	4.577778	88.88889	11.11111	51	21.5	100	0	0	Middle
Chester	4.566667	66.66667	0	88	32	83.33333	0	16.66667	West
Crockett	4.35	88.88889	5.55556	54.63636	16.3	72.22222	5.55556	22.22222	West
Davidson	4.620833	84.61538	30.76923	40.73333	13.69231	57.69231	23.07692	19.23077	Middle
Dickson	4.27	89.65517	13.7931	53.5	18.93333	86.2069	6.896552	6.896552	Middle
Fayette	4.7	80	13.33333	70	17.83333	80	0	20	West
Gibson	4.377778	71.42857	28.57143	53.125	23.125	71.42857	7.142857	21.42857	West
Grainger	4.084615	94.11765	17.64706	69.08333	19.11111	94.11765	0	5.882353	East
Hamblen	4.53	86.2069	13.7931	69.75	19.11765	86.2069	6.896552	6.896552	East
Hamilton	4.658621	83.87097	29.03226	47.68182	14.23529	64.51613	12.90323	22.58065	East
Hawkins	4.6	73.33333	20	54.625	13.5	80	6.666667	13.33333	East
Jefferson	4.2	93.33333	6.666667	63.77778	18.83333	80	6.666667	13.33333	East
Knox	4.460714	90.625	28.125	53.6	18.13636	62.5	9.375	28.125	East
Loudon	4.628571	86.66667	0	63	25.5	66.66667	6.666667	26.66667	East
Macon	4.466667	71.42857	14.28571	112.3333	28.66667	85.71429	14.28571	0	Middle
Madison	4.641176	84.21053	15.78947	56	18.6	78.94737	5.263158	15.78947	West
Marion	4.311111	54.54545	18.18182	70	16.8	72.72727	18.18182	9.090909	East
Mauzy	4.466667	85	10	64.15385	21.30769	80	5	15	Middle
Montgomery	4.403704	89.28571	32.14286	46.47059	17.53333	78.57143	3.571429	17.85714	Middle
Morgan	4	62.5	12.5	98.25	25.66667	100	0	0	East
Polk	4.555556	75	0	56.33333	18.66667	100	0	0	East
Roane	4.716667	82.35294	29.41177	69.25	21.55556	94.11765	5.882353	0	East
Robertson	4.571429	83.33333	5.55556	90.8	24	88.88889	0	11.11111	Middle
Rutherford	4.686667	80	16.66667	46.28571	17.33333	70	3.333333	26.66667	Middle
Sequatchie	4.777778	85.71429	0	37.55556	17	92.85714	0	7.142857	East
Shelby	4.56875	92.10526	23.68421	58.96296	18.96	68.42105	10.52632	21.05263	West
Smith	4.533333	71.42857	0	68.66667	24	71.42857	14.28571	14.28571	Middle
Stewart	4.675	40	0	34	21	60	20	20	Middle
Sullivan	4.464286	100	18.75	51.58333	19.18182	81.25	12.5	6.25	East
Sumner	4.711111	94.73684	21.05263	61.41667	18.3	78.94737	5.263158	15.78947	Middle
Tipton	4.333333	81.25	6.25	69.72727	21.85714	87.5	6.25	6.25	West
Trousdale	NA	NA	NA	NA	NA	NA	NA	NA	Middle
Unicoi	4.2	60	20	67	21	80	20	0	East
Union	NA	NA	NA	NA	NA	NA	NA	NA	East
Washington	4.494737	83.33333	8.333333	117.2	25.07692	79.16667	12.5	8.333333	East
Williamson	4.741667	96.2963	14.81482	68.43478	18.19048	85.18519	3.703704	11.11111	Middle
Wilson	4.78	95.2381	19.04762	53.125	10.93333	71.42857	9.52381	19.04762	Middle
Bedford	4.61	73.33333	6.666667	49.33333	20.55556	86.66667	6.666667	6.666667	Middle
Benton	4.55	85.71429	14.28571	54.5	30	100	0	0	West
Bledsoe	NA	NA	NA	NA	NA	NA	NA	NA	East
Carroll	4.6	60	40	99.66667	19	100	0	0	West
Claiborne	4.066667	71.42857	42.85714	64.66667	18.66667	71.42857	28.57143	0	East



TABLE 8: COUNTY-LEVEL DESCRIPTIVE STATISTICS, CONTINUED

County	Avg Google Rating	Avg % of Accepting New Patients	% Taking Medicaid	Avg # of Days until First Visit	Avg # of Days until First Treatment Visit	Propn. Private	Propn. Safety Net	Propn. Corporate	Region
Clay	NA	NA	NA	NA	NA	NA	NA	NA	Middle
Cocke	4.7	69.23077	7.692308	57.57143	20.85714	84.61538	7.692308	7.692308	East
Coffee	4.491667	84.21053	5.263158	57	15.66667	78.94737	10.52632	10.52632	Middle
Cumberland	4.542857	83.33333	16.66667	67.08333	17.1	83.33333	0	16.66667	Middle
Decatur	4.72	85.71429	14.28571	36.75	17	57.14286	14.28571	28.57143	West
DeKalb	4.233333	80	40	38.33333	10.5	80	0	20	Middle
Dyer	4.55	87.5	12.5	36.2	12.6	87.5	0	12.5	West
Fentress	4.4	60	60	19.66667	6.333333	100	0	0	Middle
Franklin	4.3	86.66667	13.33333	60.125	12.5	86.66667	0	13.33333	Middle
Giles	4.7	91.66667	0	67.33333	21.66667	66.66667	0	33.33333	Middle
Greene	4.242857	76.47059	0	90.5	21.8	88.23529	5.882353	5.882353	East
Grundy	4.314286	80	10	41	15.4	90	10	0	East
Hancock	NA	NA	NA	NA	NA	NA	NA	NA	East
Hardeman	4.75	83.33333	16.66667	61	14	100	0	0	West
Hardin	4.775	71.42857	28.57143	105.8333	22	92.85714	7.142857	0	West
Haywood	NA	NA	NA	NA	NA	NA	NA	NA	West
Henderson	4.344444	66.66667	0	65.75	31.5	100	0	0	West
Henry	4.6375	92.85714	0	75.9	22.875	100	0	0	West
Hickman	4.425	87.5	37.5	56.69231	15.90909	81.25	12.5	6.25	Middle
Houston	NA	NA	NA	NA	NA	NA	NA	NA	Middle
Humphreys	3.4	100	16.66667	73.2	18.5	100	0	0	Middle
Jackson	NA	NA	NA	NA	NA	NA	NA	NA	Middle
Johnson	4.73	95	10	55.70588	18	85	5	10	East
Lake	4.466667	89.47368	5.263158	50.3	19.88889	94.73684	0	5.263158	West
Lauderdale	4.883333	75	0	43.5	14	87.5	0	12.5	West
Lawrence	4.31	91.66667	8.333333	57.625	16.83333	75	8.333333	16.66667	Middle
Lewis	NA	NA	NA	NA	NA	NA	NA	NA	Middle
Lincoln	4.475	57.14286	14.28571	208	37.5	85.71429	14.28571	0	Middle
Marshall	4.5625	100	40	55.16667	19.75	70	20	10	Middle
McMinn	4.327273	93.33333	0	66.625	20.875	86.66667	0	13.33333	East
McNairy	4.875	90	0	75.33333	29.5	100	0	0	West
Meigs	4.453846	94.44444	5.555556	63.90909	17.9	88.88889	0	11.11111	East
Monroe	4.328571	84.61538	15.38462	66.5	20.22222	84.61538	7.692308	7.692308	East
Moore	3.957143	100	0	84.4	24.75	88.88889	0	11.11111	Middle
Obion	4.325	85.71429	28.57143	74	24.33333	85.71429	14.28571	0	West
Overton	4.45	80	20	177.6667	45	100	0	0	Middle
Perry	4.318182	76.47059	5.882353	51.25	18.625	70.58824	5.882353	23.52941	Middle
Pickett	4.2125	78.57143	14.28571	82.44444	22.5	85.71429	14.28571	0	Middle
Putnam	4.36	81.81818	18.18182	50.23077	18.72727	72.72727	9.090909	18.18182	Middle
Rhea	4.385714	84.21053	0	37.66667	14	100	0	0	East
Scott	4.52	85.71429	0	82	24.4	85.71429	14.28571	0	East
Sevier	4.333333	100	0	82.25	26	71.42857	7.142857	21.42857	East
Van Buren	NA	NA	NA	NA	NA	NA	NA	NA	East
Warren	3.91	85	5	68.2	25	90	5	5	Middle
Wayne	NA	NA	NA	NA	NA	NA	NA	NA	Middle
Weakley	4.645455	88.88889	5.555556	75.27273	18	88.88889	0	11.11111	West
White	4.511111	81.25	12.5	61.6	18.6	100	0	0	Middle

