Beyond the Waiting Room

The State of Dental Care Access in West Virginia

WEST VIRGINIA ORAL HEALTH COALITION

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HARMONY HEALTH FOUNDATION

Executive Summary

"Beyond the Waiting Room: The State of Dental Care Access in West Virginia," reveals a pressing crisis in dental care access within the state. Drawing from comprehensive research and data analysis, the paper highlights severe workforce shortages, economic challenges, and disparities in access to dental care, particularly impacting vulnerable populations. To address this urgent issue, the paper offers a range of policy recommendations, including the adoption of advanced technology, interprofessional oral health care, personalized care approaches, and value-based reimbursement models. By adopting these recommendations, West Virginia (WV) can lead the way in tackling dental care access issues, ensuring prompt oral health care for all residents.

To gain a deeper understanding of the problems and help identify potential fixes, the WV Oral Health Coalition and Harmony Health Foundation carried out a mystery shopper program. These programs are crafted to assess what patients go through when they seek health care and to examine how well the publicly available dental care information matches the actual experience. The mystery shopper analysis in WV uncovered critical statistics, highlighting the gravity of the dental care access problem. Notably, the analysis found that 24.1% of dental practices in the state were not accepting new patient appointments, with an average wait time of 70.1 days for the first available appointment. Additionally, only 36.7% of dental care sites could offer appointments within 30 days, falling short of benchmark goals for Medicaid enrollees. These findings demonstrate the urgent need for policy interventions to address the prolonged wait times and limited access to dental care services in WV, particularly impacting those in underserved communities and individuals that are dependent on government-funded health insurance.

To address this critical dental care access issue, WV healthcare stakeholders must consider a range of policy and operational interventions, including:

- Incentivize the adoption of advanced technologies and new methods in cooperation with mobile dental practices.
- Advance interprofessional oral health care delivered by medical care teams to enhance access to care and promote preventive practices.
- Improve dental care access and professional training for individuals with intellectual and developmental disabilities.
- Promote personalized care approaches to enhance the efficiency of dental services and reduce wait times.
- Shift reimbursement structures through value-based models.
- Expand coverage for dental care through the West Virginia Legislature.

Introduction

Across the United States dentistry is facing a significant workforce shortage and access to care issues. Previous publications have reported that dental schools and allied dental programs across the U.S. have struggled to produce enough dental health care workers to meet the mounting demands of the public.[1-2] The workforce shortage is exacerbated by the alarming retirement rate of older dental providers following the COVID-19 Public Health Emergency, and growing reports of insufficient pay.[1-2] The access to care crisis is disproportionately observed in underserved rural communities, by patients receiving government funded health insurance benefits like Medicaid and Medicare, and by individuals with intellectual and developmental disabilities (I/DD). Often, these patients wait several months or in some cases, over a year for a new patient appointment, further highlighting the disparities of access to dental care.

West Virginia has grappled with longstanding challenges surrounding inadequate access to dental care for its residents. This issue stems from a complex history marked by factors such as rural geography, economic struggles, and healthcare disparities. A 2022 report from WV Department of Health and Human Services found that there were 49 dentists per 100,000 population, well below the national average of 61 per 100,000.[2] Additionally, a new report provided through LinkedIn, from the American Dental Association Health Policy Institute, determined that, between 2019 and 2022, WV experienced a loss of 3.6% of general dentists and a loss of 10% of dental specialists entering the workforce in the last ten years.[3] This loss of dental providers further impacts the condition of dental care access in WV.

Economic challenges have also played a role. For decades, WV has experienced high poverty rates and limited resources for its healthcare infrastructure. This has negatively impacted oral health care team pay and was reported by the U.S. Bureau of Labor Statistics, ranking WV 46 out of 51 for employed dentists' annual salaries ($139,200) and last (51 of 51) for dental hygienists ($61,050) and dental assistants ($17.71 per hour).[3]

Disparities in access to dental care have persisted, with many WV residents, particularly in underserved populations, struggling to find easily available dental services.[2] These ongoing challenges highlight the need for innovative solutions, policy interventions, and workforce development to address WV's dental care disparities and ensure that its residents receive the oral health care they require.

Mystery Shopper Project

To better understand the issues and assist with finding solutions, the WV Oral Health Coalition and Harmony Health Foundation completed a mystery shopper program. Mystery shopper programs are designed to gauge patient experiences when seeking health care and to further evaluate the accuracy of publicly accessible dental care.[5-11] These programs provide an accurate picture of a provider network's capacity and adequacy. For the WV mystery shopper survey, dental practices and dental care delivery organizations listed within *Google Places* registries were queried by the county of location. The results of the query were utilized to make telephone calls by mystery shoppers to dental care sites for data collection and reporting. Care sites were contacted in order of appearance of the search query. Additional information on methodologies and potential limitations is available within the *Methodologies and Limitations Section*.

Four mystery shopper call scenarios were developed and varied by age (adult v. child) and insurance coverage (private v. Medicaid). One scenario included a child with a disability and dual insurance to see how dental offices would respond to care of a child with a disability. Another scenario removed insurance coverage as a barrier and included someone who was going to pay out-of-pocket for dental services. This often means paying full price since insurance companies commonly write off a portion of the fee they will cover.

Results

A total of 216 dental care delivery sites were called by three mystery shoppers. Following a review, 24 site calls were excluded from analysis due to incomplete calls (prolonged hold, disconnected, busy signal, or unanswered attempts), missing information, or misaligned data entry, for a completion rate of 88% (N=192). According to Dentagraphics.com, there are 456 dental care offices or sites in WV, demonstrating a sample representing approximately 42% of all sites in WV.[12] The mystery shoppers called dental care sites within 36 of WV's 55 counties. A breakdown of dental care sites by county location and the scenario utilized is available in *Appendix A*.

Dental Care Appointment Wait Times

Data analysis determined that 24.1% of WV's dental practices were not accepting new patient appointments, with the average wait to an initial-first available dental appointment taking 70.1 ±9.7 days and ranging from 1-240 days. The percentage of all sites with the first available appointment within 30 days was 36.7%. Many states including West Virginia have goals in place for Medicaid enrollees to be seen within 30 days. The average wait time for a second appointment to treat diagnosed dental decay (tooth cavity), was an additional 24.6 ±2.1 days and ranged from 1-145 days, demonstrating more difficulty obtaining preventive and diagnostic care than disease treatment.

Table 1 provides a comprehensive overview of dental care access and wait times across nearby states, with a particular focus on West Virginia. Notably, West Virginia stands out with longer wait times in several key categories. In 2023, 24.1% of dental care facilities in West Virginia are not accepting new patients, a figure comparable to other Rust Belt states like Michigan (28.7%) and Ohio (24.0%). However, the situation declines when examining the average days to the first available new patient appointment, where West Virginia's 70.1 days exceed those in Michigan (61.2), and Ohio (51.9). These delays also extend to disease treatment, where West Virginians face a total wait time of 94.7 days, again higher than other nearby states.

Table 1: Comparison of WV mystery shopper results to nearby state mystery shopper projects

Description	Michigan (2023)	Ohio (2023)	**WV (2023)**
Percentage of all dental sites NOT accepting new patients	28.7%	24.0%	**24.1%**
Average days to initial first available new patient appointment for all sites contacted	61.2	51.9	**70.1**
Percentage of all dental sites that a first available new patient appointment is within 30 days	35.6%	41.2%	**36.7%**
Average days to second appointment if a cavity is found (time from 1st to 2nd)	27.5	17.8	**24.6**
Total Days Until Disease Treatment (All Sites)	88.7	70.1	**94.7**

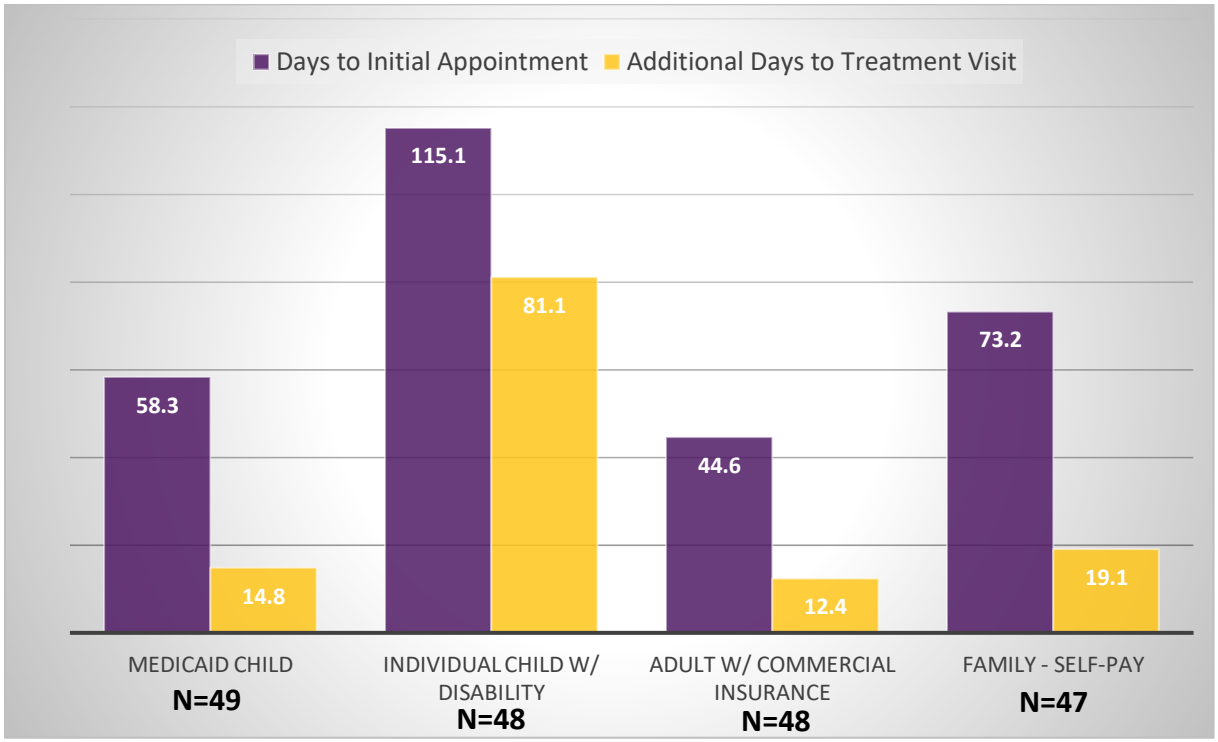
Scenario Evaluation

When evaluating the four mystery shopper scenarios, differences were observed across the first available and second (treatment of a cavity) appointment wait times (*Figure 1*). First available appointments for an "individual with I/DD" presented with the longest initial visit wait times at 115.1 ±10.4 days followed by: "self-pay adult and child" at 73.2 ±9.9 days, "Medicaid child" at 58.3 ±4.2 days, and "adult with commercial insurance" at 44.6 ±7.6 days. When evaluating the wait times for a follow-up second (treatment) appointment if a dental cavity were found: "an individual with I/DD" was once again the longest wait time at 81.1 ±5.9 days followed by "self-pay adult and child" at 19.1 ±2.3 days, "Medicaid child" at 14.8 ±1.6 days, and "adult with commercial insurance" at 12.4 ±1.7 days. By removing the reports for the I/DD population (Scenario 2), the average wait time of the other three scenarios demonstrate an approximate wait time of 60 days for initial appointment, sixteen additional days for a second treatment visits, and a total wait time for disease treatment of 75 days. See *Table 2* for details from each scenario.

Table 2: Mystery shopper call scenarios.

Scenario 1	N=49	Pediatric patient with Medicaid dental insurance
Scenario 2	N=48	Pediatric patient with an intellectual/developmental disability and dual dental insurance coverage (private and Medicaid)
Scenario 3	N=48	Adult patient with private/commercial dental insurance.
Scenario 4	N=47	Adult and child without insurance (self-pay)

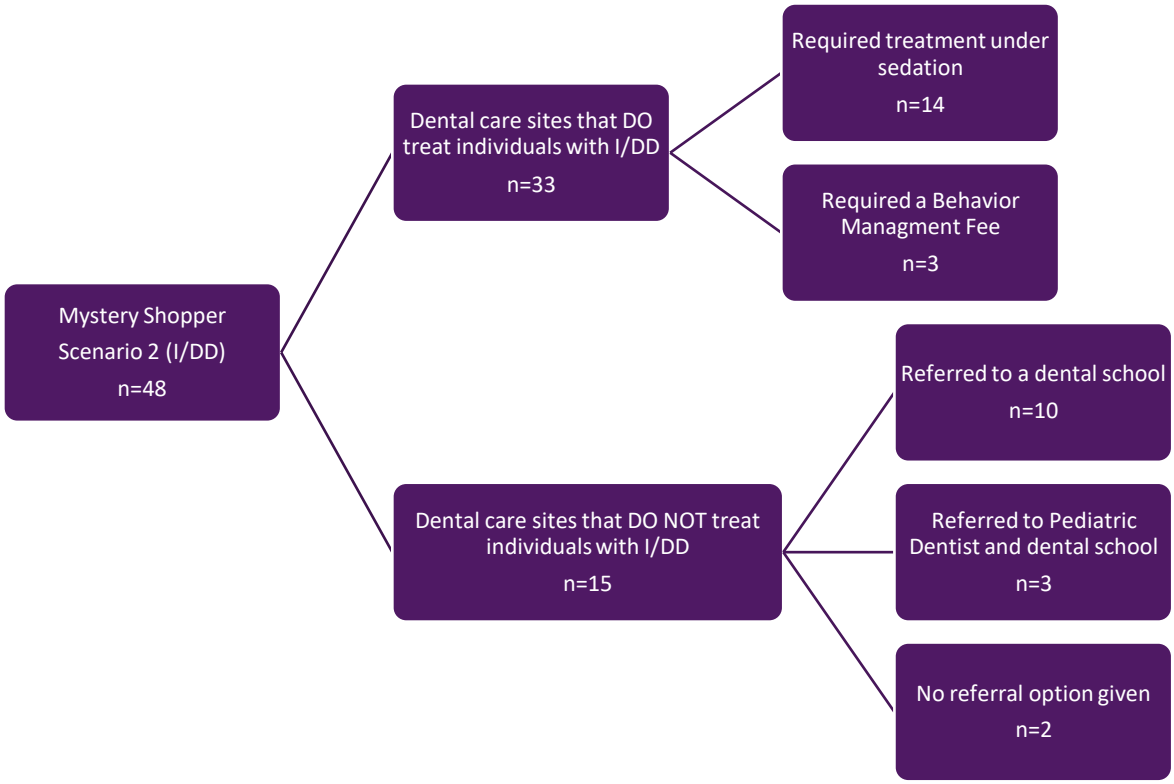
Figure 1: Comparison of wait times in days of each mystery shopper scenario.



Traditionally Underserved Populations

Individuals with intellectual and developmental disabilities: Mystery shoppers reported the most difficulty obtaining an appointment and access to care information for individuals with I/DD (*Figure 2*). Of the 48 dental sites contacted, 15 (31.3%) did not treat patients with I/DD. Of the 15 sites that did not treat patients with I/DD, nine referred the shopper to West Virginia University School of Dentistry (WVU); three dental care sites referred to local pediatric dentists; WVU; and/or Ohio State University College of Dentistry, one dental care site referred to Virginia Commonwealth University, and two did not provide any referral information. The 33 remaining dental sites contacted reported that they do provide treatment for children with I/DD. However, 14 (42.4%) require sedation &/or referral for any additional treatment or restorative (fillings, crowns) care. Additionally, 9.1% of care sites required a behavior management fee, which is often not covered by insurance, with payment due prior to the appointment. Behavior management fees compensate dentists who provide care for individuals with I/DD for expenses accrued from increased appointment times, staffing, and adaptive equipment.

Figure 2: Breakdown of mystery shopper calls for Scenario 2 (Pediatric I/DD Patient)



Medicaid Acceptance: The mystery shoppers asked all dental care sites called if they accepted Medicaid and recorded their response. Nearly one-third (28.5%) of the dental care sites, regardless of scenario type, reported accepting Medicaid in WV. Of those sites, 11.8% of sites are currently not accepting new patients. The findings were similar, albeit lower than the results of a state-by-state analysis of dentists' participation in public insurance programs published in the Journal of the American Medical Association (JAMA).[13] The JAMA study determined that 34% of West Virginia dentists accepted Medicaid in 2022, which was below the median percentage of all other U.S. states evaluated in the JAMA article, approximately 40%.

The average wait time for an initial first available appointment for sites not accepting Medicaid, regardless of scenario type, was 55.3 ±5.1 days. The treatment visit wait times for sites not accepting Medicaid, following the initial appointment was 15.2 ±1.5. The care sites accepting Medicaid, regardless of scenario type, demonstrated longer initial appointment wait times of 95.3 ±9.5 days and 44.9 ±5.6 additional days for a treatment visit. Regardless of Medicaid acceptance there are longer wait times for dental hygiene, or preventive and teeth cleaning, visit than to achieve treatment or examination by a dentist.

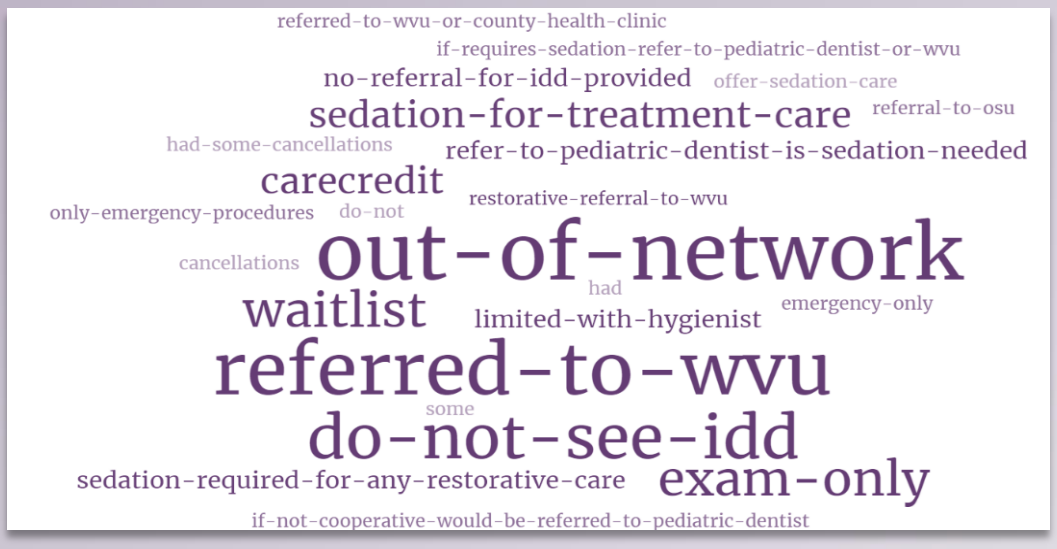
Rural populations: A total of sixty-seven mystery shopper dental care sites contacted were within rural counties of WV (34.9%, N=192). Rural counties were based on designations provided by the U.S. Office of Management and Budget (OMB). Rural providers accepted new patients at slightly lower rates, 74.6%, than non-rural sites, 76.8%. The average wait time at non-rural sites to an initial first available appointment was 69.2 ±5.8 days and 26.4 ±2.9 days for a second appointment for treatment. Rural sites reported slightly longer wait periods for the initial first available appointment, 70.1 ±8.1 days, and shorter second appointment wait times for treatment of a cavity with 22.0 ±3.0 days. There was not a significant difference between the variables except for Medicaid acceptance. Non-rural sites were less likely to accept Medicaid, 24.3%, compared to rural sites, 36.9%.

Mystery Shopper Notes

An evaluation of the mystery shopper notes from the respective dental care site calls revealed patients in WV are more frequently scheduled with dentists for dental examinations and/or diagnostic procedures prior to a dental hygienist for cleaning and prevention. There are significant scheduling conflicts for preventive dental care (prophylaxis/cleanings, non-surgical periodontal therapy, or sealants with dental hygienists) compared to a visit with dentist for treatment. In addition, many care sites provided information about long waitlists or the need to call back to determine appointment availability.

Several sites reported no longer being in-network for commercial insurance and disclosed to the shopper they would directly receive the payment from their insurance company after the dentist filed the claim and be responsible for paying total charges at the time of service. For the scenarios of “Medicaid child” and “individual with I/DD” there were increased referrals to another site or other providers. A word cloud was created based on the common statements within the shopper notes and is provided in *Figure 3*.

Figure 3: Word-cloud representation of mystery shopper call notes



Discussion

This analysis reveals a concerning increase in wait times for dental visits compared to previous mystery shopper studies conducted in other states and before the COVID-19 Public Health Emergency.[10-11,14-15] For context, in 2014, the Connecticut Dental Health Partnership conducted a mystery shopper study evaluating appointments for all patients and involving 781 dental practices.[14] The results showed that over 75% of these practices offered appointments in less than two weeks, with the majority providing slots within a week (59%), and 11% offering same-day appointments. The average wait time for new patient appointments was only 9.9 days. To further illustrate the issue, in 2018, Stoner conducted a mystery shopper analysis in Allegheny County, Pennsylvania, which boasts a high number of dental providers in the state.[10] Among the 198 dental practices contacted, 73.2% were general dentists, and 67.6% of these accepted Medicaid. The wait times varied, with 28.5% offering appointments in one week or less, 48% in two to four weeks, 13.3% in five to eight weeks, 9.2% in eight or more weeks, and 1% did not disclose the wait time. Wait times ranged from same-day appointments to 85 days. Additionally, a 2020 mystery shopper report focused on North Carolina found an average wait time for dental appointments, regardless of insurance type, to be 19 days.[11]

In contrast to pre-COVID-19 analyses of patient care access in other Rust Belt States (including WV), longer wait times after the pandemic have been reported. A 2022 mystery shopper analysis in Pennsylvania, conducted by the Pennsylvania Coalition for Oral Health determined that 23.5% of sites accepted Medicaid, with an average initial first available appointment wait time of 69 days and an additional average wait time for treatment of a cavity of 34 days.[5] These figures were significantly higher than those observed in previous Pennsylvania mystery shopper studies conducted before the pandemic.[5,10] Similarly, Ohio and Michigan experienced prolonged wait times, beyond state benchmarks and goals, as found during their mystery shopper projects in 2023. The current analysis in West Virginia aligns with these findings, revealing extended wait times beyond what was considered typical.

Comparing pre-COVID19 analyses from other states to the current West Virginia mystery shopper report, there was a notable decrease in the percentage of practices offering appointments within 30 days or less (76.5% on average for all studies prior to 2020, compared to WV's 36.7% in 2023). When comparing West Virginia's current wait time ranges of 1-240 days to the pre-COVID averages of other states, longer wait ranges were observed, 0-85 days.

The Rust Belt Region has faced more significant challenges in retaining its dental workforce compared to other areas of the U.S. It has been disproportionately affected by the shortage of dental hygienists returning to work and working less hours after the COVID-19 shutdowns. The region ranks lower in terms of pay for dental health care workers and has witnessed a greater loss of young dentists and specialists migrating away from the region.

This analysis of dental care appointment wait times in WV revealed concerning trends, with 24.1% of practices not accepting new patients and an average wait time of 70.1 days for the initial first available appointments. Only 36.7% of sites could offer appointments within 30 days, raising questions about provider capacity and access to care. The extended wait times may strain providers and potentially shift the focus towards urgent care at the expense of routine, preventive care, posing challenges to both the profession and a community's oral health. Addressing workforce shortages and ensuring timely access to care are critical priorities. WVU has started to address these issues reporting increased retention of graduates in WV and the creation of a pediatric dentistry residency program.

Within the context of this analysis shedding light on the prolonged wait times for dental care in WV, it is crucial to acknowledge the positive initiatives observed during our mystery shopper program. While our primary focus was to address the challenges associated with accessing dental care in the state, we encountered free and public health clinics that stand out for their dedication to providing immediate care options. Notably, some of the clinics we assessed during the mystery shopper program displayed a commitment to patient accessibility. These clinics offered same-day openings and the convenience of walk-in appointments, ensuring that individuals in need of dental care can receive timely attention. This proactive approach by these clinics deserves recognition, as it not only eases the burden of waiting for services but also highlights a step in the right direction in tackling the oral health disparities in WV.

Policy Recommendations

Previous ratings and rankings have identified West Virginia as lagging behind other states when it comes to oral health and dental care access.[16] To address the critical issue of dental care access highlighted in this evaluation it is imperative to consider multifaceted policy and operational interventions.

Recommendation #1: Incentivizing the adoption of advanced technology in cooperation with mobile dental practices. To address West Virginia's dental care access issues effectively, we propose a multifaceted strategy. It would be advantageous to incentivize dental providers to adopt advanced technology in collaboration with mobile dental practices. This integration, particularly involving artificial intelligence (AI) platforms within virtual and telehealth solutions, offers a dual advantage. It can significantly reduce appointment wait times and simultaneously enhance the overall quality of care provided to the state's residents. By embracing AI-driven systems, predictive analytics can be employed for efficient patient triage, optimizing specialist coverage allocation, and even providing personalized treatment recommendations. These technological enhancements promise to improve the health care experience across West Virginia, transcending the geographical barriers that have hindered access to care.

The integration of advanced technology should extend to practices like remote patient monitoring, promoting interprofessional collaboration, and enhancing patient referrals. Shared electronic case information between dental providers at different locations can streamline care and facilitate interprofessional collaboration, especially in primary care and emergency room settings. In addition, health care apps can play a pivotal role in ensuring patients' compliance with oral health recommendations, fostering a direct connection between patients and dental providers through easily accessible and shareable data.

To make this vision a reality, the contributors of this paper strongly recommend incentivizing dental providers to engage in teledentistry practices, thereby facilitating both synchronous and asynchronous care. This approach is not only safe and cost-effective but also essential in reducing barriers to dental care for West Virginia's most vulnerable residents, including those in rural areas, house-bound individuals, those confined to health care facilities, hospice care patients, individuals with intellectual and developmental disabilities, and those receiving government-funded dental benefits.

Increasing the utilization of mobile dental practices across the state can provide unique opportunities for dental professionals to offer care to residents who struggle to access dental services through traditional means. These mobile dental units can effectively bridge the gap by providing therapies, education, and resources through flexible care teams to underserved communities, especially in dental health professional shortage areas. Additionally, mobile dental units make use of advanced technologies to share electronic health records when collaborating with or referring patients to local providers for ongoing long-term dental care.

Recommendation #2: Interprofessional oral health care delivered by medical care teams, such as topical fluoride application and oral disease risk assessments, enhances access to care and promotes preventive practices. This collaborative approach allows medical providers to expand their services to include basic oral health assessments and basic preventive treatments, filling a critical gap in care. It also creates billing opportunities for medical providers who can now bill for these oral health services, thereby improving overall health care access and outcomes. Previous research determined that medical providers including oral health interventions during patient visits led to increased utilization of dental preventive care.[17-19]

Recommendation #3: Improve dental care access and professional training for individuals with intellectual and developmental disabilities (I/DD). Many dentists in WV do not currently provide care to I/DD patients. Common barriers include concerns about the severity of the patient's condition, insufficient reimbursement, challenging patient behaviors, and insufficient training, knowledge, and experience in handling I/DD cases.[20-21] These barriers often deter dentists from offering their services, further limiting access to dental care for this vulnerable population.[22]

Considering the significant challenges faced by individuals with I/DD in accessing dental care, the implementation of desensitization appointments represents a promising policy move to overcome these barriers and ensure better oral health

outcomes. Desensitization appointments in dentistry are specialized sessions aimed at familiarizing individuals with intellectual and developmental disabilities with the dental environment, equipment, and procedures. These appointments are crucial because they help reduce anxiety and fear, making it possible for patients to receive necessary dental care without undue stress or trauma. By improving access to dental care for individuals with I/DD, desensitization appointments promote better oral health outcomes and enhance overall quality of life for this underserved population. Improvement in insurance coverage for desensitization appointments and behavior management, with a specific focus on sensory management techniques, would assist the quality-of-care delivery.[23-25]

To improve training and education, all oral health training sites and those sites dedicated to treating individuals with I/DD in WV should seek becoming an autism or sensory care certified care site and address deficiencies in training to better serve the I/DD community. Additionally, the West Virginia Board of Dentistry should mandate a certain number of continuing education hours by all licensed providers be focused on care delivery for individuals with I/DD.

Recommendation #4: The promotion of personalized care approaches to enhance the efficiency of dental services and reduce wait times. To enhance the efficiency of dental services and reduce wait times, the promotion of personalized care approaches is warranted. These approaches should prioritize preventive strategies and tailored treatment plans aimed at empowerment and better understanding of one's oral health. By tailoring care to individual needs, care teams and stakeholders can optimize the use of dental resources, ensuring that patients receive the right treatment at the right time, thus reducing unnecessary delays. Additionally, empowering patients to grasp the root causes of their conditions and inspiring them to strive for preferred results cultivates a robust dedication to constructive behavioral modifications. Proven methods like personalized coaching, integration of personalized technologies with artificial intelligence, and motivational interviewing have demonstrated their value in achieving this goal.[26-27]

Recommendation #5: *Fundamentally shift reimbursement structures through* value-based models that reward health care providers for delivering high-quality, timely care. A departure from traditional fee-for-service models incentivizes dental practitioners to prioritize patient outcomes and accessibility. Linking reimbursement to performance encourages providers to offer more timely and effective care, thereby addressing disparities in oral health care access. This can be accomplished through a bundled, prevention-first, value-based design utilizing hybrid reimbursement models. These models maintain the integrity of fee-for-service for more expensive procedures and restorative care while incentivizing improved prevention outreach and care delivery.

An incentivized bundled financial model aims to reward quality care and promote coordination among providers to reduce long-term restoration needs and enhance patient prevention, utilization, and retention.[28-29] This model emphasizes virtual care for building relationships and preventive data collection, rewards providers for quality care, and encourages follow-ups on referrals and counseling. Reports measuring utilization, outcomes, costs, adoption, satisfaction, and quality improvements are used to refine government and stakeholder initiatives. The model's primary goal is to improve oral health scores and benchmarks, aligning with HEDIS, UDS, and CMS standards by emphasizing dental care encounters, preventive measures, minimally invasive care, and personalized treatment. In evaluating previous research, the analysis estimates that this value-based structure can be accomplished for approximately one-to-two dollars per member per month.[29-44]

By implementing a prevention-first, value-based dental care payment design, payers and providers can significantly reduce costs by strategically targeting proactive prevention and intervention measures based on new diagnostic and screening technologies as well as refined guidance from dentists and health care providers. This coordinated approach not only minimizes the need for future restorative treatments but also empowers members to actively manage their oral health behaviors in-between in-office visits, resulting in substantial long-term savings for the healthcare system.[30,44-46] It will be imperative to share in any savings with payers, providers, and patients or caregivers to reach a fair and balanced economic model. The recommended bundled dental billing for a value-based design is provided in *Appendix B*.

Recommendation #6: Expanding coverage for dental care through the West Virginia Legislature seamlessly aligns with the policy recommendations to improve access to dental services. As highlighted in articles from West Virginia's Register-Herald and Mountain State Spotlight, such an expansion would come with significant financial support from the Federal Medical Assistance Program, covering the majority of costs, with West Virginia contributing less than a fifth.[47-48] This cost-sharing arrangement makes it a financially viable and prudent decision for the state. Additionally, expanding dental coverage would have a positive ripple effect on the dental care safety net clinics. By fully reimbursing these clinics for their dental services, they would have additional resources to address other critical health needs in their respective counties and have avenues to effectively address holistic health care concerns. This can also create new jobs and economic development given that one dentist can produce $1.3 million in economic activity annually and a dentist placed in a rural county creates $340K in annual labor income.[49-51]

Expanding Medicaid dental coverage, as previously proposed in the 2022 West Virginia legislative session, demonstrates an acknowledgment of the need for comprehensive oral health care.[47-48] Such expansions are vital not only for preventing oral health problems but also for bolstering the state's workforce by ensuring that individuals can present themselves confidently in job interviews. The legislation should be revisited and considered as essential to improving overall dental health care access in West Virginia, aligning with the broader recommendations.

To ensure a brighter future for oral health care in West Virginia, immediate action is crucial. By wholeheartedly embracing the following recommendations—leading the way in technological advancements, advocating for individualized care approaches, and adopting fair reimbursement systems—the state can embark on a transformational journey. These vital changes will usher in a new era of accessible, prompt, and fair dental care for all residents. West Virginia's commitment to these reforms is a test of its dedication to the health and well-being of its people, establishing a strong connection between the advice within this publication and the promise of quicker access to dental care and improved appointment waiting times.

Conclusion

The conclusions drawn from this study are that WV is facing substantial access to dental care challenges. Vulnerable WV citizens, citizens dependent on government-funded health insurance, and those living with I/DD, face disproportionate barriers receiving dental care. Dental provider wages are among the lowest in the U.S., further crippling the disadvantaged healthcare infrastructure. Now is the time to act! Based on information gathered from McKinsey & Company, it is projected that by the year 2031, there may be more than 36,000 job openings, nationally, in the field of dentistry.[52] Several factors contribute to this, such as the long-lasting impacts of decisions made during the COVID-19 pandemic, ongoing changes in the workforce's demographics, shifting health care regulations and requirements affecting provider autonomy and patient relationships, various challenges that could affect how affordable and accessible dental care is, as well as the overall economics of the industry. Ultimately, West Virginia has a unique opportunity to take a leadership role in addressing these critical issues in dental care access.

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Methodology and Limitations

For the mystery shopper component of this analysis, mystery shopper participants were carefully selected to ensure they could effectively represent the patient scenarios encountered in dental care access. All participants had previous experience with mystery shopper projects in other states. The mystery shoppers underwent a structured training program to prepare them for their roles. The training included orientation sessions where they were provided with an in-depth understanding of the study objectives and the specific patient scenarios they would portray. Provider information from all practices was entered into a single database to prevent duplication of patient scenarios. The information stored in this database included business ID, phone number, business type (private practice, corporate operation, and safety net programs), and county of location. Only the mystery shoppers had access to identifiable practice information and this information was removed to create a de-identified data set prior to analysis or any sharing of data for the purpose of analytical review. The information collected was used to make the mystery shopper telephone calls; all calls were made by a research team that made phone calls during the hours listed for the practice's hours of operation. Four shopper scenarios were enlisted to collect practice information: Medicaid child, individual with a developmental disability that has primary commercial and secondary Medicaid dental benefit coverage, an adult with commercial insurance, and self-pay family (primary caregiver and one child).

Data from the mystery shopper calls were collected from June – September 2023. Quantitative analysis focused on descriptive statistics, including standard summation, mean estimation, and valid percentage calculations for key variables like wait times. Preliminary results and findings were presented to two groups of approximately 20 (over 40 total) WV stakeholders and clinical providers at the West Virginia Oral Health Summit. The presented information was met with general agreement and aligned with the experiences of the audience.

This analysis serves as a snapshot of wait times from a patient perspective. The generalizability of the findings may be limited by the study's data collection methods. During the mystery shopper analysis, the research team successfully contacted approximately 42% of all dental care sites in West Virginia. While this sample provides a robust representation of the practices included, it is important to recognize that the remaining 58% of practices were not included in the analysis. This may introduce a degree of selection bias, as practices that were contacted and those that were not may exhibit variations in their patient appointment wait times and accessibility. This variability could lead to potential underestimation or overestimation of wait times, depending on the timing of the calls This can result in some variability experienced depending on the time a call was made and limited by those dentists and dental care sites that are listed within Google Locations, queried with the common "dentist near me" search term.

While the mystery shoppers diligently collected data, the research team recognizes potential bias sources. Variability in the information provided by dental practices, such as reported appointment availability, and the subjectivity inherent in mystery shopper evaluations may impact data accuracy. Despite these potential limitations, the research team made rigorous efforts to minimize bias and maintain data validity, ensuring valuable insights into dental care access in West Virginia. In addition, we included other publications and sources of data evaluating similar data points for comparison. Exclusion of counties with fewer than five dental care sites to maintain appropriate anonymity may have influenced the representation of rural care sites in the study. This may have resulted in a larger non-rural care site representation. A mapping of counties included in the mystery shopper scenarios is available within Appendix A. Dedicating a complete scenario to individuals with I/DD aimed to ensure an adequate sample size, potentially leading to over-sampling. More information for this decision is further detailed within the Scenario Evaluation section.

Appendix A: Counties included in mystery shopper calls by scenario type.

Figure A1: Scenario 1 mystery shopper call sites by WV County (red)

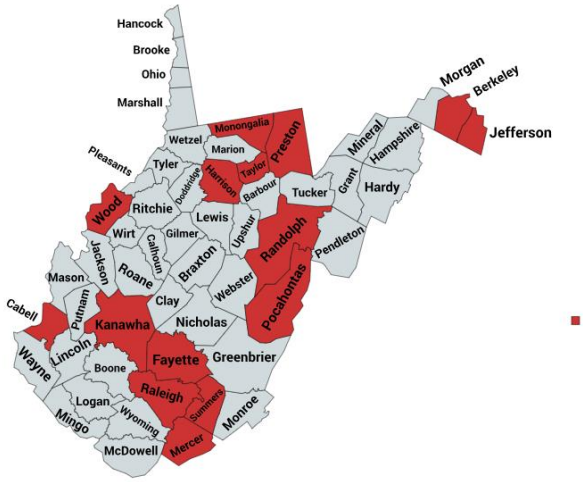


Figure A2: Scenario 2 mystery shopper call sites by WV county (blue)

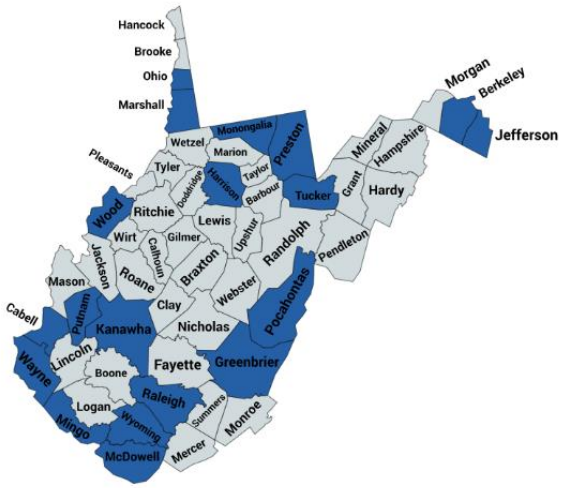


Figure A3: Scenario 3 mystery shopper call sites by WV county (green)

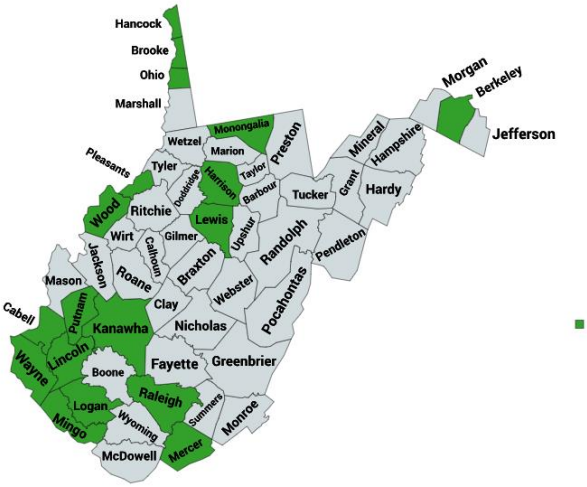
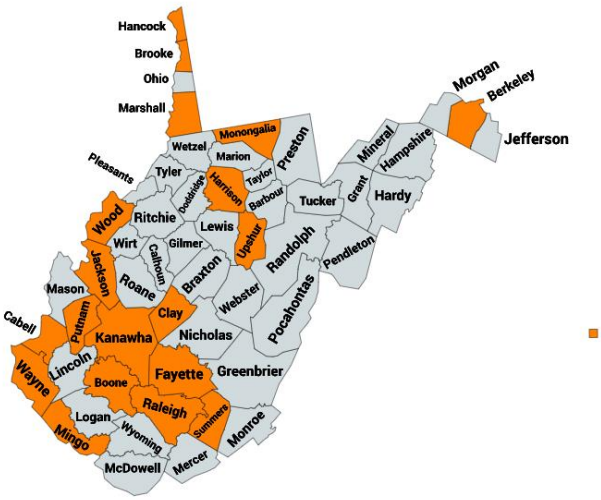


Figure A4: Scenario 4 mystery shopper call sites by WV county (orange)



Appendix B: Bundling procedure codes for a virtual, prevention-first and prevention-outreach value-based design.

Bundling of procedure codes involves grouping related health care services and treatments under a single, comprehensive billing structure. This approach aligns with value-based care by incentivizing providers to deliver more efficient and holistic care, emphasizing preventive measures and reducing fragmented, fee-for-service billing, ultimately aiming to improve patient outcomes while controlling costs. These designs should be included within a hybrid reimbursement model that maintains a fee-for-service structure for non-prevention or restorative/surgical procedures.

Virtual, Prevention First Value-based Design

Bundling procedure codes within a virtual prevention-first value-based care design for oral health offers significant advantages. It simplifies billing and reimbursement processes, incentivizes comprehensive preventive care, and minimizes fragmented treatments. In regions with limited dental access, like rural areas, it optimizes virtual visits' impact. This model introduces risk-sharing arrangements with providers, ensuring predictable payments for patient panels, which fosters a stronger commitment to preventive measures and timely care delivery. It also addresses the issue of long wait times for dental appointments by facilitating timely virtual consultations, and follow-ups, leading to improved outcomes and enhanced patient satisfaction, especially crucial in underserved areas and with underserved populations in WV. By emphasizing prevention and leveraging virtual care technologies, this model aims to reduce the burden on the healthcare system, enhance patient engagement, and achieve better health outcomes while optimizing healthcare spending. Utilizing this as a first step process to care, the results of these encounters can also lead to better triage and management with mobile, portable, and at-home care. The contributors recommend that this design goes beyond the confines of traditional dental health care structures. Mobile and at-home care units extend their reach to provide essential preventive services to patients where they are, ensuring that oral health care is accessible and convenient. Additionally, community health workers or community dental health coordinators play a crucial role as part of the clinical teams. Their involvement facilitates patient education, ensures timely follow-ups, and enhances the overall quality of care.

Table B1: Summary of the virtual, prevention first components for value-based care.

Virtual & Outreach: Prevention First Value-based Designs
Procedure Code Bundling

• Simplifies billing & reimbursement processes
• Incentivizes comprehensive preventive care
• Reduces fragmented treatments
• Introduces risk-sharing arrangements with providers
  ✓ Ensuring predictable payments
  ✓ Promoting disease prevention
  ✓ Stimulating timely care delivery

Healthcare Payment Innovation
• Value-based care reimbursement based on disease prevention & management
Virtual

• Promotes advanced technology utilization through virtual care technologies
• Reduce consultation, assessment & follow-up wait times
  ✓ Improving oral health outcomes
  ✓ Increasing patient satisfaction
• Enhances timely patient engagement
• Optimizes healthcare spending

Outreach

• Mobile dental units provide dental care to underserved regions & residents across West Virginia
  ✓ Increasing access to oral health care
  ✓ Reduces geographic barriers to care
  ✓ Promotes community engagement and dental referral processes
• Community health workers / community dental health coordinators
  ✓ Trained professionals living & working within a community
  ✓ Provide essential oral health education to vulnerable populations
  ✓ Coordinate patient appointments and follow-up care between at-risk patients and dental providers

Table B2: A listing of possible dental CDT codes to include in a virtual, prevention-first, bundled, incentivized value-based payment design.

Patient Evaluation and Assessment	Salivary Collection and Salivary Evaluation	Telehealth Encounter	Patient Counseling and Case Management
Patient Evaluation: D0190 – screening of a patient D0191 – assessment of a patient **Patient Examination:** D0150 – comprehensive oral evaluation D0120 – periodic oral evaluation	**Salivary Collection:** D0418 – analysis of saliva sample	**Telehealth Visit:** D9995 – synchronous; real-time encounter D9996 – asynchronous; information stored and forwarded to dentist for subsequent review	**Patient Counseling:** D1310 – Nutritional counseling D1320 – Tobacco counseling D1330 – Oral hygiene instruction
Caries Risk Assessment: D0601 – Low caries risk D0602 – Moderate caries risk D0603 – High caries risk **At-home Topical Fluoride Administration (Virtual Guidance):** D1206 – FL varnish application D1208 – Topical FL application, not varnish	**Caries Susceptibility Test:** D0425 – diagnostic test for determining propensity for caries	**Intraoral photos:** D0350 - Oral / Facial photographic images obtained by intraoral and extraoral cameras	**Case Management:** D9992 - dental case management, care coordination D9993 – dental case management, motivational interviewing D9994 - Dental case management, patient education to improve oral health literacy. D9311 – dental provider consultation w/ medical provider D1999 – unspecified preventive procedure

Table B3: A listing of possible dental CDT codes to bundle within an in-person, mobile outreach value-based payment design.

Patient Evaluation	Patient Assessment	Mobile Clinical Care Delivery	Minimally Invasive Dentistry
Patient Evaluation: D0190 – screening of a patient D0191 – assessment of a patient **Patient Examination:** D0150 – comprehensive oral evaluation D0120 – periodic oral evaluation	**Salivary Collection:** D0418 – analysis of saliva sample **Oral Radiology (X-Rays):** D0220-D0274 – various dental radiology codes **Intraoral photos:** D0350 - Oral / Facial photographic images obtained by intraoral and extraoral cameras	**Dental Cleaning/Prophylaxis:** D1110 – prophylaxis – Adult D1120 – prophylaxis – Child **Topical Fluoride Administration:** D1206 – FL varnish application D1208 – Topical FL application, not varnish. **Full Mouth Debridement:** D4355 – Complete cleaning for removal of gross debris to enable a comprehensive oral evaluation on a subsequent visit	**Sealant Placement:** D1351 – sealant placement per tooth **Preventive Resin Restoration:** D1352 – preventive resin restoration **Interim and Protective Restorations** D2940 – protective restoration (Atraumatic Restorative Treatment) D2941 – interim therapeutic restoration: primary dentition
Caries Risk Assessment: D0601 – Low caries risk D0602 – Moderate caries risk D0603 – High caries risk **Case Management:** D1310-D1330 – Various counseling and instruction (D1321: Counseling for adverse oral and systemic health effects associated with substance use) D9311 – dental provider consultation w/ medical provider D9992 - dental case management, care coordination	**Caries Susceptibility Test:** D0425 – diagnostic test for determining propensity for caries	**Periodontal Maintenance:** D4910 – periodontal maintenance – therapeutic procedure following periodontal therapy	**Caries Arresting Medicament (Silver Diamine Fluoride):** D1354 - interim caries arresting medicament application-per tooth (carious lesion present) **Caries Preventive Medicament:** D1355 – caries preventive medicament application (no carious lesion present)

Beyond the Waiting Room:

The State of Dental Care Access in West Virginia

Recommended Citation: West Virginia Oral Health Coalition. *Beyond the Waiting Room: The State of Dental Care in West Virginia.* Harmony Health Foundation, November 2023.