



ABSTRACT

Background: Minimally invasive (MI) dental techniques for pediatric caries management can improve access and equity. However, Medicaid payment policies, which are critical for low-income children, often fail to align with these evidence-based approaches, creating a primary barrier to dissemination.

Methods: We conducted a policy analysis integrating a structured review of state Medicaid dental provider manuals and fee schedules (FY 2023-2024), peer-reviewed literature on MI adoption, and financial models from safety-net clinic networks. We focused on four MI techniques: Silver Diamine Fluoride (SDF), Atraumatic Restorative Treatment (ART), the Hall Technique, and teledentistry.

Results: Substantial variability exists in Medicaid payment recognition for MI techniques across states. Adoption is highest where policies provide explicit coding and adequate reimbursement. For example, states with SDF reimbursement rates above \$50 per application report significantly higher utilization in Federally Qualified Health Centers (FQHCs). Conversely, policies requiring the use of traditional restoration codes for ART or failing to recognize equivalent reimbursement for teledentistry suppress provider adoption and limit patient access.

Conclusion: Strategic payment reform is necessary to translate clinical evidence into population health. Recommendations include establishing equitable fee-for-service rates for MI codes, developing bundled payment pilots for caries management, and mandating permanent teledentistry reimbursement parity to reduce geographic and economic disparities in dental care.

INTRODUCTION

Traditional restorative care requires access to surgical facilities, can provoke anxiety, and often leads to referrals for costly treatment under general anesthesia (GA). Minimally Invasive (MI) techniques, including Silver Diamine Fluoride (SDF) for caries arrest, Atraumatic Restorative Treatment (ART), the Hall Technique for preformed crowns, and diagnostic teledentistry, offer effective, patient-centered alternatives. These approaches can be delivered in non-traditional settings, are often faster, and reduce the need for GA.

For the 38 million children enrolled in Medicaid/CHIP, the program's payment policies are the principal determinant of whether these techniques are sustainably incorporated into care delivery. Misaligned reimbursement creates a fundamental market failure, preventing the widespread adoption of cost-effective, preventive care.

METHODS

A policy analysis incorporating a review of state Medicaid dental provider manuals and fee schedules (FY 2023-2024), peer-reviewed literature on minimally invasive (MI) adoption, and evaluation of financial models derived from safety-net clinic networks was conducted. The analysis focused on four minimally invasive(MI) techniques; Silver Diamine Fluoride (SDF), Atraumatic Restorative Treatment (ART), the Hall Technique, and teledentistry.

| Policy Lever | Barrier Example | Enabler Example | Impact on Adoption |
|------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| SDF Reimbursement | SD: ~\$14 per visit, bundled | AK: ~\$91 per tooth | Higher, per-tooth rates incentivize treating all active lesions. |
| ART/Hall Coding | Virtually all states: Must use traditional restoration (D2391) or crown (D2931) codes. | No state has a unique code. Some states (e.g., WA) have an "Interim Therapeutic Restoration" code. | Coding opacity prevents tracking, risks underpayment, and disincentivizes use. |
| Teledentistry Parity | MS: No coverage for live-video or store-and-forward. | AZ: Permanent parity for a broad range of synchronous & asynchronous codes. | Comprehensive parity enables sustainable virtual care models for prevention and triage. |
| Prior Authorization for SDF | TX: Required for patients over age 3. | CA: Not required. | Administrative burden reduces the likelihood providers will offer SDF as a first-line option. |

Table 1. Representative State Medicaid Policy Levers for Minimally Invasive Pediatric Dentistry (2024)

| State | SDF (D1354) | ART Procedure | Hall Technique Crown | Teledentistry | Documented Notes |
|-------------------|------------------------------|-------------------------------------------------------------------|----------------------------|-----------------------------------------------------------|--------------------------------------------------------------|
| California | \$58.33 per tooth. | Reimbursed as a restoration (D2391). | Reimbursed as SSC (D2931). | Comprehensive parity. Synchronous & asynchronous covered. | Leading adopter. No prior auth for SDF. |
| Texas | \$25.00 per tooth (max 4). | Reimbursed as a restoration (D2391). | Reimbursed as SSC (D2931). | Limited. Mainly post-op follow-up. | Prior auth required for SDF for patients >3. |
| Ohio | \$75.97 per tooth. | Reimbursed as a restoration (D2391). | Reimbursed as SSC (D2931). | Covered for diagnostic services via live-video. | High SDF rate acts as an explicit incentive. |
| Florida | \$18.00 per visit (bundled). | Reimbursed as a restoration (D2391). | Reimbursed as SSC (D2931). | Emergency/limited situations only. | Low bundled rate identified as a key barrier. |
| Washington | \$82.53 per tooth. | Specific "Interim Therapeutic Restoration" code (D2941) at ~\$65. | Reimbursed as SSC (D2931). | Comprehensive coverage, including asynchronous. | Proactive policy design aligning payment with MI philosophy. |

Table 2. Documented Variability in State Medicaid Payment Policies for Minimally Invasive Techniques

RESULTS

The analysis of state Medicaid policies reveals a fragmented and inconsistent landscape for MI care, characterized more by variability than standardization.

- Silver Diamine Fluoride: 23 states reimburse on a per-tooth basis, while 16 reimburse a single fee per visit regardless of teeth treated.
- Atraumatic Restorative Treatment & Hall Technique: No state Medicaid program has a unique, standalone CDT code for ART. For the Hall Technique, the standard stainless-steel crown code (D2930) is used, despite the procedural differences. This coding opacity prevents accurate tracking and often results in payment that does not reflect the service value.
- Teledentistry: 43 state Medicaid programs provide some form of reimbursement for live-video (synchronous) teledentistry, but only 23 reimburse for store-and-forward (asynchronous) technology. Coverage for preventive applications is inconsistent.
- Administrative Hurdles: At least 11 states require prior authorization for SDF application. Documentation requirements for teledentistry and bridge-coded MI procedures are often more burdensome than for conventional treatments.
- A multi-state evaluation of FQHCs found that clinics in states with SDF reimbursement rates at or above the 75th percentile (>\$65) had a median application rate 2.4 times higher than clinics in states with rates below the 25th percentile (<\$30).

DISCUSSION

This analysis highlights Medicaid payment policy as a central determinant of minimally invasive (MI) pediatric dentistry adoption. Although strong clinical evidence supports the effectiveness of SDF, ART, the Hall Technique, and teledentistry, their use varies widely across states due to differences in reimbursement clarity, adequacy, and administrative burden.

States that provide explicit coding pathways and higher reimbursement, particularly for SDF, demonstrate significantly greater utilization in safety-net settings, confirming that provider adoption is highly responsive to payment incentives. In contrast, the absence of dedicated codes for ART and reliance on traditional restorative codes for the Hall Technique undervalue these services, limit tracking, and discourage consistent implementation. Similarly, incomplete reimbursement parity for teledentistry, especially asynchronous applications, reduces its scalability and impact, particularly in underserved and rural communities.

These policy gaps have important equity implications. MI techniques reduce reliance on invasive procedures and general anesthesia, expand access in nontraditional settings, and support earlier disease management for high-risk populations. When Medicaid policies fail to support these approaches, they inadvertently reinforce disparities in pediatric oral health. Aligning reimbursement with evidence-based MI care represents a critical opportunity to improve access, outcomes, and cost efficiency in Medicaid-funded pediatric dentistry.

CONCLUSION

Minimally invasive pediatric dentistry delivers clinically effective, cost-efficient, and equity-enhancing care for children served by Medicaid. However, this analysis shows that inconsistent and misaligned Medicaid payment policies remain a primary barrier to widespread adoption. States that explicitly recognize MI techniques, provide adequate reimbursement, and reduce administrative burden demonstrate higher utilization and improved access.

To bridge the gap between evidence and practice, Medicaid programs should prioritize payment reforms that support MI dentistry, including equitable fee-for-service rates, development of transparent coding pathways, piloting of alternative payment models for comprehensive caries management, and permanent reimbursement parity for teledentistry. Aligning payment policy with modern, preventive dental care is essential to reducing disparities, improving oral health outcomes, and ensuring sustainable access to high-quality pediatric dental services.

REFERENCES



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